CHEMICAL LIST AND MATERIAL SAFETY DATA SHEETS

CitiRoof Safety Data Manual prepared for:

Poolesville High School

REVISED 3/8/2023

CHEMICAL INFORMATION LIST - POOLESVILLE HIGH SCHOOL

CitiRoof Corporation
9510 Berger Road
Columbia, MD 21046-1577

Date: 03/08/2023

	MANUFACTURE AND COMMON OR TRADE NAME	CHEMICAL NAME	CAS #	WORK AREA
1	AMD 3A COMPSOITES	ALUMINUM ALUMINUM HYDROXIDE ETHYLENE-VINYL ACEATE COPOLYMER LINEAR LOW DENSITY POLYETHYLENE	7429-90-5 21645-51-2 24937-78-8 25087-34-7	ROOF
2	APOC ASPHALT PRIMER	ASPAHLT MINERAL SPIRITS 1,2,4-TRIMETHYLBENZENE BENZENE, 1,3,5-TRIMETHYL	8052-42-4 8052-41-3 95-63-6 108-67-8	ROOF
3	ATI STAINLESS STEEL	IRON NICKEL CHROMIUM MAGSNESE SILICON ALUMINUM COPPER TUNGSTEN TITANIUM BORON VANADIUM TANTALUM COBALT NIOBIUM	7439-89-6 7440-02-0 7440-47-3 7439-96-5 7440-21-3 7429-90-5 7440-50-8 7440-33-7 7440-32-6 7440-42-8 7440-62-2 7440-25-7 7440-48-4 7440-031	ROOF
4	BITUMAR TYPE 4	ASPAHLT, OXIDIZED ASPAHLT(BITUMEN) HYDROGEN SULFIDE	64742-93-4 8052-42-4 7783-064	ROOF
5	CARLISLE WIP 300HT	DISTILLATES, PETROLEUM HYDROTRATED HEAVY NAPHTHENIC ASPHALT ASPAHLT, OXIDIZED DISTILLATES, PETROLEUM, PETROLEUM RESIDUES VACUUM RESIDUES, PETROLEUM, VACUUM FATTY ACIDS, TALL-OIL, LOW BOILING	64742-52-5 8052-42-4 64742-93-4 68955-27-1 64741-56-6 MIXTURE	ROOF
6	CARLISLE CCW 702 PRIMER	TOLUENE ACETONE PETROLEUM HYDROCARBON RESIN	108-88-3 67-64-1 PROPRIETARY	ROOF
7	ROCKWOOL MINERAL WOOL INSULATION	NON HAZARDOUS		ROOF
8	CMI WOOD FIBERBOARD PRODUCT	WOOD FIBER ASPHALT WAX EMULSION	9004-34-6 8052-42-4 64742-61-6	ROOF
9	FIRESTONE AP SEALANT	LIMESTONE TITANIUM DIOXIDE TALC 1,2-BENZENEDICARBOXYLIC ACID, BIS(2-PROPYLHEPTY)ESTER STODDARD SOLVENT BENEZE, 2,6-DIISOCYANATO-1-METHYL- BENEZE, 2,4-DIISOCYANATO-1-METHYL-	1317-65-3 13463-67-7 14807-96-6 53306-54-0 8052-41-3 91-08-7 584-84-9	ROOF
10	FIRESTONE GRANULES	RHYOLITE	NDA	ROOF

	MANUFACTURE AND COMMON OR TRADE NAME	CHEMICAL NAME	CAS #	WORK AREA
		QUARTZ	14808-60-7	
		CERAMIC	NDA	
		TITANIUM DIOXIDE	13463-67-7	
		IRON OXIDE	1309-37-1	
		ZINC OXIDE	1314-13-2	
		DISTILLATES(PETROLEUM) HYDROTREATED MIDDLE	64742-46-7	
		CHROMIUM OXIDE	1308-38-9	
		CARBIN BLACK	1333-86-4	
		BETA-(3,4-EPOXYCYCLOHEXYL) ETHYLTRIETHOXYSILANE	10217-34-2	
11	FIRESTONE ISO 95+ INSULATION	GLASS,OXIDE,CHEMICALS	65997-17-3	ROOF
		2-METHYLBUTANE	78-78-4	
		PENTANE	109-66-0	
		2-PROPANOL, 1-CHLORO,2-PHOSPHATE	13674-84-5	
12	FIRESTONE MB COLD ADHESIVE	ASPHALT	8052-42-4	ROOF
		SOLVENT NAPHTHA(PETROLEUM) MEDIUM ALIPH	64742-88-7	
		LIMESTONE	1317-65-3	
		1,2,4-TRIMETHYLBENZENE	95-63-6	
		CELLULOSE	9004-34-6	
		SOLVENT NAPHTHA(PETROLEUM) LIGHT AROM	64742-95-6	
13	FIRESTONE MB FLASHING CEMENT	ASPHALT	8052-42-4	ROOF
		SOLVENT NAPHTHA(PETROLEUM) MEDIUM ALIPH	64742-88-7	
		LIMESTONE	1317-65-3	
		CELLULOSE	9004-34-6	
		1,2,4-TRIMETHYLBENZENE	95-63-6	
		KAOLIN	1332-58-7	
		PERLITE	93763-70-3	
		SOLVENT NAPHTHA(PETROLEUM) LIGHT AROM	64742-95-6	
14	FIRESTONE SBS PREMIUM FR	ASPHALT	8052-42-4	ROOF
		COLEMANITE	1317-33-8	
		LIMESTONE	1317-65-3	
		QUARTZ	14808-60-7	
15	FIRESTONE SINGLEPLY LVOC PRIMER	1-CHLORO-4-(TRUFLUOROMETHYL) BENZENE	98-56-6	ROOF
		NAPHTHA(PETROLEUM) HYDROTREATED LIGHT	64742-49-0	
		ACETONE	67-64-1	
16	FIRESTONE STRUCTODEK HD FIBER BOARD INSULATION	WOOD FIBER	N/A	ROOF
17	FIRESTONE WATER BLOCK SEAL S-20	HEPTANE	142-82-5	ROOF
		ARIEN	64742-16-1	
		ETHYLENE	74-85-1	
		KAOLIN	1332-58-7	
		LIMESTONE	1317-65-3	
		PROPENE	115-07-1	
		METHANA, 2,2'-BIS(6-T-BUYTL-P-CRESYL)-	119-47-1	
		CARBIN BLACK	1333-86-4	
18	GAF GLASPLY 4 SHEET	OXIDIZED ASPAHLT	647-42-93-4	ROOF
		LIMESTONE	1317-65-3	
		FIBERGLASS MAT	65997-17-3	
		SILICA, CRYSTALLINE QUARTZ	14808-60-7	
19	DENSDECK PRIME ROOF BOARD	CALCIUM SULFATE DIHYDRATE	10101-41-4	ROOF
		VERMICULITE	1318-00-9	
		CONTINOUS FILAMENT GLASS FIBER	65997-17-3	
		CRYSTALLINE SILICA	14808-60-7	
20	HOOVER TREATED WOOD	WOOD	NONE	ROOF

	MANUFACTURE AND COMMON OR TRADE NAME	CHEMICAL NAME	CAS #	WORK AREA
		MONOSODIUM PHOSHATE, SODIUM PHOSPHATE, SODIUM	7558-80-7	
		SODIUM TETRABORATE DECAHYDRATE, 10 MOL BORAX	1303-96-4	
		BORIC ACID	10043-35-3	
		UREA PHOSPHATE	4861-19-2	
		TETRACHLOROISOPHTHALONITRILE, CHOROTHANLONIL, DACONIL	1897-45-6	
		5-CHLORO-2-METHLY-4-ISOTHAIZOLIN-3-ONE	26172-55-4	
		2-METHYL-4-ISOTHIAZOLIN-3-ONE	2682-20-4	
		MAGNESIUM NITRATE	10377-60-3	
21	MAYCO LEAD SHEET	LEADED FIRT	65997-18-4	
		ALUMINIA SILICATE	1352-58-7	
		BENTONITE	1302-78-9	
		WATER	7732-18-5	ROOF
		SILICA	14808-60-7	
		ZINC	7440-66-6	
		COPPER(OXIDE)	1317-39-1	
22	PETERSEN ALUMINUM ALLOY SHEET METAL	ALUMINUM	7429-90-5	ROOF
		ANTIMONY	7440-36-0	
		BERYLLIUM	7440-41-7	
		BORN	7440-42-8	
		BISMUTH	7440-69-9	
		CADMIUM	7440-43-9	
		CHORMIUM	7440-47-3	
		COPPER	7440-50-8	
		IRON	7439-89-6	
		GALLIUM	7440-55-3	
		LEAD	7439-92-1	
		MAGNESIUM	7439-95-4	
		MANGANESE	7439-96-5	
		NICKEL	7440-02-0	
		SILICON	7440-21-3	
		TIN	7550-31-5	
		TITANIUM	7440-32-6	
		ZINC	7440-66-6	
		ZIRCONIUM	7440-67-7	
		VANADIUM	7440-62-2	
23	PETERSEN ALUMINUM GALVANIZED SHEET	IRON	7439-89-6	ROOF
		MAGNESIUM	7439-95-4	
		NICKEL	7440-02-0	
		METALLIC COATING	7429-90-5	
		ALUMINUM	7429-90-5	
		IRON	744066-6	
24	STONEWOOD PANELS	NON HAZARDOUS	N/A	ROOF
25	TFC APS 500 SEALANT	CALCIUM CARFBONATE	1317-65-3	ROOF
		SILYL TERMINATED POLYETHERS	PROPRIETARY	
		TRIMETHOXYVINYLSILANE	2768-02-7.	
		AMINOALKOXYSILANE	1760-24-3	
		DIBUTYLTIN BIS (ACETYLACETONEATE)	22673-19-4	
		CRYSTALLINE SILICA, QUARTZ	14808-60-7	
26	TFC BUTYL SEALANT	CALCIUM CARBINATE	1317-65-3	ROOF
		POLYBUTENE	9003-29-6	
		DISTILLATES (PETROLEUM),HYDROTREATED LIGHT	64742-47-8	
		C9-C15 CYCOLALKANES	8052-41-3	

	MANUFACTURE AND COMMON OR TRADE NAME	CHEMICAL NAME	CAS #	WORK AREA
		C9-C15 ALKANES C9-C15 AROMATICS CRYSTALLINE SILICA	8052-41-3 8052-41-3 14808-60-7	
27	TRIANGLE FASTENER BUTYL TAPE-SEAL	LIMESTONE TALC, NOT CONTAINIGNASBESIFORM FIBERS CRYSTALLINE SILICA, REPIRABLE POWDER	1317-65-3 14807-96-6 4808-60-7	ROOF
28	TFC FASTENERS	NON HAZARDOUS	N/A	ROOF
29	USG SECUROCK GYPSUM FIBER ROOF BOARD	CALCIUM SULFARE DIHYDRATE CELLULOSE	13397-24-5 9004-34-6	ROOF
30	UV-6800 SEALANT	TETRACHLOROETHYLENE STYRENE BUTADIENE COPOLYMER	127-18-4 9003-55-8	ROOF
31	W.R MEADOWS WHITE WALK PADS	PETROLEUM ASPHALT FIBERGLASS MAT	8052-42-4 65997-17-3	ROOF
32	FIRESTONE PLY IV / VI	PETROLEUM ASPHALT, OXIDIZED GLASS, OXIDE, CHEMICALS	64742-93-4 65997-93-4	ROOF

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acc. to OSHA HCS

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1 Identification

· **Product identifier**

· **Trade name: ROOF ODOR SOLUTIONS CHERRY**

· **Article number:** 180125

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Flavorchem Corporation
1525 Brook Drive
Downers Grove, IL 60515
USA
800.435.2867

· **Information department:** Regulatory department
· **Emergency telephone number:**
During normal opening times: Call Chemtrec Day or Night
Domestic North America 800.424.9300/International 703.527.3887 (Collect calls accepted)

2 Hazard(s) identification

· **Classification of the substance or mixture**
Flam. Liq. 4 H227 Combustible liquid.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms** Void
· **Signal word** Warning
· **Hazard statements**
Combustible liquid.
· **Precautionary statements**
Keep away from flames and hot surfaces. – No smoking.
Wear protective gloves / eye protection / face protection.
In case of fire: Use for extinction: CO2, powder or water spray.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 0
Fire = 2
Reactivity = 0

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	0
FIRE	2
REACTIVITY	0

Health = 0
Fire = 2
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

100-52-7	benzaldehyde Acute Tox. 4, H302; Flam. Liq. 4, H227	10-<25%
140-11-4	benzyl acetate Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	2.5-<10%
134-20-3	METHYL ANTHRANILATE Skin Irrit. 2, H315; Eye Irrit. 2A, H319	2.5-<10%
121-33-5	VANILLIN Acute Tox. 4, H302	0.1-<2.5%

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:** Generally the product does not irritate the skin.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** If symptoms persist consult doctor.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling:**
· **Precautions for safe handling** No special precautions are necessary if used correctly.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store in tightly sealed containers in a cool, dry place that is well ventilated. Away from heat, spark, and open flame.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** None.
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

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· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

100-52-7 benzaldehyde	
WEEL	Short-term value: 4 ppm Long-term value: 2 ppm DSEN
140-11-4 benzyl acetate	
TLV	Long-term value: 61 mg/m³, 10 ppm
121-33-5 VANILLIN	
WEEL	Long-term value: 10 mg/m³

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
General protective and hygienic measures: Wash hands before breaks and at the end of work.
Breathing equipment: Not required.
· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:** Goggles recommended during refilling.

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Liquid
Color:	Yellow
· **Odor:**	Characteristic
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	140 °C (284 °F)
· **Flash point:**	82 °C (180 °F) Not applicable.
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	190 °C (374 °F)
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Not determined.
· **Explosion limits:**	
Lower:	1.4 Vol %
Upper:	60.0 Vol %
· **Vapor pressure:**	Not determined.
· **Density at 20 °C (68 °F):**	0.91996 g/cm³ (7.677 lbs/gal)
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
Viscosity:	
Dynamic:	Not determined.

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Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	0.7 %
VOC content:	0.7 % 6.3 g/l / 0.05 lb/gl
Solids content:	4.2 %
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
100-52-7 benzaldehyde		
Oral	LD50	1300 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
140-11-4	benzyl acetate	3

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· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**	
· **DOT, ADN, IMDG, IATA**	not regulated

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· **UN proper shipping name**	
· **DOT, ADN, IMDG, IATA**	not regulated
· **Transport hazard class(es)**	
· **DOT, ADN, IMDG, IATA**	
· **Class**	not regulated
· **Packing group**	
· **DOT, IMDG, IATA**	not regulated
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	not regulated

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**
98-86-2 acetophenone

· **TSCA (Toxic Substances Control Act) (Substances not listed):**
All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

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· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

98-86-2	acetophenone	D

· **TLV (Threshold Limit Value established by ACGIH)**

140-11-4	benzyl acetate	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms** Void
· **Signal word** Warning
· **Hazard statements**
Combustible liquid.
· **Precautionary statements**
Keep away from flames and hot surfaces. – No smoking.
Wear protective gloves / eye protection / face protection.
In case of fire: Use for extinction: CO2, powder or water spray.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H227 Combustible liquid.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

· **Department issuing SDS:** Regulatory department
· **Contact:** Stacie Obman
· **Date of preparation / last revision** 04/11/2017 / -

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· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Liq. 4: Flammable liquids – Category 4
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Safety Data Sheet

ALUCOBOND® PLUS

REVISION: 6

DOCUMENT CODE: BEN--PRO1-304

Section I	Product Identification

Manufacturer:	3A Composites USA, Inc. 208 W. 5th Street, P.O. Box 507 Benton, KY 42025 (270) 527-4200
Emergency Phone Number:	1-800-424-9300 Chemtrec To be used only in the event of chemical emergencies involving a spill, leak, fire, and exposure accidents involving chemicals.
Trade Name:	ALUCOBOND® PLUS
Synonym:	None,

Section II	Hazard Identification

ALUCOBOND® PLUS is defined as an article under the OSHA Hazard Communications standard. The standard applies to “chemicals” but it does not apply to any substance, which is an “article”. The term “article” is defined in the OSHA warning rule, as a manufactured item: 1) which is formed to a specific design during manufacture, 2) which has end use function(s) dependent in whole or in part upon its’ shape or design use during end use, and 3) which does not release, or otherwise result in exposure to hazardous chemical under normal conditions of use.

Section III	Chemical Composition

Ingredients (Common Name)	CAS Number	Percent (%) by weight
Aluminum	7429-90-5	37 to 47
Aluminum Hydroxide	21645-51-2	35 to 43
Ethylene-Vinyl Acetate Copolymer	24937-78-8	8 to 9
Linear Low Density Polyethylene	25087-34-7	8 to 9

Section IV	First Aid Measures

This product is not considered to be a health hazard in the form in which they are sold (sheet, panel). However, if these products are abraded, melted, welded, cut or processed in any manner that causes release of fumes or dusts, hazardous levels of fumes or dusts may be generated from this product.

If contact with skin or eyes, wash immediately under water for at least 15 minutes.

For inhalation exposure, remove to fresh air. Contact a physician.

Section V	Fire Fighting Measures

Extinguishing media:	Water, foam, CO_2, dry chemical powder
Special firefighting procedure:	self-contained breathing apparatus should be worn.
Thermal decomposition:	May produce water, carbon monoxide, carbon dioxide, and smoke upon combustion

Section VI Accidental Release

A release should not occur. However, if this product is abraded, melted or cut, dusts may be generated. Should a release of dusts occur, contain by blocking routes to surface water and grassy areas. Clean up by sweeping and depositing into a closed container.

PPE Requirements: Safety glasses, dust respirator and gloves.

Section VII Handling and Storage

Storage and handling precautions:	Store in a flat dry area Exercise caution in handling all edges.

Section VIII Exposure Controls

These products are not considered to be a health hazard in the form in which they are sold (sheet, panel). However, if these products are abraded, melted, welded, cut or processed in any manner that causes release of fumes or dusts, hazardous levels of fumes or dusts may be generated from these materials or constituents of these materials. Aluminum fumes or dust are subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Ingredient	**OSHA Exposure Limit**		**ACGIH**
	Total	Respirable	TLV
Aluminum	15mg/m^3	5mg/m^3	N.E.

Effects of overexposure:

Acute:	Physical irritation of the eyes may result from overexposure to high concentrations of dust from certain fabricating operations.
Chronic:	Repeated long term inhalation of high concentrations of respirable dust may cause inflammation of the upper and lower respiratory tract.

Section IX Physical and Chemical Properties

Appearance:	Solid Sheet. Sandwich Construction
Odor:	NA
Odor Threshold:	NA
PH:	NA
Melting Point:	Aluminum > 890 °F. Core > 210 °F.
Initial Boiling Point/Boiling Range:	No Data
Flash Point:	Composites - (ASTM D-1929) >784 °F, (418 °C)
Evaporation Rate:	NA
Flammability:	Not Flammable
Upper/lower explosive limit:	NA
Vapor Pressure:	NA
Vapor Density:	NA
Specific Gravity:	Aluminum 2.70-2.73 g/ccm range Core .92 g/ccm
Solubility:	Insoluble in water
Partition coefficient:	NA
Auto-Ignition:	Composite - (ASTM D-1929) >783 °F (417 °C) Core - N/A
Decomposition Temperature:	No Data
Viscosity:	NA

Section X Stability and Reactivity

Stability:	Stable
Incompatibility:	None known
Decomposition products:	Reference: “Thermal decomposition”, Section V

Section XI Toxicology Information

No information available

Section XII Ecological Information

No information available at this time

Section XIII Disposal Information

Care must be taken when using or disposing of material debris to prevent environmental contamination. Dispose of the debris in accordance with the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act and all state or local laws / regulations regarding disposal.

Section XIV Transportation

UN Number: NA

UN Proper Shipping Name: NA

Transportation Hazard: NA

Packing Group: NA

Environmental Hazard: NA

Transport in bulk: NA

Special Precautions: NA

Section XV Regulatory Information

PROPOSITION 65: (California Only)

Additional Requirements for the State of California: "⚠ **WARNING:** This product can expose you to chemicals including ethyl benzene, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov."

REACH: Pursuant to Title II article 7 of the regulation this product is exempt from registration and notification and is therefore compliant with the REACH regulation.

RoHS: ALUCOBOND® PLUS is compliant with the RoHS standard. All current colors of ALUCOBOND® PLUS are also compliant with the RoHS standard with the exception of Hunter Red over Caution Yellow and Ultra Marine over Dark Green.

Section XVI Other Information

Abbreviations:
NA = Not Applicable CAS = Chemical Abstract Service
OSHA = Occupational Safety and Health Administration. PEL = Permissible Exposure Limit
STEL = Short Term Exposure Limit. ACGIH = American Conference of Governmental Industrial Hygienist. TLV = Threshold Limit Value.

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End of Safety Data Sheet

Safety Data Sheet
AP-1031
12/10/14

Section 1 - Product and Company Identification

Material Name • **Asphalt Primer**
Chemical Category • Mixture
Product Code • AP-1031
Product Description • Black, non-fibered liquid asphalt roof primer.
Product Use • Primer coating used in asphalt roofing applications.

Manufacturer • APOC
4161 E. 7th Avenue
Tampa, FL 33605
United States

Telephone
Technical • 813-248-2101 - Customer Service: 8 AM - 5 PM M-F Eastern Standard Time
Emergency • 800-424-9300 - CHEMTREC
Emergency • 703-527-3887 - CHEMTREC (Outside US)

Last Revision Date • 12/10/2014

Section 2 - Hazards Identification

GHS HAZARDS AND PRECAUTIONS

SIGNAL WORD: WARNING!

Flammable liquid and vapor. Contains Combustible Petroleum Distillates. Harmful or Fatal if swallowed. Keep away from heat, sparks, and open flame. Avoid prolonged breathing of vapor and use only in adequate ventilation. Repeated and prolonged overexposure to solvent vapor may cause brain and nervous system damage, respiratory tract irritation, dizziness, or loss of consciousness. May cause skin and eye irritation.

Prevention Do not handle until all safety precautions have been read and understood. Do not breathe dust, fume, gas, mist, vapors and/or spray. Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking. Wear protective gloves-Neoprene or Nitrile, clothing -that covers the skin, and eye/face protection -Safety Glasses. Keep out of reach of children.

Response IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

Storage/Disposal Store in a closed container. Store in a well-ventilated place. Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Physical Form • Liquid
Color • Black
Odor • Mild Hydrocarbon.
Flash Point • 105°F (Closed Cup)

OSHA(HCS2012) • Flammable Liquids - Category 3, Skin Corrosion/Irritation - Category 2, Serious Eye Damage, Eye Irritation - Category 2, Carcinogenicity - Category 1A

WHMIS • Combustible Liquids - B3, Other Toxic Effects - D2A

GHS • Flammable Liquids - Category 3, Skin Corrosion/Irritation - Category 2, Serious Eye Damage, Eye Irritation - Category 2, Carcinogenicity - Category 1A

Potential Health Effects

Inhalation

Acute (Immediate) • May cause irritation. Excessive breathing of high vapor concentration can cause possible unconsciousness and even asphyxiation.

Chronic (Delayed) • Refer to other information found in Section 11-Toxicology.

Skin

Acute (Immediate) • May cause irritation.

Chronic (Delayed) • Repeated and prolonged exposure may be harmful. Repeated and prolonged exposure may cause dermatitis.

Eye

Acute (Immediate) • May cause irritation. May cause burning and redness or swelling of the eyes.

Chronic (Delayed) • Repeated and prolonged exposure may cause irritation.

Ingestion

Acute (Immediate) • May be harmful or fatal if swallowed.

Chronic (Delayed) • Repeated and prolonged exposure may be harmful.

Carcinogenic Effects • This product or one of its ingredients present at 0.1% or more is listed as a carcinogen by NTP, IARC or OSHA. See Section 11 - Toxicological Information for more details.

Carcinogenic Effects			
	CAS	**IARC**	**NTP**
Asphalt	8052-42-4	Group 2B-Possible Carcinogen	Under Consideration

Section 3 - Composition/Information on Ingredients

Hazardous Components					
Chemical Name	**Identifiers**	**%(weight)**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Asphalt	**CAS:**8052-42-4 **UN:**NA1999 **EINECS:**232-490-9	50% TO 70%	Ingestion/Oral-Rat LD50 >5000 mg/kg Inhalation-Rat LC50 >94.4 mg/m³	**OSHA:**Carc.; Irrit. **WHMIS:**Other Toxic Effects - D2A **UN GHS:**Carc. 2; Eye Irrit. 2A; Skin Irrit. 2	
Mineral Spirits	**CAS:**8052-41-3 **EC Number:**232-489-3 **EINECS:**232-489-3	30% TO 40%			
1,2,4-Trimethylbenzene	**CAS:**95-63-6 **EC Number:**202-436-9 **EINECS:**202-436-9	0.1% TO 1.5%	Ingestion/Oral-Rat LD50 5 g/kg Inhalation-Rat LC50 18000 mg/m³ 4 Hour(s)	**OSHA:**Comb. Liq.; Irrit. **UN GHS:**Acute Tox. 4 (Inhalation); Aquatic Chronic 2; Flam. Liq. 3; Eye Irrit. 2A; Skin Irrit. 2; STOT RE 2; STOT SE 2	
Benzene, 1,3,5-trimethyl	**CAS:**108-67-8 **EC Number:**203-604-4 **UN:**UN2325 **EINECS:**203-604-4	0.1% TO 1.5%		**OSHA:** **EU DSD/DPD:**R10Xi; R37N; R51 R53	

Section 4 - First Aid Measures

Inhalation • IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Call a physician or poison control center.

Skin • Rinse skin immediately with plenty of water for 15-20 minutes. Remove contaminated clothing and shoes. If skin irritation occurs: Get medical advice/attention. Wash clothing before reuse.

Eye • IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion • If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Section 5 - Fire Fighting Measures

Extinguishing Media
- LARGE FIRE: Water spray, fog or regular foam.
  SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

Unsuitable Extinguishing Media
- Do not use direct stream of water.

Firefighting Procedures
- Fight advanced or massive fires from safe distance or protected location. Avoid water in a straight hose stream as the stream will cause splatter and spread fire. If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release.

Unusual Fire and Explosion Hazards
- Combustible liquid.
  Containers may explode when heated.
  May release irritating or toxic gases, fumes, or vapors.

Hazardous Combustion Products
- Carbon monoxide, carbon dioxide, hydrocarbons.

Protection of Firefighters
- Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

Flash Point
- 105°F(40.56°C) CC (Closed Cup)

Explosion Limits• •

Upper
- 6 %

Lower
- .9 %

Autoignition Temperature
- 450 F(232.2222 C)

Section 6 - Accidental Release Measures

Personal Precautions • Do not move damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation to remove vapors, fumes, dust etc. Stay upwind.

Emergency Procedures • ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area) Isolate the area and contain the spilled material. Persons not wearing the appropriate PPE should be removed from the area until the spill is cleaned up. Ventilate closed spaces before entering.

Environmental Precautions • Prevent entry into waterways, sewers, basements or confined areas. Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Containment/Clean-up Measures • Contain and recover liquid when possible. Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in suitable container. Do not use water to flush spill area. Use appropriate Personal Protective Equipment (PPE)

Prohibited Materials • Avoid contact with strong oxidizing agents or bases.

Section 7 - Handling and Storage

Handling
- KEEP OUT OF THE REACH OF CHILDREN! Keep away from heat, sparks, and flame – No Smoking. Keep containers tightly closed when not in use. Do not use in areas without adequate ventilation. Protect building inlet from vapors.

Storage
- Store in a well-ventilated place. Keep container tightly closed. Keep away from incompatible materials. Keep away from sources of ignition – No Smoking.

Special Packaging Materials
- Not Applicable.

Incompatible Materials or Ignition Sources
- Avoid contact with strong oxidizing agents and acids.

Section 8 - Exposure Controls/Personal Protection

Personal Protective Equipment

Pictograms
- 

Respiratory
- If listed exposure limits are expected to be exceeded, use approved respiratory protection suitable for the hazard. In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face
- Wear ANSI approved safety glasses with side shields or safety goggles.

Hands
- Wear chemical protective gloves made of Nitrile or Neoprene.

Skin/Body
- Wear clothing that covers the skin to prevent skin exposure.

General Industrial Hygiene Considerations
- Avoid contact with skin and eyes. Avoid breathing vapors. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

Engineering Measures/Controls
- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values. Use precaution to protect building intake from fumes and vapors created outdoors.

Exposure Limits/Guidelines

	Result	ACGIH	Canada Ontario	Mexico	OSHA	United States - California
Mineral Spirits (8052-41-3)	TWAs	100 ppm TWA	525 mg/m3 TWAEV	100 ppm TWA; 523 mg/m3 TWA	500 ppm TWA; 2900 mg/m3 TWA	100 ppm PEL; 525 mg/m3 PEL
Asphalt (8052-42-4)	TWAs	0.5 mg/m3 TWA (as benzene soluble aerosol, fume, inhalable fraction)	0.5 mg/m3 TWAEV (fume, inhalable, as benzene-soluble aerosol)	5 mg/m3 TWA	Not established	5 mg/m3 PEL (fume)

Exposure Control Notations

ACGIH

Asphalt (8052-42-4): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen (fume, coal tar-free))

Key to abbreviations

PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)

Section 9 - Physical and Chemical Properties

Material Description			
Physical Form	Liquid	**Appearance/Description**	Black Liquid.
Color	Black	**Odor**	Mild Hydrocarbon.
Odor Threshold	No data available	**Physical and Chemical Properties**	Liquid
General Properties			
Boiling Point	315 to 550 F(157.2222 to 287.7778 C)	**Melting Point**	No data available
pH	No data available	**Specific Gravity/Relative**	0.932 Water=1

		Density	
Density	7.8 lbs/gal	**Bulk Density**	No data available
Water Solubility	No data available	**Solvent Solubility**	No data available
Viscosity	See TDS		
Volatility			
Vapor Pressure	2 mmHg (torr) @ 68 F(20 C)	**Vapor Density**	4.9 Air=1
Evaporation Rate	1 Ether = 1	**VOC (Wt.)**	No data available
VOC (Vol.)	< 350 g/L	**Volatiles (Wt.)**	No data available
Volatiles (Vol.)	No data available		
Flammability			
Flash Point	105°FCC (Closed Cup)	**UEL**	6 %
LEL	.9 %	**Autoignition**	450°F(232°C)

Section 10 - Stability and Reactivity

Stability • Stable under normal temperatures and pressures.

Hazardous Polymerization • Hazardous polymerization not indicated.

Conditions to Avoid • Avoid contact with strong oxidizing agents and flame.

Incompatible Materials • Strong oxidizers and acids.

Hazardous Decomposition Products • Carbon monoxide, carbon dioxide and hydrocarbons.

Section 11 - Toxicological Information

Component Name	CAS	Data
Asphalt (50% TO 70%)	8052-42-4	**Acute Toxicity:** orl-rat LD50:>5000 mg/kg; ihl-rat LC50:>94.4 mg/m3; **Mutagen:** dna-mus-skn 600 mg/kg; **Tumorigen/Carcinogen:** skn-mus TDLo:905 gm/kg/2Y-I
1,2,4-Trimethylbenzene (0.1% TO 1.5%)	95-63-6	**Acute Toxicity:** orl-rat LD50:5 gm/kg; ihl-rat LC50:18000 mg/m3/4H
Benzene, 1,3,5-trimethyl (0.1% TO 1.5%)	108-67-8	**Acute Toxicity:** orl-rat LD50:5000 mg/kg; ihl-rat TCLo:100 ppm/6H/20D-I

Other Information • This product contains petroleum asphalt. Petroleum asphalt is not listed as a carcinogen by OSHA or NTP. The National Institute of Occupational Safety and Health (NIOSH), has concluded that at higher temperatures roofing asphalt fumes are a potential occupational carcinogen. If this product is heated or comes in contact with heated material, avoid breathing fumes. This product may contain small amounts of polycyclic aromatic hydrocarbons (PAH's) which are recognized carcinogens in humans and experimental animals. Mouse skin painting studies of roofing asphalt vapor concentrate have shown evidence of tumor formation associated with localized skin irritation in recent studies. Inhalation studies of high airborne concentrations of asphalt/bitumen fumes in rats and mice produced bronchitis, pneumonitis, and lung changes such as fibrosis and cell damage. If this product is heated to extreme temperature, it may release bituminous fumes that have recently shown as probable human carcinogen by IARC.

Section 12 - Ecological Information

Ecological Fate • No data available.

Persistence/Degradability • No data available.

Bioaccumulation Potential • No data available.

Mobility in Soil • No data available.

Section 13 - Disposal Considerations

Product • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transportation Information

DOT - United States - Department of Transportation

Shipping Name: *Not restricted if shipped in containers <450L (119 gallons),*
Restricted if shipped in containers > 450 L (119 gallons)

ID Number: NA1993

Hazard Class: 3

Packing Group: III

TDG - Canada - Transport of Dangerous Goods

Shipping Name: Tars liquid

ID Number: UN 1999

Hazard Class: 3

Packing Group: III

TDG Additional Information:1.33 Class 3, Flammable Liquids: *Not Restricted under General Exemption for small container packaging.*

IMO/IMDG –International Maritime Transport: Tars, Liquids; UN1999; Hazard Class: 3; Packing Group: III IMDG Code 2.3.2.5 - exempted from marking, labeling & testing of packages.

IATA - International Air Transportation Association - TARS, LIQUID; UN1999; Hazard Class: 3; Packing Group: III.

Section 15 - Regulatory Information

SARA Hazard Classifications • Acute, Chronic

Risk & Safety Phrases • California PROP 65: Asphalt and Asphalt Fumes may contain detectable amounts of chemicals known to the State of California to cause cancer or reproductive harm.

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
Asphalt	8052-42-4	Yes	Yes	Yes
Mineral Spirits	8052-41-3	Yes	Yes	Yes
1,2,4-Trimethylbenzene	95-63-6	Yes	Yes	Yes
Benzene, 1,3,5-trimethyl	108-67-8	Yes	No	No

Inventory			
Component	**CAS**	**EU EINECS**	**TSCA**
Asphalt	8052-42-4	Yes	Yes
Mineral Spirits	8052-41-3	Yes	Yes
1,2,4-Trimethylbenzene	95-63-6	Yes	Yes
Benzene, 1,3,5-trimethyl	108-67-8	Yes	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

Asphalt	8052-42-4	50% TO 70%	Not Listed
1,2,4-Trimethylbenzene	95-63-6	0.1% TO 1.5%	B3

Mineral Spirits	8052-41-3	30% TO 40%	B3, D2B
Benzene, 1,3,5-trimethyl	108-67-8	0.1% TO 1.5%	B3

United States

Environment

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

Asphalt	8052-42-4	50% TO 70%	Not Listed
1,2,4-Trimethylbenzene	95-63-6	0.1% TO 1.5%	1.0 % de minimis concentration
Mineral Spirits	8052-41-3	30% TO 40%	Not Listed
Benzene, 1,3,5-trimethyl	108-67-8	0.1% TO 1.5%	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

Asphalt	8052-42-4	50% TO 70%	Not Listed
1,2,4-Trimethylbenzene	95-63-6	0.1% TO 1.5%	Not Listed
Mineral Spirits	8052-41-3	30% TO 40%	Not Listed
Benzene, 1,3,5-trimethyl	108-67-8	0.1% TO 1.5%	Not Listed

Section 16 - Other Information

Prepared By
- GG Inc.

Last Revision Date
- 12/10/2014

Disclaimer/Statement of Liability
- This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to verify the suitability and completeness of such information for particular use. The manufacture does not accept liability for any loss or damage that may occur from the use of this information.

NFPA:

Safety Data Sheet
AP-1035
12/10/14

Section 1 - Product and Company Identification

Material Name • **Asphalt Primer**
Chemical Category • Mixture
Product Code • AP-1035
Product Description • Black, non-fibered liquid asphalt roof primer.
Product Use • Primer coating used in asphalt roofing applications.

Manufacturer • APOC
4161 E. 7th Avenue
Tampa, FL 33605
United States

Telephone
Technical • 813-248-2101 - Customer Service: 8 AM - 5 PM M-F Eastern Standard Time
Emergency • 800-424-9300 - CHEMTREC
Emergency • 703-527-3887 - CHEMTREC (Outside US)

Last Revision Date • 12/10/2014

Section 2 - Hazards Identification

GHS HAZARDS AND PRECAUTIONS

SIGNAL WORD: WARNING!

Flammable liquid and vapor. Contains Combustible Petroleum Distillates. Harmful or Fatal if swallowed. Keep away from heat, sparks, and open flame. Avoid prolonged breathing of vapor and use only in adequate ventilation. Repeated and prolonged overexposure to solvent vapor may cause brain and nervous system damage, respiratory tract irritation, dizziness, or loss of consciousness. May cause skin and eye irritation.

Prevention Do not handle until all safety precautions have been read and understood. Do not breathe dust, fume, gas, mist, vapors and/or spray. Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking. Wear protective gloves-Neoprene or Nitrile, clothing -that covers the skin, and eye/face protection -Safety Glasses. Keep out of reach of children.

Response IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

Storage/Disposal Store in a closed container. Store in a well-ventilated place. Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Physical Form • Liquid
Color • Black
Odor • Mild Hydrocarbon.
Flash Point • 105°F (Closed Cup)

OSHA(HCS2012) • Flammable Liquids - Category 3, Skin Corrosion/Irritation - Category 2, Serious Eye Damage, Eye Irritation - Category 2, Carcinogenicity - Category 1A

WHMIS • Combustible Liquids - B3, Other Toxic Effects - D2A

GHS • Flammable Liquids - Category 3, Skin Corrosion/Irritation - Category 2, Serious Eye Damage, Eye Irritation - Category 2, Carcinogenicity - Category 1A

Potential Health Effects

Inhalation

Acute (Immediate) • May cause irritation. Excessive breathing of high vapor concentration can cause possible unconsciousness and even asphyxiation.

Chronic (Delayed) • Refer to other information found in Section 11-Toxicology.

Skin

Acute (Immediate) • May cause irritation.

Chronic (Delayed) • Repeated and prolonged exposure may be harmful. Repeated and prolonged exposure may cause dermatitis.

Eye

Acute (Immediate) • May cause irritation. May cause burning and redness or swelling of the eyes.

Chronic (Delayed) • Repeated and prolonged exposure may cause irritation.

Ingestion

Acute (Immediate) • May be harmful or fatal if swallowed.

Chronic (Delayed) • Repeated and prolonged exposure may be harmful.

Carcinogenic Effects • This product or one of its ingredients present at 0.1% or more is listed as a carcinogen by NTP, IARC or OSHA. See Section 11 - Toxicological Information for more details.

Carcinogenic Effects			
	CAS	**IARC**	**NTP**
Asphalt	8052-42-4	Group 2B-Possible Carcinogen	Under Consideration

Section 3 - Composition/Information on Ingredients

Hazardous Components					
Chemical Name	**Identifiers**	**%(weight)**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Asphalt	**CAS:**8052-42-4 **UN:**NA1999 **EINECS:**232-490-9	50% TO 70%	Ingestion/Oral-Rat LD50 >5000 mg/kg Inhalation-Rat LC50 >94.4 mg/m³	**OSHA:**Carc.; Irrit. **WHMIS:**Other Toxic Effects - D2A **UN GHS:**Carc. 2; Eye Irrit. 2A; Skin Irrit. 2	
Mineral Spirits	**CAS:**8052-41-3 **EC Number:**232-489-3 **EINECS:**232-489-3	30% TO 40%			
1,2,4-Trimethylbenzene	**CAS:**95-63-6 **EC Number:**202-436-9 **EINECS:**202-436-9	0.1% TO 1.5%	Ingestion/Oral-Rat LD50 5 g/kg Inhalation-Rat LC50 18000 mg/m³ 4 Hour(s)	**OSHA:**Comb. Liq.; Irrit. **UN GHS:**Acute Tox. 4 (Inhalation); Aquatic Chronic 2; Flam. Liq. 3; Eye Irrit. 2A; Skin Irrit. 2; STOT RE 2; STOT SE 2	
Benzene, 1,3,5-trimethyl	**CAS:**108-67-8 **EC Number:**203-604-4 **UN:**UN2325 **EINECS:**203-604-4	0.1% TO 1.5%		**OSHA:** **EU DSD/DPD:**R10Xi; R37N; R51 R53	

Section 4 - First Aid Measures

Inhalation • IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Call a physician or poison control center.

Skin • Rinse skin immediately with plenty of water for 15-20 minutes. Remove contaminated clothing and shoes. If skin irritation occurs: Get medical advice/attention. Wash clothing before reuse.

Eye • IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion • If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Section 5 - Fire Fighting Measures

Extinguishing Media
- LARGE FIRE: Water spray, fog or regular foam.
  SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

Unsuitable Extinguishing Media
- Do not use direct stream of water.

Firefighting Procedures
- Fight advanced or massive fires from safe distance or protected location. Avoid water in a straight hose stream as the stream will cause splatter and spread fire. If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release.

Unusual Fire and Explosion Hazards
- Combustible liquid.
  Containers may explode when heated.
  May release irritating or toxic gases, fumes, or vapors.

Hazardous Combustion Products
- Carbon monoxide, carbon dioxide, hydrocarbons.

Protection of Firefighters
- Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

Flash Point
- 105°F(40.56°C) CC (Closed Cup)

Explosion Limits• •

Upper
- 6 %

Lower
- .9 %

Autoignition Temperature
- 450 F(232.2222 C)

Section 6 - Accidental Release Measures

Personal Precautions • Do not move damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation to remove vapors, fumes, dust etc. Stay upwind.

Emergency Procedures • ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area) Isolate the area and contain the spilled material. Persons not wearing the appropriate PPE should be removed from the area until the spill is cleaned up. Ventilate closed spaces before entering.

Environmental Precautions • Prevent entry into waterways, sewers, basements or confined areas. Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Containment/Clean-up Measures • Contain and recover liquid when possible. Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in suitable container. Do not use water to flush spill area. Use appropriate Personal Protective Equipment (PPE)

Prohibited Materials • Avoid contact with strong oxidizing agents or bases.

Section 7 - Handling and Storage

Handling
- KEEP OUT OF THE REACH OF CHILDREN! Keep away from heat, sparks, and flame – No Smoking. Keep containers tightly closed when not in use. Do not use in areas without adequate ventilation. Protect building inlet from vapors.

Storage
- Store in a well-ventilated place. Keep container tightly closed. Keep away from incompatible materials. Keep away from sources of ignition – No Smoking.

Special Packaging Materials
- Not Applicable.

Incompatible Materials or Ignition Sources
- Avoid contact with strong oxidizing agents and acids.

Section 8 - Exposure Controls/Personal Protection

Personal Protective Equipment

Pictograms
- 

Respiratory
- If listed exposure limits are expected to be exceeded, use approved respiratory protection suitable for the hazard. In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face
- Wear ANSI approved safety glasses with side shields or safety goggles.

Hands
- Wear chemical protective gloves made of Nitrile or Neoprene.

Skin/Body
- Wear clothing that covers the skin to prevent skin exposure.

General Industrial Hygiene Considerations
- Avoid contact with skin and eyes. Avoid breathing vapors. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

Engineering Measures/Controls
- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values. Use precaution to protect building intake from fumes and vapors created outdoors.

Exposure Limits/Guidelines

	Result	ACGIH	Canada Ontario	Mexico	OSHA	United States - California
Mineral Spirits (8052-41-3)	TWAs	100 ppm TWA	525 mg/m3 TWAEV	100 ppm TWA; 523 mg/m3 TWA	500 ppm TWA; 2900 mg/m3 TWA	100 ppm PEL; 525 mg/m3 PEL
Asphalt (8052-42-4)	TWAs	0.5 mg/m3 TWA (as benzene soluble aerosol, fume, inhalable fraction)	0.5 mg/m3 TWAEV (fume, inhalable, as benzene-soluble aerosol)	5 mg/m3 TWA	Not established	5 mg/m3 PEL (fume)

Exposure Control Notations

ACGIH

Asphalt (8052-42-4): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen (fume, coal tar-free))

Key to abbreviations

PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)

Section 9 - Physical and Chemical Properties

Material Description			
Physical Form	Liquid	**Appearance/Description**	Black Liquid.
Color	Black	**Odor**	Mild Hydrocarbon.
Odor Threshold	No data available	**Physical and Chemical Properties**	Liquid
General Properties			
Boiling Point	315 to 550 F(157.2222 to 287.7778 C)	**Melting Point**	No data available
pH	No data available	**Specific Gravity/Relative**	0.932 Water=1

		Density	
Density	7.8 lbs/gal	**Bulk Density**	No data available
Water Solubility	No data available	**Solvent Solubility**	No data available
Viscosity	See TDS		
Volatility			
Vapor Pressure	2 mmHg (torr) @ 68 F(20 C)	**Vapor Density**	4.9 Air=1
Evaporation Rate	1 Ether = 1	**VOC (Wt.)**	No data available
VOC (Vol.)	< 350 g/L	**Volatiles (Wt.)**	No data available
Volatiles (Vol.)	No data available		
Flammability			
Flash Point	105°FCC (Closed Cup)	**UEL**	6 %
LEL	.9 %	**Autoignition**	450°F(232°C)

Section 10 - Stability and Reactivity

Stability • Stable under normal temperatures and pressures.

Hazardous Polymerization • Hazardous polymerization not indicated.

Conditions to Avoid • Avoid contact with strong oxidizing agents and flame.

Incompatible Materials • Strong oxidizers and acids.

Hazardous Decomposition Products • Carbon monoxide, carbon dioxide and hydrocarbons.

Section 11 - Toxicological Information

Component Name	CAS	Data
Asphalt (50% TO 70%)	8052-42-4	**Acute Toxicity:** orl-rat LD50:>5000 mg/kg; ihl-rat LC50:>94.4 mg/m3; **Mutagen:** dna-mus-skn 600 mg/kg; **Tumorigen/Carcinogen:** skn-mus TDLo:905 gm/kg/2Y-I
1,2,4-Trimethylbenzene (0.1% TO 1.5%)	95-63-6	**Acute Toxicity:** orl-rat LD50:5 gm/kg; ihl-rat LC50:18000 mg/m3/4H
Benzene, 1,3,5-trimethyl (0.1% TO 1.5%)	108-67-8	**Acute Toxicity:** orl-rat LD50:5000 mg/kg; ihl-rat TCLo:100 ppm/6H/20D-I

Other Information • This product contains petroleum asphalt. Petroleum asphalt is not listed as a carcinogen by OSHA or NTP. The National Institute of Occupational Safety and Health (NIOSH), has concluded that at higher temperatures roofing asphalt fumes are a potential occupational carcinogen. If this product is heated or comes in contact with heated material, avoid breathing fumes. This product may contain small amounts of polycyclic aromatic hydrocarbons (PAH's) which are recognized carcinogens in humans and experimental animals. Mouse skin painting studies of roofing asphalt vapor concentrate have shown evidence of tumor formation associated with localized skin irritation in recent studies. Inhalation studies of high airborne concentrations of asphalt/bitumen fumes in rats and mice produced bronchitis, pneumonitis, and lung changes such as fibrosis and cell damage. If this product is heated to extreme temperature, it may release bituminous fumes that have recently shown as probable human carcinogen by IARC.

Section 12 - Ecological Information

Ecological Fate • No data available.

Persistence/Degradability • No data available.

Bioaccumulation Potential • No data available.

Mobility in Soil • No data available.

Section 13 - Disposal Considerations

Product • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transportation Information

DOT - United States - Department of Transportation

Shipping Name: *Not restricted if shipped in containers <450L (119 gallons),*
Restricted if shipped in containers > 450 L (119 gallons)

ID Number: NA1993

Hazard Class: 3

Packing Group: III

TDG - Canada - Transport of Dangerous Goods

Shipping Name: Tars liquid

ID Number: UN 1999

Hazard Class: 3

Packing Group: III

TDG Additional Information:1.33 Class 3, Flammable Liquids: *Not Restricted under General Exemption for small container packaging.*

IMO/IMDG –International Maritime Transport: Tars, Liquids; UN1999; Hazard Class: 3; Packing Group: III IMDG Code 2.3.2.5 - exempted from marking, labeling & testing of packages.

IATA - International Air Transportation Association - TARS, LIQUID; UN1999; Hazard Class: 3; Packing Group: III.

Section 15 - Regulatory Information

SARA Hazard Classifications • Acute, Chronic

Risk & Safety Phrases • California PROP 65: Asphalt and Asphalt Fumes may contain detectable amounts of chemicals known to the State of California to cause cancer or reproductive harm.

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
Asphalt	8052-42-4	Yes	Yes	Yes
Mineral Spirits	8052-41-3	Yes	Yes	Yes
1,2,4-Trimethylbenzene	95-63-6	Yes	Yes	Yes
Benzene, 1,3,5-trimethyl	108-67-8	Yes	No	No

Inventory			
Component	**CAS**	**EU EINECS**	**TSCA**
Asphalt	8052-42-4	Yes	Yes
Mineral Spirits	8052-41-3	Yes	Yes
1,2,4-Trimethylbenzene	95-63-6	Yes	Yes
Benzene, 1,3,5-trimethyl	108-67-8	Yes	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

Asphalt	8052-42-4	50% TO 70%	Not Listed
1,2,4-Trimethylbenzene	95-63-6	0.1% TO 1.5%	B3

Mineral Spirits	8052-41-3	30% TO 40%	B3, D2B
Benzene, 1,3,5-trimethyl	108-67-8	0.1% TO 1.5%	B3

United States

Environment

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

Asphalt	8052-42-4	50% TO 70%	Not Listed
1,2,4-Trimethylbenzene	95-63-6	0.1% TO 1.5%	1.0 % de minimis concentration
Mineral Spirits	8052-41-3	30% TO 40%	Not Listed
Benzene, 1,3,5-trimethyl	108-67-8	0.1% TO 1.5%	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

Asphalt	8052-42-4	50% TO 70%	Not Listed
1,2,4-Trimethylbenzene	95-63-6	0.1% TO 1.5%	Not Listed
Mineral Spirits	8052-41-3	30% TO 40%	Not Listed
Benzene, 1,3,5-trimethyl	108-67-8	0.1% TO 1.5%	Not Listed

Section 16 - Other Information

Prepared By
- GG Inc.

Last Revision Date
- 12/10/2014

Disclaimer/Statement of Liability
- This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to verify the suitability and completeness of such information for particular use. The manufacture does not accept liability for any loss or damage that may occur from the use of this information.

NFPA:

Safety Data Sheet
AP-1037
12/10/14

Section 1 - Product and Company Identification

Material Name • **Asphalt Primer**
Chemical Category • Mixture
Product Code • AP-1037
Product Description • Black, non-fibered liquid asphalt roof primer.
Product Use • Primer coating used in asphalt roofing applications.

Manufacturer • APOC
4161 E. 7th Avenue
Tampa, FL 33605
United States

Telephone
Technical • 813-248-2101 - Customer Service: 8 AM - 5 PM M-F Eastern Standard Time
Emergency • 800-424-9300 - CHEMTREC
Emergency • 703-527-3887 - CHEMTREC (Outside US)

Last Revision Date • 12/10/2014

Section 2 - Hazards Identification

GHS HAZARDS AND PRECAUTIONS

SIGNAL WORD: WARNING!

Flammable liquid and vapor. Contains Combustible Petroleum Distillates. Harmful or Fatal if swallowed. Keep away from heat, sparks, and open flame. Avoid prolonged breathing of vapor and use only in adequate ventilation. Repeated and prolonged overexposure to solvent vapor may cause brain and nervous system damage, respiratory tract irritation, dizziness, or loss of consciousness. May cause skin and eye irritation.

Prevention Do not handle until all safety precautions have been read and understood. Do not breathe dust, fume, gas, mist, vapors and/or spray. Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking. Wear protective gloves-Neoprene or Nitrile, clothing -that covers the skin, and eye/face protection -Safety Glasses. Keep out of reach of children.

Response IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

Storage/Disposal Store in a closed container. Store in a well-ventilated place. Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Physical Form • Liquid
Color • Black
Odor • Mild Hydrocarbon.
Flash Point • 105°F (Closed Cup)

OSHA(HCS2012) • Flammable Liquids - Category 3, Skin Corrosion/Irritation - Category 2, Serious Eye Damage, Eye Irritation - Category 2, Carcinogenicity - Category 1A

WHMIS • Combustible Liquids - B3, Other Toxic Effects - D2A

GHS • Flammable Liquids - Category 3, Skin Corrosion/Irritation - Category 2, Serious Eye Damage, Eye Irritation - Category 2, Carcinogenicity - Category 1A

Potential Health Effects

Inhalation

Acute (Immediate) • May cause irritation. Excessive breathing of high vapor concentration can cause possible unconsciousness and even asphyxiation.

Chronic (Delayed) • Refer to other information found in Section 11-Toxicology.

Skin

Acute (Immediate) • May cause irritation.

Chronic (Delayed) • Repeated and prolonged exposure may be harmful. Repeated and prolonged exposure may cause dermatitis.

Eye

Acute (Immediate) • May cause irritation. May cause burning and redness or swelling of the eyes.

Chronic (Delayed) • Repeated and prolonged exposure may cause irritation.

Ingestion

Acute (Immediate) • May be harmful or fatal if swallowed.

Chronic (Delayed) • Repeated and prolonged exposure may be harmful.

Carcinogenic Effects • This product or one of its ingredients present at 0.1% or more is listed as a carcinogen by NTP, IARC or OSHA. See Section 11 - Toxicological Information for more details.

Carcinogenic Effects			
	CAS	**IARC**	**NTP**
Asphalt	8052-42-4	Group 2B-Possible Carcinogen	Under Consideration

Section 3 - Composition/Information on Ingredients

Hazardous Components					
Chemical Name	**Identifiers**	**%(weight)**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Asphalt	**CAS:**8052-42-4 **UN:**NA1999 **EINECS:**232-490-9	50% TO 70%	Ingestion/Oral-Rat LD50 >5000 mg/kg Inhalation-Rat LC50 >94.4 mg/m³	**OSHA:**Carc.; Irrit. **WHMIS:**Other Toxic Effects - D2A **UN GHS:**Carc. 2; Eye Irrit. 2A; Skin Irrit. 2	
Mineral Spirits	**CAS:**8052-41-3 **EC Number:**232-489-3 **EINECS:**232-489-3	30% TO 40%			
1,2,4-Trimethylbenzene	**CAS:**95-63-6 **EC Number:**202-436-9 **EINECS:**202-436-9	0.1% TO 1.5%	Ingestion/Oral-Rat LD50 5 g/kg Inhalation-Rat LC50 18000 mg/m³ 4 Hour(s)	**OSHA:**Comb. Liq.; Irrit. **UN GHS:**Acute Tox. 4 (Inhalation); Aquatic Chronic 2; Flam. Liq. 3; Eye Irrit. 2A; Skin Irrit. 2; STOT RE 2; STOT SE 2	
Benzene, 1,3,5-trimethyl	**CAS:**108-67-8 **EC Number:**203-604-4 **UN:**UN2325 **EINECS:**203-604-4	0.1% TO 1.5%		**OSHA:** **EU DSD/DPD:**R10Xi; R37N; R51 R53	

Section 4 - First Aid Measures

Inhalation • IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Call a physician or poison control center.

Skin • Rinse skin immediately with plenty of water for 15-20 minutes. Remove contaminated clothing and shoes. If skin irritation occurs: Get medical advice/attention. Wash clothing before reuse.

Eye • IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion • If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Section 5 - Fire Fighting Measures

Extinguishing Media
- LARGE FIRE: Water spray, fog or regular foam.
  SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

Unsuitable Extinguishing Media
- Do not use direct stream of water.

Firefighting Procedures
- Fight advanced or massive fires from safe distance or protected location. Avoid water in a straight hose stream as the stream will cause splatter and spread fire. If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release.

Unusual Fire and Explosion Hazards
- Combustible liquid.
  Containers may explode when heated.
  May release irritating or toxic gases, fumes, or vapors.

Hazardous Combustion Products
- Carbon monoxide, carbon dioxide, hydrocarbons.

Protection of Firefighters
- Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

Flash Point
- 105°F(40.56°C) CC (Closed Cup)

Explosion Limits• •

Upper
- 6 %

Lower
- .9 %

Autoignition Temperature
- 450 F(232.2222 C)

Section 6 - Accidental Release Measures

Personal Precautions • Do not move damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation to remove vapors, fumes, dust etc. Stay upwind.

Emergency Procedures • ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area) Isolate the area and contain the spilled material. Persons not wearing the appropriate PPE should be removed from the area until the spill is cleaned up. Ventilate closed spaces before entering.

Environmental Precautions • Prevent entry into waterways, sewers, basements or confined areas. Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Containment/Clean-up Measures • Contain and recover liquid when possible. Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in suitable container. Do not use water to flush spill area. Use appropriate Personal Protective Equipment (PPE)

Prohibited Materials • Avoid contact with strong oxidizing agents or bases.

Section 7 - Handling and Storage

Handling
- KEEP OUT OF THE REACH OF CHILDREN! Keep away from heat, sparks, and flame – No Smoking. Keep containers tightly closed when not in use. Do not use in areas without adequate ventilation. Protect building inlet from vapors.

Storage
- Store in a well-ventilated place. Keep container tightly closed. Keep away from incompatible materials. Keep away from sources of ignition – No Smoking.

Special Packaging Materials
- Not Applicable.

Incompatible Materials or Ignition Sources
- Avoid contact with strong oxidizing agents and acids.

Section 8 - Exposure Controls/Personal Protection

Personal Protective Equipment

Pictograms
- 

Respiratory
- If listed exposure limits are expected to be exceeded, use approved respiratory protection suitable for the hazard. In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face
- Wear ANSI approved safety glasses with side shields or safety goggles.

Hands
- Wear chemical protective gloves made of Nitrile or Neoprene.

Skin/Body
- Wear clothing that covers the skin to prevent skin exposure.

General Industrial Hygiene Considerations
- Avoid contact with skin and eyes. Avoid breathing vapors. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

Engineering Measures/Controls
- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values. Use precaution to protect building intake from fumes and vapors created outdoors.

Exposure Limits/Guidelines

	Result	ACGIH	Canada Ontario	Mexico	OSHA	United States - California
Mineral Spirits (8052-41-3)	TWAs	100 ppm TWA	525 mg/m3 TWAEV	100 ppm TWA; 523 mg/m3 TWA	500 ppm TWA; 2900 mg/m3 TWA	100 ppm PEL; 525 mg/m3 PEL
Asphalt (8052-42-4)	TWAs	0.5 mg/m3 TWA (as benzene soluble aerosol, fume, inhalable fraction)	0.5 mg/m3 TWAEV (fume, inhalable, as benzene-soluble aerosol)	5 mg/m3 TWA	Not established	5 mg/m3 PEL (fume)

Exposure Control Notations

ACGIH

Asphalt (8052-42-4): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen (fume, coal tar-free))

Key to abbreviations

PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)

Section 9 - Physical and Chemical Properties

Material Description			
Physical Form	Liquid	**Appearance/Description**	Black Liquid.
Color	Black	**Odor**	Mild Hydrocarbon.
Odor Threshold	No data available	**Physical and Chemical Properties**	Liquid
General Properties			
Boiling Point	315 to 550 F(157.2222 to 287.7778 C)	**Melting Point**	No data available
pH	No data available	**Specific Gravity/Relative**	0.932 Water=1

		Density	
Density	7.8 lbs/gal	**Bulk Density**	No data available
Water Solubility	No data available	**Solvent Solubility**	No data available
Viscosity	See TDS		
Volatility			
Vapor Pressure	2 mmHg (torr) @ 68 F(20 C)	**Vapor Density**	4.9 Air=1
Evaporation Rate	1 Ether = 1	**VOC (Wt.)**	No data available
VOC (Vol.)	< 350 g/L	**Volatiles (Wt.)**	No data available
Volatiles (Vol.)	No data available		
Flammability			
Flash Point	105°FCC (Closed Cup)	**UEL**	6 %
LEL	.9 %	**Autoignition**	450°F(232°C)

Section 10 - Stability and Reactivity

Stability • Stable under normal temperatures and pressures.

Hazardous Polymerization • Hazardous polymerization not indicated.

Conditions to Avoid • Avoid contact with strong oxidizing agents and flame.

Incompatible Materials • Strong oxidizers and acids.

Hazardous Decomposition Products • Carbon monoxide, carbon dioxide and hydrocarbons.

Section 11 - Toxicological Information

Component Name	CAS	Data
Asphalt (50% TO 70%)	8052-42-4	**Acute Toxicity:** orl-rat LD50:>5000 mg/kg; ihl-rat LC50:>94.4 mg/m3; **Mutagen:** dna-mus-skn 600 mg/kg; **Tumorigen/Carcinogen:** skn-mus TDLo:905 gm/kg/2Y-I
1,2,4-Trimethylbenzene (0.1% TO 1.5%)	95-63-6	**Acute Toxicity:** orl-rat LD50:5 gm/kg; ihl-rat LC50:18000 mg/m3/4H
Benzene, 1,3,5-trimethyl (0.1% TO 1.5%)	108-67-8	**Acute Toxicity:** orl-rat LD50:5000 mg/kg; ihl-rat TCLo:100 ppm/6H/20D-I

Other Information • This product contains petroleum asphalt. Petroleum asphalt is not listed as a carcinogen by OSHA or NTP. The National Institute of Occupational Safety and Health (NIOSH), has concluded that at higher temperatures roofing asphalt fumes are a potential occupational carcinogen. If this product is heated or comes in contact with heated material, avoid breathing fumes. This product may contain small amounts of polycyclic aromatic hydrocarbons (PAH's) which are recognized carcinogens in humans and experimental animals. Mouse skin painting studies of roofing asphalt vapor concentrate have shown evidence of tumor formation associated with localized skin irritation in recent studies. Inhalation studies of high airborne concentrations of asphalt/bitumen fumes in rats and mice produced bronchitis, pneumonitis, and lung changes such as fibrosis and cell damage. If this product is heated to extreme temperature, it may release bituminous fumes that have recently shown as probable human carcinogen by IARC.

Section 12 - Ecological Information

Ecological Fate • No data available.

Persistence/Degradability • No data available.

Bioaccumulation Potential • No data available.

Mobility in Soil • No data available.

Section 13 - Disposal Considerations

Product • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transportation Information

DOT - United States - Department of Transportation

Shipping Name: *Not restricted if shipped in containers <450L (119 gallons),*
Restricted if shipped in containers > 450 L (119 gallons)

ID Number: NA1993

Hazard Class: 3

Packing Group: III

TDG - Canada - Transport of Dangerous Goods

Shipping Name: Tars liquid

ID Number: UN 1999

Hazard Class: 3

Packing Group: III

TDG Additional Information:1.33 Class 3, Flammable Liquids: *Not Restricted under General Exemption for small container packaging.*

IMO/IMDG –International Maritime Transport: Tars, Liquids; UN1999; Hazard Class: 3; Packing Group: III IMDG Code 2.3.2.5 - exempted from marking, labeling & testing of packages.

IATA - International Air Transportation Association - TARS, LIQUID; UN1999; Hazard Class: 3; Packing Group: III.

Section 15 - Regulatory Information

SARA Hazard Classifications • Acute, Chronic

Risk & Safety Phrases • California PROP 65: Asphalt and Asphalt Fumes may contain detectable amounts of chemicals known to the State of California to cause cancer or reproductive harm.

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
Asphalt	8052-42-4	Yes	Yes	Yes
Mineral Spirits	8052-41-3	Yes	Yes	Yes
1,2,4-Trimethylbenzene	95-63-6	Yes	Yes	Yes
Benzene, 1,3,5-trimethyl	108-67-8	Yes	No	No

Inventory			
Component	**CAS**	**EU EINECS**	**TSCA**
Asphalt	8052-42-4	Yes	Yes
Mineral Spirits	8052-41-3	Yes	Yes
1,2,4-Trimethylbenzene	95-63-6	Yes	Yes
Benzene, 1,3,5-trimethyl	108-67-8	Yes	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

Asphalt	8052-42-4	50% TO 70%	Not Listed
1,2,4-Trimethylbenzene	95-63-6	0.1% TO 1.5%	B3

Mineral Spirits	8052-41-3	30% TO 40%	B3, D2B
Benzene, 1,3,5-trimethyl	108-67-8	0.1% TO 1.5%	B3

United States

Environment

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

Asphalt	8052-42-4	50% TO 70%	Not Listed
1,2,4-Trimethylbenzene	95-63-6	0.1% TO 1.5%	1.0 % de minimis concentration
Mineral Spirits	8052-41-3	30% TO 40%	Not Listed
Benzene, 1,3,5-trimethyl	108-67-8	0.1% TO 1.5%	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

Asphalt	8052-42-4	50% TO 70%	Not Listed
1,2,4-Trimethylbenzene	95-63-6	0.1% TO 1.5%	Not Listed
Mineral Spirits	8052-41-3	30% TO 40%	Not Listed
Benzene, 1,3,5-trimethyl	108-67-8	0.1% TO 1.5%	Not Listed

Section 16 - Other Information

Prepared By
- GG Inc.

Last Revision Date
- 12/10/2014

Disclaimer/Statement of Liability
- This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to verify the suitability and completeness of such information for particular use. The manufacture does not accept liability for any loss or damage that may occur from the use of this information.

NFPA:

SAFETY DATA SHEET

Issue Date 28-May-2015 **Revision Date** 04-Sep-2018 **Version** 5

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name Stainless Steel

Other means of identification

Product Code FRP008

Synonyms Stainless Steel: ATI 20™, ATI 20-20+Nb™, ATI 201™, ATI 219™, 21-6-9, ATI 40 Stainless Steel, XM-11, ATI 301™, ATI 302™, ATI 303™, ATI 304™, ATI 305™, ATI 309™, ATI 310™, ATI 316™, ATI 317™, ATI 321™, ATI 255™ DUPLEX, ATI 332™, ATI 334™, ATI 347™, ATI 348™, AM 350®, AM 355™, ATI 403™, ATI Ohmaloy® 30, ATI Ohmaloy® 40, ATI Ohmaloy®, ATI 409 HP™, ATI 409 Cb™, ATI 410™, ATI 412™, Type 415, ATI 416™, ATI 420™, ATI 430™, ATI 433™, Type 434, Type 436, ATI 439™, ATI 439 HP™, XM-8, Type 441, 18-0, ATI 18CrCb, ATI 441 HP™, ATI 444™, 18-2, ATI 468™, ATI 15-5™, ATI 17-4™, ATI 17-7™, ATI 15-7™, ATI JS700® ALLOY, ATI 800™ ALLOY, ATI 825™ ALLOY, Type 840, ATI E-BRITE® 26-1, ASTM XM 27, ATI 2205™ DUPLEX; 318, ATI 2205™ DUPLEX; 322, ATI 201LN™, Type 301L, ATI 304 DA™, Type 304H, ATI 304L™, 374L, Type 304LN, Type 304N, Type 309H, ATI 309S™, 398, Type 309Si, Type 310Cb, Type 310H, Type 310L, ATI 310S™, Type 310Si, ATI 316L™, 376, ATI 316LN™, ATI 316Ti™, ATI 317L™, ATI 317LMN™, 317 LX, 317 LXN, 317 XN, Type 321H, Type 410 MOD, Type 410HC, ATI 410S™, ATI 418 SPL™, Type 420HC, ALLEGHENY Type 425 Modified, ATI 436S™, ATI 440A™, ATI 440C™, ATI 800 AT™ ALLOY, ATI 800 H™ ALLOY, ATI 904L™, ATI 610™, ATI 611™, ATI 13-8Mo™, ATI 13-8 SuperTough®, ATI 13-8 STAINLESS STEEL, ASTM Type XM-13, ATI 2003® DUPLEX, ATI 20-25+Nb alloy, AL 29-4C®, ATI 332Mo® alloy, ATI 334Mo® alloy, ATI 201HP™, ATI 33, XM-29, ATI 4565™, ATI 50™, 22-13-5, XM-19, ATI 60™, 21800, AL-6XN® ALLOY, AL-6XN Plus® ALLOY, A286 Altemp®, PC1017, Sea Cure ® 26-3-3, Zeron® 100, 22-4-9, 21-11N, HOLDER BLOCK STEEL, MAXEL 400 SUPER, AL-6X, AL 404, Type 405, Type 446, AL 29-4C®, AL 29-4, AL 29-4-2, 14-4 FERRITIC, AL 453, AL 466, ALTEMP ® ALLOY STEEL, 19-9-DL, Type 302B, ATI 409 Cb™, Type 409Ni, ATI 430Ti™, ALLEGHENY EDRO 441MOD1, ALLEGHENY CRUCIBLE 441MOD2, TOOL STEEL D2T, CSM-21 STAINLESS STEEL, ULTRACHEM STAINLESS STEEL, RA85H STEEL, 385, ZeCor™, RA 330 ™ , ATI304B7 P/M™ BOR7

Recommended use of the chemical and restrictions on use

Recommended Use Stainless steel product manufacture.

Uses advised against

Details of the supplier of the safety data sheet

Manufacturer Address

ATI, 1000 Six PPG Place, Pittsburgh, PA
15222 USA

Emergency telephone number

Emergency Telephone Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is an article and, as such, does not present a hazard to human health by inhalation or ingestion.

Skin sensitization	Category 1
Carcinogenicity	Category 1B

Specific target organ toxicity (repeated exposure)	Category 1

Label elements

Emergency Overview

Danger

Hazard statements
May cause cancer
May cause an allergic skin reaction
Causes damage to the respiratory tract through prolonged or repeated exposure if inhaled

Appearance Various massive product forms **Physical state** Solid **Odor** Odorless

Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wear protective gloves

If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable
Other Information
When product is subjected to welding, burning, melting, sawing, brazing, grinding, buffing, polishing, or other similar heat-generating processes, the following potentially hazardous airborne particles and/or fumes may be generated:: Zinc, copper, magnesium, or cadmium fumes may cause metal fume fever, Titanium dioxide an IARC Group 2B carcinogen, Hexavalent Chromium (Chromium VI) may cause lung, nasal, and/or sinus cancer, Vanadium pentoxide (V2O5) affects eyes, skin, respiratory system, Soluble molybdenum compounds such as molybdenum trioxide may cause lung irritation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms

Stainless Steel: ATI 20™, ATI 20-20+Nb™, ATI 201™, ATI 219™, 21-6-9, ATI 40 Stainless Steel, XM-11, ATI 301™, ATI 302™, ATI 303™, ATI 304™, ATI 305™, ATI 309™, ATI 310™, ATI 316™, ATI 317™, ATI 321™, ATI 255™ DUPLEX, ATI 332™, ATI 334™, ATI 347™, ATI 348™, AM 350®, AM 355™, ATI 403™, ATI Ohmaloy® 30, ATI Ohmaloy® 40, ATI Ohmaloy®, ATI 409 HP™, ATI 409 Cb™, ATI 410™, ATI 412™, Type 415, ATI 416™, ATI 420™, ATI 430™, ATI 433™, Type 434, Type 436, ATI 439™, ATI 439 HP™, XM-8, Type 441, 18-0, ATI 18CrCb, ATI 441 HP™, ATI 444™, 18-2, ATI 468™, ATI 15-5™, ATI 17-4™, ATI 17-7™, ATI 15-7™, ATI JS700® ALLOY, ATI 800™ ALLOY, ATI 825™ ALLOY, Type 840, ATI E-BRITE® 26-1, ASTM XM 27, ATI 2205™ DUPLEX; 318, ATI 2205™ DUPLEX; 322, ATI 201LN™, Type 301L, ATI 304 DA™, Type 304H, ATI 304L™, 374L, Type 304LN, Type 304N, Type 309H, ATI 309S™, 398, Type 309Si, Type 310Cb, Type 310H, Type 310L, ATI 310S™, Type 310Si, ATI 316L™, 376, ATI 316LN™, ATI 316Ti™, ATI 317L™, ATI 317LMN™, 317 LX, 317 LXN, 317 XN, Type 321H, Type 410 MOD, Type 410HC, ATI 410S™, ATI 418 SPL™, Type 420HC, ALLEGHENY Type 425

Modified, ATI 436S™, ATI 440A™, ATI 440C™, ATI 800 AT™ ALLOY, ATI 800 H™ ALLOY, ATI 904L™, ATI 610™, ATI 611™, ATI 13-8Mo™, ATI 13-8 SuperTough®, ATI 13-8 STAINLESS STEEL, ASTM Type XM-13, ATI 2003® DUPLEX, ATI 20-25+Nb alloy, AL 29-4C®, ATI 332Mo® alloy, ATI 334Mo® alloy, ATI 201HP™, ATI 33, XM-29, ATI 4565™, ATI 50™, 22-13-5, XM-19, ATI 60™, 21800, AL-6XN® ALLOY, AL-6XN Plus® ALLOY, A286 Altemp®, PC1017, Sea Cure ® 26-3-3, Zeron® 100, 22-4-9, 21-11N, HOLDER BLOCK STEEL, MAXEL 400 SUPER, AL-6X, AL 404, Type 405, Type 446, AL 29-4C®, AL 29-4, AL 29-4-2, 14-4 FERRITIC, AL 453, AL 466, ALTEMP ® ALLOY STEEL, 19-9-DL, Type 302B, ATI 409 Cb™, Type 409Ni, ATI 430Ti™, ALLEGHENY EDRO 441MOD1, ALLEGHENY CRUCIBLE 441MOD2, TOOL STEEL D2T, CSM-21 STAINLESS STEEL, ULTRACHEM STAINLESS STEEL, RA85H STEEL, 385, ZeCor™, RA 330 ™ , ATI304B7 P/M™ BOR7.

Chemical Name	CAS No.	Weight-%
Iron	7439-89-6	<90
Nickel	7440-02-0	0-46
Chromium	7440-47-3	10-30
Manganese	7439-96-5	0-10
Molybdenum	7439-98-7	0-7.0
Silicon	7440-21-3	0-6.5
Aluminum	7429-90-5	0-4.0
Copper	7440-50-8	0-4.0
Tungsten	7440-33-7	0-2.5
Titanium	7440-32-6	0-2.4
Boron	7440-42-8	0-2.25
Vanadium	7440-62-2	0-1.1
Tantalum	7440-25-7	0-1.0
Niobium (Columbium)	7440-03-1	0-1.0
Cobalt	7440-48-4	0-0.5

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4. FIRST AID MEASURES

First aid measures

Eye contact In the case of particles coming in contact with eyes during processing, treat as with any foreign object.

Skin Contact In the case of skin allergic reactions see a physician.

Inhalation If excessive amounts of smoke, fume, or particulate are inhaled during processing, remove to fresh air and consult a qualified health professional.

Ingestion Not an expected route of exposure.

Most important symptoms and effects, both acute and delayed

Symptoms May cause allergic skin reaction.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Product not flammable in the form as distributed, flammable as finely divided particles or pieces resulting from processing of this product. Isolate large fires and allow to burn out. Smother small fires with salt (NaCl) or class D dry powder fire extinguisher.

Unsuitable extinguishing media Do not spray water on burning metal as an explosion may occur. This explosive characteristic is caused by the hydrogen and steam generated by the reaction of water with

the burning material.

Specific hazards arising from the chemical
Intense heat. Very fine, high surface area material resulting from grinding, buffing, polishing, or similar processes of this product may ignite spontaneously at room temperature. WARNING: Fine particles resulting from grinding, buffing, polishing, or similar processes of this product may form combustible dust-air mixtures. Keep particles away from all ignition sources including heat, sparks, and flame. Prevent dust accumulations to minimize combustible dust hazard.

Hazardous combustion products Titanium dioxide an IARC Group 2B carcinogen. Hexavalent Chromium (Chromium VI) may cause lung, nasal, and/or sinus cancer. Vanadium pentoxide (V_2O_5) affects eyes, skin, respiratory system. Zinc, copper, magnesium, or cadmium fumes may cause metal fume fever. Soluble molybdenum compounds such as molybdenum trioxide may cause lung irritation.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required.

For emergency responders Use personal protective equipment as required.

Environmental precautions

Environmental precautions Not applicable to massive product.

Methods and material for containment and cleaning up

Methods for containment Not applicable to massive product.

Methods for cleaning up Not applicable to massive product.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Very fine, high surface area material resulting from grinding, buffing, polishing, or similar processes of this product may ignite spontaneously at room temperature. WARNING: Fine particles resulting from grinding, buffing, polishing, or similar processes of this product may form combustible dust-air mixtures. Keep particles away from all ignition sources including heat, sparks, and flame. Prevent dust accumulations to minimize combustible dust hazard.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep chips, turnings, dust, and other small particles away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Incompatible materials Dissolves in hydrofluoric acid. Ignites in the presence of fluorine. When heated above 200°C, reacts exothermically with the following: Chlorine, bromine, halocarbons, carbon tetrachloride, carbon tetrafluoride, and freon.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL
Iron 7439-89-6	-	-
Nickel 7440-02-0	TWA: 1.5 mg/m³ inhalable fraction	TWA: 1 mg/m³
Chromium 7440-47-3	TWA: 0.5 mg/m³	TWA: 1 mg/m³
Manganese 7439-96-5	TWA: 0.02 mg/m³ respirable fraction TWA: 0.1 mg/m³ inhalable fraction TWA: 0.02 mg/m³ Mn TWA: 0.1 mg/m³ Mn	(vacated) STEL: 3 mg/m³ fume (vacated) Ceiling: 5 mg/m³ Ceiling: 5 mg/m³ fume Ceiling: 5 mg/m³ Mn
Molybdenum 7439-98-7	TWA: 10 mg/m³ inhalable fraction TWA: 3 mg/m³ respirable fraction	-
Silicon 7440-21-3	-	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction
Copper 7440-50-8	TWA: 0.2 mg/m³ fume TWA: 1 mg/m³ Cu dust and mist	TWA: 0.1 mg/m³ fume TWA: 1 mg/m³ dust and mist
Aluminum 7429-90-5	TWA: 1 mg/m³ respirable fraction	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction
Tungsten 7440-33-7	STEL: 10 mg/m³ STEL: 10 mg/m³ W TWA: 5 mg/m³ TWA: 5 mg/m³ W	(vacated) STEL: 10 mg/m³ (vacated) STEL: 10 mg/m³ W
Titanium 7440-32-6	-	-
Boron 7440-42-8	-	-
Vanadium 7440-62-2	-	Ceiling: 0.5 mg/m³ V2O5 respirable dust Ceiling: 0.1 mg/m³ V2O5 fume
Tantalum 7440-25-7	-	TWA: 5 mg/m³
Niobium (Columbium) 7440-03-1	-	-
Cobalt 7440-48-4	TWA: 0.02 mg/m³ TWA: 0.02 mg/m³ Co	TWA: 0.1 mg/m³ dust and fume

Appropriate engineering controls

Engineering Controls Avoid generation of uncontrolled particles.

Individual protection measures, such as personal protective equipment

Eye/face protection When airborne particles may be present, appropriate eye protection is recommended. For example, tight-fitting goggles, foam-lined safety glasses or other protective equipment that shield the eyes from particles.

Skin and body protection Fire/flame resistant/retardant clothing may be appropriate during hot work with the product. Cut-resistant gloves and/or protective clothing may be appropriate when sharp surfaces are present.

Respiratory protection When particulates/fumes/gases are generated and if exposure limits are exceeded or irritation is experienced, proper approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid		
Appearance	Various massive product forms	**Odor**	Odorless
Color	metallic, gray or silver	**Odor threshold**	Not applicable

Property	Values	Remarks • Method
pH	-	
Melting point/freezing point	1430-1540 °C / 2600-2800 °F	
Boiling point / boiling range	-	
Flash point	-	
Evaporation rate	-	Not applicable
Flammability (solid, gas)	-	Product not flammable in the form as distributed, flammable as finely divided particles or pieces resulting from processing of this product
Flammability Limit in Air		
Upper flammability limit:	-	
Lower flammability limit:	-	
Vapor pressure	-	Not applicable
Vapor density	-	Not applicable
Specific Gravity	7-9	
Water solubility	Insoluble	
Solubility in other solvents	-	Not applicable
Partition coefficient	-	Not applicable
Autoignition temperature	-	Not applicable
Decomposition temperature	-	Not applicable
Kinematic viscosity	-	Not applicable
Dynamic viscosity	-	Not applicable
Explosive properties	Not applicable	
Oxidizing properties	Not applicable	

Other Information

Softening point	-
Molecular weight	-
VOC Content (%)	Not applicable
Density	-
Bulk density	-

10. STABILITY AND REACTIVITY

Reactivity
Not applicable

Chemical stability
Stable under normal conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid
Dust formation and dust accumulation.

Incompatible materials
Dissolves in hydrofluoric acid. Ignites in the presence of fluorine. When heated above 200°C, reacts exothermically with the following: Chlorine, bromine, halocarbons, carbon tetrachloride, carbon tetrafluoride, and freon.

Hazardous Decomposition Products
When product is subjected to welding, burning, melting, sawing, brazing, grinding, buffing, polishing, or other similar heat-generating processes, the following potentially hazardous airborne particles and/or fumes may be generated:: Titanium dioxide an IARC Group 2B carcinogen. Hexavalent Chromium (Chromium VI) may cause lung, nasal, and/or sinus cancer. Vanadium pentoxide (V_2O_5) affects eyes, skin, respiratory system. Soluble molybdenum compounds such as molybdenum trioxide may cause lung irritation.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation Not an expected route of exposure for product in massive form.

Eye contact Not an expected route of exposure for product in massive form.

Skin Contact Nickel or Cobalt containing alloys may cause sensitization by skin contact.

Ingestion Not an expected route of exposure for product in massive form.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Iron 7439-89-6	98,600 mg/kg bw	-	> 0.25 mg/L
Nickel 7440-02-0	> 9000 mg/kg bw	-	> 10.2 mg/L
Chromium 7440-47-3	> 3400 mg/kg bw	-	> 5.41 mg/L
Manganese 7439-96-5	>2000 mg/kg bw	-	>5.14 mg/L
Molybdenum 7439-98-7	> 2000 mg/kg bw	> 2000 mg/kg bw	> 5.10 mg/L
Silicon 7440-21-3	> 5000 mg/kg bw	> 5000 mg/kg bw	> 2.08 mg/L
Copper 7440-50-8	481 mg/kg bw	>2000 mg/kg bw	>5.11 mg/L
Aluminum 7429-90-5	15,900 mg/kg bw	-	> 1 mg/L
Tungsten 7440-33-7	> 2000 mg/kg bw	> 2000 mg/kg bw	> 5.4 mg/L
Titanium 7440-32-6	> 5000 mg/kg bw	-	-
Boron 7440-42-8	> 2000 mg/kg bw	-	> 5.08 mg/L
Vanadium 7440-62-2	> 2000 mg/kg bw	-	-
Tantalum 7440-25-7	> 2000 mg/kg bw	> 2000 mg/kg bw	> 5.18 mg/L
Niobium (Columbium) 7440-03-1	> 10,000 mg/kg bw	> 2000 mg/kg bw	-
Cobalt 7440-48-4	550 mg/kg bw	>2000 mg/kg bw	<0.05 mg/L

Information on toxicological effects

Symptoms Nickel or Cobalt containing alloys may cause sensitization by skin contact.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Acute toxicity Product not classified.
Skin corrosion/irritation Product not classified.
Serious eye damage/eye irritation Product not classified.
Sensitization Nickel or Cobalt containing alloys may cause sensitization by skin contact.
Cobalt-containing alloys may cause sensitization by inhalation.
Germ cell mutagenicity Product not classified.
Carcinogenicity May cause cancer by inhalation.

Chemical Name	ACGIH	IARC	NTP	OSHA
Nickel 7440-02-0		Group 1 Group 2B	Known Reasonably Anticipated	X
Chromium 7440-47-3		Group 3		

Cobalt 7440-48-4	A3	Group 2A Group 2B	Known	X

Reproductive toxicity Product not classified.
STOT - single exposure Product not classified.
STOT - repeated exposure Causes disorder and damage to the: Respiratory System.
Aspiration hazard Product not classified.

12. ECOLOGICAL INFORMATION

Ecotoxicity

This product as shipped is not classified for aquatic toxicity.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Iron 7439-89-6	-	The 96 h LC50 of 50% iron oxide black in water to Danio rerio was greater than 10,000 mg/L.	The 3 h EC50 of iron oxide for activated sludge was greater than 10,000 mg/L.	The 48 h EC50 of iron oxide to Daphnia magna was greater than 100 mg/L.
Nickel 7440-02-0	NOEC/EC10 values range from 12.3 µg/l for Scenedesmus accuminatus to 425 µg/l for Pseudokirchneriella subcapitata.	The 96h LC50s values range from 0.4 mg Ni/L for Pimephales promelas to 320 mg Ni/L for Brachydanio rerio.	The 30 min EC50 of nickel for activated sludge was 33 mg Ni/L.	The 48h LC50s values range from 0.013 mg Ni/L for Ceriodaphnia dubia to 4970 mg Ni/L for Daphnia magna.
Chromium 7440-47-3	-	-	-	-
Manganese 7439-96-5	The 72 h EC50 of manganese to Desmodesmus subspicatus was 2.8 mg of Mn/L.	The 96 h LC50 of manganese to Oncorhynchus mykiss was greater than 3.6 mg of Mn/L	The 3 h EC50 of manganese for activated sludge was greater than 1000 mg/L.	The 48 h EC50 of manganese to Daphnia magna was greater than 1.6 mg/L.
Molybdenum 7439-98-7	The 72 h EC50 of sodium molybdate dihydrate to Pseudokirchneriella subcapitata was 362.9 mg of Mo/L.	The 96 h LC50 of sodium molybdate dihydrate to Pimephales promelas was 644.2 mg/L	The 3 h EC50 of molybdenum trioxide for activated sludge was 820 mg/L.	The 48 h LC50 of sodium molybdate dihydrate to Ceriodaphnia dubia was 1,015 mg/L. The 48 h LC50 of sodium molybdate dihydrate to Daphnia magna was greater than 1,727.8 mg/L.
Silicon 7440-21-3	The 72 h EC50 of sodium metasilicate pentahydrate to Pseudokirchnerella subcapitata was greater than 250 mg/L.	-	-	-
Copper 7440-50-8	The 72 h EC50 values of copper chloride to Pseudokirchneriella subcapitata ranged between 30 µg/L (pH 7.02, hardness 250 mg/L CaCO3, DOC 1.95 mg/L) and 824 µg/L (pH 6.22, hardness 100 mg/L CaCO3, DOC 15.8 mg/L).	The 96-hr LC50 for Pimephales promelas exposed to Copper sulfate ranged from 256.2 to 38.4 ug/L with water hardness increasing from 45 to 255.7 mg/L.	The 24 h NOEC of copper chloride for activated sludge ranged from 0.32 to 0.64 mg of Cu/L.	The 48 h LC50 values for Daphnia magna exposed to copper in natural water ranged between 33.8 µg/L (pH 6.1, hardness 12.4 mg/L CaCO3, DOC 2.34 mg/L) and 792 µg/L (pH 7.35, hardness 139.7 mg/L CaCO3, DOC 22.8 mg/L).
Aluminum 7429-90-5	The 96-h EC50 values for reduction of biomass of Pseudokirchneriella subcapitata in AAP-Medium at pH 6, 7, and 8 were estimated as 20.1, 5.4, and 150.6 µg/L, respectively, for dissolved Al.	The 96 h LC50 of aluminum to Oncorhynchus mykiss was 7.4 mg of Al/L at pH 6.5 and 14.6 mg of Al/L at pH 7.5	-	The 48-hr LC50 for Ceriodaphnia dubia exposed to Aluminium chloride increased from 0.72 to greater than 99.6 mg/L with water hardness increasing from 25 to 200 mg/L.
Tungsten 7440-33-7	The 72 h EC50 of sodium tungstate to Pseudokirchnerella subcapitata was 31.0 mg of W/L.	The 96 h LC50 of sodium tungstate to Danio rerio was greater than 106 mg of W/L.	The 30 min EC50 of sodium tungstate for activated sludge were greater than 1000 mg/L.	The 48 h EC50 of sodium tungstate to Daphnia magna was greater than 96 mg of W/L.

Titanium 7440-32-6	The 72 h EC50 of titanium dioxide to Pseudokirchnerella subcapitata was 61 mg of TiO2/L.	The 96 h LC50 of titanium dioxide to Cyprinodon variegatus was greater than 10,000 mg of TiO2/L. The 96 h LC50 of titanium dioxide to Pimephales promelas was greater than 1,000 mg of TiO2/L .	The 3 h EC50 of titanium dioxide for activated sludge were greater than 1000 mg/L.	The 48 h EC50 of titanium dioxide to Daphnia Magna was greater than 1000 mg of TiO2/L.
Boron 7440-42-8	The 72-h EC50 value for reduction of biomass of Pseudokirchneriella subcapitata exposed to Boric acid at pH 7.5 to 8.3 was 40.2 mg/L.	The 96-hr LC50 for Pimephales promelas exposed to Boric acid (82%)/borax (18%) mixture was 79.7 mg/L with water hardness of 91 mg/L and water pH of 8.0.	The 3 h NOEC of boric acid for activated sludge ranged from 17.5 to 20 mg/L.	The 48-hr LC50 for Ceriodaphnia dubia exposed to Boric acid/borax mixture ranged from 91 to 165 mg/L with pH ranging from 6.7 to 8.4.
Vanadium 7440-62-2	The 72 h EC50 of vanadium pentoxide to Desmodesmus subspicatus was 2,907 ug of V/L.	The 96 h LC50 of vanadium pentoxide to Pimephales promelas was 1,850 ug of V/L .	The 3 h EC50 of sodium metavanadate for activated sludge was greater than 100 mg/L.	The 48 h EC50 of sodium vanadate to Daphnia magna was 2,661 ug of V/L.
Tantalum 7440-25-7	-	-	-	-
Niobium (Columbium) 7440-03-1	-	-	-	-
Cobalt 7440-48-4	The 72 h EC50 of cobalt dichloride to Pseudokirchneriella subcapitata was 144 ug of Co/L.	The 96h LC50 of cobalt dichloride ranged from 1.5 mg Co/L for Oncorhynchus mykiss to 85 mg Co/L for Danio rerio.	The 3 h EC50 of cobalt dichloride for activated sludge was 120 mg of Co/L.	The 48 h LC50 of cobalt dichloride ranged from 0.61 mg Co/L for Ceriodaphnia dubia tested in soft, DOM-free water to >1800mg Co/L for Tubifex tubifex in very hard water.

Persistence and degradability

.

Bioaccumulation

.

Other adverse effects This product as shipped is not classified for environmental endpoints. However, when subjected to sawing or grinding, particles may be generated that are classified for aquatic chronic toxicity.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging None anticipated.

Chemical Name	RCRA - D Series Wastes
Chromium 7440-47-3	5.0 mg/L regulatory level

This product contains one or more substances that are listed with the State of California as a hazardous waste.

14. TRANSPORT INFORMATION

DOT Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Not Listed
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372: Chromium (Cr)

Chemical Name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Nickel - 7440-02-0	7440-02-0	0-46	0.1
Chromium - 7440-47-3	7440-47-3	10-30	1.0
Manganese - 7439-96-5	7439-96-5	0-10	1.0
Copper - 7440-50-8	7440-50-8	0-4.0	1.0
Cobalt - 7440-48-4	7440-48-4	0-0.5	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Nickel 7440-02-0		X	X	
Chromium 7440-47-3		X	X	
Copper 7440-50-8		X	X	

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs
Nickel 7440-02-0	100 lb
Chromium 7440-47-3	5000 lb
Copper	5000 lb

7440-50-8	

US State Regulations

California Proposition 65

This product contains the Proposition 65 chemicals listed below. Proposition 65 warning label available at ATImetals.com.

Chemical Name	California Proposition 65
Nickel - 7440-02-0	Carcinogen
Cobalt - 7440-48-4	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Nickel 7440-02-0	X	X	X
Chromium 7440-47-3	X	X	X
Manganese 7439-96-5	X	X	X
Molybdenum 7439-98-7	X	X	X
Silicon 7440-21-3	X	X	X
Copper 7440-50-8	X	X	X
Aluminum 7429-90-5	X	X	X
Tungsten 7440-33-7	X	X	X
Titanium 7440-32-6	X		
Vanadium 7440-62-2	X	X	X
Tantalum 7440-25-7	X	X	X
Cobalt 7440-48-4	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA	**Health hazards** 1	**Flammability** 0	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 2*	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Chronic Hazard Star Legend ** = Chronic Health Hazard*

Issue Date 28-May-2015
Revision Date 04-Sep-2018
Revision Note
Updated Section(s): 2, 3, 4, 5, 9, 11, 12, 15

Note:

The information provided in this safety data sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Additional information available from: Safety data sheets and labels available at ATImetals.com

TYPE 4 (IV)

SECTION 1. IDENTIFICATION

Product Identifier	TYPE 4 (IV)
Other Means of Identification	BALT4
Other Identification	Asphalt / Bitumen
Recommended Use	This product is primarily used for roofing applications. However, there are a number of other industrial applications.
Restrictions on Use	None known.
Manufacturer	Bitumar USA, Inc., 6000 Pennington Avenue, Baltimore, Maryland, 21226, (410) 354-9550, www.bitumar.com
Emergency Phone No.	Canutec (Canada), (613) 993-6666; Cel. *666 (canada), 24/7 ChemTrec (US), (800) 424-9300, 24/7
Date of Preparation	septembre 19, 2016

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Carcinogenicity - Category 2

GHS Label Elements

Warning
Suspected of causing cancer.

Other Hazards

Hazard Not Otherwise Classified (HNOC): Contact with hot material can cause thermal burns.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
Asphalt, oxidized	64742-93-4	70-100	
Asphalt (Bitumen)	8052-42-4	0-30	
Hydrogen sulfide	7783-06-4		

Notes

Sulphur and its derivatives are intrinsic to base asphalt. During storage or transit of hot asphalt, hydrogen sulphide may be generated.

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Move to fresh air. Get medical advice/attention if you feel unwell or are concerned.

Skin Contact

For hot asphalt splash, cool affected body part with water immersion or shower. Do not attempt removal of asphalt but split longitudinally if asphalt covers limb circumferentially to avoid tourniquet effect. No attempt should be made to remove firmly adhering bitumen from the skin.
Once the bitumen has cooled, it will do no further harm. As healing takes place, the bitumen plaque will detach itself, usually after a few days.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water by allowing the water to flow over the bridge of the nose to the eyes for at least 20 minutes. Seek medical attention.

Ingestion

DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.

Most Important Symptoms and Effects, Acute and Delayed

Symptoms may not appear immediately. Fume may cause respiratory irritation; Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness and nose and throat pain. Fume May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hot liquid product may cause serious thermal burns on direct contact.

Immediate Medical Attention and Special Treatment

Special Instructions

No attempt should be made to remove firmly adhering bitumen from the skin. If solvent treatment is used, it should be followed by washing with soap and water, then the application of a proprietary refatting agent or skin cleansing cream. Only medically approved solvents may be used to remove bitumen from burns, as other solvents could cause further skin damage.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Use water to keep non-leaking, fire-exposed containers cool.
SMALL FIRE: use DRY chemicals, foam, water spray or CO2.
LARGE FIRE: use water spray, fog or foam.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Chemical

Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), sulphur compounds (H2S), smoke and irritating fumes as products of incomplete combustion.

Special Protective Equipment and Precautions for Fire-fighters

For small outdoor fires, portable fire extinguishers may be used, and self contained breathing apparatus (SCBA) may not be required. For all indoor fires and any significant outdoor fires, SCBA is required. Respiratory and eye protection are required for fire fighting personnel.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Do not Touch or walk through spilled material. Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Stop or reduce leak if safe to do so. Contain hot liquid by dyking and allow to cool and solidify. Break up and recover, see section 13 for disposal consideration.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Asphalt may be transported hot. Avoid skin contact. Avoid eye contact. Avoid inhalation of product vapours or fumes. Ensure all equipment is grounded/bonded. During storage, transit and cooling of asphalt, hydrogen sulphide (H2S) may accumulate in enclosed spaces such as tank cars. Open tank car hatches with caution. Maintain same precautions when gauging and sampling. Empty containers may contain product residue. Do not reuse containers without commercial cleaning and/or reconditioning. Personnel who handle this material should practice good personal hygiene during and after handling to help prevent accidental ingestion of this product. Wear proper personal protective equipment.

Conditions for Safe Storage

To maintain pumping ability, asphalt is kept heated to a suitable temperature; normally well above room temperature but below the flash point. Store in dry, well-ventilated area. Clear roof vents periodically to prevent accumulation of asphalt deposits from vapour accumulation. Store away from incompatible and reactive materials (see section 10). Ensure the storage containers are grounded/bonded.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical Name	**TWA**	**STEL**	**TWA**	**Ceiling**	**8-hr TWA**	**TWA**
Asphalt (Bitumen)	0.5 mg/m3 (as benzene-soluble aerosol) A4					
Hydrogen sulfide	1 ppm	5 ppm				
Asphalt, oxidized	0.5 mg/m3 (as benzene-soluble aerosol) A4					

Appropriate Engineering Controls

For normal application, special ventilation is not necessary. If user's operations generate vapours or fumes, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station.

Individual Protection Measures

Eye/Face Protection

As a minimum, safety glasses with side shields should be worn when handling this material.

Skin Protection

Wear Protective clothing with full length sleeves and pants should be worn.

Respiratory Protection

A minimum of NIOSH-approved air-purifying respirator with an organic vapour cartridge or canister with a dust, fume of mist filter (R, or P series) may be allowable under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. A NIOSH-approved positive-pressure, air-supplied respirator or self-contained breathing apparatus may be required under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Brown - black Viscous semi-solid.
Odour	Asphalt

Odour Threshold	Not available
pH	Not available
Melting Point/Freezing Point	Not available (freezing)
Initial Boiling Point/Range	> 470 ºC (878 ºF)
Flash Point	> 230 ºC (446 ºF) (open cup)
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Nil at 37.8°C (100°F)
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	> 1
Solubility	Insoluble in water; Insoluble in alcohol, acids and alkalis. Soluble in oil turpentine, petroleum, carbon disulphide, chloroform, ether, and acetone
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	> 370 ºC (698 ºF)
Decomposition Temperature	Not available
Viscosity	150 - 2500 centipoises (dynamic)

Other Information

Physical State	Solid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Stable under normal temperature conditions and recommended use.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources. Incompatible materials.

Incompatible Materials

Oxidizing agents (e.g. peroxides), fluorine.

Hazardous Decomposition Products

Carbon Oxides (COx), sulfur Oxides (SOx), nitrogen oxides (NOx), hydrogen sulfide, hydrocarbons.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Eye contact; skin contact; inhalation; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Asphalt (Bitumen)	Not available	Not available	Not available
Hydrogen sulfide	444 ppm (rat) (4-hour exposure)		

Skin Corrosion/Irritation

Prolonged or repeated contact with skin may cause dermatitis or warty skin growths (keratosis). Contact with hot material can cause thermal burns.

Serious Eye Damage/Irritation

Vapours or fumes from the hot asphalt can cause irritation of the surface of the eyes as well as limbal pigmentation of the cornea. Contact with hot material can cause thermal burns.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

No information was located.

Skin Absorption

No information was located.

Ingestion

No information was located.

Aspiration Hazard

May cause lung damage if aspirated based on physical properties (e.g. kinematic viscosity) and chemical family (hydrocarbon).

STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

Respiratory and/or Skin Sensitization

This product is not expected to be a skin or a respiratory tract sensitizer, based on the available data and the known hazards of the components.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Asphalt (Bitumen)	Group 2B	A4	Not Listed	Carcinogen
Asphalt, oxidized	Group 2A	A4	Not Listed	Carcinogen

Group 2A – Probably carcinogenic to humans. Group 2B – Possibly carcinogenic to humans.

Other Information

Contains:
HYDROGEN SULFIDE : Chronic health effects due to repeated exposures to low levels of H2S have not been established. High level (700 ppm) acute exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of over exposure to H2S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucosa membranes and the respiratory system and have been implicated in some eye damage.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Not Available.

Persistence and Degradability

Not Available.

Bioaccumulative Potential

Not Available.

Mobility in Soil

Not Available.

Other Adverse Effects

Not Available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of waste at an appropriate treatment & disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN3257	Elevated temperature liquid (Bitumen (Asphalt))	9	III

Special Precautions for User Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Emergency Response Guide No. 130

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL or are not required to be listed.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.

SECTION 16. OTHER INFORMATION

NFPA Rating **Health - 1** **Flammability - 1** **Instability - 0**

SDS Prepared By R&D and Technical group

Phone No. 514-645-4561

Date of Preparation septembre 19, 2016

Disclaimer Bitumar Inc. customarily reviews and updates SDS within 90 days of new data availability in accordance with Canadian Hazardous Products Act. If you would like to verify if the MSDS you have is the most current, or you require any further information, please contact:
www.bitumar.com
Ontario/Central/Quebec & Eastern Canada, telephone: 514-645-4561; fax: 514-645-6978.
For the USA: 410-354-9550. Fax: 410-354-9552.
For other Product Safety Information: (514) 645-4561

To the best of our knowledge, the information contained herein is accurate. However, neither BITUMAR Inc. nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
CCW WIP 300HT

Synonyms
Rubberized asphalt self-adhering sheet with polyethylene film

Chemical Family
Rubber Asphalt products

Product Use
waterproofing membrane

Restrictions on Use
For industrial use only.

Manufacturer Information

Carlisle Coatings and Waterproofing Incorporated
900 Hensley Lane
Wylie, TX 75098
www.carlisle-ccw.com

Phone Numbers:

Medical Emergency
CHEMTREC (USA): 800-424-9300

MSDS Assistance; 972-442-6545
Technical Assistance: 888-229-2199
Customer Service: 888-229-0199

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.
Skin Corrosion/Irritation - Category 2
Reproductive Toxicity - Category 1B
Specific Target Organ Toxicity - Single Exposure - Category 2 (liver, kidneys, thymus)

GHS Label Elements

Symbol(s)

Signal Word
Danger

Hazard Statement(s)
Causes skin irritation
May damage fertility or the unborn child
May cause damage to organs

Precautionary Statement(s)

Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust/fume/gas/mist/vapours/spray
Wash thoroughly after handling
Do not eat, drink or smoke when using this product

Response
If exposed or concerned: Call a POISON CENTER or doctor/physician
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
Specific treatment (see label)

Storage
Store locked up

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations

Other Hazards
No additional information available.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
64742-52-5	Distillates, petroleum, hydrotreated heavy naphthenic	1-5
8052-42-4	Asphalt	0-80
64742-93-4	Asphalt, oxidized	0-80
68955-27-1	Distillates, petroleum, petroleum residues vacuum	0-80
64741-56-6	Residues, petroleum, vacuum	0-80
Mixture	Fatty acids, tall-oil, low-boiling	1-5

Section 4 - FIRST AID MEASURES

Description of Necessary Measures
If exposed or concerned: Call a POISON CENTER or doctor/physician.

Inhalation
Inhalation unlikely due to physical form. Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin
Wash exposed skin with soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.

Eyes
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Ingestion
Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Indication of any immediate medical attention and special treatment needed
Treat symptomatically and supportively.

Most Important Symptoms/Effects

Acute
Causes skin irritation. May cause damage to the kidneys, liver, thymus.

Delayed
May damage fertility or the unborn child.

Note to Physicians
Contains ASPHALT.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media
Use carbon dioxide, regular dry chemical, regular foam or water.

Unsuitable Extinguishing Media
None known.

Special Hazards Arising from the Chemical
Slight fire hazard.

Hazardous Combustion Products
Oxides of carbon, hydrocarbons

Special Protective Equipment and Precautions for Firefighters
Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up
Remove all sources of ignition. Avoid inhalation of material or combustion by-products. Ventilate affected area. Absorb with earth, sand or other non-combustible material and transfer to container. Dispose in accordance with all applicable regulations.

Environmental Precautions
Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with eyes, skin and clothing. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapours/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. KEEP OUT OF REACH OF CHILDREN.

Conditions for Safe Storage, Including any Incompatibilities
Store locked up
Store in a cool, dry place. Keep container tightly closed and in a well-ventilated place. Keep away from heat and ignition sources. Keep away from incompatible materials. Do not cut, puncture, or weld on or near this container.

Incompatible Materials
strong acids, strong oxidizing agents

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Asphalt	8052-42-4
ACGIH:	0.5 mg/m3 TWA as benzene soluble aerosol fume, inhalable fraction
NIOSH:	5 mg/m3 Ceiling fume 15 min
Mexico:	5 mg/m3 TWA LMPE-PPT
	10 mg/m3 STEL [LMPE-CT]
Hydrogen sulfide	7783-06-4

ACGIH:	1 ppm TWA
	5 ppm STEL
NIOSH:	10 ppm Ceiling 10 min; 15 mg/m3 Ceiling 10 min
	100 ppm IDLH
Europe:	5 ppm TWA; 7 mg/m3 TWA
	10 ppm STEL; 14 mg/m3 STEL
OSHA (US):	20 ppm Ceiling
Mexico:	10 ppm TWA LMPE-PPT; 14 mg/m3 TWA LMPE-PPT
	15 ppm STEL [LMPE-CT]; 21 mg/m3 STEL [LMPE-CT]

Biological limit value
There are no biological limit values for any of this product's components.

Engineering Controls
Provide adequate ventilation. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection
Wear safety glasses or safety goggles, with a faceshield, as appropriate. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection
Wear chemical resistant clothing and rubber boots when potential for contact with the material exists. Recommended material: protective skin cream.

Respiratory Protection
A NIOSH approved air-purifying respirator with an appropriate cartridge or canister may be appropriate under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Glove Recommendations
Wear appropriate chemical resistant gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Black rubber ASPHALT	**Physical State**	solid
Odor	Slight,petroleum	**Color**	Black
Odor Threshold	Not available	**pH**	Not available
Melting Point	Not available	**Boiling Point**	Not available

Freezing point	Not available	**Evaporation Rate**	<0.01
Boiling Point Range	Not available	**Flammability (solid, gas)**	1
Autoignition	Not available	**Flash Point**	>450 °F
Lower Explosive Limit	Not available	**Decomposition**	Not available
Upper Explosive Limit	Not available	**Vapor Pressure**	Not available
Vapor Density (air=1)	Not available	**Specific Gravity (water=1)**	Not available
Water Solubility	Negligible	**Partition coefficient: n-octanol/water**	Not available
Viscosity	Not available	**Solubility (Other)**	Not available
Density	1 - 1.2 (relative)		

Other Information
No additional information available.

Section 10 - STABILITY AND REACTIVITY

Reactivity
No reactivity hazard is expected.

Chemical Stability
Stable under normal conditions of use.

Possibility of Hazardous Reactions
Hazardous polymerization will not occur.

Conditions to Avoid
Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

Incompatible Materials
strong acids, strong oxidizing agents

Hazardous decomposition products
Oxides of carbon, hydrocarbons

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation
Not a likely route of exposure.

Skin Contact
Causes skin irritation.

Eye Contact
May cause mild eye irritation.

Ingestion
May cause gastrointestinal irritation.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and the following selected endpoints are published:
Asphalt (8052-42-4)
Oral LD50 Rat >5000 mg/kg
Dermal LD50 Rabbit >2000 mg/kg
Asphalt, oxidized (64742-93-4)
Oral LD50 Rat >5000 mg/kg
Dermal LD50 Rabbit >2000 mg/kg
Distillates, petroleum, petroleum residues vacuum (68955-27-1)
Oral LD50 Rat 4320 mg/kg
Dermal LD50 Rabbit >2000 mg/kg
Residues, petroleum, vacuum (64741-56-6)
Oral LD50 Rat 4320 mg/kg
Dermal LD50 Rabbit >2000 mg/kg
Hydrogen sulfide (7783-06-4)
Inhalation LC50 Rat 0.99 mg/L 1 h
Fatty acids, tall-oil, low-boiling (Mixture)
Oral LD50 Rat >2000 mg/kg
Dermal LD50 Rat >2000 mg/kg

Immediate Effects
Causes skin irritation. May cause damage to the kidneys, liver, thymus.

Delayed Effects
May damage fertility or the unborn child.

Irritation/Corrosivity Data
May cause mild skin irritation. May cause mild eye irritation. May cause respiratory irritation.

Respiratory Sensitization
No data available.

Dermal Sensitization
No data available.

Component Carcinogenicity

Asphalt	8052-42-4
ACGIH:	A4 - Not Classifiable as a Human Carcinogen (fume, coal tar-free)

IARC:	Monograph 103 [2013]; Supplement 7 [1987] (extracts of steam-refined and air-refined); Monograph 35 [1985] (Group 2B (possibly carcinogenic to humans))
DFG:	Category 2 (considered to be carcinogenic for man, aerosol and vapor)
OSHA:	Present
Asphalt, oxidized	64742-93-4
IARC:	Monograph 103 [2013] (and their emissions during roofing) (Group 2A (probably carcinogenic to humans))
OSHA:	Present
Residues, petroleum, vacuum	64741-56-6
IARC:	Monograph 103 [2013] (Group 2B (possibly carcinogenic to humans))
OSHA:	Present
Polycyclic aromatic hydrocarbons	130498-29-2
NTP:	Reasonably Anticipated To Be A Human Carcinogen
OSHA:	Present

Germ Cell Mutagenicity
No data available.

Tumorigenic Data
No data available

Reproductive Toxicity
May damage fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure
kidneys, liver, thymus

Specific Target Organ Toxicity - Repeated Exposure
No target organs identified.

Aspiration hazard
No data available.

Medical Conditions Aggravated by Exposure
No data available.

Additional Data
No additional information available.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity
Avoid release to the environment.

Component Analysis - Aquatic Toxicity

Distillates, petroleum, hydrotreated heavy naphthenic	64742-52-5
Fish:	LC50 96 h Oncorhynchus mykiss >5000 mg/L
Invertebrate:	EC50 48 h Daphnia magna >1000 mg/L IUCLID
Asphalt, oxidized	64742-93-4
Algae:	EC50 72 h Pseudokirchneriella subcapitata 56 mg/L IUCLID
Distillates, petroleum, petroleum residues vacuum	68955-27-1
Fish:	LC50 96 h Brachydanio rerio 48 mg/L [semi-static]
Residues, petroleum, vacuum	64741-56-6
Fish:	LC50 96 h Brachydanio rerio 48 mg/L [semi-static]
Hydrogen sulfide	7783-06-4
Fish:	LC50 96 h Lepomis macrochirus 0.0448 mg/L [flow-through]; LC50 96 h Pimephales promelas 0.016 mg/L [flow-through]
Fatty acids, tall-oil, low-boiling	Mixture
Fish:	LC50 96 h Brachydanio rerio 50 - 100 mg/L [semi-static]
Algae:	EC50 72 h Pseudokirchneriella subcapitata >10 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna 70 mg/L IUCLID

Persistence and Degradability
No information available for the product.

Bioaccumulative Potential
No information available for the product.

Mobility
No information available for the product.

Other Toxicity
No additional information available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 14 - TRANSPORT INFORMATION

US DOT Information:
UN/NA #: Not regulated

IATA Information:
UN#: Not regulated

IMDG Information:
UN#: Not regulated

TDG Information:
UN#: Not regulated

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations
This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Hydrogen sulfide	7783-06-4
SARA 302:	500 lb TPQ
SARA 313:	1 % de minimis concentration
CERCLA:	100 lb final RQ; 45.4 kg final RQ
OSHA (safety):	1500 lb TQ
SARA 304:	100 lb EPCRA RQ

SARA Section 311/312 (40 CFR 370 Subparts B and C)
Acute Health: Yes **Chronic Health:** Yes **Fire:** Yes **Pressure:** No **Reactivity:** No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Asphalt	8052-42-4	Yes	Yes	Yes	Yes	Yes
Asphalt, oxidized	64742-93-4	No	No	No	Yes	No
Hydrogen sulfide	7783-06-4	Yes	Yes	Yes	Yes	Yes
Polycyclic aromatic hydrocarbons	130498-29-2	No	No	Yes	Yes	Yes

Not listed under California Proposition 65

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

Hydrogen sulfide	7783-06-4
	1 %

Component Analysis - Inventory

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes

Asphalt (8052-42-4)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes

Asphalt, oxidized (64742-93-4)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	Yes	Yes	No

Distillates, petroleum, petroleum residues vacuum (68955-27-1)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	No	No	No	Yes	No	Yes	No	No

Residues, petroleum, vacuum (64741-56-6)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes

Hydrogen sulfide (7783-06-4)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Polycyclic aromatic hydrocarbons (130498-29-2)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
No	No	No	No	No	No	No	No	No	No	No	Yes

Fatty acids, tall-oil, low-boiling (Mixture)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	No	No	No	Yes	No	Yes	Yes	No

Section 16 - OTHER INFORMATION

HMIS Rating

Health: 2* Fire: 1 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

NFPA Ratings

Health: 2 Fire: 1 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes
New SDS: May 26, 2015

Key / Legend
ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA -

Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

Other Information

Disclaimer:

The information contained herein is based upon data and information available to us, and reflects our best professional judgment. This product may be formulated in part with components purchased from other companies. In many instances, especially when proprietary or trade secret materials are used, CCWI Company must rely upon the hazard evaluation of such components submitted by that product's manufacturer or importer. No warranty of merchantability, fitness for any use, or any other warranty is expressed or implied regarding the accuracy of such data or information. The results to be obtained from the use thereof, or that any such use does not infringe any patent, since the information contained herein may be applied under conditions of use beyond our control and with which we may be unfamiliar, we do not assume responsibility for the results of such application. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular use.

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
CCW-702

Synonyms
Sovent-based contact adhesive

Chemical Family
Adhesive

Product Use
Adhesive

Restrictions on Use
For industrial use only

Manufacturer Information

Carlisle Coatings and Waterproofing, Inc
900 Hensley Lane
Wylie, TX 75098
www.carlisleccw.com

Phone Numbers:

Medical Emergency
CHEMTREC (USA): 800-424-9300

MSDS Assistance; 972-442-6545
Technical Assistance: 888-229-2199
Customer Service: 888-229-0199

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.
Flammable Liquids - Category 2
Skin Corrosion/Irritation - Category 2
Serious Eye Damage/Eye Irritation - Category 2A
Specific Target Organ Toxicity - Single Exposure - Category 3
Specific Target Organ Toxicity - Repeated Exposure - Category 1 (central nervous system,kidneys)
Specific Target Organ Toxicity - Repeated Exposure - Category 2 (blood)

GHS Label Elements

Symbol(s)

Signal Word
Danger

Hazard Statement(s)
Highly flammable liquid and vapor
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation. May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
May cause damage to organs through prolonged or repeated exposure

Precautionary Statement(s)

Prevention
Keep container tightly closed
Keep away from heat/sparks/open flame/hot surfaces - No smoking
Ground/Bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting equipment
Take precautionary measures against static discharge
Use only non-sparking tools
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust/fume/gas/mist/vapours/spray
Wash thoroughly after handling
Do not eat, drink or smoke when using this product

Response
In case of fire: Use appropriate media to extinguish
IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor if you feel unwell
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
Specific treatment (see label)

Storage
Store in a well-ventilated place. Keep container tightly closed
Keep cool
Store locked up

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
108-88-3	Toluene	40-70
67-64-1	Acetone	10-15
Proprietary	Petroleum hydrocarbon resin	10-30

Section 4 - FIRST AID MEASURES

Inhalation
Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

Skin
Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eyes
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion
If swallowed, get medical attention.

Indication of any immediate medical attention and special treatment needed
Treat symptomatically and supportively.

Most Important Symptoms/Effects

Acute
Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Delayed
Causes damage to central nervous system, kidney damage. May cause damage to the blood system.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media
Use carbon dioxide, regular dry chemical, regular foam or water. Water may be ineffective.

Unsuitable Extinguishing Media
Do not use high-pressure water streams.

Special Hazards Arising from the Chemical
Highly flammable liquid and vapor.

Hazardous Combustion Products
Carbon monoxide, carbon dioxide, oxides of nitrogen

Advice for firefighters
Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Fire Fighting Measures
Move container from fire area if it can be done without risk.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up
Remove all sources of ignition. Avoid breathing vapors. Wear self-contained breathing apparatus and protective clothing. Ventilate affected area. Use non-sparking tools and equipment. Collect with absorbent into suitable container. Prevent entry into sewers, drains, ditches, underground or confined spaces and waterways. Absorb with sand or other non-combustible material.

Environmental Precautions
Avoid release to the environment. Collect spillage.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling
Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Use non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Ground/Bond container and receiving equipment. Avoid prolonged contact with skin. Avoid contact with eyes. Wash with plenty of soap and water. Wash contaminated clothing before reuse. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Wear protective gloves/eye protection/face protection. Do not breathe gas/fume/vapour/spray. Do not eat, drink, or smoke when using this product. KEEP OUT OF REACH OF CHILDREN.

Conditions for Safe Storage, Including any Incompatibilities
Store in a well-ventilated place. Keep container tightly closed
Keep cool
Store locked up
Keep away from heat, sparks and flame. Keep container tightly closed. Do not puncture or burn containers, even when empty. Empty containers may contain product residue.

Incompatible Materials
strong oxidizing agents, acids, bases

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Toluene	108-88-3	
ACGIH:	20 ppm TWA	
NIOSH:	100 ppm TWA; 375 mg/m^3 TWA	150 ppm STEL; 560 mg/m^3 STEL
	500 ppm IDLH	
Europe:	50 ppm TWA; 192 mg/m^3 TWA	100 ppm STEL; 384 mg/m^3 STEL

	Possibility of significant uptake through the skin	
OSHA (US):	200 ppm TWA	300 ppm Ceiling
Mexico:	50 ppm TWA LMPE-PPT; 188 mg/m^3 TWA LMPE-PPT	
	Skin - potential for cutaneous absorption	
Acetone	67-64-1	
ACGIH:	250 ppm TWA	500 ppm STEL
NIOSH:	250 ppm TWA; 590 mg/m^3 TWA	
Europe:	500 ppm TWA; 1210 mg/m^3 TWA	
OSHA (US):	1000 ppm TWA; 2400 mg/m^3 TWA	
Mexico:	1000 ppm TWA LMPE-PPT; 2400 mg/m^3 TWA LMPE-PPT	
	1260 ppm STEL [LMPE-CT]; 3000 mg/m^3 STEL [LMPE-CT]	

Biological limit value
There are no biological limit values for any of this product's components.

Engineering Controls
Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection
Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection
Wear appropriate chemical resistant clothing, Industrial Boots.

Respiratory Protection
A NIOSH approved air-purifying respirator with an appropriate cartridge or canister may be appropriate under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Glove Recommendations
Wear appropriate chemical resistant gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	thin dark blue liquid	**Physical State**	liquid
Odor	sweet,solvent	**Color**	dark blue
Odor Threshold	Not available	**pH**	Not available
Melting Point	-95 °C(-139°F)	**Boiling Point**	56 - 110 °C133-230°F)

Freezing point	Not available	**Evaporation Rate**	3.2
Boiling Point Range	Not available	**Flammability (solid, gas)**	Not available
Autoignition	465 °C(869°F)	**Flash Point**	-18 °C(-0.4°F)
Lower Explosive Limit	1.3	**Decomposition**	Not available
Upper Explosive Limit	12.8	**Vapor Pressure**	54.6 mmHg
Vapor Density (air=1)	3	**Specific Gravity (water=1)**	Not available
Water Solubility	Negligible	**Partition coefficient: n-octanol/water**	Not available
Viscosity	350 cps	**Solubility (Other)**	Hydrocarbons
Density	0.9	**VOC**	450 g/L

Section 10 - STABILITY AND REACTIVITY

Reactivity
No reactivity hazard is expected.

Chemical Stability
Stable under normal conditions of use.

Possibility of Hazardous Reactions
Will not polymerize.

Conditions to Avoid
Avoid heat, flames, sparks and other sources of ignition.

Incompatible Materials
Strong oxidizing agents, acids, bases

Hazardous decomposition products
Carbon monoxide, carbon dioxide, acids, bases

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation
May cause respiratory irritation. May cause drowsiness or dizziness.

Skin Contact
Causes skin irritation.

Eye Contact
Causes serious eye irritation.

Ingestion
No information on significant adverse effects.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and the following selected endpoints are published:
Toluene (108-88-3)
Oral LD50 Rat >7000 mg/kg
Dermal LD50 12 - 14 g/kg
Inhalation LC50 Rat 30 - 35 mg/L
Acetone (67-64-1)
Oral LD50 Rat 5800 mg/kg
Dermal Guinea pig >7246 mg/kg
Inhalation LC50 Rat 32000 ppm 4 h

Immediate Effects
Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Delayed Effects
Causes damage to central nervous system, kidney damage. May cause damage to the blood system.

Irritation/Corrosivity Data
Causes serious eye irritation, skin irritation, Irritation to respiratory tract.

Respiratory Sensitization
No information available for the product.

Dermal Sensitization
No information available for the product.

Component Carcinogenicity

Toluene	108-88-3
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
IARC:	Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))
Acetone	67-64-1
ACGIH:	A4 - Not Classifiable as a Human Carcinogen

Germ Cell Mutagenicity
No information available for the product.

Reproductive Toxicity
No information available for the product.

Specific Target Organ Toxicity - Single Exposure
central nervous system, respiratory system

Specific Target Organ Toxicity - Repeated Exposure
Central nervous system, kidney, blood

Aspiration hazard
No information available for the product.

Medical Conditions Aggravated by Exposure
No data available.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

Toluene	108-88-3
Fish:	LC50 96 h Pimephales promelas 15.22 - 19.05 mg/L [flow-through] (1 day old); LC50 96 h Pimephales promelas 12.6 mg/L [static]; LC50 96 h Oncorhynchus mykiss 5.89 - 7.81 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 14.1 - 17.16 mg/L [static]; LC50 96 h Oncorhynchus mykiss 5.8 mg/L [semi-static]; LC50 96 h Lepomis macrochirus 11 - 15 mg/L [static]; LC50 96 h Oryzias latipes 54 mg/L [static]; LC50 96 h Poecilia reticulata 28.2 mg/L [semi-static]; LC50 96 h Poecilia reticulata 50.87 - 70.34 mg/L [static]
Algae:	EC50 96 h Pseudokirchneriella subcapitata >433 mg/L IUCLID; EC50 72 h Pseudokirchneriella subcapitata 12.5 mg/L [static] EPA
Invertebrate:	EC50 48 h Daphnia magna 5.46 - 9.83 mg/L [static] EPA; EC50 48 h Daphnia magna 11.5 mg/L IUCLID
Acetone	67-64-1
Fish:	LC50 96 h Oncorhynchus mykiss 4.74 - 6.33 mL/L; LC50 96 h Pimephales promelas 6210 - 8120 mg/L [static]; LC50 96 h Lepomis macrochirus 8300 mg/L
Invertebrate:	EC50 48 h Daphnia magna 10294 - 17704 mg/L [static] EPA; EC50 48 h Daphnia magna 12600 - 12700 mg/L IUCLID

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of contents/container in accordance with local/regional/national/international regulations. Subject to disposal regulations. U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.

Section 14 - TRANSPORT INFORMATION

US DOT Information:
Shipping Name:ADHESIVES
Hazard Class: 3
UN/NA #: UN1133
Packing Group: II

Required Label(s): 3

IATA Information:
Shipping Name:ADHESIVES
Hazard Class: 3
UN#: UN1133
Packing Group: II
Required Label(s): 3

TDG Information:
Shipping Name:ADHESIVES
Hazard Class: 3
UN#: UN1133
Packing Group: II

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations
This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Toluene	108-88-3
SARA 313:	1 % de minimis concentration
CERCLA:	1000 lb final RQ; 454 kg final RQ
TSCA 12b:	Section 4 , 1 % de minimus concentration (related to Hydrocarbons, C>4)
Acetone	67-64-1
CERCLA:	5000 lb final RQ; 2270 kg final RQ

SARA Section 311/312 (40 CFR 370 Subparts B and C)
Acute Health: Yes **Chronic Health:** Yes **Fire:** Yes **Pressure:** No **Reactivity:** No

U.S. State Regulations
The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Toluene	108-88-3	Yes	Yes	Yes	Yes	Yes
Acetone	67-64-1	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):
WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects

Toluene	108-88-3
Repro/Dev. Tox	developmental toxicity , 1/1/1991

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

Toluene	108-88-3
	1 %
Acetone	67-64-1
	1 %

Component Analysis - Inventory

Toluene (108-88-3)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Acetone (67-64-1)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

HMIS Rating

Health: 3 Fire: 2 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

NFPA Ratings

Health: 2 Fire: 3 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

Revision Date: June 1, 2018
Revision Note: General Update

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA -

Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

Other Information

Disclaimer:

The information contained herein is based upon data and information available to us, and reflects our best professional judgment. This product may be formulated in part with components purchased from other companies. In many instances, especially when proprietary or trade secret materials are used, CCWI Company must rely upon the hazard evaluation of such components submitted by that product's manufacturer or importer. No warranty of merchantability, fitness for any use, or any other warranty is expressed or implied regarding the accuracy of such data or information. The results to be obtained from the use thereof, or that any such use does not infringe any patent, since the information contained herein may be applied under conditions of use beyond our control and with which we may be unfamiliar, we do not assume responsibility for the results of such application. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular use.

Safe Use Instruction Sheet

This Safe Use Instruction Sheet (SUIS) is provided voluntarily for manufactured articles, which are neither regulated by OSHA Hazard Communication Standard, 29 CFR 1910.1200 nor the Canada Hazardous Products Regulation SOR/2015-17 [WHMIS 2015]. ROCKWOOL provides this SUIS to communicate safe handling and use instructions.

1. Identification

Product Name Resin-bonded stone wool insulation

Synonyms Mineral wool insulation, mineral fiber insulation, stone wool insulation

Manufacturer ROCKWOOL

Addresses 8024 Esquesing Line Milton, ON L9T 6W3, Canada
4594 Cayce Rd Byhalia, MS 38611, USA

Phone Number 1-877-823-9790 (8:30am to 5:00pm ET)

Email techservice@rockwool.com

Company Website www.rockwool.com/north-america/

Family	Product Identification	Recommended Use
I.	AFB® evo	Formaldehyde-free unfaced interior insulation batt
II.	AFB®, Comfortbatt®, Plus MB™, ROXUL Safe®, Safe'n'Sound®, Cavityrock®, Comfortboard®, Curtainrock®, Rockboard®, Frontrock™	Unfaced insulation batts and boards
III.	Cavityrock® Black, Curtainrock® RFF, Rockboard® RFF	Faced interior and exterior insulation boards
IV.	Monoboard®, Toprock® DD	Unfaced roofing insulation boards
V.	Toprock® DD Plus, Multifix™	Faced roofing insulation boards
VI.	Conrock®, Fabrock™, MSB 85	Unfaced batts and boards for OEM applications
VII.	ProRox® NA, SeaRox® NA	Unfaced industrial piping and equipment insulation

2. Hazards Identification

OSHA Regulatory Status

This product is considered an article as per OSHA 29 CFR 1910.1200. 29 CFR 1910.1200 (c) defines an article as follows: "Article" means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) abovementioned section), and does not pose a physical hazard or health risk to employees. Articles meeting the above definition are not regulated by OSHA 29 CFR 1910.1200 and are exempt from SDS and label requirements.

WHMIS Regulatory Status

This product is considered an article per the Canadian Hazardous Products Regulation SOR/2015-17. Manufactured articles that meet the definition of the Canadian Hazardous Products Act (any article that is formed to a specific shape or design during manufacture, the intended use of which when in that form is dependent in whole or in part on its shape or design, and that, when being installed, if the intended use of the article requires it to be installed, and under normal conditions of use, will not release or otherwise cause an individual to be exposed to a hazardous product) are not regulated by the Canadian Hazardous Products Regulation SOR/2015-17 and are exempt from SDS and label requirements.

Adverse Physiochemical, Human Health And Environmental Hazards

This product may cause temporary irritation to the eyes and skin, and to the upper respiratory tract (scratchy throat, coughing, congestion), resulting from exposure to dusts and fibers in excess of applicable exposure limits, or from release of binder components and binder decomposition products in high concentrations, when heated to approximately 150-200 °C for the first time. Pre-existing chronic eye, skin and respiratory conditions may temporarily worsen due to exposure. See section 8 for safe handling instructions.

3. Composition / Information On Ingredients

Family	Stone Wool, Biosoluble[a]	Non-Added Formaldehyde Binder	Phenol Formaldehyde Binder	Syrups, Hydrolysed Starch	Mineral Oil	Facer[b]
I.	98-99%	<2%	-	-	<1%	-
II.	96-99%	-	<3%	≤1%	<1%	-
III.	92-97%		<2%	<1%	<1%	<6%
IV.	94-96%	-	<5%	<1%	<1%	-
V.	87-95%	-	<4%	<1%	<1%	<8%
VI.	96-99%	-	<5%	<1%	<1%	
VII.	97%	-	<3%	<1%	<1%	

8024 Esquesing Line, Milton, Ontario, L9T 6W3
1-877-823-9790 | techservice@rockwool.com | www.rockwool.com

Ingredients are reported to 100ppm with the exception of some products in Product Family III, Product Family VII and VII where it is reported to 1000ppm. The composition is calculated as product percent by weight. Ranges are representative of the multiple products listed per family. For more information on individual products, refer to product specific Health Product Declarations (HPDs).

a: man-made vitreous (silicate) fibres of random orientation, with alkaline oxide and alkali earth oxide (Na2O+K2O+CaO+MgO+BaO) content greater than 18 % by weight and fulfilling CLP regulation Annex VI Note Q conditions.

b: Possible facer materials include minerally coated fibre glass mat, fiberglass reinforced aluminium foil with polyethylene film, asphalt / bitumen.

4. First-Aid Measures

Eye Contact	Do not rub or scratch eyes. Rinse immediately with water for at least 15 minutes.
Skin Contact (if itching occurs)	Remove contaminated clothing and wash skin gently with cold water and a mild soap. Never use compressed air to remove fibers from skin or clothing. If skin irritation persists, seek medical attention.
Inhalation	If affected, relocate to well ventilated area.
Ingestion	In the unlikely event of accidental ingestion, rinse mouth and drink water to clear fibers from the throat. If ingestion occurs, watch the person for several days to make sure intestinal blockage does not occur. **If any irritation or symptoms persists, seek medical attention.**

5. Fire-Fighting Measures

Suitable Extinguishing Media	Water, foam, carbon dioxide or dry powder (no unsuitable extinguishing firefighting media known). Use extinguishing measures that are appropriate to the local circumstances and the surrounding environment.
Protective equipment for firefighters	Do not enter fire area without proper protective equipment, including NIOSH-approved self-contained breathing apparatus (SCBA). Observe normal fire-fighting procedures.

6. Accidental Release Measures

Personal precautions	Avoid contact with eyes and skin. In case of high concentrations of dust, ventilate and/or use the same protective equipment as mentioned in section 8. Relocate to well ventilated area.
Methods for cleaning up	Use personal protective equipment as required. Clean contaminated surface with vacuum, or sweep up after dampening with water spray. Place waste in appropriate containers for disposal.

7. Handling And Storage

Precautions and safe handling	Use the same protective equipment as mentioned in section 8. A serrated knife is preferred for cutting. Minimize dust creation and ensure adequate ventilation of workplace. Refer to section 10 for additional information on handling of

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products with facers, applicable to Product Family III and V, which may have known incompatible materials.

Storage conditions

The factory packaging is intended for the protection of ROCKWOOL stone wool insulation during shipment and for short term job site storage. It is not intended for protection against the elements during long term outside storage. For long term storage, ROCKWOOL strongly recommends that the product be stored indoors in a dry location, away from heat sources and incompatible materials if applicable, with the factory packaging removed. If the product is stored outdoors, the factory packaging should be perforated and the product should be protected by a waterproof membrane such as a tarp, that has been properly secured and allowing for ventilation. Product should not be stored in areas that flood, resulting in product storage in standing water. Product should be a minimum of 102 mm (4 inches) above dry ground and kept on a solid flat surface. Refer to section 10 for additional information on storage of products with facers, applicable to Product Family III and V, which may have known incompatible materials.

8. Exposure Controls / Personal Protection

Exposure guidelines

Follow all applicable exposure limits. Local regulations may apply. ROCKWOOL recommends that users of the products adhere to the OSHA-recommended PEL of 1 f/cc TWA (fibers longer than 5 µm with diameters less than 3 µm). This recommended PEL, together with recommended work practices and personal protective equipment, were adopted in a Health and Safety Partnership Program (HSPP) agreement in 1999 between OSHA and the North American Insulation Manufacturers Association (NAIMA), of which ROCKWOOL is a member. Adherence to the OSHA - recommended PEL, work practices and protective equipment in the HSPP is expected to provide appropriate protection against all inhalation-related health risks that may be associated with exposures to mineral wool fibers (ACGIH, 1997; NAIMA, 1999; OSHA, 1999; National Research Council, 2000; IARC, 2001), and to minimize eye and skin irritation.

Reference	Exposure	Legal or Recommended Exposure Limit
OSHA	Synthetic Vitreous Fibers, > 5 µm length, < 3 µm diameter	1 f/cc TWA (recommended)
	Inert dust and particulates not otherwise regulated	15 mg/m^3 TWA-PEL (total particulate) 5 mg/m^3 TWA-PEL (respirable particulate)
ACGIH	Synthetic Vitreous Fibers, > 5 µm length, < 3 µm diameter	1 f/cc TWA (threshold limit value TLV)
	Inert dust and particulates not otherwise regulated	10 mg/m^3 TWA-PEL (inhalable particulate) 3 mg/m^3 TWA-PEL (respirable particulate)

Individual protection measures, including personal protection

Eyes / face: wear safety glasses with side shielding or similar.
Skin / body: wear protective gloves, long sleeve shirt and long pants.
Respiratory: Ensure proper ventilation, and use appropriate certified respirator when airborne particulates are above exposure limits; properly fitted NIOSH disposable N95 type dust respirator or better is recommended.
General Hygiene: wash hands with cold water after handling products. Remove and wash clothes worn while working with product.

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Engineering controls	Provide local exhaust and/or general ventilation to maintain exposure below regulatory and recommended limits. Dust collection system must be used in transferring operations, cutting or other dust generating processes, such as using power tools. Vacuum or wet cleaning methods are also recommended.
Power equipment	Equipment operator should wear adequate face and hand protection (gloves and face shields) at all times when cutting and/or processing ROCKWOOL stone wool products with the assistance of powered equipment, such as industrial saws. All powered equipment used to cut ROCKWOOL stone wool products should be installed with adequate guarding to protect the operator from the potential of flying debris, and well maintained. Any additional safety considerations provided by the power equipment manufacturer should be followed.
Information applicable to Product Family VII	Hot equipment operating at temperatures above 150 °C (302 °F) (run in period): during initial run-in, a thermal decomposition of organic matter can be observed starting around 150 – 200 °C, (302 °F – 392 °F) as a release of small amounts of potentially irritating and harmful fumes. This does not affect the quality or declared performances of installed products. The amount and composition of the fumes will depend on several variables including the amount of insulation installed, the service temperature, the temperature run in gradient, the ventilation rate or the jacketing materials. The run-in period can last from a few hours and up to several days. Ventilate the area well and keep a distance to the heated equipment. For high concentrations in enclosed spaces, use a supplied air respirator. For lower concentrations, an approved mask with particle filter type N95 or better is adequate. Selection of specific respirator type shall be made by a qualified person.

9. Physical And Chemical Properties

Physical state	Solid at 20 °C (68 °F)
Appearance	Fibrous
Color	Grey, green, brown, yellow
Odor	May have a slight odor of resin
Melting point	Approximately 1177 °C (2150 °F)
Water solubility	Insoluble in water
Facers	Appearance: smooth Color: black, white, metallic Meting point: not available

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10. Stability And Reactivity

Reactivity and Chemical Stability	Chemically inert. Stable under normal conditions of use.
Hazardous Decomposition Products	The primary combustion products of the cured urea extended phenolic formaldehyde binder, when heated above 390 °F (200 °C), are carbon monoxide, carbon dioxide, ammonia, water and trace amounts of formaldehyde. Other undetermined compounds could be released in trace quantities. Emission usually only occurs during the first heating. The released gases may be irritating to the eyes, nose and throat during initial heat-up. Use appropriate respirators (air supplied) particularly in tightly confined or poorly ventilated areas during initial heat-up.
Incompatible materials	Products with facers, applicable to Product Family III and V may have known incompatible materials such as certain acids. Incompatible materials are materials which may react violently or explosively if mixed or brought together. These materials should be stored separately and should not be mixed unless special procedures are followed. Contact Technical Services if additional information is required.

11. Toxicological Information

Stone wool fibers are not classifiable as OSHA irritants, but coarse fibers and dust from mineral wool products can cause temporary and reversible irritation (itching, redness) of the skin and eyes. The itching and possible inflammation are a mechanical reaction to dust and coarse fibers (more than approximately 5 µm in diameter) and are not damaging in the way chemical irritants may be. The symptoms generally abate within a short time after the end of exposure. When products are handled continually, the skin itching generally diminishes. Their inhalation may also cause coughing, nose and throat irritation and sneezing. High exposures may cause difficult breathing, congestion and chest tightness.
Man-made vitreous wool fibers are IARC classified as Group 3 (not classifiable as to their carcinogenicity to humans).

12. Ecological Information

The products are not expected to cause harm to aquatic and/or terrestrial organisms, and have no known adverse environmental effects.

13. Disposal Considerations

The product, as supplied, is not expected to be a characteristic hazardous waste under the Resource Conservation and Recovery Act (RCRA) if discarded, and it is not expected to be hazardous for the environment. Dispose of waste material according to federal, state, provincial and local environmental regulations. Comply with relevant regulations with regards to disposal, recycling, treatment, transportation and storage of contents and containers.

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14. Transport Information

This product is not subject to regulation as a hazardous material for transport.

15. Regulatory Information

International Inventories

As per section 2, this product is classified as an article. Articles are exempt from registration or listing chemicals inventories like TSCA (USA), DSL/NDSL (CAN), REACH (EU), ENCS (JP), IECSC (CN), KECL (KR), PICCS (PH), AICS (AUS).

California Proposition 65

Product Family	Status
I.	This product does not contain any chemicals listed in Proposition 65
II., III., IV., V., VI., VII.	These products contain formaldehyde, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm.

16. Other Information

Date of Preparation

08/16/2018

Date of Revision

Refer to page 1of 7

Revision Note

No information available

Disclaimer

The information contained herein is based upon data considered to be accurate. However, no warranty is expressed or implied regarding the accuracy of these data, the results to be obtained from the use thereof, or that any such use will not infringe upon any patent. This information is furnished as a guide only and upon the condition that the person receiving it shall make tests to determine the accuracy and suitability for his or her own purpose. No responsibility is assumed for injury or damage from the use of the products described herein.

ROCKWOOL reserves the right, at its discretion, to change and modify this Safe Use Instruction Sheet. This version supersedes any Safety Data Sheets and older versions. ROCKWOOL will not take responsibility for documents downloaded from any website except those downloaded directly from www.rockwool.com. ROCKWOOL takes no responsibility for documentation supplied by a third party as ROCKWOOL cannot control the content of such documentation to ensure accuracy.

End of Safe Use Instruction Sheet

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SAFETY DATA SHEET

Section 01: Identification

Product:	Wood Fiberboard Products *(See Product List In Section 16)*	ISOLtop S12669	
Manufacturer:	Louiseville Speciality Products	**Address:**	161, Saint-Paul Street, C.P.38 Louiseville (Quebec) J5V 2L6
Telephone:	1.800.561.4279	In case of emergency, dial 800.424.9300 (Chemtrec)	
Revision Date:	2/11/2016		
Product Use:	Building Materials – Structural, Industrial or Decorative. Roofing Board, Wall Sheathing, Thermal and Sound Insulation		

Section 02: Hazard(s) Identification

HMIS	
Health	[1]
Flammability	[1]
Reactivity	[0]
Personal Protection	[-]

Product is classified as non-hazardous per OSHA 1910.1200. Wood Fiberboard is defined by OSHA as an "article." A manufactured item that is formed to a specific shape or design during manufacture that does not release or result in exposure to a hazardous chemical under normal use conditions.

Label Elements: 

Section 03: Composition & Information on Ingredients

Chemical Name	CAS Number	% by Weight	OSHA PEL	ACGIH TLV
1 - Wood Fiber	9004-34-6	85-95	None	N/E
2 - Asphalt	8052-42-4	Trace	None	N/E
3 – Wax Emulsion	64742-61-6	Trace	None	N/E
4 - Other	N/A	Trace	None	N/E

N/E = Not Established

Section 04: First Aid Measures

Eye contact: Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Skin contact: If irritation develops, wash with soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Inhalation: Remove from area of exposure. If the affected person is not breathing, apply artificial respiration. If persistent irritation, severe coughing or breathing difficulty occurs, seek medical attention.
Ingestion: If wood or wood dust is swallowed, get immediate medical attention or advice. Do not induce vomiting.

Section 05: Fire-Fighting Measures

Flashpoint: Not applicable. The product is a solid.
Extinguishing Media: Water fog, foam, dry chemical.
Chemical/Combustion Hazards: Stacked material will retain heat and has the potential to re-ignite.
Precautions/Personal Protective Equipment: Avoid smoke inhalation. Use appropriate respiratory protection.

Section 06: Accidental Release Measures

Spill or leak procedures: Not applicable. Product is a solid.

Section 07: Handling & Storage

Safe Handling Procedures: None recognized.
Safe Storage: Store flat, supported and protected from direct contact with the ground. Store in a cool dry place.

Section 08: Exposure Control & Personal Protection

Occupational Exposure Limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
WOOD/WOOD DUST	PEL	5 mg/m^3 15 mg/m^3	Respirable fraction. Total dust.

ACGIH

Components	Type	Value	Form
WOOD/WOOD DUST	TWA	1 mg/m^3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
WOOD/WOOD DUST	TWA	1 mg/m^3	Dust.

Engineering Controls: None required under normal use conditions.
Personal Protective Equipment: Safety glasses, chemical-resistant gloves. Respiratory protection if dusts are created.

Section 09: Physical & Chemical Properties

Appearance	Rigid boards or panels
Physical state	Solid
Form	Solid wood
Color	Brown Board
Odor	N/A
Odor threshold	N/A
pH	N/A
Melting point/freezing point	N/A
Initial boiling point and boiling range	N/A
Flash point	N/A
Evaporation rate	N/A
Flammability (solid, gas)	N/A
Upper/lower flammability or explosive limits	> 40 g/m^3 for wood dust. Note: The LEL is equivalent to the Minimum Explosive Concentration (MEC) for the combustible dust. The MEC will vary with particle size of the wood dust. Recommend MEC testing for specific wood dust particle sizes generated or handled.
Flammability limit - lower (%)	
Flammability limit - upper (%)	N/A
Explosive limit - lower (%)	N/A
Explosive limit - upper (%)	N/A
Vapor pressure	N/A
Vapor density	N/A
Relative density	Variable
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	N/A
Auto-ignition temperature	399.92 - 500°F (204.4 - 260°C) for wood
Decomposition temperature	N/A
Viscosity	N/A
Other information	
Bulk density	N/A
Flash point class	Combustible

Section 10: Stability & Reactivity

Stability: Stable.

Hazardous Polymerization: Will not occur.

Conditions and Materials to Avoid: None recognized.

Hazardous Decomposition Products: None recognized.

Section 11: Toxicological Information

Signs and Symptoms: Symptoms of eye irritation include tearing, reddening, and swelling. Symptoms of skin irritation include redness and swelling. Gastrointestinal irritation symptoms include nausea, vomiting, and abdominal discomfort.

Aggravated Medical Conditions: None recognized.

Other Health Effects: Wood dust is listed by The International Agency for Research on Cancer (IARC) as a human carcinogen (Group 1). This product can contain oxidized asphalt. IARC has classified it as a "probable human carcinogen" - 2A occupational exposure to oxidized asphalt and its emissions during roofing work. When working with this product, dust should be avoided and it is important to use adequate ventilation and / or an appropriate organic vapour mask with a dust protection.

Section 12: Ecological Information

Ecotoxicity: The product is not classified as environmentally hazardous.

Persistence and degradability: N/E

Bioaccumulative potential: N/E

Mobility in soil: N/E

Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

N/E = Not Established

Section 13: Disposal Considerations

Waste Disposal Information: The product is classified as a non-hazardous waste.

Section 14: Transport Information

DOT: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: N/A

Section 15: Regulatory Information

International Inventories

Country(s) or Region	Inventory Name	On inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
USA and Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Other Regulatory Considerations: None recognized.

Section 16: Other Information

Product List of MSL Fiberboard
ISOLtop ® High Density (HD)
ISOLtop ® High Density (HD) Coated 1 Side
ISOLtop ® High Density (HD) Coated 6 Sides
Cant Strip

Issue Date: 05-21-2015

Revision Date: 05-06-2016

Version #: 02

Prepared by: Sébastien Beaulieu

Disclaimer

The information contained in this SDS is based on the data available to us and is believed to be accurate as of the date of preparation. It is offered for your consideration, investigation and verification. The manufacturer makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use of this information. Employers should ensure that their employees, agents, contractors, and customers who will use the product receive adequate warnings and safe handling procedures, including a current SDS. The manufacturer assumes no responsibility for injury from the use of the products described herein.

Safety Data Sheet Firestone Building Products Company

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **All Purpose Sealant**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Construction Sealant

1.3 Details of the supplier of the safety data sheet

Manufacturer • Firestone Building Products Company

200 4th Avenue S
Nashville, TN 37201-2208
United States

firestonemsds@bfdp.com

Telephone (General) • 800-428-4442

1.4 Emergency telephone number

Manufacturer • (800) 424-9300 - CHEMTREC

Manufacturer • (703) 527-3887 - CHEMTREC - International

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Skin Irritation 2 - H315
Skin Sensitization 1 - H317
Eye Irritation 2 - H319
Acute Toxicity Inhalation 4 - H332
Respiratory Sensitization 1 - H334
Carcinogenicity 2 - H351

DSD/DPD • Toxic (T)
Irritant (Xi)
Carcinogenic Substances - Category 3
R23, R36/37/38, R40, R42/43

2.2 Label Elements

CLP

DANGER

Hazard statements
- H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H351 - Suspected of causing cancer.

Precautionary statements

Prevention
- P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing mist/vapours/spray.
P264 - Wash thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P281 - Use personal protective equipment as required.
P285 - In case of inadequate ventilation wear respiratory protection.

Response
- P304+P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P362 - Take off contaminated clothing and wash before reuse.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P321 - Specific treatment, see supplemental first aid information.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P308+P313 - IF exposed or concerned: Get medical advice/attention.

Storage/Disposal
- P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information
- 11.5 percent of this product consists of an ingredient of unknown toxicity.

DSD/DPD

Risk phrases
- R23 - Toxic by inhalation.
R36/37/38 - Irritating to eyes, respiratory system and skin.
R42/43 - May cause sensitisation by inhalation and skin contact.
R40 - Limited evidence of a carcinogenic effect.

Safety phrases
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36 - Wear suitable protective clothing.
S37 - Wear suitable gloves.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S53 - Avoid exposure - obtain special instructions before use.

2.3 Other Hazards

CLP
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD
- According to European Directive 1999/45/EC this material is considered dangerous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012

- Flammable Liquids 4
  Skin Irritation 2
  Skin Sensitization 1
  Eye Irritation 2
  Acute Toxicity Inhalation 4
  Respiratory Sensitization 1
  Carcinogenicity 2
  Specific Target Organ Toxicity Repeated Exposure 2

2.2 Label elements

OSHA HCS 2012

DANGER

Hazard statements

- Combustible liquid
  Causes skin irritation
  May cause an allergic skin reaction
  Causes serious eye irritation
  Harmful if inhaled
  May cause allergy or asthma symptoms or breathing difficulties if inhaled
  Suspected of causing cancer.
  May cause damage to organs - Liver/Kidneys through prolonged or repeated exposure

Precautionary statements

Prevention

- Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
  Do not breathe mist/vapours/spray.
  Wash thoroughly after handling.
  Use only outdoors or in a well-ventilated area.
  Contaminated work clothing should not be allowed out of the workplace.
  Wear protective gloves/protective clothing/eye protection/face protection.
  In case of inadequate ventilation wear respiratory protection.

Response

- In case of fire: Use appropriate media for extinction.
  IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
  If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
  If on skin: Wash with plenty of water.
  Take off contaminated clothing and wash before reuse.
  If skin irritation or rash occurs: Get medical advice/attention.
  Specific treatment, see supplemental first aid information.
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  If eye irritation persists: Get medical advice/attention.
  IF exposed or concerned: Get medical advice/attention.
  Get medical advice/attention if you feel unwell.

Storage/Disposal

- Store in a well-ventilated place. Keep cool.
  Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information

- 12.55 percent of this product consists of an ingredient of unknown toxicity.

2.3 Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Combustible Liquids - B3
  Very Toxic - D1A
  Other Toxic Effects - D2A
  Other Toxic Effects - D2B

2.2 Label elements

WHMIS

- 

WHMIS

- Combustible Liquids - B3
  Very Toxic - D1A
  Other Toxic Effects - D2A
  Other Toxic Effects - D2B

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Limestone	**CAS:**1317-65-3 **EC Number:**215-279-6	10% TO 30%	NDA	**EU DSD/DPD:** Self Classified: Xn R48/20 **EU CLP:** Self Classified: STOT RE 2 (Lungs, Inhl), H373 **OSHA HCS 2012:** STOT RE 2 (Lungs, Inhl)	NDA
Titanium dioxide	**CAS:**13463-67-7 **EC Number:**236-675-5	3% TO 7%	NDA	**EU DSD/DPD:** Self Classified - Carc. Cat. 3 R40 **EU CLP:** Self Classified: Carc. 2, H351 **OSHA HCS 2012:** Carc. 2	NDA
Talc	**CAS:**14807-96-6	3% TO 7%	NDA	**EU DSD/DPD:** Self Classified: T R48/20 **EU CLP:** Self Classified: STOT RE 1 (Lungs, Inhl), H372 **OSHA HCS 2012:** STOT RE 1 (Lungs, Inhl)	NDA
1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	**CAS:**53306-54-0 **EINECS:**258-469-4	3% TO 7%	NDA	**EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA
				EU DSD/DPD: Annex VI, Table 3.2:	

Stoddard solvent	**CAS:**8052-41-3 **EC Number:**232-489-3	1% TO 5%	Inhalation-Rat LC50 • >1400 ppm 8 Hour(s)	Carc.Cat.2 R45 Muta.Cat.2 R46 Xn R65 **EU CLP:** Annex VI, Table 3.1: Muta. 1B, H340; Carc. 1B, H350; Asp. Tox. 1, H304 **OSHA HCS 2012:** Flam. Liq. 3; Eye Irrit. 2B; Skin Irrit. 2; STOT RE 2 (Liver, Kidneys); STOT SE 3: Narc.; Asp. Tox. 1	Carcinogen and mutagen classifications do not apply because this ingredient contains less than 0.1% benzene.
Benzene, 2,6-diisocyanato-1-methyl-	**CAS:**91-08-7 **EC Number:**202-039-0	0.1% TO 1%	NDA	**EU DSD/DPD:** Annex VI, Table 3.2: T+ R26 Xi R36/37/38 Carc.Cat.3 R40 R42/43 R52-53 **EU CLP:** Annex VI, Table 3.1: Carc. 2, H351; Acute Tox. 2 *, H330; Eye Irrit. 2, H319; STOT SE 3: Resp. Irrit., H335; Skin Irrit. 2, H315; Resp. Sens. 1, H334; Skin Sens. 1, H317; Aquatic Chronic 3, H412 **OSHA HCS 2012:** Carc. 2; Skin Sens. 1; Resp. Sens. 1; STOT SE 3: Resp. Irrit.; Skin Irrit. 2; Eye Irrit. 2	NDA
Benzene, 2,4-diisocyanato-1-methyl-	**CAS:**584-84-9 **EC Number:**209-544-5	<= 0.1%	NDA	**EU DSD/DPD:** Annex VI, Table 3.2: T+ R26 Xi R36/37/38 Carc.Cat.3 R40 R42/43 R52-53 **EU CLP:** Annex VI, Table 3.1: Carc. 2, H351; Acute Tox. 2, H330; Eye Irrit. 2, H319, ; STOT SE 3: Resp. Irrit., H335; Skin Irrit. 2, H315; Resp. Sens. 1, H334; Skin Sens. 1, H317; Aquatic Chronic 3, H412 **OSHA HCS 2012:** Carc. 2; Skin Sens. 1; Resp. Sens. 1; Eye Irrit. 2; Skin Irrit. 2; Acute Tox. 1 (inhl); STOT SE 3: Resp. Irrit.	NDA

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. Get medical attention immediately if symptoms occur.

Skin
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Take off contaminated clothing and wash before reuse. If irritation develops and persists, get medical attention.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion
- If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Rinse out mouth and then drink plenty of water.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- Carbon dioxide, dry chemical, dry sand, foam, water spray.

Unsuitable Extinguishing Media
- Water with full jet.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Vapors may form explosive mixtures with air.
Vapors may travel to source of ignition and flash back.
Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
Vapor explosion hazard indoors, outdoors or in sewers.
Runoff to sewer may create fire or explosion hazard.
Containers may explode when heated.

Hazardous Combustion Products
- carbon dioxide, carbon monoxide, harmful vapours, nitrogen oxides, fumes/smoke, carbon black.

5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Keep unauthorized personnel away. Ventilate enclosed areas. Do not walk through spilled material. Do not breath mist/vapours/spray. Wear appropriate personal protective equipment.

Emergency Procedures
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Stay upwind. Keep out of low areas. Keep unauthorized personnel away. Ventilate closed spaces before entering.

6.2 Environmental precautions

- Prevent entry into waterways and sewers.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
All equipment used when handling the product must be grounded.
Stop leak if you can do it without risk.
Prevent entry into waterways, sewers, basements or confined areas.
A vapor suppressing foam may be used to reduce vapors.
Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
Use clean non-sparking tools to collect absorbed material.
Sweep/shovel up. Dispose of absorbed material in accordance with regulations.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling
- Keep away from fire - No Smoking. Keep away from heat, sparks and open flame. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Do not breath mist/vapours/spray. Wear appropriate personal protective equipment, avoid direct contact.

7.2 Conditions for safe storage, including any incompatibilities

Storage
- Keep container tightly closed. Store in a cool, dry, well-ventilated place.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	**ACGIH**	**Australia**	**Belgium**	**Canada Alberta**	**Canada British Columbia**
Benzene, 2,4-diisocyanato-1-methyl- (584-84-9)	STELs	0.02 ppm STEL	Not established	0.02 ppm STEL; 0.14 mg/m3 STEL	Not established	Not established
	TWAs	0.005 ppm TWA	Not established	0.005 ppm TWA; 0.037 mg/m3 TWA	0.005 ppm TWA; 0.04 mg/m3 TWA	0.005 ppm TWA
	Ceilings	Not established	Not established	Not established	0.02 ppm Ceiling; 0.1 mg/m3 Ceiling	0.01 ppm Ceiling
Benzene, 2,6-diisocyanato-1-methyl- (91-08-7)	STELs	0.02 ppm STEL	Not established	0.02 ppm STEL; 0.14 mg/m3 STEL	Not established	Not established
	TWAs	0.005 ppm TWA	Not established	0.005 ppm TWA; 0.037 mg/m3 TWA	0.005 ppm TWA; 0.04 mg/m3 TWA	0.005 ppm TWA
	Ceilings	Not established	Not established	Not established	0.02 ppm Ceiling; 0.1 mg/m3 Ceiling	0.01 ppm Ceiling
Stoddard solvent (8052-41-3)	TWAs	100 ppm TWA	790 mg/m3 TWA	100 ppm TWA; 533 mg/m3 TWA	100 ppm TWA; 572 mg/m3 TWA	290 mg/m3 TWA
	STELs	Not established	Not established	Not established	Not established	580 mg/m3 STEL
Talc (14807-96-6)	TWAs	2 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)	2.5 mg/m3 TWA (containing no asbestos fibers)	2 mg/m3 TWA	2 mg/m3 TWA (respirable particulate)	2 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate)
Titanium dioxide (13463-67-7)	TWAs	10 mg/m3 TWA	10 mg/m3 TWA (containing no asbestos and <1% crystalline silica, inhalable dust)	10 mg/m3 TWA	10 mg/m3 TWA	10 mg/m3 TWA (total dust); 3 mg/m3 TWA (respirable fraction)
Limestone (1317-65-3)	TWAs	Not established	Not established	10 mg/m3 TWA	10 mg/m3 TWA	10 mg/m3 TWA (total dust); 3 mg/m3 TWA (respirable fraction)
	STELs	Not established	Not established	Not established	Not established	20 mg/m3 STEL

Exposure Limits/Guidelines (Con't.)						
	Result	**Canada Manitoba**	**Canada New Brunswick**	**Canada Northwest Territories**	**Canada Nova Scotia**	**Canada Nunavut**
Benzene, 2,4-diisocyanato-1-methyl- (584-84-9)	STELs	0.02 ppm STEL	0.02 ppm STEL; 0.14 mg/m3 STEL	Not established	0.02 ppm STEL	Not established
	TWAs	0.005 ppm TWA	0.005 ppm TWA; 0.036 mg/m3 TWA	Not established	0.005 ppm TWA	Not established
	Ceilings	Not established	Not established	0.02 ppm Ceiling; 0.14 mg/m3 Ceiling	Not established	0.02 ppm Ceiling; 0.14 mg/m3 Ceiling
Benzene, 2,6-diisocyanato-1-	STELs	0.02 ppm STEL	Not established	Not established	0.02 ppm STEL	Not established

methyl- (91-08-7)	TWAs	0.005 ppm TWA	Not established	Not established	0.005 ppm TWA	Not established
Stoddard solvent (8052-41-3)	TWAs	100 ppm TWA	100 ppm TWA; 525 mg/m3 TWA	100 ppm TWA; 575 mg/m3 TWA	100 ppm TWA	100 ppm TWA; 575 mg/m3 TWA
	STELs	Not established	Not established	125 ppm STEL; 720 mg/m3 STEL	Not established	125 ppm STEL; 720 mg/m3 STEL
Talc (14807-96-6)	TWAs	2 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica, respirable fraction)	2 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica, respirable fraction)	3 mg/m3 TWA (respirable mass); 6 mg/m3 TWA (total mass)	2 mg/m3 TWA (respirable fraction, particulate matter containing no Asbestos and <1% Crystalline silica)	3 mg/m3 TWA (respirable mass); 6 mg/m3 TWA (total mass)
Titanium dioxide (13463-67-7)	TWAs	10 mg/m3 TWA	10 mg/m3 TWA	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)	10 mg/m3 TWA	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Limestone (1317-65-3)	TWAs	Not established	10 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica)	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)	Not established	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)

Exposure Limits/Guidelines (Con't.)

	Result	Canada Ontario	Canada Quebec	Canada Saskatchewan	Canada Yukon	Denmark
Benzene, 2,4-diisocyanato-1-methyl- (584-84-9)	TWAs	0.005 ppm TWA (designated substances regulation, listed under Isocyanates, organic compounds); 0.005 ppm TWA (applies to workplaces to which the designated substances regulation does not apply)	Not established	0.005 ppm TWA	Not established	0.005 ppm TWA; 0.035 mg/m3 TWA
	Ceilings	0.02 ppm Ceiling (designated substances regulation, listed under Isocyanates, organic compounds)	Not established	Not established	0.02 ppm Ceiling; 0.14 mg/m3 Ceiling	Not established
	STELs	0.02 ppm STEL	Not established	Not established	Not established	Not established
	TWAs	0.005 ppm TWA (designated substances regulation, listed under Isocyanates, organic compounds); 0.005 ppm TWA (applies to	Not established	0.005 ppm TWA	Not established	0.005 ppm TWA; 0.035 mg/m3 TWA

Benzene, 2,6-diisocyanato-1-methyl- (91-08-7)		workplaces to which the designated substances regulation does not apply)				
	Ceilings	0.02 ppm Ceiling (designated substances regulation, listed under Isocyanates, organic compounds)	Not established	Not established	Not established	Not established
	STELs	0.02 ppm STEL	Not established	Not established	Not established	Not established
Stoddard solvent (8052-41-3)	TWAs	525 mg/m3 TWA (140°C Flash aliphatic solvent)	100 ppm TWAEV; 525 mg/m3 TWAEV	100 ppm TWA	100 ppm TWA; 575 mg/m3 TWA	25 ppm TWA (=<20% Aromatic compounds); 145 mg/m3 TWA (=<20% Aromatic compounds)
	STELs	Not established	Not established	Not established	150 ppm STEL; 720 mg/m3 STEL	Not established
Talc (14807-96-6)	TWAs	2 mg/m3 TWA (containing no Asbestos and <1% Crystalline silica, respirable)	3 mg/m3 TWAEV (respirable dust)	2 mg/m3 TWA (respirable fraction)	20 mppcf TWA	0.3 fiber/cm3 TWA (containing fibers)
Titanium dioxide (13463-67-7)	TWAs	10 mg/m3 TWA	10 mg/m3 TWAEV (containing no Asbestos and <1% Crystalline silica, total dust)	10 mg/m3 TWA	30 mppcf TWA (as Ti); 10 mg/m3 TWA (as Ti)	6 mg/m3 TWA (as Ti)
	STELs	Not established	Not established	Not established	20 mg/m3 STEL (as Ti)	Not established
Limestone (1317-65-3)	TWAs	Not established	10 mg/m3 TWAEV (Limestone, containing no Asbestos and <1% Crystalline silica, total dust)	10 mg/m3 TWA	30 mppcf TWA; 10 mg/m3 TWA	Not established
	STELs	Not established	Not established	Not established	20 mg/m3 STEL	Not established

Exposure Limits/Guidelines (Con't.)

	Result	Germany TRGS	NIOSH	OSHA
Benzene, 2,4-diisocyanato-1-methyl- (584-84-9)	Ceilings	Not established	Not established	0.02 ppm Ceiling; 0.14 mg/m3 Ceiling
	TWAs	0.005 ppm TWA AGW (ceiling factor 4, exposure factor 1); 0.035 mg/m3 TWA AGW (ceiling factor 4, exposure factor 1)	Not established	Not established
Benzene, 2,6-diisocyanato-1-methyl- (91-08-7)	TWAs	0.005 ppm TWA AGW (ceiling factor 4, exposure factor 1); 0.035 mg/m3 TWA AGW (ceiling factor 4, exposure factor 1)	Not established	Not established
Stoddard solvent (8052-41-3)	TWAs	Not established	350 mg/m3 TWA	500 ppm TWA; 2900 mg/m3 TWA
	Ceilings	Not established	1800 mg/m3 Ceiling (15 min)	Not established

Talc (14807-96-6)	TWAs	Not established	2 mg/m3 TWA (containing no Asbestos and <1% Quartz, respirable dust)	Not established
Titanium dioxide (13463-67-7)	TWAs	Not established	Not established	15 mg/m3 TWA (total dust)
Limestone (1317-65-3)	TWAs	Not established	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)

Exposure Control Notations
Germany DFG
•Talc (14807-96-6): **Carcinogens:** (Category 3B (could be carcinogenic for man, free of asbestos fibers))
•Titanium dioxide (13463-67-7): **Carcinogens:** (Category 3A (could be carcinogenic for man, inhalable fraction with the exception of ultra small particles))
•Benzene, 2,6-diisocyanato-1-methyl- (91-08-7): **Carcinogens:** (Category 3A (could be carcinogenic for man)) | **Sensitizers:** (respiratory sensitizer)
•Benzene, 2,4-diisocyanato-1-methyl- (584-84-9): **Carcinogens:** (Category 3A (could be carcinogenic for man)) | **Sensitizers:** (respiratory sensitizer)

8.2 Exposure controls

Engineering Measures/Controls
- This sealant is designed to be used outdoors, in roofing applications. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory
- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face
- Wear chemical splash safety goggles.

Skin/Body
- Wear appropriate chemical resistant gloves.

Environmental Exposure Controls
- In case of spills, keep product clear of sewers, waterways or land areas. Dispose of waste product in accordance with national and local laws and regulations.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene
NIOSH = National Institute of Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
STEL = Short Term Exposure Limits are based on 15-minute exposures
TWAEV = Time-Weighted Average Exposure Value
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Pigmented paste with a slight odor.
Color	Pigmented	Odor	Slight
Odor Threshold	Data lacking		
General Properties			
Boiling Point	Data lacking	Melting Point/Freezing Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	= 1.2 Water=1	Density	Data lacking
Water Solubility	Insoluble	Viscosity	Data lacking
Explosive Properties	Data lacking	Oxidizing Properties:	Data lacking
Volatility			

Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	89 °C(192.2 °F)	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Not relevant.		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Excess heat. Keep away from sources of ignition – No Smoking.

10.5 Incompatible materials

- This product will react with strong oxidizing agents, reducing agents, strong acids and bases.

10.6 Hazardous decomposition products

- Material does not decompose under normal working conditions.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Limestone (10% TO 30%)	1317-65-3	**Multi-dose Toxicity:** Inhalation-Rat TCLo • 84 mg/m³ 4 Hour(s) 40 Week(s)-Intermittent; *Lungs, Thorax, or Respiration*:**Fibrosis (interstitial)**; *Liver*:**Other changes**; *Kidney, Ureter, and Bladder*:**Other changes**; Inhalation-Rat TCLo • 250 mg/m³ 2 Hour(s) 24 Week(s)-Intermittent; *Lungs, Thorax, or Respiration*:**Fibrosis, focal (pneumoconiosis)**
Talc (3% TO 7%)	14807-96-6	**Irritation:** Skin-Human • 300 µg 3 Day(s)-Intermittent • Mild irritation; **Multi-dose Toxicity:** Inhalation-Rat TCLo • 17 mg/m³ 6 Hour(s) 26 Day(s)-Intermittent; *Lungs, Thorax, or Respiration*:**Other changes**; **Tumorigen / Carcinogen:** Inhalation-Rat TCLo • 18 mg/m³ 6 Hour(s) 2 Year(s)-Intermittent; *Tumorigenic*:**Carcinogenic by RTECS criteria**; *Lungs, Thorax, or Respiration*:**Bronchiogenic carcinoma**; *Endocrine*:**Tumors**
Titanium dioxide (3% TO 7%)	13463-67-7	**Irritation:** Skin-Human • 300 µg 3 Day(s)-Intermittent • Mild irritation; **Multi-dose Toxicity:** Inhalation-Rat TCLo • 250 mg/m³ 6 Hour(s) 4 Week(s)-Intermittent; *Lungs, Thorax, or Respiration*:**Chronic pulmonary edema**; *Lungs, Thorax, or Respiration*:**Other changes**
Stoddard solvent (1% TO 5%)	8052-41-3	**Irritation:** Eye-Human • 100 ppm • Mild irritation; **Multi-dose Toxicity:** Inhalation-Rat TCLo • 330 ppm 65 Day(s)-Intermittent; *Kidney, Ureter, and Bladder*:**Changes in tubules (including acute renal failure, acute tubular necrosis)**; *Blood*:**Other changes**

Benzene, 2,4-diisocyanato-1-methyl- (<= 0.1%)	584-84-9	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 5800 mg/kg; *Gastrointestinal*:**Other changes**; Inhalation-Rat LC50 • 14 ppm 4 Hour(s); *Sense Organs and Special Senses:Eye*:**Lacrimation**; *Behavioral*:**Excitement**; *Lungs, Thorax, or Respiration*:**Dyspnea**; Skin-Rabbit LD50 • >16 mL/kg; **Irritation:** Eye-Rabbit • 100 mg • Severe irritation; Skin-Rabbit • 500 mg-Open • Severe irritation; **Multi-dose Toxicity:** Ingestion/Oral-Rat TDLo • 15 g/kg 10 Day(s)-Intermittent; *Gastrointestinal*:**Other changes**; *Liver*:**Other changes**; *Related to Chronic Data*:**Death in the Other Multiple Dose data type field**; Inhalation-Rat TCLo • 26 ppm 6 Hour(s) 5 Week(s)-Intermittent; *Lungs, Thorax, or Respiration*:**Structural or functional change in trachea or bronchi**; *Lungs, Thorax, or Respiration*:**Chronic pulmonary edema**; *Related to Chronic Data*:**Death in the Other Multiple Dose data type field**; **Mutagen:** Micronucleus test • Inhalation-Rat • 0.05 ppm 6 Hour(s) 4 Week(s)

GHS Properties	Classification
Acute toxicity	**EU/CLP** • Acute Toxicity - Inhalation 4 - ATEmix(inhl)= 12016 ppm **OSHA HCS 2012** • Acute Toxicity - Inhalation 4 - ATEmix (inhl)=12250ppm
Skin corrosion/Irritation	**EU/CLP** • Skin Irritation 2 **OSHA HCS 2012** • Skin Irritation 2
Serious eye damage/Irritation	**EU/CLP** • Eye Irritation 2 **OSHA HCS 2012** • Eye Irritation 2
Skin sensitization	**EU/CLP** • Skin Sensitizer 1 **OSHA HCS 2012** • Skin Sensitizer 1
Respiratory sensitization	**EU/CLP** • Respiratory Sensitizer 1 **OSHA HCS 2012** • Respiratory Sensitizer 1
Aspiration Hazard	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Carcinogenicity	**EU/CLP** • Carcinogenicity 2 **OSHA HCS 2012** • Carcinogenicity 2
Germ Cell Mutagenicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Toxicity for Reproduction	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
STOT-SE	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
STOT-RE	**EU/CLP** • Data lacking **OSHA HCS 2012** • Specific Target Organ Toxicity Repeated Exposure 2

Potential Health Effects

Inhalation

Acute (Immediate)
- Harmful if inhaled. May cause respiratory irritation.

Chronic (Delayed)
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin

Acute (Immediate)
- Causes skin irritation. May cause skin sensitization. Symptoms include redness and skin rash.

Chronic (Delayed)
- No data available.

Eye

Acute (Immediate)
- Causes serious eye irritation.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate) • Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic (Delayed) • Not a likely route of exposure.

Other

Chronic (Delayed) • Prolonged or repeated exposure may cause damage to liver and kidneys.

Carcinogenic Effects • May cause cancer.

Carcinogenic Effects			
	CAS	IARC	NTP
Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Group 2B-Possible Carcinogen	Not Listed
Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Group 2B-Possible Carcinogen	Not Listed
Titanium dioxide	13463-67-7	Group 2B-Possible Carcinogen	Evidence of Carcinogenicity

Key to abbreviations

LC = Lethal Concentration

LD = Lethal Dose

TC = Toxic Concentration

Section 12 - Ecological Information

12.1 Toxicity

- Acutely harmful for aquatic organisms. May cause long-term adverse effects in the aquaticenvironment.

12.2 Persistence and degradability

- Poorly biodegradable. The product is unstable in water. The elimination data also refer to products of hydrolysis.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Adsorption to solid soil phase is not expected.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
ADN	NDA	Not Regulated	NDA	NDA	NDA
ADR/RID	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user
- None specified.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
- Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications
- Acute, Chronic, Fire

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	No	No	No
Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Yes	Yes	Yes
Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Yes	Yes	Yes
Limestone	1317-65-3	Yes	Yes	Yes
Stoddard solvent	8052-41-3	Yes	Yes	Yes
Talc	14807-96-6	Yes	Yes	Yes
Titanium dioxide	13463-67-7	Yes	Yes	Yes

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**EU EINECS**	**EU ELNICS**	**TSCA**
1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Yes	No	Yes	No	Yes
Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Yes	No	Yes	No	Yes
Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Yes	No	Yes	No	Yes
Limestone	1317-65-3	No	Yes	Yes	No	Yes

Stoddard solvent	8052-41-3	Yes	No	Yes	No	Yes
Talc	14807-96-6	Yes	No	Yes	No	Yes
Titanium dioxide	13463-67-7	Yes	No	Yes	No	Yes

Belgium

Labor

Belgium - Substances and Preparations - Carcinogens and Mutagens

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Bulgaria

Environment

Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - 24 Hour

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - 30 Minute

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - Annual

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	D1A, D2A, D2B
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	D1A, D2A, D2B
• Stoddard solvent	8052-41-3	B3, D2B
• Talc	14807-96-6	D2A
		D2A (In certain cases, this

• Titanium dioxide	13463-67-7	classification does not apply. For more information, consult the section Substance Specific Issues - Titanium dioxide, mixture containing on Health Canada's WHMIS Division website.)
• Limestone	1317-65-3	D2A
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Canada - WHMIS - Ingredient Disclosure List

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	0.1 %
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	0.1 %
• Stoddard solvent	8052-41-3	1 %
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Denmark

Environment

Denmark - List of Undesirable Substances - Product Groups/Function

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Curing agents; Fillers; Raw materials
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Curing agents; Fillers; Raw materials
• Stoddard solvent	8052-41-3	Solvents in a wide range of products including paints and coatings, dyes (listed under Certain oils and Coal-derived substances)
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	T+; R26 Xi; R36/37/38 Carc.Cat.3; R40 R42/43 R52-53
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	T+; R26 Xi; R36/37/38 Carc.Cat.3; R40 R42/43 R52-53

• Stoddard solvent	8052-41-3	Carc.Cat.2; R45 Muta.Cat.2; R46 Xn; R65
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	0.1%<=C: R:42
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	0.1%<=C: R:42
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	T+ R:26-36/37/38-40-42/43-52/53 S:(1/2)-23-36/37-45-61
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	T+ R:26-36/37/38-40-42/43-52/53 S:(1/2)-23-36/37-45-61
• Stoddard solvent	8052-41-3	T R:45-46-65 S:53-45
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	C, 2
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	C, 2
• Stoddard solvent	8052-41-3	P
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	S:(1/2)-23-36/37-45-61
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	S:(1/2)-23-36/37-45-61
• Stoddard solvent	8052-41-3	S:53-45
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Germany

Labor

Germany - Immission Control - Qualifying Quantities for Major Accident Prevention

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Germany - Immission Control - Qualifying Quantities for Safety Reporting

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Germany - TRGS 505 - Specific Lead Regulations

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Germany - TRGS 511 - Specific Ammonium Nitrate Regulations

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Environment

Germany - TA Luft - Types and Classes

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	organic Substance: 5.2.5, Class I
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	organic Substance: 5.2.5, Class I
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Germany - TA Luft - Emission Limits for Carcinogenic Substances

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Germany - TA Luft - Emission Limits for Fibers

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed

• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed
Germany - TA Luft - Emission Limits for Inorganic Dusts		
• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed
Germany - TA Luft - Emission Limits for Inorganic Gases		
• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed
Germany - TA Luft - Emission Limits for Organic Substances		
• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	0.10 kg/h Mass flow (Class I); 20 mg/m3 Mass concentration (Class I)
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	0.10 kg/h Mass flow (Class I); 20 mg/m3 Mass concentration (Class I)
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed
Germany - Water Classification (VwVwS) - Annex 1		
• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	ID Number 1315, not considered hazardous to water
• Titanium dioxide	13463-67-7	ID Number 1345, not considered hazardous to water
• Limestone	1317-65-3	ID Number 317, not considered hazardous to water
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed
Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes		
• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	ID Number 511, hazard class 2 - hazard to waters
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	ID Number 512, hazard class 2 - hazard to waters
• Stoddard solvent	8052-41-3	ID Number 775, hazard class 2 - hazard to waters
• Talc	14807-96-6	Not Listed

• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	ID Number 1359, hazard class 1 - low hazard to waters

Germany - Water Classification (VwVwS) - Annex 3

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	100 lb final RQ (listed under Benzene, 1,3-diisocyanatomethyl-); 45.4 kg final RQ (listed under Benzene, 1,3-diisocyanatomethyl-)
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	100 lb final RQ (listed under Benzene, 1,3-diisocyanatomethyl-); 45.4 kg final RQ (listed under Benzene, 1,3-diisocyanatomethyl-)

• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed
U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities		
• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed
U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs		
• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	100 lb EPCRA RQ
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	100 lb EPCRA RQ
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed
U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs		
• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	500 lb TPQ
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	100 lb TPQ
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed
U.S. - CERCLA/SARA - Section 313 - Emission Reporting		
• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	0.1 % de minimis concentration
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	0.1 % de minimis concentration
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed
U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing		
• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	carcinogen, initial date 9/2/11 (airborne, unbound particles of respirable size)
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	Not Listed
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed

• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	
• Benzene, 2,6-diisocyanato-1-methyl-	91-08-7	Not Listed
• Stoddard solvent	8052-41-3	Not Listed
• Talc	14807-96-6	Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Limestone	1317-65-3	Not Listed
• 1,2-Benzenedicarboxylic acid, bis(2-propylheptyl) ester	53306-54-0	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H304 - May be fatal if swallowed and enters airways
  H330 - Fatal if inhaled
  H335 - May cause respiratory irritation
  H340 - May cause genetic defects.
  H350 - May cause cancer.
  H372 - Causes damage to organs through prolonged or repeated exposure.
  H373 - May cause damage to organs through prolonged or repeated exposure.
  H412 - Harmful to aquatic life with long lasting effects
  R26 - Very toxic by inhalation.
  R45 - May cause cancer.
  R46 - May cause heritable genetic damage.
  R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.
  R52 - Harmful to aquatic organisms.
  R53 - May cause long-term adverse effects in the aquatic environment.
  R65 - Harmful: may cause lung damage if swallowed.

Revision Date
- 01/March/2018

Preparation Date
- 13/June/2014

Other Information
- Changes to this revision: Updated mailing address.

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- The information contained herein is based on data considered accurate which has been obtained from other companies and organizations. However, no warranty or representation is expressed or implied that the information, is accurate, complete or representative. Firestone Building Products Company, LLC assumes no responsibility for injury to the buyer, the buyer's employees, or any third persons, if reasonable safety procedures are not followed. Additionally, Firestone Building Products Company assumes no responsibility for injury to buyer, the buyer's employees, or any

third persons caused by abnormal use of this material, even if reasonable safety procedures are followed.

Key to abbreviations

NDA = No Data Available

Safety Data Sheet Firestone Building Products Company

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Ceramic Coated Roofing Granules**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Roofing

1.3 Details of the supplier of the safety data sheet

Manufacturer • Firestone Building Products Company

200 4th Avenue S
Nashville, TN 37201-2208
United States

firestonemsds@bfdp.com

Telephone (General) • 800-428-4442

1.4 Emergency telephone number

Manufacturer • (800) 424-9300 - CHEMTREC

Manufacturer • (703) 527-3887 - CHEMTREC - International

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Carcinogenicity 1A - H350
Specific Target Organ Toxicity Repeated Exposure 2 - H373
Specific Target Organ Toxicity Repeated Exposure 1 - H372
Hazardous to the aquatic environment Chronic 3 - H412

DSD/DPD • Toxic (T)
Carcinogenic Substances - Category 1
R49, R48/20, R52, R53

2.2 Label Elements

CLP

DANGER

Hazard statements • H350 - May cause cancer.
H372 - Causes damage to organs - Lungs through prolonged or repeated exposure via Unreported Route
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

Prevention •
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust.
P264 - Wash thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P281 - Use personal protective equipment as required.

Response •
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.

Storage/Disposal •
P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD

Risk phrases •
R49 - May cause cancer by inhalation.
R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R52 - Harmful to aquatic organisms.
R53 - May cause long-term adverse effects in the aquatic environment.

Safety phrases •
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S53 - Avoid exposure - obtain special instructions before use.

2.3 Other Hazards

CLP • According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD • According to European Directive 1999/45/EC this preparation is considered dangerous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012 •
Carcinogenicity 1A
Specific Target Organ Toxicity Repeated Exposure 1

2.2 Label elements

OSHA HCS 2012

DANGER

Hazard statements •
May cause cancer.
Causes damage to organs - Lungs through prolonged or repeated exposure via inhalation

Precautionary statements

Prevention •
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.

Response •
IF exposed or concerned: Get medical advice/attention.
Get medical advice/attention if you feel unwell.

Storage/Disposal
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3 Other hazards

OSHA HCS 2012
- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

WHMIS
- Other Toxic Effects - D2A

2.2 Label elements

WHMIS
- 

WHMIS
- Other Toxic Effects - D2A

2.3 Other hazards

WHMIS
- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Rhyolite	NDA	53% TO 68%	NDA	**EU DSD/DPD:** Data lacking **EU CLP:** Data lacking **OSHA HCS 2012:** Data lacking	NDA
Quartz	**CAS:**14808-60-7 **EC Number:**238-878-4	28% TO 44%	NDA	**EU DSD/DPD:** Self Classified: Carc. 1 R49; T, R48/20 **EU CLP:** Self Classified: Carc. 1A, H350; STOT RE 1, H372 **OSHA HCS 2012:** Carc. 1A; STOT RE 1 (Lungs, Inhalation)	NDA
Ceramic	NDA	1% TO 5%	NDA	**EU DSD/DPD:** Data lacking **EU CLP:** Data lacking **OSHA HCS 2012:** Data lacking	NDA
Titanium dioxide	**CAS:**13463-67-7 **EC Number:**236-675-5	< 3%	NDA	**EU DSD/DPD:** Self Classified: Carc. 3, Xn, R40 **EU CLP:** Self Classified: Carc. 2, H351 **OSHA HCS 2012:** Carc. 2	NDA
Iron oxide	**CAS:**1309-37-1 **EC Number:**215	< 3%	NDA	**EU DSD/DPD:** Not classified **EU CLP:** Not classified	NDA

	-168-2			**OSHA HCS 2012:** Not classified	
Zinc oxide	**CAS:**1314-13-2 **EC Number:**215-222-5	< 2%	NDA	**EU DSD/DPD:** EU CLP, Annex VI, Table 3.2: N, R50, R53 **EU CLP:** Annex VI: Aquatic Acute 1, H400; Aquatic Chronic 1, H410 **OSHA HCS 2012:** Eye Irrit. 2B	NDA
Distillates (petroleum), hydrotreated middle	**CAS:**64742-46-7 **EC Number:**265-148-2	< 1%	NDA	**EU DSD/DPD:** Self Classified: T; Carc. Cat. 2; R45 **EU CLP:** EU CLP, Annex VI, Table 3.1: Carc. 1B, H350 **OSHA HCS 2012:** Data lacking	NDA
Chromium(III) oxide	**CAS:**1308-38-9 **EC Number:**215-160-9	< 1%	NDA	**EU DSD/DPD:** Self Classified: Xn R48/20 **EU CLP:** Self Classified: STOT RE 1 (Lungs), H372 **OSHA HCS 2012:** STOT RE 1 (Lungs)	NDA
Carbon Black	**CAS:**1333-86-4 **EC Number:**215-609-9	< 1%	Ingestion/Oral-Rat LD50 • >15400 mg/kg Skin-Rabbit LD50 • >3 g/kg	**EU DSD/DPD:** Not Classified - Criteria not met **EU CLP:** Not Classified - Criteria not met **OSHA HCS 2012:** Carc. 2	NDA
Beta-(3,4-epoxycyclohexyl) ethyltriethoxysilane	**CAS:**10217-34-2	< 0.1%	NDA	**EU DSD/DPD:** EU CLP, Annex VI, Table 3.2: R43; R52, R53 **EU CLP:** Annex VI: Skin Sens. 1, H317; Aquatic Chronic 3, H412 **OSHA HCS 2012:** Data lacking	NDA

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. If irritation develops and persists, get medical attention.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion
- Drink 1 - 2 glasses of water. Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- LARGE FIRE: Water spray, fog or regular foam.
  SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

Unsuitable Extinguishing
- No data available.

Media

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Material is non-combustible and is not expected to pose a fire or explosion hazard.

Hazardous Combustion Products
- None known.

5.3 Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).
  Structural firefighters' protective clothing will only provide limited protection.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Do not walk through spilled material. Avoid generating dust. Do not breathe dust. Wear appropriate personal protective equipment.

Emergency Procedures
- In the event of a major spill, wet down material with water to prevent dusting, followed by scooping up product for disposal.

6.2 Environmental precautions

- Do not flush to sewer or allow to enter waterways.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Avoid generating dust.
  Wet down material with water prior to cleanup to control dust.
  SMALL DRY SPILLS: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.
  LARGE SPILLS: Cover powder spill with plastic sheet or tarp to minimize spreading. Flush spill area with water spray.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling
- Do not use in areas without adequate ventilation. Minimize dust generation and accumulation. Wear appropriate personal protective equipment, avoid direct contact. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage
- Ventilate enclosed areas. Keep container closed.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Belgium	Canada Alberta	Canada British Columbia	Canada Manitoba

Carbon Black (1333-86-4)	TWAs	3 mg/m3 TWA (inhalable fraction)	3.5 mg/m3 TWA	3.5 mg/m3 TWA	3 mg/m3 TWA (inhalable)	3 mg/m3 TWA (inhalable fraction)
Chromium(III) oxide	TWAs	0.5 mg/m3 TWA (as Cr) *as Chromium (III) inorganic compounds*	Not established	0.5 mg/m3 TWA (as Cr) *as Chromium(III) compounds*	0.5 mg/m3 TWA (as Cr) *as Chromium (III) inorganic compounds*	0.5 mg/m3 TWA (as Cr) *as Chromium (III) inorganic compounds*
Zinc oxide (1314-13-2)	STELs	10 mg/m3 STEL (respirable fraction)	10 mg/m3 STEL (fume)	10 mg/m3 STEL (respirable)	10 mg/m3 STEL (respirable)	10 mg/m3 STEL (respirable fraction)
	TWAs	2 mg/m3 TWA (respirable fraction)	10 mg/m3 TWA (dust); 5 mg/m3 TWA (fume)	2 mg/m3 TWA (respirable)	2 mg/m3 TWA (respirable)	2 mg/m3 TWA (respirable fraction)
Iron oxide (1309-37-1)	TWAs	5 mg/m3 TWA (respirable fraction)	2 ppm TWA (as Fe, fume); 5 mg/m3 TWA (as Fe, fume)	5 mg/m3 TWA (respirable)	10 mg/m3 TWA (total particulate matter containing no Asbestos and <1% Crystalline silica, total particulate, listed under Rouge); 3 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate, listed under Rouge); 5 mg/m3 TWA (dust and fume, as Fe)	5 mg/m3 TWA (respirable fraction)
	STELs	Not established	Not established	Not established	10 mg/m3 STEL (fume, as Fe)	Not established
Titanium dioxide (13463-67-7)	TWAs	10 mg/m3 TWA	10 mg/m3 TWA	10 mg/m3 TWA	10 mg/m3 TWA (total dust); 3 mg/m3 TWA (respirable fraction)	10 mg/m3 TWA
Quartz (14808-60-7)	TWAs	0.025 mg/m3 TWA (respirable fraction)	0.1 mg/m3 TWA (alveolar dust)	0.025 mg/m3 TWA (respirable particulate)	0.025 mg/m3 TWA (respirable)	0.025 mg/m3 TWA (respirable fraction)

Exposure Limits/Guidelines (Con't.)

	Result	Canada New Brunswick	Canada Northwest Territories	Canada Nova Scotia	Canada Nunavut	Canada Ontario
Carbon Black (1333-86-4)	TWAs	3.5 mg/m3 TWA	3.5 mg/m3 TWA	3 mg/m3 TWA (inhalable fraction)	3.5 mg/m3 TWA	3.5 mg/m3 TWA
	STELs	Not established	7 mg/m3 STEL	Not established	7 mg/m3 STEL	Not established
Chromium(III) oxide	TWAs	0.5 mg/m3 TWA (as Cr) *as Chromium(III) compounds*	0.5 mg/m3 TWA (as Cr) *as Chromium(III) compounds*	0.5 mg/m3 TWA (as Cr) *as Chromium (III) inorganic compounds*	0.5 mg/m3 TWA (as Cr) *as Chromium(III) compounds*	0.5 mg/m3 TWA (as Cr, listed under Chromium and inorganic compounds) *as Chromium(III) compounds*
	STELs	Not established	1.5 mg/m3 STEL (as Cr) *as Chromium(III) compounds*	Not established	1.5 mg/m3 STEL (as Cr) *as Chromium(III) compounds*	Not established

Zinc oxide (1314-13-2)	STELs	10 mg/m3 STEL (fume)	10 mg/m3 STEL (fume)	10 mg/m3 STEL (respirable fraction)	10 mg/m3 STEL (fume)	10 mg/m3 STEL (respirable)
	TWAs	10 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica, dust); 5 mg/m3 TWA (fume)	5 mg/m3 TWA (fume); 5 mg/m3 TWA (dust, respirable mass); 10 mg/m3 TWA (total mass, dust)	2 mg/m3 TWA (respirable fraction)	5 mg/m3 TWA (fume); 5 mg/m3 TWA (dust, respirable mass); 10 mg/m3 TWA (total mass, dust)	2 mg/m3 TWA (respirable)
Iron oxide (1309-37-1)	TWAs	5 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica, dust and fume, as Fe); 10 mg/m3 TWA (regulated under Rouge, particulate matter containing no Asbestos and <1% Crystalline silica)	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)	5 mg/m3 TWA (respirable fraction)	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)	5 mg/m3 TWA (respirable)
Titanium dioxide (13463-67-7)	TWAs	10 mg/m3 TWA	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)	10 mg/m3 TWA	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)	10 mg/m3 TWA (total dust)
Quartz (14808-60-7)	TWAs	0.1 mg/m3 TWA (respirable fraction)	0.1 mg/m3 TWA (respirable mass); 0.3 mg/m3 TWA (total mass)	0.025 mg/m3 TWA (respirable fraction)	0.1 mg/m3 TWA (respirable mass); 0.3 mg/m3 TWA (total mass)	0.10 mg/m3 TWA (designated substance regulation, respirable)

Exposure Limits/Guidelines (Con't.)

	Result	Canada Quebec	Canada Saskatchewan	Canada Yukon	Denmark	Germany DFG
Carbon Black (1333-86-4)	TWAs	3.5 mg/m3 TWAEV	3.5 mg/m3 TWA	3.5 mg/m3 TWA	3.5 mg/m3 TWA	Not established
	STELs	Not established	Not established	7 mg/m3 STEL	Not established	Not established
Chromium(III) oxide	TWAs	0.5 mg/m3 TWAEV (as Cr) *as Chromium(III) compounds*	0.5 mg/m3 TWA (as Cr) *as Chromium(III) compounds*	Not established	Not established	Not established
Zinc oxide (1314-13-2)	TWAs	10 mg/m3 TWAEV (containing no Asbestos and <1% Crystalline silica, total dust); 5 mg/m3 TWAEV (fume)	2 mg/m3 TWA (dust and fume, respirable fraction)	5 mg/m3 TWA (fume); 30 mppcf TWA (dust); 10 mg/m3 TWA (dust)	4 mg/m3 TWA (including vapour, as Zn)	Not established
	STELs	10 mg/m3 STEV (fume)	Not established	10 mg/m3 STEL (fume); 20 mg/m3 STEL (dust)	Not established	Not established
	Ceilings	Not established	Not established	Not established	Not established	1 mg/m3 Peak (respirable fraction, fume)
	MAKs	Not established	Not established	Not established	Not established	1 mg/m3 TWA MAK (fume, respirable fraction)
		5 mg/m3 TWAEV				

Iron oxide (1309-37-1)	TWAs	(dust and fume, as Fe); 10 mg/m3 TWAEV (containing no Asbestos and <1% Crystalline silica, regulated under Rouge, total dust)	5 mg/m3 TWA (dust and fume, as Fe); 10 mg/m3 TWA (regulated under Rouge)	5 mg/m3 TWA (fume, as Fe2O3); 30 mppcf TWA (regulated under Rouge); 10 mg/m3 TWA (regulated under Rouge)	3.5 mg/m3 TWA (as Fe)	Not established
	STELs	Not established	Not established	10 mg/m3 STEL (fume); 20 mg/m3 STEL (regulated under Rouge)	Not established	Not established
Titanium dioxide (13463-67-7)	TWAs	10 mg/m3 TWAEV (containing no Asbestos and <1% Crystalline silica, total dust)	10 mg/m3 TWA	30 mppcf TWA (as Ti); 10 mg/m3 TWA (as Ti)	6 mg/m3 TWA (as Ti)	Not established
	STELs	Not established	Not established	20 mg/m3 STEL (as Ti)	Not established	Not established
Quartz (14808-60-7)	TWAs	0.1 mg/m3 TWAEV (respirable dust)	0.05 mg/m3 TWA (respirable fraction, listed under Silica - crystalline)	300 particle/mL TWA (listed under Silica)	0.3 mg/m3 TWA (total); 0.1 mg/m3 TWA (respirable)	Not established

Exposure Limits/Guidelines (Con't.)

	Result	Germany TRGS	NIOSH	OSHA
Carbon Black (1333-86-4)	TWAs	Not established	3.5 mg/m3 TWA; 0.1 mg/m3 TWA (Carbon black in presence of Polycyclic aromatic hydrocarbons, as PAH)	3.5 mg/m3 TWA
Chromium(III) oxide	TWAs	2 mg/m3 TWA AGW (inhalable fraction, exposure factor 1, listed under Chromium) *as Chromium (III) inorganic compounds*	0.5 mg/m3 TWA (as Cr) *as Chromium(III) compounds*	0.5 mg/m3 TWA (as Cr) *as Chromium(III) compounds*
Zinc oxide (1314-13-2)	TWAs	Not established	5 mg/m3 TWA (dust and fume)	5 mg/m3 TWA (fume); 15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
	Ceilings	Not established	15 mg/m3 Ceiling (dust)	Not established
	STELs	Not established	10 mg/m3 STEL (fume)	Not established
Iron oxide (1309-37-1)	TWAs	Not established	5 mg/m3 TWA (dust and fume, as Fe)	10 mg/m3 TWA (fume)
Titanium dioxide (13463-67-7)	TWAs	Not established	Not established	15 mg/m3 TWA (total dust)
Quartz (14808-60-7)	TWAs	Not established	0.05 mg/m3 TWA (respirable dust)	Not established

Exposure Control Notations

Germany DFG

- Quartz (14808-60-7): **Carcinogens:** (Category 1 (causes cancer in man, alveola fraction))
- Chromium(III) oxide as Chromium(III) compounds: **Sensitizers:** (skin sensitizer)
- Iron oxide (1309-37-1): **Carcinogens:** (Category 3B (could be carcinogenic for man, with the exception of non-bioavailable ferrous oxides))
- Titanium dioxide (13463-67-7): **Carcinogens:** (Category 3A (could be carcinogenic for man, inhalable fraction with the exception of ultra small particles))

•Carbon Black (1333-86-4): **Carcinogens:** (Category 3B (could be carcinogenic for man, inhalable fraction))

8.2 Exposure controls

Engineering Measures/Controls
- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory
- Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

Eye/Face
- Wear safety goggles.

Skin/Body
- Wear appropriate gloves.

Environmental Exposure Controls
- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

OSHA = Occupational Safety and Health Administration

NIOSH = National Institute of Occupational Safety and Health

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWAEV = Time-Weighted Average Exposure Value

ACGIH = American Conference of Governmental Industrial Hygiene

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	White, black or buff colored granules with no odor.
Color	Black White Buff .	Odor	Odorless
Particulate Type	Dust	Odor Threshold	Data lacking
General Properties			
Boiling Point	Data lacking	Melting Point/Freezing Point	> 2300 °F(> 1260 °C)
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	= 2.6 Water=1	Water Solubility	Insoluble
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization not indicated.

10.4 Conditions to avoid

- No data available

10.5 Incompatible materials

- No data available.

10.6 Hazardous decomposition products

- No data available.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Quartz (28% TO 44%)	14808-60-7	**Tumorigen / Carcinogen:** Inhalation-Rat TCLo • 50 mg/m³ 6 Hour(s) 71 Week(s)-Intermittent; *Tumorigenic*:**Carcinogenic by RTECS criteria**; *Liver*:**Tumors**
Chromium(III) oxide (< 1%)	1308-38-9	**Acute Toxicity:** Ingestion/Oral-Mammal LD50 • 621 mg/kg
Zinc oxide (< 2%)	1314-13-2	**Irritation:** Eye-Rabbit • 500 mg 24 Hour(s) • Mild irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Mild irritation; **Reproductive:** Ingestion/Oral-Rat TDLo • 6846 mg/kg (1-22D preg); *Reproductive Effects:Specific Developmental Abnormalities*:**Homeostasis**; *Reproductive Effects:Effects on Newborn*:**Stillbirth**; *Reproductive Effects:Effects on Newborn*:**Growth statistics (e.g., reduced weight gain)**
Titanium dioxide (< 3%)	13463-67-7	**Irritation:** Skin-Human • 300 µg 3 Day(s)-Intermittent • Mild irritation; **Tumorigen / Carcinogen:** Inhalation-Rat TCLo • 250 mg/m³ 6 Hour(s) 2 Year(s)-Intermittent; *Tumorigenic*:**Carcinogenic by RTECS criteria**; *Lungs, Thorax, or Respiration*:**Tumors**
Carbon Black (< 1%)	1333-86-4	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • >15400 mg/kg; *Behavioral*:**Somnolence (general depressed activity)**; **Tumorigen / Carcinogen:** Inhalation-Rat TCLo • 11600 µg/m³ 18 Hour(s) 2 Year(s)-Intermittent; *Tumorigenic*:**Carcinogenic by RTECS criteria**; *Lungs, Thorax, or Respiration*:**Tumors**

GHS Properties	Classification
Acute toxicity	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Skin corrosion/Irritation	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Serious eye damage/Irritation	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Skin sensitization	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Respiratory sensitization	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met

Aspiration Hazard	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Carcinogenicity	**EU/CLP** • Carcinogenicity 1A **OSHA HCS 2012** • Carcinogenicity 1A
Germ Cell Mutagenicity	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Toxicity for Reproduction	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
STOT-SE	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
STOT-RE	**EU/CLP** • Specific Target Organ Toxicity Repeated Exposure 1; Specific Target Organ Toxicity Repeated Exposure 2 **OSHA HCS 2012** • Specific Target Organ Toxicity Repeated Exposure 1

Route(s) of entry/exposure
- Inhalation, Skin, Eye, Ingestion

Medical Conditions Aggravated by Exposure
- Disorders of the lungs.

Potential Health Effects

Inhalation

Acute (Immediate)
- Exposure to dust may cause irritation. Processes such as cutting, grinding, crushing, or impact may result in generation of excessive amounts of airborne dusts in the workplace. Nuisance dust may affect the lungs but reactions are typically reversible.

Chronic (Delayed)
- Chronic overexposure to dust containing respirable sized crystalline silica can causedelayed lung injury (silicosis). Inhalation of dust containing crystalline silica pulmonarydiseases such as asthma and lung disorder associated with smoking.

Skin

Acute (Immediate)
- Exposure to dust may cause mechanical irritation.

Chronic (Delayed)
- No data available.

Eye

Acute (Immediate)
- Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.

Chronic (Delayed)
- No data available.

Carcinogenic Effects
- May cause cancer.

Carcinogenic Effects			
	CAS	**IARC**	**NTP**
Carbon Black	1333-86-4	Group 2B-Possible Carcinogen	Not Listed
Quartz	14808-60-7	Group 1-Carcinogenic	Known Human Carcinogen
Titanium dioxide	13463-67-7	Group 2B-Possible Carcinogen	Evidence of Carcinogenicity

Key to abbreviations

LD = Lethal Dose

MLD = Mild

TC = Toxic Concentration

Section 12 - Ecological Information

12.1 Toxicity

	CAS	
Ceramic Coated Roofing Granules	NDA	**Aquatic Toxicity-Crustacea:** 48 Hour(s) EC50 *Daphnia Magna* 1 mg/L Comments: Data for Zinc Oxide 48 Hour(s) NOEC *Daphnia Magna* 0.04 mg/L Comments: Data for Zinc Oxide

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- Harmful to aquatic life with long lasting effects.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not regulated	NDA	NDA	NDA
TDG	NDA	Not regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not regulated	NDA	NDA	NDA
ADN	NDA	Not regulated	NDA	NDA	NDA
ADR/RID	NDA	Not regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not regulated	NDA	NDA	NDA

14.6 Special precautions for user
- None known.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
- Not relevant.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Chronic

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
Beta-(3,4-epoxycyclohexyl) ethyltriethoxysilane	10217-34-2	No	No	No
Carbon Black	1333-86-4	Yes	Yes	Yes
Chromium(III) oxide	1308-38-9	Yes	Yes	No
Distillates (petroleum), hydrotreated middle	64742-46-7	No	No	No
Iron oxide	1309-37-1	Yes	Yes	Yes
Quartz	14808-60-7	Yes	Yes	Yes
Titanium dioxide	13463-67-7	Yes	Yes	Yes
Zinc oxide	1314-13-2	Yes	Yes	Yes

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**EU EINECS**	**EU ELNICS**	**TSCA**
Beta-(3,4-epoxycyclohexyl) ethyltriethoxysilane	10217-34-2	No	Yes	No	No	Yes
Carbon Black	1333-86-4	Yes	No	Yes	Yes	Yes
Chromium(III) oxide	1308-38-9	Yes	No	Yes	No	Yes
Distillates (petroleum), hydrotreated middle	64742-46-7	Yes	No	Yes	No	Yes
Iron oxide	1309-37-1	Yes	No	Yes	No	Yes
Quartz	14808-60-7	Yes	No	Yes	No	Yes
Titanium dioxide	13463-67-7	Yes	No	Yes	No	Yes
Zinc oxide	1314-13-2	Yes	No	Yes	No	Yes

Belgium

Labor

Belgium - Substances and Preparations - Carcinogens and Mutagens

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Bulgaria

Environment

Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - 24 Hour

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - 30 Minute

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - Annual

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Carbon Black	1333-86-4	D2A (In certain cases, this classification does not apply. For more information, consult the section Substance Specific Issues - Carbon Black, non-respirable on Health Canada's WHMIS Division website.)

• Iron oxide	1309-37-1	Uncontrolled product according to WHMIS classification criteria
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	D2A (In certain cases, this classification does not apply. For more information, consult the section Substance Specific Issues - Titanium dioxide, mixture containing on Health Canada's WHMIS Division website.)
• Zinc oxide	1314-13-2	Uncontrolled product according to WHMIS classification criteria
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Uncontrolled product according to WHMIS classification criteria
• Chromium(III) oxide	1308-38-9	Uncontrolled product according to WHMIS classification criteria
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	D2A (In certain cases, this classification does not apply. For more information, consult the section Substance Specific Issues - Silica, crystalline, encapsulated on Health Canada's WHMIS Division website.)
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Canada - WHMIS - Ingredient Disclosure List

• Carbon Black	1333-86-4	1 %
• Iron oxide	1309-37-1	1 %
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	1 %
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	1 %
• Chromium(III) oxide as Chromium(III) compounds		1 %
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	1 %
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed

• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Denmark

Environment

Denmark - List of Undesirable Substances - Product Groups/Function

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	N; R50-53
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Carc.Cat.2; R45
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	R43 R52-53

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	N R:50/53 S:60-61
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	T R:45 S:53-45
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Xi R:43-52/53 S:(2)-24-37-61

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	N
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	S:60-61
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	S:53-45
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	S:(2)-24-37-61

Germany

Labor

Germany - Immission Control - Qualifying Quantities for Major Accident Prevention

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed

• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Germany - Immission Control - Qualifying Quantities for Safety Reporting

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Germany - TRGS 505 - Specific Lead Regulations

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Germany - TRGS 511 - Specific Ammonium Nitrate Regulations

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Environment

Germany - TA Luft - Types and Classes

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed

• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Germany - TA Luft - Emission Limits for Carcinogenic Substances

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Germany - TA Luft - Emission Limits for Fibers

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Germany - TA Luft - Emission Limits for Inorganic Dusts

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Germany - TA Luft - Emission Limits for Inorganic Gases

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed

• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Germany - TA Luft - Emission Limits for Organic Substances

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Germany - Water Classification (VwVwS) - Annex 1

• Carbon Black	1333-86-4	ID Number 1742, not considered hazardous to water
• Iron oxide	1309-37-1	ID Number 800, not considered hazardous to water
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	ID Number 1345, not considered hazardous to water
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	ID Number 806, not considered hazardous to water
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	ID Number 849, not considered hazardous to water
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	ID Number 5350, hazard class 1 - low hazard to waters
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed

• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Germany - Water Classification (VwVwS) - Annex 3

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	ID Number 2187, hazard class 2 - hazard to waters
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	ID Number 849, not considered hazardous to water
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed

• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Carbon Black	1333-86-4	Not Listed

• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		1.0 % de minimis concentration (Chemical Category N982)
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		1.0 % de minimis concentration (except for Chromite ore mined in the Transvaal Region of South Africa and the unreacted ore component of the Chromite ore processing residue (COPR), Chemical Category N090)
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Carbon Black	1333-86-4	carcinogen, initial date 2/21/03 (airborne, unbound particles of respirable size)

• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	carcinogen, initial date 9/2/11 (airborne, unbound particles of respirable size)
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	carcinogen, initial date 10/1/88 (airborne particles of respirable size)
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed

• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	(fume)
• Zinc oxide as Zinc compounds		
• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Carbon Black	1333-86-4	Not Listed
• Iron oxide	1309-37-1	Not Listed
• Iron oxide as Iron compounds		Not Listed
• Titanium dioxide	13463-67-7	Not Listed
• Zinc oxide	1314-13-2	Not Listed
• Zinc oxide as Zinc compounds		Not Listed

• Distillates (petroleum), hydrotreated middle	64742-46-7	Not Listed
• Chromium(III) oxide	1308-38-9	Not Listed
• Chromium(III) oxide as Chromium(III) compounds		Not Listed
• Chromium(III) oxide as Chromium (III) inorganic compounds		Not Listed
• Quartz	14808-60-7	Not Listed
• Beta-(3,4-epoxycyclohexyl)ethyltriethoxysilane	10217-34-2	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

15.3 Other Information

- WARNING: This product contains a chemical known to the State of California to cause cancer.

Section 16 - Other Information

Revision Date
- 24/January/2018

Preparation Date
- 04/January/2012

Other Information
- Changes to this revision: Updated mailing address.

Disclaimer/Statement of Liability
- The information contained herein is based on data considered accurate which has been obtained from other companies and organizations. However, no warranty or representation is expressed or implied that the information, is accurate, complete or representative. Firestone Building Products Company, LLC assumes no responsibility for injury to the buyer, the buyer's employees, or any third persons, if reasonable safety procedures are not followed. Additionally, Firestone Building Products Company assumes no responsibility for injury to buyer, the buyer's employees, or any third persons caused by abnormal use of this material, even if reasonable safety procedures are followed.

Key to abbreviations

NDA = No data available

Safety Data Sheet Firestone Building Products Company

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **ISO 95+™ GL (Flat and Tapered), ISO 95+™ CAN**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Construction

1.3 Details of the supplier of the safety data sheet

Manufacturer • Firestone Building Products Company

200 4th Avenue S
Nashville, TN 37201-2208
United States

firestonemsds@bfdp.com

Telephone (General) • 800-428-4442

1.4 Emergency telephone number

Manufacturer • (800) 424-9300 - CHEMTREC

Manufacturer • (703) 527-3887 - CHEMTREC - International

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Not classified

DSD/DPD • Not classified

2.2 Label Elements

CLP

Hazard statements • No label element(s) required

DSD/DPD

Risk phrases • No label element(s) required

2.3 Other Hazards

CLP • According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.

DSD/DPD • According to European Directive 1999/45/EC this preparation is not considered dangerous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012

- Not classified

2.2 Label elements

OSHA HCS 2012

Hazard statements

- No label elements(s) required

2.3 Other hazards

OSHA HCS 2012

- This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Not classified

2.2 Label elements

WHMIS

- No label element(s) required

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is not considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Glass, oxide, chemicals	**CAS:**65997-17-3 **EC Number:**266-046-0	< 11%	NDA	**EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA
2-Methylbutane	**CAS:**78-78-4 **EC Number:**201-142-8	4.5% TO 9.9%	Inhalation-Rat LC50 • 280000 mg/m³ 4 Hour(s)	**EU DSD/DPD:** **EU CLP:** Annex VI: Flam. Liq. 1, H224; Asp. Tox. 1, H304; STOT SE 3, H336; Aquatic Chronic 2, H411; EUH066 **OSHA HCS 2012:** Flam Liq 1; Eye Irrit. 2A; Skin Irrit. 2; STOT SE 3: Resp. Irrit. & Narc., Asp. Tox. 1	NDA
Pentane	**CAS:**109-66-0 **EC Number:**203-692-4	0.05% TO 5.5%	Inhalation-Rat LC50 • 364 g/m³ 4 Hour(s) Ingestion/Oral-Rat LD50 • >2000 mg/kg	**EU DSD/DPD:** EU CLP, Annex VI, Table 3.2: F+, R12; Xn, R65; R66; R67; N, R51, R53 **EU CLP:** Annex VI: Flam. Liq. 2, H225; Asp. Tox. 1, H304; STOT SE 3: Narc., H336; Aquatic Chronic 2, H411; EUH066 **OSHA HCS 2012:** Flam. Liq. 1; Asp. Tox. 1.	NDA

				Eye Irrit. 2, Skin Irrit. 2, STOT SE 3: Narc.	
2-Propanol, 1-chloro -, 2,2',2''-phosphate	**CAS:**13674-84-5 **EC Number:**237-158-7	< 5%	Ingestion/Oral-Rat LD50 • 1500 mg/kg	**EU DSD/DPD:** Self Classified: Xn, R22 **EU CLP:** Self Classified: Acute Tox. 4, H302 **OSHA HCS 2012:** Acute Tox. 4 (Oral)	NDA

See Section 11 for Toxicological Information. See Section 16 for full text of H-statements and R-phrases.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.

Skin
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes.

Ingestion
- Rinse mouth. Do not give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- No specific actions or treatments recommended related to exposure to this material.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- LARGE FIRE: Water spray, fog or regular foam.
  SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

Unsuitable Extinguishing Media
- No data available.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Burning of this product will produce thick black smoke.
  Toxic fumes and vapors may be produced.
  Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
  Isopentane and n-pentane, highly flammable materials, may be present within this product.

Hazardous Combustion Products
- Carbon dioxide and carbon monoxide, phosphorus oxides, and phosphoric acid.

5.3 Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).
  Structural firefighters' protective clothing will only provide limited protection.
  Fire fighters should wear complete protective clothing including self-contained breathingapparatus.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Not applicable.

Emergency Procedures
- Not applicable.

6.2 Environmental precautions

- No special precautions necessary.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Avoid generating dust.
  Pick up large pieces. Sweep and scoop up material and put into a suitable container for disposal as a non-hazardous waste.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling
- Use only in well ventilated areas. Wear appropriate personal protective equipment. Protect against dust that may be generated by reprocessing, altering or applying this product. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage
- Keep away from heat, sparks and flame. Store in a cool, dry place.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	**ACGIH**	**Canada Alberta**	**Canada British Columbia**	**Canada New Brunswick**	**Canada Ontario**
Pentane (109-66-0)	TWAs	600 ppm TWA (listed under Pentane, all isomers)	600 ppm TWA; 1770 mg/m3 TWA	600 ppm TWA (listed under Pentane, all isomers)	600 ppm TWA; 1770 mg/m3 TWA	600 ppm TWA
	STELs	Not established	Not established	Not established	750 ppm STEL; 2210 mg/m3 STEL	Not established
2-Methylbutane (78-78-4)	TWAs	600 ppm TWA (listed under Pentane, all isomers)	600 ppm TWA; 1770 mg/m3 TWA	600 ppm TWA (listed under Pentane, all isomers)	Not established	600 ppm TWA (listed under Pentane, all isomers)
Glass, oxide, chemicals	TWAs	1 fiber/cm3 TWA (respirable fibers: length >5 µm, aspect ratio >=3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination, listed	1 fibre/cm3 TWA *as Glass wool fiber*	1 fibre/cm3 TWA (fibres >5 µm, with an aspect ratio of >=3:1, as determined by the membrane filter method at 400-450 times magnification (4 mm objective), using phase-contrast illumination, listed	1 fibre/cm3 TWA (fibres >5 µm with a diameter <3 µm, aspect ratio >5:1) *as Glass wool fiber*	1 fibre/cm3 TWA (fibres >5 µm in length and an aspect ratio >=3:1 as determined by the membrane filter method at 400-450 times magnification (4 -mm objective), using phase-contrast illumination, respirable, listed

		under Synthetic vitreous fibers) *as Glass wool fiber*		under Synthetic vitreous fibres) *as Glass wool fiber*		under Synthetic Vitreous Fibres (Man Made Mineral Fibres)) *as Glass wool fiber*

Exposure Limits/Guidelines (Con't.)						
	Result	**Canada Quebec**	**Canada Yukon**	**Europe**	**NIOSH**	**OSHA**
Pentane (109-66-0)	TWAs	120 ppm TWAEV; 350 mg/m3 TWAEV	600 ppm TWA; 1800 mg/m3 TWA	1000 ppm TWA; 3000 mg/m3 TWA	120 ppm TWA; 350 mg/m3 TWA	1000 ppm TWA; 2950 mg/m3 TWA
	STELs	Not established	750 ppm STEL; 2250 mg/m3 STEL	Not established	Not established	Not established
	Ceilings	Not established	Not established	Not established	610 ppm Ceiling (15 min); 1800 mg/m3 Ceiling (15 min)	Not established
2-Methylbutane (78-78-4)	TWAs	Not established	Not established	1000 ppm TWA; 3000 mg/m3 TWA	Not established	Not established
Glass, oxide, chemicals	TWAs	2 fibre/cm3 TWAEV (respirable, listed under Fibres - Artificial Vitreous Mineral Fibres) *as Glass wool fiber*	30 mppcf TWA; 10 mg/m3 TWA (respirable mass) *as Glass wool fiber*	Not established	3 fiber/cm3 TWA (fibers <= 3.5 µm in diameter and >= 10 µm in length); 5 mg/m3 TWA (total) *as Glass wool fiber*	Not established

8.2 Exposure controls

Engineering Measures/Controls
- No special controls are expected to be needed.

Personal Protective Equipment

Respiratory
- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face
- Wear safety goggles.

Hands
- Wear appropriate gloves.

Skin/Body
- Wear long sleeves and/or protective coveralls if determined to be needed by the end-user.

Environmental Exposure Controls
- Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene
NIOSH = National Institute of Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
STEL = Short Term Exposure Limits are based on 15-minute exposures
TWAEV = Time-Weighted Average Exposure Value
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	White rigid cellular sheets with no odor.
Color	White	Odor	Odorless
Odor Threshold	Data lacking		

General Properties			
Boiling Point	Data lacking	Melting Point/Freezing Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Water Solubility	Insoluble
Viscosity	Data lacking	Explosive Properties	Not explosive.
Oxidizing Properties:	Not an oxidizer.		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Not flammable.		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization not indicated.

10.4 Conditions to avoid

- No data available.

10.5 Incompatible materials

- No data available.

10.6 Hazardous decomposition products

- No data available.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Pentane (0.05% TO 5.5%)	109-66-0	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • >2000 mg/kg; Inhalation-Rat LC50 • 364 g/m³ 4 Hour(s)
2-Methylbutane (4.5% TO 9.9%)	78-78-4	**Acute Toxicity:** Inhalation-Rat LC50 • 280000 mg/m³ 4 Hour(s)
2-Propanol, 1-chloro-, 2,2',2''-phosphate (< 5%)	13674-84-5	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 1500 mg/kg; *Behavioral*:**Tremor**; *Behavioral*:**Convulsions or effect on seizure threshold**

GHS Properties	Classification

Acute toxicity	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Skin corrosion/Irritation	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Serious eye damage/Irritation	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Skin sensitization	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Respiratory sensitization	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Aspiration Hazard	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Carcinogenicity	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Germ Cell Mutagenicity	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Toxicity for Reproduction	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
STOT-SE	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
STOT-RE	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met

Route(s) of entry/exposure
- Inhalation, Skin, Eye, Ingestion

Medical Conditions Aggravated by Exposure
- Disorders of the lungs.

Potential Health Effects

Inhalation

Acute (Immediate)
- Exposure to dust may cause irritation. Processes such as cutting, grinding, crushing, or impact may result in generation of excessive amounts of airborne dusts in the workplace. Nuisance dust may affect the lungs but reactions are typically reversible.

Chronic (Delayed)
- No data available

Skin

Acute (Immediate)
- Exposure to dust may cause mechanical irritation.

Chronic (Delayed)
- No data available.

Eye

Acute (Immediate)
- Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.

Chronic (Delayed)
- No data available.

Key to abbreviations

LC = Lethal Concentration

LD = Lethal Dose

Section 12 - Ecological Information

12.1 Toxicity

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not regulated	NDA	NDA	NDA
TDG	NDA	Not regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not regulated	NDA	NDA	NDA
ADN	NDA	Not regulated	NDA	NDA	NDA
ADR/RID	NDA	Not regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not regulated	NDA	NDA	NDA

14.6 Special precautions for user
- None known.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
- Not relevant.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • None

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
2-Methylbutane	78-78-4	Yes	Yes	Yes
2-Propanol, 1-chloro -, 2,2',2''-phosphate	13674-84-5	No	No	No
Glass, oxide, chemicals	65997-17-3	Yes	No	Yes
Pentane	109-66-0	Yes	Yes	Yes

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**EU EINECS**	**EU ELNICS**	**TSCA**
2-Methylbutane	78-78-4	Yes	No	Yes	No	Yes
2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Yes	No	Yes	No	Yes
Glass, oxide, chemicals	65997-17-3	Yes	No	Yes	No	Yes
Pentane	109-66-0	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	B2
• 2-Methylbutane	78-78-4	B2
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Uncontrolled product according to WHMIS classification criteria (listed under Glass wool); D2A (listed under Mineral wool fiber)

Canada - WHMIS - Ingredient Disclosure List

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	1 %
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

Environment

Canada - CEPA - Priority Substances List

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

Other

Canada - Accelerated Reduction/Elimination of Toxics (ARET)

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed

• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

Canada New Brunswick

Environment

Canada - New Brunswick - Ozone Depleting Substances - Schedule A

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

Canada - New Brunswick - Ozone Depleting Substances - Schedule B

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	F+; R12 N; R51-53 Xn; R65 R66 R67
• 2-Methylbutane	78-78-4	F+; R12 N; R51-53 Xn; R65 R66 R67
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	F+ Xn N R:12-51/53-65-66-67 S:(2)-9-16-29-33-61-62
• 2-Methylbutane	78-78-4	F+ Xn N R:12-51/53-65-66-67 S:(2)-9-16-29-33-61-62
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	C
• 2-Methylbutane	78-78-4	C
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	S:(2)-9-16-29-33-61-62
• 2-Methylbutane	78-78-4	S:(2)-9-16-29-33-61-62
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		(including mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers [or other mineral derived fibers] of average diameter 1 µm or less)

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed

• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		carcinogen, initial date 7/1/90 (inhalable and biopersistent)

U.S. - California - Proposition 65 - Developmental Toxicity

• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• 2-Propanol, 1-chloro-, 2,2',2"-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• 2-Propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	Not Listed
• Pentane	109-66-0	Not Listed
• 2-Methylbutane	78-78-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
• Glass, oxide, chemicals as Glass wool fiber		Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H224 - Extremely flammable liquid and vapour
  H225 - Highly flammable liquid and vapour
  H302 - Harmful if swallowed
  H304 - May be fatal if swallowed and enters airways
  H336 - May cause drowsiness or dizziness
  H411 - Toxic to aquatic life with long lasting effects
  EUH066 - Repeated exposure may cause skin dryness or cracking.
  R12 - Extremely flammable.
  R22 - Harmful if swallowed.
  R51 - Toxic to aquatic organisms.
  R53 - May cause long-term adverse effects in the aquatic environment.
  R65 - Harmful: may cause lung damage if swallowed.
  R66 - Repeated exposure may cause skin dryness or cracking.
  R67 - Vapours may cause drowsiness and dizziness.

Revision Date
- 18/January/2018

Preparation Date
- 19/April/2011

Other Information
- Changes to this revision: Updated mailing address.

Disclaimer/Statement of Liability

- The information contained herein is based on data considered accurate which has been obtained from other companies and organizations. However, no warranty or representation is expressed or implied that the information, is accurate, complete or representative. Firestone Building Products Company, LLC assumes no responsibility for injury to the buyer, the buyer's employees, or any third persons, if reasonable safety procedures are not followed. Additionally, Firestone Building Products Company assumes no responsibility for injury to buyer, the buyer's employees, or any third persons caused by abnormal use of this material, even if reasonable safety procedures are followed.

Key to abbreviations

NDA = No data available

SAFETY DATA SHEET

1. Identification

Product identifier	**W70RACMCA5P, W70RACMCADP, W70RACMCAT - Multi-Purpose MB Cold Adhesive**
Other means of identification	
Product number	W70RACMCA5P, W70RACMCADP, W70RACMCAT
Recommended use	Construction.
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Company name	Firestone Building Products Company, LLC 200 4th Avenue South Nashville, TN 37201 USA
Email	firestonemsds@bfdp.com
Telephone Number	1-800-428-4442
Contact Person	SDS request
Emergency Telephone Number	CHEMTREC: 1-800-424-9300

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3

OSHA defined hazards Not classified.

Label elements

Signal word	Warning
Hazard statement	Flammable liquid and vapor. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist/vapors. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/eye protection/face protection.
Response	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.
Storage	Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Asphalt	8052-42-4	45 - 70
Solvent naphtha (petroleum), medium aliph.	64742-88-7	10 -30
Limestone	1317-65-3	10 - 20
1,2,4-Trimethylbenzene	95-63-6	1 - 5
Cellulose	9004-34-6	1 - 5
Solvent naphtha (petroleum), light arom.	64742-95-6	1 - 5

Composition comments All concentrations are in percent by weight. Components not listed are either non-hazardous or are below reportable limits.

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Foam. Dry chemical powder. Carbon dioxide (CO2). Water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed. Combustion products include: Carbon oxides (COx).

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards Flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. The product is immiscible with water and will sediment in water systems. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Cellulose (CAS 9004-34-6)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Limestone (CAS 1317-65-3)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Solvent naphtha (petroleum), medium aliph. (CAS 64742-88-7)	PEL	400 mg/m3	
		100 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
1,2,4-Trimethylbenzene (CAS 95-63-6)	TWA	25 ppm	
Asphalt (CAS 8052-42-4)	TWA	0.5 mg/m3	Inhalable fume.
Cellulose (CAS 9004-34-6)	TWA	10 mg/m3	
Solvent naphtha (petroleum), medium aliph. (CAS 64742-88-7)	TWA	200 mg/m3	Non-aerosol.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
1,2,4-Trimethylbenzene (CAS 95-63-6)	TWA	125 mg/m3	
		25 ppm	
Asphalt (CAS 8052-42-4)	Ceiling	5 mg/m3	Fume.
Cellulose (CAS 9004-34-6)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Limestone (CAS 1317-65-3)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US ACGIH Threshold Limit Values: Skin designation

Solvent naphtha (petroleum), medium aliph. (CAS 64742-88-7) Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear approved chemical safety goggles.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Examples of preferred glove barrier materials include: Nitrile. Neoprene. Suitable gloves can be recommended by the glove supplier.

Skin protection

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Viscous liquid.

Color Black.

Odor Petroleum distillates

Odor threshold Not available.

pH Not applicable.

Melting point/freezing point Not available.

Initial boiling point and boiling range 302 °F (150 °C)

Flash point 107.6 °F (42.0 °C) Pensky-Martens Closed Cup

Evaporation rate < 1 (n-butyl acetate = 1)

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 1 %

Flammability limit - upper (%)	6 %
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.1 (77 °F (25 °C))
Solubility(ies)	
Solubility (water)	Insoluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	> 482 °F (> 250 °C)
Decomposition temperature	Not available.
Viscosity	> 1000 mm²/s (104 °F (40 °C))
Other information	Solids: 79.20%
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
VOC	221 g/l

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Fluorine.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness or dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
1,2,4-Trimethylbenzene (CAS 95-63-6)		
Acute		
Oral		
LD50	Rat	2720 - 3960 mg/kg
Asphalt (CAS 8052-42-4)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 5000 mg/kg

Components	Species	Test Results
Solvent naphtha (petroleum), medium aliph. (CAS 64742-88-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
Vapor		
LC50	Rat	> 5.28 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Asphalt (CAS 8052-42-4)	2B Possibly carcinogenic to humans.
Solvent naphtha (petroleum), light arom. (CAS 64742-95-6)	3 Not classifiable as to carcinogenicity to humans.
Solvent naphtha (petroleum), medium aliph. (CAS 64742-88-7)	3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components		Species	Test Results
1,2,4-Trimethylbenzene (CAS 95-63-6)			
Aquatic			
Acute			
Fish	LC50	Fathead minnow (Pimephales promelas)	7.72 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available for this product.

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1999
UN proper shipping name	Tars, liquid
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	B1, B13, IB3, T1, TP3
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

IATA

UN number	UN1999
UN proper shipping name	Tars, liquid
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1999
UN proper shipping name	TARS, LIQUID
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Asphalt (CAS 8052-42-4) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated "active".

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Flammable (gases, aerosols, liquids, or solids)
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
1,2,4-Trimethylbenzene	95-63-6	1 - 5

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.

US state regulations

US. Massachusetts RTK - Substance List

1,2,4-Trimethylbenzene (CAS 95-63-6)
Asphalt (CAS 8052-42-4)
Cellulose (CAS 9004-34-6)
Limestone (CAS 1317-65-3)

US. New Jersey Worker and Community Right-to-Know Act

1,2,4-Trimethylbenzene (CAS 95-63-6)
Asphalt (CAS 8052-42-4)
Cellulose (CAS 9004-34-6)
Limestone (CAS 1317-65-3)
Solvent naphtha (petroleum), medium aliph. (CAS 64742-88-7)

US. Pennsylvania Worker and Community Right-to-Know Law

1,2,4-Trimethylbenzene (CAS 95-63-6)
Asphalt (CAS 8052-42-4)
Cellulose (CAS 9004-34-6)
Limestone (CAS 1317-65-3)

US. Rhode Island RTK

1,2,4-Trimethylbenzene (CAS 95-63-6)
Asphalt (CAS 8052-42-4)
Cellulose (CAS 9004-34-6)
Limestone (CAS 1317-65-3)

California Proposition 65

WARNING: This product can expose you to chemicals including Quartz (SiO2), which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Cumene (CAS 98-82-8) Listed: April 6, 2010
Quartz (SiO2) (CAS 14808-60-7) Listed: October 1, 1988

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

1,2,4-Trimethylbenzene (CAS 95-63-6)
Asphalt (CAS 8052-42-4)
Solvent naphtha (petroleum), light arom. (CAS 64742-95-6)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 06-May-2020

Revision date -

Version # 01

HMIS® ratings Health: 2
Flammability: 2
Physical hazard: 0

Disclaimer Firestone Building Products cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

1. Identification

Product identifier	**W70RACMFC5P - Multi-Purpose MB Flashing Cement**
Other means of identification	
Product number	W70RACMFC5P
Recommended use	Construction.
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Company name	Firestone Building Products Company, LLC 200 4th Avenue South Nashville, TN 37201 USA
Email	firestonemsds@bfdp.com
Telephone Number	1-800-428-4442
Contact Person	SDS request
Emergency Telephone Number	CHEMTREC: 1-800-424-9300

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	

Label elements

Signal word	Warning
Hazard statement	Flammable liquid and vapor. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist/vapors. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/eye protection/face protection.
Response	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.
Storage	Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Asphalt	8052-42-4	45 - 70
Solvent naphtha (petroleum), medium aliph.	64742-88-7	10 -30
Limestone	1317-65-3	10 - 20
Cellulose	9004-34-6	5 - 10
1,2,4-Trimethylbenzene	95-63-6	1 - 5
Kaolin	1332-58-7	1 - 5
Perlite	93763-70-3	1 - 5
Solvent naphtha (petroleum), light arom.	64742-95-6	1 - 5

Composition comments All concentrations are in percent by weight. Components not listed are either non-hazardous or are below reportable limits.

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Foam. Dry chemical powder. Carbon dioxide (CO2). Water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed. Combustion products include: Carbon oxides (COx).

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards Flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. The product is immiscible with water and will sediment in water systems. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Cellulose (CAS 9004-34-6)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Kaolin (CAS 1332-58-7)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Limestone (CAS 1317-65-3)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Solvent naphtha (petroleum), medium aliph. (CAS 64742-88-7)	PEL	400 mg/m3	
		100 ppm	

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Kaolin (CAS 1332-58-7)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Perlite (CAS 93763-70-3)	TWA	5 mg/m3	Respirable fraction.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
1,2,4-Trimethylbenzene (CAS 95-63-6)	TWA	25 ppm	
Asphalt (CAS 8052-42-4)	TWA	0.5 mg/m3	Inhalable fume.
Cellulose (CAS 9004-34-6)	TWA	10 mg/m3	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Solvent naphtha (petroleum), medium aliph. (CAS 64742-88-7)	TWA	200 mg/m3	Non-aerosol.

Impurities	Type	Value
1,2,3-Trimethylbenzene (CAS 526-73-8)	TWA	25 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
1,2,4-Trimethylbenzene (CAS 95-63-6)	TWA	125 mg/m3	
		25 ppm	
Asphalt (CAS 8052-42-4)	Ceiling	5 mg/m3	Fume.
Cellulose (CAS 9004-34-6)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Kaolin (CAS 1332-58-7)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Limestone (CAS 1317-65-3)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Perlite (CAS 93763-70-3)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total

Impurities	Type	Value
1,2,3-Trimethylbenzene (CAS 526-73-8)	TWA	125 mg/m3
		25 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US ACGIH Threshold Limit Values: Skin designation

Solvent naphtha (petroleum), medium aliph. (CAS 64742-88-7) — Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear approved chemical safety goggles.

Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Examples of preferred glove barrier materials include: Nitrile. Neoprene. Suitable gloves can be recommended by the glove supplier.
Skin protection	
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Chemical respirator with organic vapor cartridge and full facepiece.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Viscous liquid.
Color	Black.
Odor	Petroleum distillates
Odor threshold	Not available.
pH	Not applicable.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	> 302 °F (> 150 °C)
Flash point	107.6 °F (42.0 °C) Pensky-Martens Closed Cup
Evaporation rate	< 1 (n-butyl acetate = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1 %
Flammability limit - upper (%)	6 %
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.1 (77 °F (25 °C))
Solubility(ies)	
Solubility (water)	Insoluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	> 482 °F (> 250 °C)
Decomposition temperature	Not available.
Viscosity	> 1000 mm²/s (104 °F (40 °C))
Other information	Solids: 78.00%
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
VOC	246 g/l

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Fluorine.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness or dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
1,2,4-Trimethylbenzene (CAS 95-63-6)		
Acute		
Oral		
LD50	Rat	2720 - 3960 mg/kg
Asphalt (CAS 8052-42-4)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Solvent naphtha (petroleum), medium aliph. (CAS 64742-88-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
Vapor		
LC50	Rat	> 5.28 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Asphalt (CAS 8052-42-4)	2B Possibly carcinogenic to humans.
Solvent naphtha (petroleum), light arom. (CAS 64742-95-6)	3 Not classifiable as to carcinogenicity to humans.
Solvent naphtha (petroleum), medium aliph. (CAS 64742-88-7)	3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components		Species	Test Results
1,2,4-Trimethylbenzene (CAS 95-63-6)			
Aquatic			
Acute			
Fish	LC50	Fathead minnow (Pimephales promelas)	7.72 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available for this product.

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN1999

UN proper shipping name Tars, liquid

Transport hazard class(es)

Class 3

Subsidiary risk -

Label(s) 3

Packing group III

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions B1, B13, IB3, T1, TP3

Packaging exceptions 150

Packaging non bulk 203

Packaging bulk 242

IATA

UN number UN1999

UN proper shipping name Tars, liquid

Transport hazard class(es)

Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1999
UN proper shipping name	TARS, LIQUID
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Asphalt (CAS 8052-42-4) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated “active”.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Flammable (gases, aerosols, liquids, or solids)
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
1,2,4-Trimethylbenzene	95-63-6	1 - 5

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.

US state regulations

US. Massachusetts RTK - Substance List

1,2,3-Trimethylbenzene (CAS 526-73-8)
1,2,4-Trimethylbenzene (CAS 95-63-6)
Asphalt (CAS 8052-42-4)
Cellulose (CAS 9004-34-6)
Kaolin (CAS 1332-58-7)
Limestone (CAS 1317-65-3)
Perlite (CAS 93763-70-3)

US. New Jersey Worker and Community Right-to-Know Act

1,2,3-Trimethylbenzene (CAS 526-73-8)
1,2,4-Trimethylbenzene (CAS 95-63-6)
Asphalt (CAS 8052-42-4)
Cellulose (CAS 9004-34-6)
Kaolin (CAS 1332-58-7)
Limestone (CAS 1317-65-3)
Perlite (CAS 93763-70-3)
Solvent naphtha (petroleum), medium aliph. (CAS 64742-88-7)

US. Pennsylvania Worker and Community Right-to-Know Law

1,2,3-Trimethylbenzene (CAS 526-73-8)
1,2,4-Trimethylbenzene (CAS 95-63-6)
Asphalt (CAS 8052-42-4)
Cellulose (CAS 9004-34-6)
Kaolin (CAS 1332-58-7)
Limestone (CAS 1317-65-3)
Perlite (CAS 93763-70-3)

US. Rhode Island RTK

1,2,3-Trimethylbenzene (CAS 526-73-8)
1,2,4-Trimethylbenzene (CAS 95-63-6)
Asphalt (CAS 8052-42-4)
Cellulose (CAS 9004-34-6)
Kaolin (CAS 1332-58-7)
Limestone (CAS 1317-65-3)

California Proposition 65

WARNING: This product can expose you to chemicals including Cumene, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Cumene (CAS 98-82-8)	Listed: April 6, 2010
Quartz (SiO2) (CAS 14808-60-7)	Listed: October 1, 1988

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

1,2,3-Trimethylbenzene (CAS 526-73-8)
1,2,4-Trimethylbenzene (CAS 95-63-6)
Asphalt (CAS 8052-42-4)
Solvent naphtha (petroleum), light arom. (CAS 64742-95-6)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 06-May-2020

Revision date -

Version # 01

HMIS® ratings Health: 2
Flammability: 2
Physical hazard: 0

Disclaimer Firestone Building Products cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Safety Data Sheet Firestone Building Products Company

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name
- **SBS Polyester FR Series: SBS FR, SBS FR Torch, SBS Premium FR, SBS Premium FR Torch**

Product Description
- Black mat with sand and/or ceramic and/or thin plastic film covered surface and an asphalt odor.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s)
- Construction

1.3 Details of the supplier of the safety data sheet

Manufacturer
- Firestone Building Products Company

  250 West 96th Street
  Indianapolis, IN 46260
  United States

  firestonemsds@bfdp.com

Telephone (General)
- 800-428-4442

1.4 Emergency telephone number

Manufacturer
- (800) 424-9300 - CHEMTREC

Manufacturer
- (703) 527-3887 - CHEMTREC - International

Section 2: Hazards Identification

EU/EEC

According to EU Directive 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP
- Specific Target Organ Toxicity Repeated Exposure 1 - H372

DSD/DPD
- Harmful (Xn)

  R20

2.2 Label Elements

CLP

DANGER

Hazard statements
- H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention
- P260 - Do not breathe dust, fume, gas, mist, vapours and/or spray.
P264 - Wash thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.

Response
- P314 - Get medical advice/attention if you feel unwell.

Storage/Disposal
- P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD

Risk phrases
- R20 - Harmful by inhalation.

2.3 Other Hazards

CLP
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD
- According to European Directive 1999/45/EC this preparation is considered dangerous.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012
- Specific Target Organ Toxicity Repeated Exposure 1 - H372

2.2 Label elements

OSHA HCS 2012

DANGER

Hazard statements
- Causes damage to organs through prolonged or repeated exposure. - H372

Precautionary statements

Prevention
- Do not breathe dust, fume, gas, mist, vapours and/or spray. - P260
Wash thoroughly after handling. - P264
Do not eat, drink or smoke when using this product. - P270

Response
- Get medical advice/attention if you feel unwell. - P314

Storage/Disposal
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

2.3 Other hazards

OSHA HCS 2012
- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS
- Other Toxic Effects - D2B

2.2 Label elements

WHMIS

- Other Toxic Effects - D2B

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

2.4 Other information

- The calcium carbonate is bound in an asphalt matrix, neither of which is expected to be released. The sand and granules are applied to the asphalt surface in such a manner that nominal release from the surface is anticipated.

See Section 12 for Ecological Information.

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Asphalt	**CAS:**8052-42-4 **EINECS:**232-490-9	50% TO 60%	Inhalation-Rat LC50 • >94.4 mg/m³	**EU DSD/DPD:** Self Classified: Carc. 3 R40 **EU CLP:** Self Classified: Carc. 2, H351 **OSHA HCS 2012:** Carc. 2	NDA
Colemanite	**CAS:**1318-33-8	20% TO 30%	NDA	**EU DSD/DPD:** Data Lacking **EU CLP:** Data Lacking **OSHA HCS 2012:** Data Lacking	NDA
Limestone	**CAS:**1317-65-3 **EC Number:**215-279-6	5% TO 10%	NDA	**EU DSD/DPD:** Self Classified: Xn, R48/20 **EU CLP:** Self Classified: STOT RE 1 (Lungs), H372 **OSHA HCS 2012:** STOT RE 1 (Lungs)	NDA
Quartz	**CAS:**14808-60-7 **EC Number:**238-878-4	< 10%	NDA	**EU DSD/DPD:** Self Classified: Carc. 1; R45 **EU CLP:** Self Classified: Carc 1A, H350 **OSHA HCS 2012:** Carc. 1A	NDA

See Section 11 for Toxicological Information.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- Remove to fresh air, apply artificial respiration and/or oxygen if necessary and get medical attention.

Skin

- Remove contaminated clothing and wash exposed skin with soap and water. If irritation develops or persists, seek medical attention.

Eye

- If foreign matter enters eyes, immediately flush with large amounts of water for at least

15 minutes or until irritation subsides. If irritation develops, or persists, seek medical attention.

Ingestion

- Consult a physician if unusual reaction is noted. Product is not intended nor is it likely to be ingested or eaten.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

See Section 2 for Potential Health Effects.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media

- Use water, foam, CO2 or dry chemical extinguishers to contain fire.

Unsuitable Extinguishing Media

- No data available.

Firefighting Procedures

- Fire fighters should avoid inhaling any combustion products.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards

- Burning of this product will produce thick black smoke.

Hazardous Combustion Products

- Carbon dioxide, carbon monoxide and partially burned carbon.

5.3 Advice for firefighters

- Firefighters should wear full-face, self contained breathing apparatus and impervious protective clothing to avoid smoke inhalation and lack of oxygen.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions

- No special precautions expected to be necessary if material is used under ordinary conditions and as recommended.

Emergency Procedures

- No emergency procedures are expected to be necessary if material is used under ordinary conditions as as recommended.

6.2 Environmental precautions

- Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Pick up large pieces. Vacuum dust. If sweeping is necessary, use a dust suppressant such as water. These procedures will help to minimize potential exposures. Scoop up material and put into a suitable container for disposal as a non-hazardous waste.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Do not breathe dusts or fumes generated from cutting or heating this material. Use this product with adequate ventilation. Always wash work clothes seperately from

other clothing. Wash thoroughly after handling. Use personal protective equipment as described in Section 8.

7.2 Conditions for safe storage, including any incompatibilities

Storage
- Store indoors in a cool, dry, well-ventilated area. Do not handle or store near an open flame, heat or other sources of ignition.

Special Packaging Materials
- No data available.

Incompatible Materials or Ignition Sources
- This product will react with strong oxidizing agents, reducing agents, strong acids and alkalis.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines

	Result	ACGIH	Canada British Columbia	Canada Manitoba	Canada New Brunswick	Canada Northwest Territories
Limestone (1317-65-3)	STELs	Not established	20 mg/m3 STEL	Not established	Not established	Not established
	TWAs	Not established	10 mg/m3 TWA (total dust); 3 mg/m3 TWA (respirable fraction)	Not established	10 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica)	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Quartz (14808-60-7)	TWAs	0.025 mg/m3 TWA (respirable fraction)	0.025 mg/m3 TWA (respirable)	0.025 mg/m3 TWA (respirable fraction)	0.1 mg/m3 TWA (respirable fraction)	0.1 mg/m3 TWA (respirable mass); 0.3 mg/m3 TWA (total mass)
Asphalt (8052-42-4)	TWAs	0.5 mg/m3 TWA (fume, inhalable fraction, as benzene soluble aerosol)	0.5 mg/m3 TWA (inhalable fume, as Benzene-soluble aerosol)	0.5 mg/m3 TWA (fume, inhalable fraction, as Benzene soluble aerosol)	5 mg/m3 TWA (petroleum fumes)	5 mg/m3 TWA (Petroleum fumes)
	STELs	Not established	Not established	Not established	Not established	10 mg/m3 STEL (Petroleum fumes)

Exposure Limits/Guidelines (Con't.)

	Result	Canada Nova Scotia	Canada Nunavut	Canada Ontario	Canada Quebec	Canada Yukon
Limestone (1317-65-3)	TWAs	Not established	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)	Not established	10 mg/m3 TWAEV (Limestone, containing no Asbestos and <1% Crystalline silica, total dust)	30 mppcf TWA; 10 mg/m3 TWA
	STELs	Not established	Not established	Not established	Not established	20 mg/m3 STEL
Quartz (14808-60-7)	TWAs	0.025 mg/m3 TWA (respirable fraction)	0.1 mg/m3 TWA (respirable mass); 0.3 mg/m3 TWA (total mass)	0.10 mg/m3 TWA (designated substance regulation, respirable)	0.1 mg/m3 TWAEV (respirable dust)	300 particle/mL TWA (listed under Silica)
Asphalt (8052-42-4)	TWAs	0.5 mg/m3 TWA (fume, inhalable fraction, as Benzene soluble aerosol)	5 mg/m3 TWA (Petroleum fumes)	0.5 mg/m3 TWA (fume, inhalable, as Benzene-soluble aerosol)	5 mg/m3 TWAEV (fume)	5 mg/m3 TWA (fume)

	STELs	Not established	10 mg/m3 STEL (Petroleum fumes)	Not established	Not established	10 mg/m3 STEL (fume)

Exposure Limits/Guidelines (Con't.)				
	Result	**China**	**NIOSH**	**OSHA**
Limestone (1317-65-3)	STELs	16 mg/m3 STEL (total dust); 8 mg/m3 STEL (respirable dust)	Not established	Not established
	TWAs	8 mg/m3 TWA (total dust); 4 mg/m3 TWA (respirable dust)	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
Quartz (14808-60-7)	STELs	2 mg/m3 STEL (10%-50% free SiO2, total dust); 1.4 mg/m3 STEL (50%-80% free SiO2, total dust); 1 mg/m3 STEL (containing >80% free SiO2, total dust); 1.4 mg/m3 STEL (10%-50% free SiO2, respirable dust); 0.6 mg/m3 STEL (50%-80% free SiO2, respirable dust); 0.4 mg/m3 STEL (containing >80% free SiO2, respirable dust)	Not established	Not established
	TWAs	0.7 mg/m3 TWA (containing 50-80% free SiO2, total dust); 0.3 mg/m3 TWA (containing 50-80% free SiO2, respirable dust); 1 mg/m3 TWA (containing 10-50% free SiO2, total dust); 0.7 mg/m3 TWA (containing 10-50% free SiO2, respirable dust); 0.5 mg/m3 TWA (containing >80% free SiO2, total dust); 0.2 mg/m3 TWA (containing >80% free SiO2, respirable dust)	0.05 mg/m3 TWA (respirable dust)	Not established
Asphalt (8052-42-4)	STELs	12.5 mg/m3 STEL (fume, as Benzene soluble matter)	Not established	Not established
	TWAs	5 mg/m3 TWA (fume, as Benzene soluble matter)	Not established	Not established
	Ceilings	Not established	5 mg/m3 Ceiling (fume, 15 min)	Not established

Exposure Limits Supplemental

OSHA

•Quartz (14808-60-7): **Mineral Dusts:** ((30)/(%SiO2 + 2) mg/m3 TWA, total dust; (250)/(%SiO2 + 5) mppcf TWA, respirable fraction; (10)/(%SiO2

+ 2) mg/m3 TWA, respirable fraction)

8.2 Exposure controls

Engineering Measures/Controls
- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Personal Protective Equipment

Respiratory
- Respiratory protection is not normally required. Use a NIOSH approved/certified respiratory when the exposure limits are exceeded. Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

Eye/Face
- Safety glasses with side shields should be worn at a minimum.

Hands
- Leather or cotton gloves may be worn to prevent skin contact and irritation.

Skin/Body
- Normal work clothing (long sleeved shirts and long pants) is recommended.

General Industrial Hygiene Considerations
- Use good industrial hygiene practices in handling this material. Availability of eye wash fountains are recommended.

Environmental Exposure Controls
- Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)

STEL = Short Term Exposure Limits are based on 15-minute exposures.

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

TWAEV = Time-Weighted Average Exposure Value

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Black mat with sand and/ or ceramic covered surface and an asphalt odor.
Color	Black	Odor	Asphalt odor.
Odor Threshold	Data lacking		
General Properties			
Boiling Point	Data lacking	Melting Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Water Solubility	Insoluble
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Strong oxidizing agents.

10.5 Incompatible materials

- This product will react with strong oxidizing agents, reducing agents, strong acids and alkalis.

10.6 Hazardous decomposition products

- Burning will produce smoke, carbon monoxide, and carbon dioxide.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Component Name	CAS	Data
Asphalt (50% TO 60%)	8052-42-4	**Acute Toxicity:** orl-rat LD50:>5000 mg/kg; ihl-rat LC50:>94.4 mg/m3; **Mutagen:** dna-mus-skn 600 mg/kg
Quartz (< 10%)	14808-60-7	**Tumorigen/Carcinogen:** ihl-rat TCLo:50 mg/m3/6H/71W-I

GHS Properties	Classification
Acute toxicity	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Aspiration Hazard	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Carcinogenicity	**EU/CLP** •Classification criteria not met **OSHA HCS 2012** •Classification criteria not met
Germ Cell Mutagenicity	**EU/CLP** •Classification criteria not met **OSHA HCS 2012** •Classification criteria not met
Skin corrosion/Irritation	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Skin sensitization	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
STOT-RE	**EU/CLP** • Specific Target Organ Toxicity Repeated Exposure 1 **OSHA HCS 2012** • Specific Target Organ Toxicity Repeated Exposure 1
STOT-SE	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Toxicity for Reproduction	**EU/CLP** •Classification criteria not met **OSHA HCS 2012** •Classification criteria not met

Respiratory sensitization	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Serious eye damage/Irritation	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met

Medical Conditions Aggravated by Exposure
- Pre-existing lung conditions which may be aggravated if fumes/dusts are inhaled.

Potential Health Effects

Inhalation

Acute (Immediate)
- Temporary irritation of nose and throat may occur.

Chronic (Delayed)
- This product contains crystalline silica which is listed by IARC as a suspect carcinogen. Silicosis (pulmonary fibrosis or severe lung scarring) may occur if exposed to high levels or repeated encounters with dust. Exposure to airborne particles that exceed the limits listed may cause lung cancer. This product also contains petroleum asphalt. If heated, there is limited evidence that derivatives of asphalt fumes may cause carcinogenic effects in animals. There is inadequate evidence to support that asphalt fumes alone are carcinogenic to humans.

Skin

Acute (Immediate)
- Mechanical irritation of the skin/skin abrasion may occur characterized by itching or redness.

Chronic (Delayed)
- No data available

Eye

Acute (Immediate)
- Mechanical irritation of the eye may occur characterized by itching or redness.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- Ingestion of this product unlikely.

Chronic (Delayed)
- No data available.

Carcinogenic Effects
- When used under normal conditions, this product is not considered a carcinogen. Based upon the newly published IARC classifications for bitumen/asphalt fumes, it has been determined that the IARC carcinogen designation does not apply to this material as it does not contain material identified by IARC. This product contains crystalline silica. IARC Monographs on Evaluation of Carcinogenic Risk of Chemicals to Humans (Monograph 68, 1997) concludes that there is sufficient evidence for the carcinogenicity of crystalline silica to humans, IARC (Group I). Crystalline Silica is classified as a Known Carcinogen according to the NTP.

Carcinogenic Effects

	CAS	IARC	NTP
Quartz	14808-60-7	Group 1-Carcinogenic	Known Human Carcinogen
Asphalt	8052-42-4	Group 2B-Possible Carcinogen	Not Listed

Key to abbreviations

LC = Lethal Concentration

LD = Lethal Dose

TC = Toxic Concentration

Section 12 - Ecological Information

12.1 Toxicity

- No information available for the product.

12.2 Persistence and degradability

- No information available for the product.

12.3 Bioaccumulative potential

- No information available for the product.

12.4 Mobility in Soil

- No information available for the product.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

Ecological Fate

- No information available for the product.

12.7 Other Information

- This product has not been tested. Based on information related to all raw materials in the finished product it is not expected to harm ecosystems through its applied use.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
ADN	NDA	Not Regulated	NDA	NDA	NDA
ADR/RID	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user

- None known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Not relevant.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

- Chronic

State Right To Know					
Component	**CAS**	**MA**	**MN**	**NJ**	**PA**
Limestone	1317-65-3	Yes	Yes	Yes	Yes
Asphalt	8052-42-4	Yes	Yes	Yes	Yes
Quartz	14808-60-7	Yes	Yes	Yes	Yes
Colemanite	1318-33-8	No	No	No	No

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**China**	**EU EINECS**	**EU ELNICS**
Limestone	1317-65-3	No	Yes	Yes	Yes	No
Asphalt	8052-42-4	Yes	No	Yes	Yes	No
Quartz	14808-60-7	Yes	No	Yes	Yes	No
Colemanite	1318-33-8	No	No	No	No	No

Inventory (Con't.)		
Component	**CAS**	**TSCA**
Limestone	1317-65-3	Yes
Asphalt	8052-42-4	Yes
Quartz	14808-60-7	Yes
Colemanite	1318-33-8	No

Australia

Labor

Australia - Work Health and Safety Regulations - Hazardous Substances Requiring Health Monitoring

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Demographic, medical and occupational history; Records of personal exposure; Standardised respiratory questionnaire to be completed; Standardised respiratory function test, for example, FEV1, FVC and FEV1/FVC; Chest X-ray full size PA view
- Colemanite 1318-33-8 Not Listed

Australia - High Volume Industrial Chemicals List

- Asphalt 8052-42-4
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7
- Colemanite 1318-33-8 Not Listed

Australia - List of Designated Hazardous Substances - Classification

- Asphalt 8052-42-4 Self classification required (petroleum fumes)
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Self classification required
- Colemanite 1318-33-8 Not Listed

Environment

Australia - National Pollutant Inventory (NPI) Substance List

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

Australia - Ozone Protection Act - Scheduled Substances

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

Australia - Priority Existing Chemical Program

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

Canada

Labor

Canada - WHMIS - Classifications of Substances

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 D2A
- Quartz 14808-60-7 D2A (In certain cases, this classification does not apply. For more information, consult the section Substance Specific Issues - Silica, crystalline, encapsulated on Health Canada's WHMIS Division website.)
- Colemanite 1318-33-8 Not Listed

Canada - WHMIS - Ingredient Disclosure List

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 1 %
- Colemanite 1318-33-8 Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

Mexico

Other

Mexico - Hazard Classifications

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

Mexico - Regulated Substances

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

United States

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

U.S. - CWA (Clean Water Act) - Hazardous Substances

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

U.S. - CWA (Clean Water Act) - Priority Pollutants

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 carcinogen, initial date 10/1/88 (airborne particles of respirable size)
- Colemanite 1318-33-8 Not Listed

United States - New Jersey

Environment

U.S. - New Jersey - Special Health Hazards Substances List

- Asphalt 8052-42-4 flammable - third degree
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 carcinogen
- Colemanite 1318-33-8 Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

- Asphalt 8052-42-4 Not Listed
- Limestone 1317-65-3 Not Listed
- Quartz 14808-60-7 Not Listed
- Colemanite 1318-33-8 Not Listed

United States - Rhode Island

Labor

U.S. - Rhode Island - Hazardous Substance List

- Asphalt 8052-42-4 Toxic; Flammable
- Limestone 1317-65-3 Toxic

• Quartz	14808-60-7	Toxic (dust and fiber)
• Colemanite	1318-33-8	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Last Revision Date
- 03/October/2013

Preparation Date
- 03/January/2012

Disclaimer/Statement of Liability
- The information contained herein is based on data considered accurate which has been obtained from other companies and organizations. However, no warranty or representation is expressed or implied that the information, is accurate, complete or representative. Firestone Building Products Company, LLC assumes no responsibility for injury to the buyer, the buyer's employees, or any third persons, if reasonable safety procedures are not followed. Additionally, Firestone Building Products Company assumes no responsibility for injury to buyer, the buyer's employees, or any third persons caused by abnormal use of this material, even if reasonable safety procedures are followed.

Key to abbreviations

NDA = No Data Available

Safety Data Sheet

Firestone Building Products Company

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Single-Ply LVOC Primer**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Construction

1.3 Details of the supplier of the safety data sheet

Manufacturer • Firestone Building Products Company

250 West 96th Street
Indianapolis, IN 46260
United States

firestonemsds@bfdp.com

Telephone (General) • 800-428-4442

1.4 Emergency telephone number

Manufacturer • (800) 424-9300 - CHEMTREC

Manufacturer • (703) 527-3887 - CHEMTREC - International

Section 2: Hazards Identification

EU/EEC

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Flammable Liquids 2 - H225
Aspiration 1 - H304
Skin Irritation 2 - H315
Eye Irritation 2 - H319
Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects - H336
EUH066

DSD/DPD • Highly Flammable (F)
Irritant (Xi)
Harmful (Xn)
R11, R36/38, R65, R66, R67

2.2 Label Elements

CLP

DANGER

Hazard statements
- H225 - Highly flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
EUH066 - Repeated exposure may cause skin dryness or cracking.

Precautionary statements

Prevention
- P210 - Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
P233 - Keep container tightly closed.
P240 - Ground and/or bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting/equipment.
P242 - Use only non-sparking tools.
P261 - Avoid breathing mist/vapours/spray.
P264 - Wash thoroughly after handling.
P243 - Take precautionary measures against static discharge.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response
- P370+P378 - In case of fire: Use appropriate media for extinction.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P362 - Take off contaminated clothing and wash before reuse.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 - Do NOT induce vomiting.

Storage/Disposal
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P235 - Keep cool.
P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD

Risk phrases
- R11 - Highly flammable.
R36/38 - Irritating to eyes and skin.
R65 - Harmful: may cause lung damage if swallowed.
R66 - Repeated exposure may cause skin dryness or cracking.
R67 - Vapours may cause drowsiness and dizziness.

Safety phrases
- S9 - Keep container in a well ventilated place
S16 - Keep away from sources of ignition - No Smoking.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

2.3 Other Hazards

CLP
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD
- According to European Directive 1999/45/EC this material is considered dangerous.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012
- Flammable Liquids 2 - H225

Aspiration 1 - H304
Skin Irritation 2 - H315
Eye Irritation 2 - H319
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335
Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects - H336

2.2 Label elements

OSHA HCS 2012

DANGER

Hazard statements

- Highly flammable liquid and vapour - H225
  May be fatal if swallowed and enters airways - H304
  Causes skin irritation - H315
  Causes serious eye irritation - H319
  May cause respiratory irritation - H335
  May cause drowsiness or dizziness - H336

Precautionary statements

Prevention

- Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking. - P210
  Keep container tightly closed. - P233
  Ground and/or bond container and receiving equipment. - P240
  Use explosion-proof electrical/ventilating/lighting/equipment. - P241
  Use only non-sparking tools. - P242
  Take precautionary measures against static discharge. - P243
  Avoid breathing mist/vapours/spray. - P261
  Wash thoroughly after handling. - P264
  Use only outdoors or in a well-ventilated area. - P271
  Wear protective gloves/protective clothing/eye protection/face protection. - P280

Response

- In case of fire: Use appropriate media for extinction. - P370+P378
  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. - P304+P340
  Call a POISON CENTER or doctor/physician if you feel unwell. - P312
  IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. - P303+P361+P353
  Take off contaminated clothing and wash before reuse. - P362
  If skin irritation occurs: Get medical advice/attention. - P332+P313
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338
  If eye irritation persists: Get medical advice/attention. - P337+P313
  IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. - P301+P310
  Do NOT induce vomiting. - P331

Storage/Disposal

- Store in a well-ventilated place. Keep container tightly closed. - P403+P233
  Keep cool. - P235
  Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

2.3 Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Flammable Liquids - B2
  Other Toxic Effects - D2B

2.2 Label elements

WHMIS

- Flammable Liquids - B2
  Other Toxic Effects - D2B

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
1-Chloro-4-(trifluoromethyl) benzene	**CAS:**98-56-6 **EINECS:**202-681-1	30% TO 60%	Ingestion/Oral-Rat LD50 • 13 g/kg Inhalation-Rat LC50 • 22 g/m³	**EU DSD/DPD:** Self Classified: R10, Xi, R36/38 **EU CLP:** Self Classified: Flam. Liq. 3, H226; Skin Irrit. 2, H315; Eye Irrit. 2, H319 **OSHA HCS 2012:** Flam. Liq. 3; Skin Irrit. 2; Eye Irrit. 2	NDA
Naphtha (petroleum), hydrotreated light	**CAS:**64742-49-0 **EINECS:**265-151-9	10% TO 40%	NDA	**EU DSD/DPD:** Annex VI, Table 3.2: Carc.Cat.2; R45 Muta.Cat.2; R46 Xn; R65 **EU CLP:** Annex VI: Carc. 1B, H350; Muta. 1B, H340; Asp. Tox. 1, H304 **OSHA HCS 2012:** Asp. Tox. 1	Component contains less than 0.1% benzene. Carcinogen and mutagen classifications do not apply for EU agencies.
Acetone	**CAS:**67-64-1 **EINECS:**200-662-2	10% TO 40%	Inhalation-Rat LC50 • 50100 mg/m³ 8 Hour(s) Ingestion/Oral-Rat LD50 • 5800 mg/kg	**EU DSD/DPD:** Annex VI, Table 3.2: F; R11 Xi; R36 R66 R67 **EU CLP:** Annex VI: Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3: Narc., H336; EUH066 **OSHA HCS 2012:** Flam. Liq. 2; Eye Irrit. 2; STOT SE 3: Resp. Irrit.; STOT SE 3: Narc.	NDA

See Section 11 for Toxicological Information. See Section 16 for full text of H-statements and R-phrases.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Wash skin with soap and water. If skin irritation occurs: Get medical advice/attention.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion
- Do NOT induce vomiting. Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- LARGE FIRES: Water spray, fog or alcohol-resistant foam.
  SMALL FIRES: Dry chemical, CO2, water spray or alcohol-resistant foam.

Unsuitable Extinguishing Media
- Do not use a direct stream of water.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
  Containers may explode when heated.
  Vapor explosion hazard indoors, outdoors or in sewers.
  Many liquids are lighter than water.
  Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
  Runoff to sewer may create fire or explosion hazard.
  Vapors may form explosive mixtures with air.
  Vapors may travel to source of ignition and flash back.
  Dried solids can burn and release toxic fumes and vapors.

Hazardous Combustion Products
- No data available

5.3 Advice for firefighters

- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
  Cool fire exposed containers with water.
  Move containers from fire area if you can do it without risk.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Ventilate enclosed areas. Wear appropriate protective clothing. Do not touch or walk through spilled material.

Emergency Procedures
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet) Keep out of low areas. Stay upwind. Keep unauthorized personnel away. Ventilate closed spaces before entering.

6.2 Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Stop leak if you can do it without risk.
  A vapor suppressing foam may be used to reduce vapors.
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Use clean non-sparking tools to collect absorbed material.
  All equipment used when handling the product must be grounded.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Keep away from fire. Keep away from heat and sparks. Wear appropriate personal protective equipment, avoid direct contact. Avoid breathing mist/vapours/spray. Avoid contact with skin, eyes, and clothing. Use only in well ventilated areas. All equipment used when handling the product must be grounded. Bond and ground all transfer containers and equipment. Take precautionary measures against static charges. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations near container. Do not eat, drink or smoke when using this product. After handling wash hands thoroughly.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Store in a cool/low-temperature, well-ventilated place away from heat and ignition sources. Keep container tightly closed. Keep away from incompatible materials.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	**ACGIH**	**Canada Alberta**	**Canada British Columbia**	**Canada Manitoba**	**Canada New Brunswick**
Acetone (67-64-1)	STELs	750 ppm STEL	750 ppm STEL; 1800 mg/m3 STEL	500 ppm STEL	750 ppm STEL	750 ppm STEL; 1782 mg/m3 STEL
	TWAs	500 ppm TWA	500 ppm TWA; 1200 mg/m3 TWA	250 ppm TWA	500 ppm TWA	500 ppm TWA; 1188 mg/m3 TWA

Exposure Limits/Guidelines (Con't.)						
	Result	**Canada Northwest Territories**	**Canada Nova Scotia**	**Canada Nunavut**	**Canada Ontario**	**Canada Quebec**
Acetone (67-64-1)	STELs	1250 ppm STEL; 2970 mg/m3 STEL	750 ppm STEL	1250 ppm STEL; 2970 mg/m3 STEL	750 ppm STEL	1000 ppm STEV; 2380 mg/m3 STEV
	TWAs	1000 ppm TWA; 2370 mg/m3 TWA	500 ppm TWA	1000 ppm TWA; 2370 mg/m3 TWA	500 ppm TWA	500 ppm TWAEV; 1190 mg/m3 TWAEV

Exposure Limits/Guidelines (Con't.)					
	Result	**Canada Saskatchewan**	**Canada Yukon**	**NIOSH**	**OSHA**

Acetone (67-64-1)	TWAs	500 ppm TWA	1000 ppm TWA; 2400 mg/m3 TWA	250 ppm TWA; 590 mg/m3 TWA	1000 ppm TWA; 2400 mg/m3 TWA
	STELs	Not established	1250 ppm STEL; 3000 mg/m3 STEL	Not established	Not established

8.2 Exposure controls

Engineering Measures/Controls

- This material is designed to be used outdoors, in roofing applications. Good general ventilation should be used. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof electrical/ventilating/lighting/equipment.

Personal Protective Equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear appropriate eye/face protection for the job/activity.

Skin/Body

- Wear appropriate gloves for the job/activity.

Environmental Exposure Controls

- In case of spills, keep product clear of sewers, waterways or land areas. Dispose of waste product in accordance with national and local laws and regulations.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene
NIOSH = National Institute of Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
STEL = Short Term Exposure Limits are based on 15-minute exposures
STEV = Short Term Exposure Value
TWAEV = Time-Weighted Average Exposure Value
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Amber liquid with characteristic odor.
Color	Amber	Odor	Characteristic
Odor Threshold	Data lacking		
General Properties			
Boiling Point	133 F(56.1111 C)	Melting Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	1.01 Water=1	Density	8.42 lbs/gal
Water Solubility	Insoluble	Viscosity	Data lacking
Explosive Properties	Not explosive.	Oxidizing Properties:	Not an oxidizer.
Volatility			
Vapor Pressure	175 mmHg (torr) @ 20 C(68 F)	Vapor Density	Data lacking
Evaporation Rate	Data lacking	VOC (Vol.)	88.1 %
Flammability			
Flash Point	-4 F(-20 C)	UEL	13 %
LEL	2.6 %	Autoignition	Data lacking
Flammability (solid, gas)	Flammable Liquid.		
Environmental			

Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Avoid flames, sparks, or other sources of ignition.

10.5 Incompatible materials

- No data available

10.6 Hazardous decomposition products

- Carbon monoxide, carbon dioxide, hydrocarbon, hydrogen chloride and other acrid products of combustion.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Component Name	CAS	Data
1-Chloro-4-(trifluoromethyl) benzene (30% TO 60%)	98-56-6	**Acute Toxicity:** orl-rat LD50:13 gm/kg; ihl-rat LC50:22 gm/m3; **Multi-dose Toxicity:** ihl-rat TCLo:500 ppm/6H/4W-I
Acetone (10% TO 40%)	67-64-1	**Acute Toxicity:** orl-rat LD50:5800 mg/kg; ihl-rat LC50:50100 mg/m3/8H; **Irritation:** eye-rbt 20 mg SEV; skn-rbt 395 mg open MLD; **Reproductive:** ihl-rat TCLo:11000 ppm (6-19D preg)

GHS Properties	Classification
Acute toxicity	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Aspiration Hazard	**EU/CLP** • Aspiration 1 **OSHA HCS 2012** • Aspiration 1
Carcinogenicity	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Germ Cell Mutagenicity	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Skin corrosion/Irritation	**EU/CLP** • Skin Irritation 2 **OSHA HCS 2012** • Skin Irritation 2
Skin sensitization	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
STOT-RE	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met

STOT-SE	**EU/CLP** • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects **OSHA HCS 2012** • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
Toxicity for Reproduction	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Respiratory sensitization	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Serious eye damage/Irritation	**EU/CLP** • Eye Irritation 2 **OSHA HCS 2012** • Eye Irritation 2

Route(s) of entry/exposure
- Inhalation, Skin, Eye, Ingestion

Potential Health Effects

Inhalation

Acute (Immediate)
- May cause respiratory irritation. May affect the central nervous system. Symptoms may include dizziness, drowsiness, lethargy, coma and death.

Chronic (Delayed)
- No data available

Skin

Acute (Immediate)
- Causes skin irritation.

Chronic (Delayed)
- Repeated exposure may cause skin dryness or cracking.

Eye

Acute (Immediate)
- Causes serious eye irritation.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- Material may be aspirated into the lungs during ingestion and/or subsequent vomiting. Aspiration of this material will cause severe lung injury, chemical pneumonitis, pulmonary edema or death.

Chronic (Delayed)
- No data available.

Key to abbreviations

LC = Lethal Concentration
LD = Lethal Dose
MLD = Mild
TC = Toxic Concentration
SEV = Severe

Section 12 - Ecological Information

12.1 Toxicity

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN1133	Adhesives	3	III	NDA
TDG	UN1133	ADHESIVES	3	III	Potential Marine Pollutant
IMO/IMDG	UN1133	ADHESIVES	3	III	NDA
ADN	UN1133	ADHESIVES	3	III	NDA
ADR/RID	UN1133	ADHESIVES	3	III	NDA
IATA/ICAO	UN1133	Adhesives	3	III	NDA

14.6 Special precautions for user
- None known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
- Not relevant.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications
- Acute, Chronic, Fire

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
1-Chloro-4-(trifluoromethyl) benzene	98-56-6	No	No	No
Acetone	67-64-1	Yes	Yes	Yes
Naphtha (petroleum), hydrotreated light	64742-49-0	No	No	No

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**EU EINECS**	**EU ELNICS**	**TSCA**
1-Chloro-4-(trifluoromethyl)	98-56-6	Yes	No	Yes	No	Yes

benzene						
Acetone	67-64-1	Yes	No	Yes	No	Yes
Naphtha (petroleum), hydrotreated light	64742-49-0	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	B2, D2B

Canada - WHMIS - Ingredient Disclosure List

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	1 %

Environment

Canada - 2004 NPRI (National Pollutant Release Inventory)

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

Canada - 2005 NPRI (National Pollutant Release Inventory)

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

Canada - CEPA - Greenhouse Gases Subject to Mandatory Reporting

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

Canada - CEPA - Priority Substances List

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

Canada - DWQ (Drinking Water Quality) - IMACs

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

Other

Canada - Accelerated Reduction/Elimination of Toxics (ARET)

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

Canada New Brunswick

Environment

Canada - New Brunswick - Ozone Depleting Substances - Schedule A

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

Canada - New Brunswick - Ozone Depleting Substances - Schedule B

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Carc.Cat.2; R45 Muta.Cat.2; R46 Xn; R65
• Acetone	67-64-1	F; R11 Xi; R36 R66 R67

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	T R:45-46-65 S:53-45
• Acetone	67-64-1	F Xi R:11-36-66-67 S:(2)-9-16-26

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	P
• Acetone	67-64-1	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	S:53-45
• Acetone	67-64-1	S:(2)-9-16-26

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	5000 lb final RQ; 2270 kg final RQ

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - Basis for Listing - Appendix VII

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Included in waste stream: F039

U.S. - RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Monitoring

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	

U.S. - RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	

U.S. - RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	0.28 mg/L (wastewater); 160 mg/kg (nonwastewater)

U.S. - RCRA (Resource Conservation & Recovery Act) - TSD Facilities Ground Water Monitoring

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	

U.S. - RCRA (Resource Conservation & Recovery Act) - U Series Wastes - Acutely Toxic Wastes & Other Hazardous Characteristics

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	waste number U002 (Ignitable waste)

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed
• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• 1-Chloro-4-(trifluoromethyl) benzene	98-56-6	Not Listed

• Naphtha (petroleum), hydrotreated light	64742-49-0	Not Listed
• Acetone	67-64-1	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H226 - Flammable liquid and vapour
  H340 - May cause genetic defects.
  H350 - May cause cancer.

  R10 - Flammable.
  R36 - Irritating to eyes.
  R45 - May cause cancer.
  R46 - May cause heritable genetic damage.

Last Revision Date

- 11/March/2014

Preparation Date

- 11/January/2012

Disclaimer/Statement of Liability

- The information contained herein is based on data considered accurate which has been obtained from other companies and organizations. However, no warranty or representation is expressed or implied that the information, is accurate, complete or representative. Firestone Building Products Company, LLC assumes no responsibility for injury to the buyer, the buyer's employees, or any third persons, if reasonable safety procedures are not followed. Additionally, Firestone Building Products Company assumes no responsibility for injury to buyer, the buyer's employees, or any third persons caused by abnormal use of this material, even if reasonable safety procedures are followed.

Key to abbreviations

NDA = No data available

Date of preparation: 07/01/13

SECTION I

Manufacturer : **BLUE RIDGE™ FIBERBOARD, INC.**
Address : 250 Celotex Dr.
: Danville, VA 24541
Telephone # :
Emergency # : 1-800-424-9300 Chemtrec

- H M I S -
|Health : 0 |
|Flammability : 1 |
|Reactivity : 0 |
|Personal Protection : |

(Hazard Rating: 0=Least,1=Slight,2=Moderate,3=High,4=Extreme,*=Chronic)

Product Class :
Mfg. code I.D. :
Trade Name : **STRUCTODEK® High Density Fiberboard Roof Insulation; Primed Red Coated 2 Sides; Black Coated 1 or 6 Sides; or Uncoated "Natural"**

SECTION II-A HAZARDOUS COMPONENTS

No.	Component	CAS#	% by Weight	SARA 313	VAPOR PRESSURE (mm Hg @ 20 C)	LEL (@ 25 C)
1.	Wood Fiber*	N/A	85-95	N/A	N/A	N/A

*: Wood dust is listed by the IARC as a human carcinogen (Group 1).

Structodek High Density Fiberboard Roof Insulation is defined by OSHA (29 CFR Part 1910) as an "Article". A manufactured item which is formed to a specific shape or design during manufacture which does not release or otherwise result in exposure to a hazardous chemical under normal conditions of use.

SECTION II-B OCCUPATIONAL EXPOSURE LIMITS

	OSHA				ACGIH			
No.	PEL/TWA	PEL/CEILING	PEL/STEL	SKIN	TLV/TWA	TLV/CEILING	TLV/STEL	SKIN
1.	5 mg/m3*	N/E	10 mg/m3*	No	5 mg/m3**	N/E	10 mg/m3**	No

*: Wood dust, soft and hard woods **: Wood dust, soft woods N/E: Not Established

SECTION III PHYSICAL DATA

Boiling Point : Not applicable
Evaporation Rate : No applicable
Vapor Density : Not applicable
pH Level : Not applicable
% Volatile by volume : 0
% Volatile by weight : Not applicable
Weight per gallon : Not applicable
Appearance : Brown board, Black or Red on edges/sides

SECTION IV HEALTH INFORMATION

EYE CONTACT: Wood dust may cause mechanical irritation.
SKIN CONTACT: Wood dust may cause mechanical irritation.
INHALATION: Wood dust may cause nasal dryness, irritation, and obstruction. Coughing, wheezing, sneezing, sinusitis, and prolonged coughs have been reported.
INGESTION: Health effects are not expected via this exposure route.
SIGNS AND SYMPTOMS: Symptoms of eye/skin irritation included reddening and rash. Symptoms of respiratory irritation include coughing, wheezing, and shortness of breath.
AGGRAVATED MEDICAL CONDITIONS: None known with normal product use.
OTHER HEALTH EFFECTS: Wood dust may cause contact dermatitis on prolonged/repeated contact. IARC classifies wood dust as a human carcinogen. An increased risk of nasal cavity and para-nasal sinus cancer has been associated with wood dust exposure.

SECTION V EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Flush eyes with water to remove fibers.
SKIN CONTACT: Flush with water to remove fibers. Wash affected area with soap and water if available.
INHALATION: Move individual from dusty environment. Treat symptomatically.
INGESTION: None normally required.

SECTION VI FIRE AND EXPLOSION HAZARDS

FLAMMABILITY CLASSIFICATION **- NFPA :** None
- DOT : Not regulated

FLASH POINT: Not Applicable. Product is a solid.
EXTINGUISHING MEDIA: Carbon Dioxide, water fog, foam, dry chemical.
SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS: None recognized.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Smoldering materials may reignite. A fire watch should be maintained for extinguished materials.

SECTION VII REACTIVITY

STABILITY: Stable **HAZARDOUS POLYMERIZATION:** Will not occur
CONDITIONS AND MATERIALS TO AVOID: Strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Combustion may yield Carbon Dioxide, Carbon Monoxide, and/or incomplete combustion products.

SECTION VIII EMPLOYEE PROTECTION

RESPIRATORY PROTECTION: None required with normal product use. If abraded, use of a dust filter respirator is recommended to prevent inhalation of wood dust.

PROTECTIVE CLOTHING: Cotton work gloves/Safety glasses.
ADDITIONAL PROTECTIVE MEASURES: Not applicable.

SECTION IX ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES: Not applicable: product is a solid.
WASTE DISPOSAL: Permitted landfill facility

SECTION X ADDITIONAL PRECAUTIONS

Prevent contact with fire. Prevent job-site damage.

The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. We assume no responsibility for injury from the use of the product described herein.

Safety Data Sheet Firestone Building Products Company

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Water-Block Seal S-20**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Water –Block Seal (S-20) is designed to provide a seal when used in compression as required by Firestone Details

1.3 Details of the supplier of the safety data sheet

Manufacturer • Firestone Building Products Company

200 4th Avenue S
Nashville, TN 37201-2208
United States

firestonemsds@bfdp.com

Telephone (General) • 800-428-4442

1.4 Emergency telephone number

Manufacturer • (800) 424-9300 - CHEMTREC

Manufacturer • (703) 527-3887 - CHEMTREC - International

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Flammable Liquids 2 - H225
Skin Irritation 2 - H315
Hazardous to the aquatic environment Chronic 2 - H411

DSD/DPD • Flammable
Dangerous to the Environment (N)
R11, R51/53

2.2 Label Elements

CLP

DANGER

Hazard statements • H225 - Highly flammable liquid and vapour
H411 - Toxic to aquatic life with long lasting effects
H315 - Causes skin irritation

Precautionary statements

Prevention
- P210 - Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
P233 - Keep container tightly closed.
P235 - Keep cool.
P240 - Ground and/or bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting/equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P264 - Wash thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response
- P370+P378 - In case of fire: Use appropriate media for extinction.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P362 - Take off contaminated clothing and wash before reuse.
P321 - Specific treatment, see supplemental first aid information.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P391 - Collect spillage.

Storage/Disposal
- P403+P235 - Store in a well-ventilated place. Keep cool.
P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD

Risk phrases
- R11 - Highly flammable.
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.3 Other Hazards

CLP
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD
- According to European Directive 1999/45/EC this preparation is considered dangerous.

UN GHS Revision 3

According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS): Third Revised Edition

2.1 Classification of the substance or mixture

UN GHS
- Flammable Liquids 2
Skin Irritation 2
Eye Irritation 2

2.2 Label elements

UN GHS

DANGER

Hazard statements
- Highly flammable liquid and vapour
Causes skin irritation
Causes serious eye irritation

Precautionary statements

Prevention
- Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
Keep container tightly closed.
Keep cool.
Ground and/or bond container and receiving equipment.

Use explosion-proof electrical, ventilating and/or lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wash thoroughly after handling.
Wear protective gloves and eye/face protection , .

Response • In case of fire: Use appropriate media for extinction.
IF ON SKIN: Wash with plenty of soap and water.
Take off contaminated clothing and wash before reuse.
If skin irritation occurs: Get medical advice/attention.
Specific treatment (see supplemental first aid instructions on this label).
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Storage/Disposal • Store in a well-ventilated place. Keep cool.
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3 Other hazards

UN GHS • According to the Globally Harmonized System for Classification and Labeling (GHS) this product is considered hazardous

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 1994 • Flammable Liquid
Flammable/Combustible Class IB
Irritant
Target Organ Effects - Central Nervous System (CNS)

2.2 Label elements

OSHA HCS 1994 • Not required

2.3 Other hazards

OSHA HCS 1994 • Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

WHMIS • Flammable Liquids - B2
Other Toxic Effects - D2A
Other Toxic Effects - D2B

2.2 Label elements

WHMIS •

WHMIS • Flammable Liquids - B2
Other Toxic Effects - D2A
Other Toxic Effects - D2B

2.3 Other hazards

WHMIS • In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

2.4 Other information

NFPA

See Section 12 for Ecological Information.

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance according to United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Heptane	**CAS:**142-82-5 **EC Number:**205-563-8 **UN:**UN1206	14%	Inhalation-Rat LC50 • 103 g/m³ 4 Hour(s)	**EU DSD/DPD:** EU CLP, Annex VI, Table 3.2: F, R11; Xn, R65; Xi, R38; R67; N, R50, R53 **EU CLP:** Annex VI - Flam. Liq. 2; Asp. Tox 1; Skin Irrit. 2; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1; **UN GHS Revision 3:** Eye Irrit. 2, Skin Irrit. 2, STOT SE 3, Aquatic Acute 3	NDA
Arien	**CAS:**64742-16-1 **EINECS:**265-116-8	< 10%	NDA	**EU DSD/DPD:** Data lacking **EU CLP:** Data lacking **UN GHS Revision 3:** Data lacking	NDA
Ethylene	**CAS:**74-85-1 **EC Number:**200-815-3 **UN:**UN1038, UN1962	< 4%	NDA	**EU DSD/DPD:** EU CLP, Annex VI, Table 3.2: F+, R12; R67 **EU CLP:** Annex VI Flam. Gas 1, Press Gas, STOT SE 3 **UN GHS Revision 3:** Eye Irrit. 2	NDA
Kaolin	**CAS:**1332-58-7	> 3%	NDA	**EU DSD/DPD:** Self Classified - Xn; R48/20 **EU CLP:** Self Classified - STOT RE 2 **UN GHS Revision 3:** STOT RE 2	NDA
Limestone	**CAS:**1317-65-3 **EC Number:**215-279-6	> 3%	NDA	**EU DSD/DPD:** NDA **EU CLP:** NDA **UN GHS Revision 3:** NDA	NDA
Propene	**CAS:**115-07-1 **EC Number:**204-062-1 **UN:**UN1077	< 3%	NDA	**EU DSD/DPD:** Annex I - F+; R12 **EU CLP:** Annex VI - Flam. Gas 1, Press. Gas **UN GHS Revision 3:** Flam. Gas 1, Press. Gas	NDA

Methane, 2,2'-bis (6-t-butyl-p-cresyl)-	**CAS:**119-47-1 **EINECS:**204-327-1	< 0.1%	Ingestion/Oral-Rat LD50 • 4880 mg/kg	**EU DSD/DPD:** Self Classified - Xi; R36 **EU CLP:** Self Classified - Eye Irrit. 2 **UN GHS Revision 3:** Acute Tox 5 (oral), Eye Irrit, 2	NDA
Carbon Black	**CAS:**1333-86-4 **EC Number:**215-609-9	< 0.03%	Ingestion/Oral-Rat LD50 • >15400 mg/kg Skin-Rabbit LD50 • >3 g/kg	**EU DSD/DPD:** Self Classified - Carc. Cat 3 **EU CLP:** Self Classified - Carc. 2A **UN GHS Revision 3:** Carc. 2A	NDA

See Section 11 for Toxicological Information.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin
- In case of skin contact, clean with rubbing alcohol. Wash skin with soap and water. Remove and isolate contaminated clothing and shoes. If skin irritation occurs: Get medical advice/attention.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion
- Do NOT induce vomiting. Get medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- No specific treatment required. Treat victim symptomatically and supportively.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- SMALL FIRES: Dry chemical, CO2, water spray or alcohol-resistant foam.
  LARGE FIRES: Water spray, fog or alcohol-resistant foam.

Unsuitable Extinguishing Media
- Water maybe ineffective, but should be used to keep fire exposed containers cool.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
  Containers may explode when heated.
  Vapors may form explosive mixtures with air.
  Vapor explosion hazard indoors, outdoors or in sewers.
  Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
  Vapors may travel to source of ignition and flash back.
  Runoff to sewer may create fire or explosion hazard.

Hazardous Combustion Products
- Carbon dioxide, carbon monoxide, aldehydes, acrid smoke and irritating fumes.

5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
  Wear positive pressure self-contained breathing apparatus (SCBA).
  Wear chemical protective clothing that is specifically recommended by the

manufacturer. It may provide little or no thermal protection.
Runoff from fire control may cause pollution.
LARGE FIRES: Dike fire-control water for later disposal.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions

- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stay upwind. Ventilate enclosed areas.

Emergency Procedures

- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep out of low areas. Keep unauthorized personnel away. Stay upwind.

6.2 Environmental precautions

- Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Stop leak if you can do it without risk.
Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
Use clean non-sparking tools to collect absorbed material.
All equipment used when handling the product must be grounded.
A vapor suppressing foam may be used to reduce vapors.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Keep away from heat, sparks, and flame – No Smoking. Keep containers closed. Vapors of this material are heavier than air and will collect in low or confined areas. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations near container. Static electricity may accumulate and create a fire hazard. Take precautionary measures against static charges. Bond and ground all transfer containers and equipment. Use only with adequate ventilation. Do not breathe (dust, vapor or spray mist) Ground fixed equipment.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Store in a cool, dry, well-ventilated place. Keep away from sources of ignition – No Smoking. Keep away from incompatible materials. Keep container closed when not in use.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	**ACGIH**	**Australia**	**Belgium**	**Canada Alberta**	**Canada British Columbia**
Carbon Black (1333-86-4)	TWAs	3.5 mg/m3 TWA	3 mg/m3 TWA	3.5 mg/m3 TWA	3.5 mg/m3 TWA	Not established

Kaolin (1332-58-7)	TWAs	2 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)	10 mg/m3 TWA (containing no asbestos and <1% crystalline silica, inspirable dust)	2 mg/m3 TWA (alveolar fraction)	2 mg/m3 TWA (respirable)	Not established
Limestone (1317-65-3)	TWAs	Not established	10 mg/m3 TWA (containing no asbestos and <1% crystalline silica, inspirable dust)	10 mg/m3 TWA	10 mg/m3 TWA	Not established
	STELs	Not established	Not established	Not established	Not established	20 mg/m3 STEL
Propene (115-07-1)	TWAs	500 ppm TWA	Not established	Not established	500 ppm TWA; 860 mg/m3 TWA	Not established
Ethylene (74-85-1)	TWAs	200 ppm TWA	Not established	200 ppm TWA; 233 mg/m3 TWA	200 ppm TWA; 229 mg/m3 TWA	Not established
Heptane (142-82-5)	STELs	500 ppm STEL	500 ppm STEL; 2050 mg/m3 STEL	500 ppm STEL; 2085 mg/m3 STEL	500 ppm STEL; 2050 mg/m3 STEL	500 ppm STEL
	TWAs	400 ppm TWA	400 ppm TWA; 1640 mg/m3 TWA	400 ppm TWA; 1664 mg/m3 TWA	400 ppm TWA; 1640 mg/m3 TWA	Not established

Exposure Limits/Guidelines (Con't.)

	Result	Canada Manitoba	Canada New Brunswick	Canada Northwest Territories	Canada Nova Scotia	Canada Nunavut
Carbon Black (1333-86-4)	TWAs	3.5 mg/m3 TWA	3.5 mg/m3 TWA	3.5 mg/m3 TWA	3.5 mg/m3 TWA	3.5 mg/m3 TWA
	STELs	Not established	Not established	7 mg/m3 STEL	Not established	7 mg/m3 STEL
Kaolin (1332-58-7)	TWAs	2 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)	2 mg/m3 TWA (particulate matter containing no asbestos and < 1% crystalline silica, respirable fraction)	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)	2 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Limestone (1317-65-3)	TWAs	Not established	10 mg/m3 TWA (particulate matter containing no asbestos and < 1% crystalline silica)	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)	Not established	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Propene (115-07-1)	TWAs	500 ppm TWA	Not established	Not established	500 ppm TWA	Not established
Ethylene (74-85-1)	TWAs	200 ppm TWA	Not established	Not established	200 ppm TWA	Not established
Heptane (142-82-5)	STELs	500 ppm STEL	500 ppm STEL; 2050 mg/m3 STEL	500 ppm STEL; 2049 mg/m3 STEL	500 ppm STEL	500 ppm STEL; 2049 mg/m3 STEL
	TWAs	400 ppm TWA	400 ppm TWA; 1640 mg/m3 TWA	400 ppm TWA; 1640 mg/m3 TWA	400 ppm TWA	400 ppm TWA; 1640 mg/m3 TWA

Exposure Limits/Guidelines (Con't.)

	Result	Canada Ontario	Canada Quebec	Canada Saskatchewan	Canada Yukon	China
Carbon Black (1333-86-4)	STELs	Not established	Not established	Not established	7 mg/m3 STEL	8 mg/m3 STEL (total dust)
	TWAs	3.5 mg/m3 TWAEV	3.5 mg/m3 TWAEV	3.5 mg/m3 TWA	3.5 mg/m3 TWA	4 mg/m3 TWA (total dust)

Kaolin (1332-58-7)	TWAs	2 mg/m3 TWAEV (containing no asbestos and less than 1% crystalline silica, respirable)	5 mg/m3 TWAEV (respirable dust, containing no asbestos and less than 1% crystalline silica)	2 mg/m3 TWA (respirable fraction)	30 mppcf TWA; 10 mg/m3 TWA	Not established
	STELs	Not established	Not established	Not established	20 mg/m3 STEL	Not established
Limestone (1317-65-3)	STELs	Not established	Not established	Not established	20 mg/m3 STEL	16 mg/m3 STEL (total dust); 8 mg/m3 STEL (respirable dust)
	TWAs	Not established	10 mg/m3 TWAEV (total dust, containing no asbestos and less than 1% crystalline silica)	10 mg/m3 TWA	30 mppcf TWA; 10 mg/m3 TWA	8 mg/m3 TWA (total dust); 4 mg/m3 TWA (respirable dust)
Propene (115-07-1)	TWAs	500 ppm TWAEV	Not established	Not established	Not established	Not established
Ethylene (74-85-1)	TWAs	200 ppm TWAEV	Not established	200 ppm TWA	Not established	Not established
Heptane (142-82-5)	STELs	500 ppm STEV; 2045 mg/m3 STEV	500 ppm STEV; 2050 mg/m3 STEV	Not established	500 ppm STEL; 2000 mg/m3 STEL	1000 mg/m3 STEL
	TWAs	400 ppm TWAEV; 1635 mg/m3 TWAEV	400 ppm TWAEV; 1640 mg/m3 TWAEV	400 ppm TWA	400 ppm TWA; 1600 mg/m3 TWA	500 mg/m3 TWA

Exposure Limits/Guidelines (Con't.)

	Result	Cyprus	Denmark	Germany DFG	Germany TRGS	NIOSH
Carbon Black (1333-86-4)	TWAs	Not established	3.5 mg/m3 TWA	Not established	Not established	3.5 mg/m3 TWA; 0.1 mg/m3 TWA (carbon black in presence of polycyclic aromatic hydrocarbons, as PAH)
Kaolin (1332-58-7)	TWAs	Not established	2 mg/m3 TWA (respirable)	Not established	Not established	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)
Limestone (1317-65-3)	TWAs	Not established	Not established	Not established	Not established	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)
Propene (115-07-1)	TWAs	Not established	100 ppm TWA; 172 mg/m3 TWA	Not established	Not established	Not established
Heptane (142-82-5)	TWAs	500 ppm TWA; 2085 mg/m3 TWA	200 ppm TWA; 820 mg/m3 TWA	Not established	500 ppm TWA (all isomers, exposure factor 1); 2100 mg/m3 TWA (all isomers, exposure factor 1)	85 ppm TWA; 350 mg/m3 TWA
	Ceilings	Not established	Not established	500 ppm Peak; 2100 mg/m3 Peak	Not established	440 ppm Ceiling (15 min); 1800 mg/m3 Ceiling (15 min)
	MAKs	Not established	Not established	500 ppm MAK; 2100 mg/m3 MAK	Not established	Not established

Exposure Limits/Guidelines (Con't.)

	Result	OSHA
Carbon Black (1333-86-4)	TWAs	3.5 mg/m3 TWA

Kaolin (1332-58-7)	TWAs	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
Limestone (1317-65-3)	TWAs	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
Heptane (142-82-5)	TWAs	500 ppm TWA; 2000 mg/m3 TWA

8.2 Exposure controls

Engineering Measures/Controls

- This adhesive is designed to be used outdoors, in roofing applications. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory

- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear safety glasses.

Skin/Body

- Wear appropriate chemical resistant clothing. Wear appropriate gloves.

Environmental Exposure Controls

- In case of spills, keep product clear of sewers, waterways or land areas. Dispose of waste product in accordance with national and local laws and regulations.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene
NIOSH = National Institute of Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
STEL = Short Term Exposure Limits are based on 15-minute exposures
MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration
STEV = Short Term Exposure Value
TWAEV = Time-Weighted Average Exposure Value
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Gray liquid with mild odor.
Color	Gray	Odor	Mild
Taste	No data available	Particulate Type	No data available
Particulate Size	No data available	Aerosol Type	No data available
Odor Threshold	No data available	Physical and Chemical Properties	No data available
General Properties			
Boiling Point	200 °F(93.3333 °C)	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	Heat of Decomposition	No data available
pH	No data available	Specific Gravity/Relative Density	= 1.33 Water=1
Density	No data available	Bulk Density	No data available
Water Solubility	Negligible	Solvent Solubility	No data available
Viscosity	No data available	Explosive Properties	No data available
Oxidizing Properties:	No data available		
Volatility			
Vapor Pressure	45 mmHg (torr)	Vapor Density	3.4 Air=1
Evaporation Rate	4.5 n-Butyl Acetate = 1	VOC (Wt.)	No data available
VOC (Vol.)	No data available	Volatiles (Wt.)	No data available

Volatiles (Vol.)	25.5 %		
Flammability			
Flash Point	14 °F(-10 °C) TCC (Tagliabue Closed Cup)	UEL	7 %
LEL	1 %	Autoignition	No data available
Self-Accelerating Decomposition Temperature (SADT)	No data available	Heat of Combustion (ΔHc)	No data available
Burning Time	No data available	Flame Height	No data available
Flame Extension	No data available	Ignition Distance	No data available
Flame Duration	No data available	Flammability (solid, gas)	No data available
Environmental			
Half-Life	No data available	Octanol/Water Partition coefficient	No data available
Coefficient of water/oil distribution	No data available	Bioaccumulation Factor	No data available
Bioconcentration Factor	No data available	Biochemical Oxygen Demand BOD/BOD5	No data available
Chemical Oxygen Demand	No data available	Persistence	No data available
Degradation	No data available		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Avoid flames, sparks, or other sources of ignition. Excess heat. Incompatible materials.

10.5 Incompatible materials

- Acids, alkalies, strong oxidizers.

10.6 Hazardous decomposition products

- Hazardous decomposition will not occur.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Heptane (14%)	142-82-5	**Acute Toxicity:** Inhalation-Rat LC50 • 103 g/m³ 4 Hour(s); **Multi-dose Toxicity:** Inhalation-Rat TCLo • 4000 ppm 6 Hour(s) 28 Day(s)-Intermittent; *Brain and Coverings*:**Recordings from specific areas of CNS**; *Sense Organs and Special Senses:Ear*:**Changes in cochlear structure or function**; *Nutritional and Gross Metabolic:Gross Metabolite Changes*:**Weight loss or decreased weight gain**
Ethylene (< 4%)	74-85-1	**Acute Toxicity:** Inhalation-Rat TCLo • 1000 ppm 2 Hour(s); *Liver*:**Other changes**; *Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels*:**Other oxidoreductases**

Kaolin (> 3%)	1332-58-7	**Multi-dose Toxicity:** Inhalation-Rat TCLo • 300 mg/m³ 12 Week(s)-Intermittent; *Lungs, Thorax, or Respiration*:**Other changes**; **Reproductive:** Ingestion/Oral-Rat TDLo • 370 g/kg (37D pre/1-22D preg); *Reproductive Effects:Maternal Effects*:**Other effects**; *Reproductive Effects:Effects on Newborn*:**Other neonatal measures or effects.**
Limestone (> 3%)	1317-65-3	**Multi-dose Toxicity:** Inhalation-Rat TCLo • 84 mg/m³ 4 Hour(s) 40 Week(s)-Intermittent; *Lungs, Thorax, or Respiration*:**Fibrosis (interstitial)**; *Liver*:**Other changes**; *Kidney, Ureter, and Bladder*:**Other changes**
Propene (< 3%)	115-07-1	**Multi-dose Toxicity:** Inhalation-Rat TCLo • 5000 ppm 6 Hour(s) 2 Year(s)-Intermittent; *Sense Organs and Special Senses:Olfaction*:**Other changes**; **Mutagen:** Inhalation-Rat • 200 ppm 4 Week(s) 6 Hour(s); **Tumorigen / Carcinogen:** Inhalation-Rat TCLo • 154500 mg/kg 103 Week(s)-Continuous; *Tumorigenic*:**Neoplastic by RTECS criteria**; *Sense Organs and Special Senses:Olfaction*:**Tumors**
Methane, 2,2'-bis(6-t-butyl-p-cresyl)- (< 0.1%)	119-47-1	**Irritation:** Eye-Rabbit • 100 mg 24 Hour(s) • Moderate irritation; **Multi-dose Toxicity:** Ingestion/Oral-Rat TDLo • 420 mg/kg 14 Day(s)-Intermittent; *Cardiac*:**Other changes**; *Biochemical:Metabolism (intermediary)*:**Lipids, including transport**; **Reproductive:** Ingestion/Oral-Rat TDLo • 2946.3 mg/kg (61D male); *Reproductive Effects:Paternal Effects*:**Spermatogenesis**; *Reproductive Effects:Paternal Effects*:**Testes, epididymis, sperm duct**
Carbon Black (< 0.03%)	1333-86-4	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • >15400 mg/kg; *Behavioral*:**Somnolence (general depressed activity)**; Skin-Rabbit LD50 • >3 g/kg; **Multi-dose Toxicity:** Inhalation-Rat TCLo • 50 mg/m³ 6 Hour(s) 90 Day(s)-Intermittent; *Lungs, Thorax, or Respiration*:**Other changes**; **Tumorigen / Carcinogen:** Inhalation-Rat TCLo • 11600 µg/m³ 18 Hour(s) 2 Year(s)-Intermittent; *Tumorigenic*:**Carcinogenic by RTECS criteria**; *Lungs, Thorax, or Respiration*:**Tumors**

GHS Properties	Classification
Acute toxicity	**EU/CLP** • Data lacking **UN GHS 3** • Data lacking
Skin corrosion/Irritation	**EU/CLP** • Skin Irritation 2 **UN GHS 3** • Skin Irritation 2
Serious eye damage/Irritation	**EU/CLP** • Classification criteria not met **UN GHS 3** • Eye Irritation 2
Skin sensitization	**EU/CLP** • Data lacking **UN GHS 3** • Data lacking
Respiratory sensitization	**EU/CLP** • Data lacking **UN GHS 3** • Data lacking
Aspiration Hazard	**EU/CLP** • Data lacking **UN GHS 3** • Data lacking
Carcinogenicity	**EU/CLP** • Classification criteria not met **UN GHS 3** • Classification criteria not met
Germ Cell Mutagenicity	**EU/CLP** • Data lacking **UN GHS 3** • Data lacking
Toxicity for Reproduction	**EU/CLP** • Data lacking **UN GHS 3** • Data lacking
STOT-SE	**EU/CLP** • Classification criteria not met **UN GHS 3** • Classification criteria not met
STOT-RE	**EU/CLP** • Classification criteria not met **UN GHS 3** • Classification criteria not met

Target Organs
- Central Nervous System (CNS)

Route(s) of entry/exposure
- Inhalation, Skin, Eye, Ingestion

Potential Health Effects

Inhalation

Acute (Immediate)
- May affect the central nervous system. Symptoms may include dizziness, drowsiness, lethargy, coma and death. May cause respiratory irritation.

Chronic (Delayed)
- No data available.

Skin

Acute (Immediate)
- Causes skin irritation.

Chronic (Delayed)
- Repeated or prolonged skin contact may cause irritation, dermatitis and drying of the skin.

Eye

Acute (Immediate)
- Causes serious eye irritation.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- No data available.

Carcinogenic Effects
- This product contains carbon black below percentages that would require a carciongen classification. Additionally accordng to IARC "No significant exposure to carbon black is thought to occur during the use of products in which carbon black is bound to other materials, such as rubber, printing ink or paint."

Carcinogenic Effects		
	CAS	**IARC**
Carbon Black	1333-86-4	Group 2B-Possible Carcinogen

Key to abbreviations

LC = Lethal Concentration
LD = Lethal Dose
MOD = Moderate
TC = Toxic Concentration

Section 12 - Ecological Information

12.1 Toxicity

	CAS	
Water-Block Seal S-20	NDA	**Aquatic Toxicity-Crustacea:** 48 Hour(s) EC50 Water Flea *Daphnia Magna* 50 mg/L Comments: Heptane

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted by the manufacturer.

12.6 Other adverse effects

Potential Environmental Effects
- According to Annex VI to Regulation (EC) No 1272/2008 Table 3.1 and Table 3.2 the heptane component of this material may cause adverse effects to the environment.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN1133	Adhesives, containing a flammable liquid	3	II	NDA
TDG	UN1133	ADHESIVES containing flammable liquid	3	II	Potential Marine Pollutant
IMO/IMDG	UN1133	ADHESIVES containing flammable liquid	3	II	NDA
IATA/ICAO	UN1133	Adhesives containing flammable liquid	3	II	NDA

14.6 Special precautions for user
- None known.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
- This product is provided only in non-bulk containers.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
Arien	64742-16-1	No	No	No
Carbon Black	1333-86-4	Yes	Yes	Yes
Ethylene	74-85-1	Yes	Yes	Yes
Heptane	142-82-5	Yes	Yes	Yes
Kaolin	1332-58-7	Yes	Yes	Yes
Limestone	1317-65-3	Yes	Yes	Yes
Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	No	No	No
Polybutene	9003-29-6	No	No	No
Propene	115-07-1	Yes	Yes	Yes

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**China**	**EU EINECS**	**EU ELNICS**
Arien	64742-16-1	Yes	No	Yes	Yes	No
Carbon Black	1333-86-4	Yes	No	Yes	Yes	Yes

Ethylene	74-85-1	Yes	No	Yes	Yes	No
Heptane	142-82-5	Yes	No	Yes	Yes	No
Kaolin	1332-58-7	Yes	No	Yes	Yes	No
Limestone	1317-65-3	No	Yes	Yes	Yes	No
Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Yes	No	Yes	Yes	No
Polybutene	9003-29-6	Yes	No	Yes	No	No
Propene	115-07-1	Yes	No	Yes	Yes	No

Inventory (Con't.)

Component	CAS	Japan ENCS	Korea KECL	TSCA
Arien	64742-16-1	Yes	Yes	Yes
Carbon Black	1333-86-4	Yes	Yes	Yes
Ethylene	74-85-1	Yes	Yes	Yes
Heptane	142-82-5	Yes	Yes	Yes
Kaolin	1332-58-7	Yes	Yes	Yes
Limestone	1317-65-3	No	Yes	Yes
Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Yes	Yes	Yes
Polybutene	9003-29-6	Yes	Yes	Yes
Propene	115-07-1	Yes	Yes	Yes

Australia

Labor

Australia - Hazardous Substances - Substances Requiring Health Surveillance

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

Australia - High Volume Industrial Chemicals List

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	
• Kaolin	1332-58-7	
• Carbon Black	1333-86-4	
• Heptane	142-82-5	
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	
• Polybutene	9003-29-6	Not Listed

Australia - List of Designated Hazardous Substances - Classification

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	F+ R12, R67

• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Self classification required
• Heptane	142-82-5	F, Xn, Xi, N R11, R65, R38, R67, R50, R53
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	F+ R12
• Polybutene	9003-29-6	Not Listed

Environment

Australia - National Pollutant Inventory (NPI) Substance List

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

Australia - Ozone Protection Act - Scheduled Substances

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

Australia - Priority Existing Chemical Program

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

Belgium

Labor

Belgium - Substances and Preparations - Carcinogens and Mutagens

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

Bulgaria

Environment

Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - 24 Hour

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	3.0 mg/m3 MAHCL
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	3.0 mg/m3 MAHCL
• Polybutene	9003-29-6	Not Listed

Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - 30 Minute

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	3.0 mg/m3 MAHCL
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	3.0 mg/m3 MAHCL
• Polybutene	9003-29-6	Not Listed

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	A, B1, D2B
• Kaolin	1332-58-7	D2A
• Carbon Black	1333-86-4	D2A (In certain cases, this classification does not apply. For more information, consult the section Substance Specific Issues - Carbon Black, non-respirable on Health Canada's WHMIS website.)
• Heptane	142-82-5	B2, D2B
• Limestone	1317-65-3	D2A
• Propene	115-07-1	A, B1, D2B
• Polybutene	9003-29-6	Uncontrolled product according to WHMIS classification criteria

Canada - WHMIS - Ingredient Disclosure List

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	1 %
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	1 %
• Heptane	142-82-5	1 %
• Limestone	1317-65-3	Not Listed

• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

Denmark

Environment

Denmark - List of Undesirable Substances - Product Groups/Function

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Degreasing agents; Lubricants; Thinners
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

Mexico

Other

Mexico - Hazard Classifications

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Class = 2.1 UN1038, UN1962
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Class = 3
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Class = 2.1
• Polybutene	9003-29-6	Not Listed

Mexico - Regulated Substances

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	UN1038 (refrigerated liquid); UN1962 (compressed)
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	UN1206
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	UN1077
• Polybutene	9003-29-6	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed

• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	1.0 % de minimis concentration
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	1.0 % de minimis concentration
• Polybutene	9003-29-6	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	carcinogen, initial date 2/21/03 (airborne, unbound particles of respirable size)
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	
• Polybutene	9003-29-6	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Not Listed
• Kaolin	1332-58-7	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Heptane	142-82-5	Not Listed
• Limestone	1317-65-3	Not Listed
• Propene	115-07-1	Not Listed
• Polybutene	9003-29-6	Not Listed

United States - Rhode Island

Labor

U.S. - Rhode Island - Hazardous Substance List

• Methane, 2,2'-bis(6-t-butyl-p-cresyl)-	119-47-1	Not Listed
• Arien	64742-16-1	Not Listed
• Ethylene	74-85-1	Toxic; Flammable
• Kaolin	1332-58-7	Toxic
• Carbon Black	1333-86-4	Toxic
• Heptane	142-82-5	Toxic; Flammable
• Limestone	1317-65-3	Toxic
• Propene	115-07-1	Toxic; Flammable
• Polybutene	9003-29-6	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Revision Date	• 29/January/2018
Preparation Date	• 16/August/2012
Other Information	• Changes to this revision: Updated mailing address.
Disclaimer/Statement of Liability	• The information contained herein is based on data considered accurate which has been obtained from other companies and organizations. However, no warranty or representation is expressed or implied that the information, is accurate, complete or represenative. Firestone Building Products, a subsidary of Firestone Diversified Products, LLC, assumes no responsibility for injury to the buyer, the buyer employees, or any third persons, if reasonable safety procedures are not followed. Additionally, Firestone Building Products Company assumes no responsibilty for injury to buyer, the buyer's employees, or any third persons caused by abnormal use of the material, even if resonable safety procedures are followed.

Key to abbreviations

NDA = No Data Available

GAF
Safety Data Sheet
SDS # 1004
SDS Date: April 2018

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	GAFGLAS® Ply 4 Ply Sheet GAFGLAS® FlexPly 6 Ply Sheet
TRADE NAME:	Built Up Roofing
MANUFACTURER:	GAF
ADDRESS:	1 Campus Drive, Parsippany, NJ 07054
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the products listed below are considered articles and do not require an SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS. All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk. Although these products are not subject to the OSHA Standard or GHS labeling elements, GAF would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs.

ADDITIONAL HAZARD IDENTIFICATION INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Occasional nuisance dust, Inhalation

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Temporary irritation (itching) or redness may occur.

SKIN: Temporary irritation (itching) or redness may occur.

INGESTION: Not Applicable

INHALATION: May cause irritation to the respiratory tract.

ACUTE HEALTH HAZARDS: NIOSH has found that studies of workers exposed to asphalt

fumes have repeatedly found irritation of the serous membranes of the conjunctivae (eye irritation) and the mucous membranes of the upper respiratory tract (nasal and throat irritation).

CHRONIC HEALTH HAZARDS: Studies in humans have found that exposure to respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is a serious and irreversible disease; it may be progressive even after exposure has ceased; it can lead to disability and death.

CARCINOGENICITY: Crystalline Silica: The International Agency for Research on Cancer (IARC) Group 1 - Known Human Carcinogen (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources).

IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	**CAS #**	**% (BY WT)**	**OSHA**	**ACGIH**	**OTHER**
Oxidized Asphalt	64742-93-4	25 - 35	NE	0.5 mg/m3 (inhalable fraction, as benzene-soluble aerosol)	5 mg/m3 – ceiling (15 min. fumes)
Limestone	1317-65-3	~20	5 mg/m3 resp. 15 mg/m3 total	3 mg/m3 resp. 10 mg/m3 total	REL: 5 mg/m3 resp. 15 mg/m3 total
Fiberglass Mat	65997-17-3	5 – 10	1 f/cc – resp.	1 f/cc – resp.	REL: 5 mg/m3 – total fibers
Silica, Crystalline Quartz	14808-60-7	1 - 5	50 ug/m^3 / (% SiO2 + 2) – resp.	0.025 mg/m3	REL: 0.05 mg/m3 – resp.

NE = Not Established

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYES: Hold eyelids open and wash with gentle stream of water for at least 15 minutes preferably at eyewash fountain.

SKIN:	Wash exposed skin with soap and water. If irritation develops or persists, seek medical attention.
INHALATION:	More individual to area with fresh air and provide oxygen if breathing is difficult. Consult medical personnel.
INGESTION:	Consult medical personnel.
NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:	Dust from the product may cause mechanical irritation of the eyes, skin, and upper respiratory tract. Treat symptomatically.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA:	Water spray, Alcohol foam, Carbon Dioxide, or Dry chemical.
HAZARDOUS COMBUSTION PRODUCTS:	Carbon dioxide and carbon monoxide.
RECOMMENDED FIRE FIGHTING PROCEDURES:	NIOSH-approved self contained breathing apparatus is recommended for smoke protection.
UNUSUAL FIRE & EXPLOSION HAZARDS:	None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:	Pick up pieces and dispose off properly. Vacuum dust. Use a dust suppressant if sweeping is necessary.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE:	Hot asphalt is used to apply many of these products; appropriate personal protective equipment should be worn handling this material.
OTHER PRECAUTIONS:	When heated, small amounts of hydrogen sulfide may be given off. Hydrogen sulfide is a flammable, toxic gas. Avoid breathing fumes.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION:	Not Applicable

RESPIRATORY PROTECTION:	Not applicable under normal use conditions. In circumstances where dust or fumes are generated and may exceed recognized allowable exposure levels, appropriate NIOSH approved respiratory protection is recommended.
EYE PROTECTION:	Safety glasses with side shields
SKIN PROTECTION:	Long sleeve shirt and long pants. Suitable gloves should be worn to protect against mechanical abrasion.
OTHER PROTECTIVE EQUIPMENT:	Work shoes.
WORK HYGIENIC PRACTICES:	Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.
EXPOSURE GUIDELINES:	These products should be handled using methods and techniques that minimize or eliminate dust or fume generation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Thin black sheet in roll form, may be surfaced with sand or film. Slight asphalt odor.		
FLASH POINT:	>500° F	**LOWER EXPLOSIVE LIMIT:**	No Data
METHOD USED:	COC	**UPPER EXPLOSIVE LIMIT:**	No Data
EVAPORATION RATE:	No Data	**BOILING POINT:**	No Data
pH (undiluted product):	No Data	**MELTING POINT:**	No Data
SOLUBILITY IN WATER:	No Data	**SPECIFIC GRAVITY:**	No Data
VAPOR DENSITY:	No Data	**PERCENT VOLATILE:**	No Data
VAPOR PRESSURE:	No Data	**MOLECULAR WEIGHT:**	No Data
VOC WITH WATER (LBS/GAL):	No Data	**WITHOUT WATER (LBS/GAL):**	No Data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY: **STABLE X** **UNSTABLE** ☐

CONDITIONS TO AVOID (STABILITY):	None known.
INCOMPATIBILITY (MATERIAL TO AVOID):	None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None known.

HAZARDOUS POLYMERIZATION: Will Not Occur

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Crystalline silica is considered a hazard by inhalation. The International Agency for Research on Cancer (IARC) has classified crystalline silica as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to crystalline silica can cause silicosis, a non-cancerous lung disease.

IARC has determined that occupational exposure to oxidized asphalt and its emissions is probably carcinogenic to humans (Group 2A).

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of waste material according to Local, State, and Federal, environmental regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: This product contains silica, a chemical known to the State of California to cause cancer.

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Oxidized Asphalt	64742-93-4	No	No	No	No	No	No
Crystalline Silica	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes
Limestone	1317-65-3	No	Yes	Yes	No	Yes	Yes
Fiberglass Mat	65997-17-3	Yes	No	Yes	Yes	No	Yes

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: October 2016

CHANGES SINCE PREVIOUS SDS: Product Name Revisions

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

SAFETY DATA SHEET

1. Identification

Product identifier **Glass Mat Faced Gypsum Panels**

Product list

Product List A
DensArmor Plus® Interior Panel
DensArmor Plus® Fireguard® Abuse-Resistant Panels
DensArmor Plus® Fireguard® Impact-Resistant Panels
DensArmor Plus® Fireguard® Interior Panels
DensDeck® Prime Roof Board
DensDeck® Roof Board
DensDeck® Prime Fireguard® Roof Board
DensDeck® Fireguard® Roof Board
DensElement™ Sheathing
DensGlass® Fireguard® Sheathing
DensGlass® Shaftliner
DensGlass® Sheathing
DensShield® Fireguard® Tile Backer
DensShield® Tile Backer

Product List B
DensArmor Plus® Fireguard C® Interior Panels

Other means of identification

Product code GP-71C

Recommended use Products accommodate a wide range of wall, floor, and ceiling and roof applications.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company name	Georgia-Pacific Gypsum LLC	
Address	133 Peachtree Street, NE Atlanta, GA 30303	
Telephone	Technical Information	800.225.6119
	(M)SDS Request	404.652.5119
E-mail	Not available.	
Emergency phone number	Chemtrec - Emergency	800.424.9300

2. Hazard(s) identification

Emergency overview This product is not hazardous in the form in which it is shipped by the manufacturer but may become hazardous by downstream activities such as cutting, sanding, or otherwise working with this product that generate large amount of dusts. Those hazards associated with large amount of dusts are described below.

Physical hazards Not classified.

Health hazards Eye irritation Category 2B

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word Warning

Hazard statement Causes eye irritation.

Precautionary statement

Prevention Wash thoroughly after handling. Observe good industrial hygiene practices.

Response Wash hands after handling. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Storage	Store away from acids.
Disposal	Dispose of contents/container in accordance with applicable regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	GAS number	%
CALCIUM SULFATE DIHYDRATE		10101-41-4	80-100
VERMICULITE**		1318-00-9	0 - 10
CONTINUOUS FILAMENT GLASS FIBER		65997-17-3	1 - 5
CRYSTALLINE SILICA (QUARTZ)*		14808-60-7	0.1 - 1

Composition comments

** Found in products in List B, Section 1 of this SDS.

Gypsum (calcium sulfate, dihydrate) and vermiculite contain naturally occurring crystalline silica (quartz) which is listed as a lung carcinogen. See Section 8 for exposure information.

*The weight percent for crystalline silica represents total crystalline silica and not the respirable fraction. Testing conducted by Georgia-Pacific did not detect respirable crystalline silica during activities associated with the normal use of this product; however, jobsite air monitoring should be conducted to determine actual exposure when permissible exposure limits may be exceeded.

4. First-aid measures

Inhalation	If dust from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist.
Skin contact	For skin contact, wash immediately with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Do not rub the eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Rinse mouth. May result in obstruction and irritation if ingested. Get medical attention.
Most important symptoms/effects, acute and delayed	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Firefighters should wear full protective clothing including self-contained breathing apparatus.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, **protective equipment and** emergency procedures	Avoid inhalation of dust from the spilled material. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Use personal protection recommended in Section 8. Keep unnecessary personnel away.

Methods and materials for containment and cleaning up	Minimize dust generation. Sweep up or gather material and place in an appropriate container for disposal. Utilize wet methods, if appropriate, to minimize dust. For waste disposal, see section 13 of the SDS.
Environmental precautions	Keep out of drains, sewers, ditches, and waterways.

7. Handling and storage

Precautions for safe handling	Provide appropriate exhaust ventilation at places where dust is formed. Minimize dust generation and accumulation. Do not breathe dust Do not get this material in contact with eyes. Do not taste or swallow. Avoid prolonged exposure. Observe good industrial hygiene practices. Use only in well-ventilated areas. Wear appropriate NIOSH/MSHA approved dust mask or filtering facepiece if dust is generated. Do not eat or drink while using the product. Wash hands before eating, drinking, or smoking.
Conditions for safe storage, including any incompatibilities	Store level and keep dry. Dew point or other conditions causing the presence of moisture can damage the product during storage. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
CALCIUM SULFATE DIHYDRATE (GAS 10101-41-4)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust
CRYSTALLINE SILICA (QUARTZ)* (GAS 14808-60-7)	PEL	0.05 mg/m3	Respirable dust

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
VERMICULITE** (GAS 1318-00-9)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust

ACGIH

Components	Type	Value	Form
CONTINUOUS FILAMENT GLASS FIBER (GAS 65997-17-3)	TWA	5 mg/m3	inhalable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
CALCIUM SULFATE DIHYDRATE (CAS 10101-41-4)	TWA	10 mg/m3	inhalable fraction.
CONTINUOUS FILAMENT GLASS FIBER (CAS 65997-17-3)	TWA	1 fibers/cm3	Fiber.
CRYSTALLINE SILICA (QUARTZ)* (GAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
CALCIUM SULFATE DIHYDRATE (CAS 10101-41-4)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
CONTINUOUS FILAMENT GLASS FIBER (GAS 65997-17-3)	TWA	3 fibers/cm3	Fibrous dust
		5 mg/m3	Fiber, total

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
CRYSTALLINE SILICA (QUARTZ)* (GAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

*Testing conducted by Georgia-Pacific did not detect respirable crystalline silica during activities associated with the normal use of this product; however, jobsite air monitoring should be conducted to determine actual exposure when permissible exposure limits may be exceeded.

Appropriate engineering controls Score and snap method recommended. When using product, provide local and general exhaust ventilation to keep airborne dust concentrations below exposure limits. Use wet methods, if appropriate, to reduce the generation of dust. Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn.

Individual protection measures, such as personal protective equipment

Eye/face protection Safety glasses or goggles are recommended when using this product. Ensure compliance with OSHA's PPE standard (29 CFR 1910.132 and .133) for eye and face protection. Eye wash fountain is recommended.

Skin protection

Hand protection For prolonged or repeated skin contact use suitable protective gloves.

Other Impervious protective clothing and gloves recommended to prevent drying or irritation of skin. Ensure compliance with OSHA's PPE standards (29 CFR 1910.132 (general) and 138 (hand protection)). Safety shower/eye wash fountain is recommended in the workplace area (29 CFR 1910.151 (c)). Impervious protective clothing and gloves recommended to prevent drying or irritation of skin. Safety shower/eye wash fountain is recommended in the workplace area.

Respiratory protection A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

Thermal hazards Not applicable.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Keep away from food and drink.

9. Physical and chemical properties

Appearance Gypsum boards

Physical state Solid.

Form Solid

Color **Facing color varies**

Odor Low odor

Odor threshold Not available.

pH 6-8

Melting point/freezing point Not applicable.

Initial boiling point and boiling range Not applicable.

Flash point Not applicable.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not applicable.

Flammability limit - upper (%)	Not applicable.
Explosive limit - lower(%)	Not applicable.
Explosive limit - upper(%)	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	0.2 % @ 22°c
Partition coefficient (n-octanol/waler)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available.
Viscosity	Not applicable.
Other information	
Flash point class	Not flammable
specific gravity	2.2 - 2.4

10. Stability and reactivity

Reactivity	Contact with strong acids produces carbon dioxide.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Incompatible materials	Strong acids.
Hazardous decomposition products	May include and are not limited to: calcium oxide and sulfur dioxide.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Inhalation of dusts may cause respiratory irritation.
Skin contact	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Eye contact	Dust in the eyes will cause irritation.
Ingestion	Not applicable under normal conditions of use. May cause gastrointestinal irritation if ingested.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Glass Mat Faced Gypsum Panels		
Acute		
Oral		
ATEmix		1728 mg/kg

Components	Species	Test Results
CALCIUM SULFATE DIHYDRATE (CAS 10101-41-4)		
Acute		
Oral		
LD50	Rat	> 1581 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Dust in the eyes will cause irritation.

Respiratory or skin sensitization

Respiratory sensitization Not likely to cause respiratory sensitization.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity Not classified.

Carcinogenicity Not expected to be hazardous by OSHA/WHMIS criteria.

Exposure to respirable crystalline silica in the form of quartz or cristobalite from occupational sources is listed by IARC and NTP as a lung carcinogen. Prolonged exposure to respirable crystalline silica has been known to cause silicosis, a lung disease, which may be disabling. While there may be a factor of individual susceptibility to a given exposure to a respirable silica dust, the risk of contracting silicosis and the severity of the disease is clearly related to the amount of respirable crystalline silica exposure and the length of time (usually years) of exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

CRYSTALLINE SILICA (QUARTZ)* (GAS 14808-60-7) 1 Carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

CRYSTALLINE SILICA (QUARTZ)* (GAS 14808-60-7) Cancer

US. National Toxicology Program (NTP) Report on Carcinogens

CRYSTALLINE SILICA (QUARTZ)* (GAS 14808-60-7) Known To Be Human Carcinogen.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

Chronic effects Not hazardous under normal conditions of use.

Further information *Testing conducted by Georgia-Pacific did not detect respirable crystalline silica during activities associated with the normal use of this product; however, jobsite air monitoring should be conducted to determine actual exposure when permissible exposure limits may be exceeded.

12. Ecological information

Ecotoxicity Not considered to be harmful to aquatic life.

Components		Species	Test Results
CALCIUM SULFATE DIHYDRATE (CAS 10101-41-4)			
Aquatic			
Acute			
Fish	LC50	Fathead minnow (Pimephales promelas)	> 1970 mg/l, 96 hours
CONTINUOUS FILAMENT GLASS FIBER (GAS 65997-17-3)			
Aquatic			
Acute			
Fish	LC50	Fish	> 1000 mg/l, 96 hours
CRYSTALLINE SILICA (QUARTZ)* (GAS 14808-60-7)			
Aquatic			
Acute			
Fish	LC50	Zebra danio (Danio rerio)	> 10000 mg/l, 96 Hours OECD SIDS

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues/ unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Not available.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

US federal regulations

This product is not hazardous in the form in which it is sold and shipped by the manufacturer. --· However, the large amount of dusts generated by downstream activities such as cutting, sanding, or otherwise working with this product is considered hazardous and is regulated under the Hazard Communication Standard 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)	All components of the mixture are designated as "active" on or exempt from the TSCA 8(b) inventory.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

CRYSTALLINE SILICA (QUARTZ)* (GAS 14808-60-7)	Cancer lung effects immune system effects kidney effects

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA311/312 Hazardous chemical	Yes
Classified hazard categories	Serious eye damage or eye irritation

SARA313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SOWA)	Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

CONTINUOUS FILAMENT GLASS FIBER (CAS 65997-17-3)
CRYSTALLINE SILICA (QUARTZ)* (CAS 14808-60-7)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	March-13-2015
Revision date	July-25-2019
Version#	06
HMIS® ratings	Health: 1 Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 1 Flammability: 0 Instability: 0
Disclaimer	This SDS is intended to quickly provide useful information to the user(s) of this material or product. It is not intended to serve as a comprehensive discussion of all possible risks or hazards, and it assumes a reasonable use of the product. The information contained in this SDS is believed to be accurate as of the date of preparation of this SDS and has been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. The user or handler (or their employer) should consider the specific conditions in which this material will be used, handled, or stored and determine what specific safety or other precautions are required. Employers should ensure that their employees, agents, contractors, and customers who will use the product receive adequate warnings and safe handling procedures, including a current SDS. Product users or handlers (or their employer) who are unsure of what specific precautions are required should consult their employer, product supplier, or safety or health professionals before handling or working with this product. Please notify us immediately if you believe this SDS or other safety and health information about this product is inaccurate or incomplete.
Revision information	Composition/ Information on Ingredients: Ingredients Accidental release measures: Methods and materials for containment and cleaning up Handling and storage: Conditions for safe storage, including any incompatibilities Regulatory information: US federal regulations Regulatory information: Toxic Substances Control Act (TSCA)

SECTION I - Identification

(a) Product identifier used on the label; ***PYRO-GUARD®***

(b) Other means of identification; Ink stamp on Plywood, Lumber or Timbers.

(c) Recommended use of the chemical and restrictions on use; Fire Retardant Treated Wood (FRTW) – Used in areas not exposed to the weather or wetting where the code permits the use of wood or fire-retardant-treated wood.

(d) Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party;

MANUFACTURER
Hoover Treated Wood Products, Inc. 154 Wire Road Thomson, Georgia 30824 706-595-5058 www.frtw.com

(e) Emergency phone number. 706-595-7355

SECTION II – Hazard(s) Identification

(a) Classification of the chemical in accordance with paragraph (d) of § 1910.1200;

All classifications have been performed considering sawing, grinding, drilling, sanding or machining of the product has taken place and wood dust, sawdust, and small wood chips are present. Only "**Softwoods**" are used in the production of the product. So data derived from "**Hardwoods**" studies has not been considered.

Acute Toxicity – N/A
Skin Corrosion/Irritation – Irritant, category 2[3]
Serious Eye Damage/Eye Irritation – Irritant, category 2B
Respiratory or Skin Sensitization:
Respiratory Sensitizer, category 1, sub-category 1B
Skin Sensitizer, category 1, sub-category 1B
Germ Cell Mutagenicity – N/A
Carcinogenicity – Carcinogen, category 2
Reproductive Toxicity – N/A
Specific Target Organ Toxicity Single Exposure – N/A
Specific Target Organ Toxicity Repeated or Prolonged Exposure – N/A
Aspiration Hazard – N/A
Explosives – N/A
Flammable Gases – N/A
Flammable Aerosols – N/A
Oxidizing Gases – N/A
Gases Under Pressure – N/A
Flammable Liquids – N/A
Flammable Solids – Readily Combustible Solids, category 2

Self-Reactive Chemicals – N/A
Pyrophoric Liquids – N/A
Pyrophoric Solids – N/A
Self-Heating Chemicals – N/A
Chemicals Which, In Contact With Water, Emit Flammable Gases – N/A
Oxidizing Liquids – N/A
Oxidizing Solids – N/A
Organic Peroxides – N/A
Corrosive to Metals – N/A

N/A = Not Applicable

(b) Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of § 1910.1200. (Hazard symbols may be provided as graphical reproductions in black and white or the name of the symbol, e.g., flame, skull and crossbones);

Warning Causes Skin Irritation

Precautionary Statements			
Prevention	**Response**	**Storage**	**Disposal**
Wash all body parts which have come into contact with any sawdust generated from sawing, grinding, drilling, sanding, or machining thoroughly after handling. **Wear protective gloves. Any type that creates a barrier is acceptable – Selection should be oriented to decrease contact with splinters and slivers of wood.**	**If on skin: Wash with plenty of water and soap.** **If skin irritation occurs: Get medical advice.** **Take off contaminated clothing and wash it before reuse.**		

Warning Causes Eye Irritation

Precautionary Statements			
Prevention	**Response**	**Storage**	**Disposal**
Wash all body parts which have come into contact with any sawdust generated from sawing, grinding, drilling, sanding, or machining thoroughly after handling.	**If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.** **If eye irritation persists: Get medical advice.**		

Danger May Cause Allergy Or Asthma Symptoms Or Breathing Difficulties If Inhaled

Precautionary Statements			
Prevention	**Response**	**Storage**	**Disposal**
Avoid breathing dust. **In case of inadequate ventilation wear respiratory protection.** **Adequate ventilation is considered that which keeps exposure limits at or below 15mg/m^3**	**If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.** **If experiencing respiratory symptoms: Call a poison center.**  **For a poison emergency in the U.S. call 1-800-222-1222**		**Dispose of contents in accordance with all applicable local, regional, national, or international rules and regulations.**

Warning May Cause An Allergic Skin Reaction

Precautionary Statements			
Prevention	**Response**	**Storage**	**Disposal**
Avoid breathing dust. **Contaminated work clothing must not be allowed out of the workplace** **Wear protective gloves.** **Any type that creates a barrier is acceptable – Selection should be oriented to decrease contact with splinters and slivers of wood.**	**If on skin: Wash with plenty of water and soap**. **If skin irritation occurs: Get medical advice.** **Wash contaminated clothing before reuse.**		**Dispose of contents in accordance with all applicable local, regional, national, or international rules and regulations.**

Warning Suspected Of Causing Cancer Of The Upper Respiratory System

Precautionary Statements			
Prevention	**Response**	**Storage**	**Disposal**
Obtain special instructions before use. **Do not handle until all safety precautions have been read and understood.** **Wear protective gloves and eye protection.** **Acceptable gloves are any type that creates a barrier – Glove selection should be oriented to decrease contact with splinters and slivers of wood.**	**If exposed or concerned: Get medical advice.**	**Store locked up.**	**Dispose of contents in accordance with all applicable local, regional, national, or international rules and regulations.**

Warning Flammable Solid

Precautionary Statements			
Prevention	**Response**	**Storage**	**Disposal**
Keep away from heat, sparks, open flames and hot surfaces. - No smoking. **Ground or Bond container and receiving equipment.** **Use explosion-proof electrical, ventilating, lighting, and processing equipment.** **Wear protective gloves and eye protection.** **Acceptable gloves are any type that creates a barrier – Glove selection should be oriented to decrease contact with splinters and slivers of wood.**	**In case of fire: Use water or wood appropriate fire extinguishers to extinguish.**		

(c) Describe any hazards not otherwise classified that have been identified during the classification process;

If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

> The Occupational Safety and Health Administration (OSHA) in the United States defines combustible dust as *"a solid material composed of distinct particles or pieces, regardless of size, shape, or chemical composition, which presents a fire or deflagration hazard when suspended in air or some other oxidizing medium over a range of concentrations"*.
>
> Dust particles with an effective diameter of less than 420 microns (those passing through a U.S. No. 40 standard sieves) should be deemed to meet the criterion of the definition.

(d) Where an ingredient with unknown acute toxicity is used in a mixture at a concentration ≥1% and the mixture is not classified based on testing of the mixture as a whole, a statement that X% of the mixture consists of ingredient(s) of unknown acute toxicity is required.

N/A

SECTION III - Composition/Information on Ingredients

Except as provided for in paragraph (i) of §1910.1200 on trade secrets:
For Substances
(a) Chemical name;
(b) Common name and synonyms;
(c) CAS number and other unique identifiers;
(d) Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance.
For Mixtures
In addition to the information required for substances:
(a) The chemical name and concentration (exact percentage) or concentration ranges of all ingredients which are classified as health hazards in accordance with paragraph (d) of §1910.1200 and
(1) Are present above their cut-off/concentration limits; or
(2) Present a health risk below the cut-off/concentration limits.
(b) The concentration (exact percentage) shall be specified unless a trade secret claim is made in accordance with paragraph (i) of §1910.1200, when there is batch-to-batch variability in the production of a mixture, or for a group of substantially similar mixtures (See A.0.5.1.2) with similar chemical composition. In these cases, concentration ranges may be used.
For All Chemicals Where a Trade Secret is Claimed
Where a trade secret is claimed in accordance with paragraph (i) of §1910.1200, a statement that the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret is required.

See Below For Requirements –

Chemical, Common or Synonyms Name	Approximate %	CAS #
Wood (mainly softwoods such as pine)	90% to 98%	None
Monosodium Phosphate Sodium Phosphate (monobasic) Sodium Dihydrogen Phosphate Dihydrogen Sodium Phosphate	1% to 3%	7558-80-7
Sodium Tetraborate Decahydrate 10 Mol Borax	0.25% to 1.5%	1303-96-4
Boric Acid	0.25% to 1.5%	10043-35-3
Urea Phosphate	1% to 3%	4861-19-2
Tetrachloroisophthalonitrile Chlorothalonil Daconil	0.00% to 0.03%	1897-45-6
5-Chloro-2-methly-4-Isothiazolin-3-one	≤ 0.01%	26172-55-4
2-Methyl-4-Isothiazolin-3-one	≤ 0.01%	2682-20-4
Magnesium Nitrate	≤ 0.01%	10377-60-3
Engineered Wood Products may contain bonding agents such as phenol, phenol resorcinol, melamine formaldehyde-based, or polyvinyl acetate resin and other ingredients below reportable levels	Balance	

SECTION IV – First-aid Measures

(a) Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion;

First Aid Procedures

First Aid for Inhalation: – If inhalation symptoms appear remove from area of exposure and monitor. If persistent irritation, severe coughing, allergic-type responses or breathing difficulty occurs, get medical attention.

First Aid for Skin Contact: – If skin contact symptoms appear remove from area of exposure and monitor. Remove contaminated clothing. Wash affected area with soap and water. If irritation persists after washing, get medical attention.

First Aid for Eye Contact: – Wood dust may cause mechanical irritation. Treat dust in eye as foreign object. Remove contact lenses if worn. Flush eyes with large amounts of water to remove dust particles. Do not rub the eyes. Seek medical attention if irritation persists.

First Aid for Ingestion: – Not applicable under normal use, and considered unlikely. If occurred - Do not induce vomiting unless directed by a medical care giver, drink water. Never give anything by mouth to an unconscious person. Seek medical advice.

Notes to Physician: – All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

(b) Most important symptoms/effects, acute and delayed.

Potential Health Effects

Inhalation

Wood dust may cause nasal dryness, irritation, coughing and sinusitis. Repeated exposures (even below 15 mg/m3) to certain wood dusts such as Western Red Cedar, can produce allergic responses in some sensitive individuals. Wood dust can be irritating to eyes, nose and respiratory tract following prolonged exposure.

Skin Contact

Various species of wood dust may evoke allergic contact dermatitis in sensitized individuals. If an allergy preexists or develops, it may be necessary to remove the sensitized worker from further exposure to wood dust or wood-based products. The chemical components may cause slight to mild irritation.

Eye Contact

Dust or splinters may cause irritation or injury to the eyes. The chemical components can cause burning sensation, tearing, and redness.

Ingestion

Not applicable under normal use, and considered unlikely. If occurred may result in irritation of the digestive tract.

(c) Indication of immediate medical attention and special treatment needed, if necessary.

N/A

SECTION V – Fire-fighting Measures

(a) Suitable (and unsuitable) extinguishing media.

FIRE EXTINGUISHING MEDIA: Water, foam or Fire Extinguishers designated for wood. Partially burned dust is especially hazardous if dispersed into the air. Remove burned or wet dust to open area after fire is extinguished.

(b) Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products).

EXPLOSIVE LIMITS: Sawing, sanding or machining wood products can produce wood dust as a by-product. Wood dust is a strong to severe explosion hazard if a dust "cloud" contacts an ignition source. 212°F (100°C) has been suggested as the upper temperature limit for continuous exposure for wood without risk of ignition (wood dust may require a still lower temperature). An airborne concentration of 40 grams of dust per cubic meter of air is often used as the lowest explosion limit (LEL) for wood dust.

HAZARDOUS COMBUSTION PRODUCTS: Thermal-oxidative degradation, or burning, of wood can produce irritating and potentially toxic fumes and gases including carbon monoxide, aldehydes and organic acids. Chemical treatment has little or no effect on the above possibilities from untreated wood.

AUTOIGNITION TEMPERATURE: Unknown (Chemical Treatment Retards).

(c) Special protective equipment and precautions for fire-fighters.

None

SECTION VI - Accidental Release Measures

(a) Personal precautions, protective equipment, and emergency procedures.
(b) Methods and materials for containment and cleaning up.

Not applicable for product in purchased form. Sweep or vacuum up sawdust for recovery or disposal. Wood dust clean-up and disposal activities should be accomplished in a manner to minimize creation of airborne dust.

SECTION VII - Handling and Storage

(a) Precautions for safe handling.
(b) Conditions for safe storage, including any incompatibilities.

HANDLING:

Protective Gloves – Work gloves are recommended to avoid splinters.

Eye Protection – Safety goggles or glasses are recommended when machining to protect against sawdust and flying wood particles.

Protective Clothing or Equipment – Recommended as typical with any wood working.

Work/Hygienic Practices - Practice good hygiene, wash hands after use and before eating, drinking or using tobacco products.

STORAGE:

No ground contact allowed. Product is shipped dry and should not be exposed to the weather. Water spray may be used to wet down wood dust generated by sawing, grinding, drilling, sanding or machining to reduce the likelihood of ignition or dispersion of dust into the air.

SECTION VIII - Exposure Controls/Personal Protection

(a) OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.

(b) Appropriate engineering controls.
(c) Individual protection measures, such as personal protective equipment.

EXPOSURE GUIDELINES:

Chemical	OSHA PEL	ACGIH TLV
Wood (mainly softwoods such as pine)	15 mg/m^3 TWA (Listed under Particulates Not Otherwise Regulated - Total dust) 5 mg/m^3 TWA Respirable Fraction	1 mg/m^3 TWA* *Inhalable Fraction
Monosodium Phosphate	None Listed	None Listed
Sodium Tetraborate Decahydrate	None Listed	2 mg/m^3 TWA* 6 mg/m^3 STEL* *Inhalable Fraction (TLV listed under Borate compounds, Inorganic)
Boric Acid	None Listed	2 mg/m^3 TWA* 6 mg/m^3 STEL* *Inhalable Fraction (TLV listed under Borate compounds, Inorganic)
Urea Phosphate	None Listed	None Listed
Tetrachloroisophthalonitrile	None Listed	None Listed
5-Chloro-2-methly-4-Isothiazolin-3-one	None Listed	None Listed
2-Methyl-4-Isothiazolin-3-one	None Listed	None Listed
Magnesium Nitrate	None Listed	None Listed
Engineered Wood Products may contain bonding agents such as phenol, phenol resorcinol, melamine formaldehyde-based, or polyvinyl acetate resin and other ingredients below reportable levels	Unknown	Unknown

ENGINEERING CONTROLS: Due to the explosive potential of wood dust when suspended in air, precautions should be taken during sawing, grinding, drilling, sanding or machining of wood products to prevent sparks or other ignition sources in ventilation equipment. Use of totally enclosed motors is recommended. Provide local exhaust as necessary to meet OSHA requirements for airborne exposure limits.

INDIVIDUAL PROTECTION MEASURES:

RESPIRATORY PROTECTION: When sawing, grinding, drilling, sanding or machining, a dust mask is recommended. Typical use of this material does not result in workplace exposures that exceed the exposure limits listed in the Exposure Limit Information Section. For those special workplace conditions where the listed exposure limits are exceeded, a respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed.

VENTILATION REQUIREMENTS: In enclosed environments, ventilation may be required in order to maintain exposure limits.

PROTECTIVE GLOVES: Not required. However, cloth, canvas, or leather gloves are recommended to minimize potential splinters, slivers or mechanical irritation when handling product or wood dust generated from the product.

EYE PROTECTION: Googles or safety glasses are recommended when excessive exposures to wood dust may occur (e.g. during clean up).

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: As necessary to limit exposure when handling the product or wood dust generated from the product.

WORK/HYGIENIC PRACTICES: Follow good hygienic and housekeeping practices. Clean up areas where wood dust settles to avoid excessive accumulation of this combustible material. Minimize compressed air blow down or other practices that generate high airborne-dust concentrations. Do not handle material near food, feed or drinking water. Use good personal hygiene. Wash hands before eating or smoking.

SECTION IX - Physical and Chemical Properties

(a) Appearance (physical state, color, etc.);

(b) Odor;

If plywood - Rigid panel usually ½" to ¾" thick and 4'width and 8' length. If Lumber – Plank usually 2" nominal thickness but can vary from ½" to 4" with widths varying from 2" to 12" wide and lengths normally from 6 to 18 feet. If Timbers – Thickness is greater than 4" and widths and lengths vary. Color and odor are dependent upon wood specie. Chemical treatment only darkens the woods natural color.

(c) Odor threshold; N/A

(d) pH; N/A

(e) Melting point/freezing point; N/A

(f) Initial boiling point and boiling range; N/A

(g) Flash point; N/A

(h) Evaporation rate; N/A

(i) Flammability (solid, gas); Wood Dust Combustible

(j) Upper/lower flammability or explosive limits; Wood Dust $\geq$ 40 g/m^3

(k) Vapor pressure; N/A

(l) Vapor density; N/A

(m) Relative density; Variable - Dependent on wood species and moisture content (typically 22 – 37 lbs/ft^3)

(n) Solubility(ies); Chemical treatment might be leachable under extreme wetness which is not allowed

(o) Partition coefficient: n-octanol/water; N/A

(p) Auto-ignition temperature; Auto-ignition Temperature is ≥ 572 F

(q) Decomposition temperature; ≥ 572 F

(r) Viscosity. N/A

SECTION X - Stability and Reactivity

(a) Reactivity; N/A

(b) Chemical stability; Stable under normal conditions. Wood dust generated from sawing, grinding, drilling, sanding or machining the product is combustible. Keep in cool, dry place away from ignition sources.

(c) Possibility of hazardous reactions; None Known

(d) Conditions to avoid (e.g., static discharge, shock, or vibration); Large accumulations of air-borne wood dust. Product in direct ground contact. Product becoming wet.

(e) Incompatible materials; Oxidizing agents, Drying Oils, Strong Bases, and Reducing Agents.

(f) Hazardous decomposition products. Thermal-oxidative degradation, or burning, of wood can produce irritating and potentially toxic fumes and gases including carbon monoxide, aldehydes, oxides of sodium, oxides of phosphorus. Reaction with strong reducing agents, such as metal hydrides or alkali metals, will generate hydrogen gas, which could create an explosive hazard.

SECTION XI - Toxicological Information

Description of the various toxicological (health) effects and the available data used to identify those effects, including:
(a) Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact);
(b) Symptoms related to the physical, chemical and toxicological characteristics;
(c) Delayed and immediate effects and also chronic effects from short- and long-term exposure;
(d) Numerical measures of toxicity (such as acute toxicity estimates).
(e) Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA.

PRODUCT AS PRODUCED:
Is an article and no toxicological information is available.

OSHA: Wood products are not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, wood dust generated by sawing, sanding or machining this product may be hazardous.

COMPONENTS:

Monosodium Phosphate (Acute Toxicity) -

Eye Effects: Slightly irritating (Rabbit, 12.6/110.0, 1 hour exp) - 150 mg (std. Draize), Rabbit.
Skin Effects: Practically Nonirritating (Rabbit, 0.0/0.8, Avg. Max)
Ingestion Effects: Practically Nontoxic (Rat LD_{50} - 8290 mg/kg)

Sodium Tetraborate Decahydrate (Acute Toxicity) -

Ingestion: Low acute oral toxicity; LD_{50} in rats is 4,500 to 5,000 mg/kg of body weight.
Skin/dermal: Low acute dermal toxicity; LD_{50} in rabbits is greater than 10,000 mg/kg of body weight.
Inhalation: Low acute inhalation toxicity; LC_{50} in rats is greater than 2.0 mg/L (or g/m^3)
Eye irritation: Draize tests in rabbits produced eye irritation effects. Years of occupational exposure to Sodium Tetraborate Decahydrate indicates no adverse effects on human eye.

Boric Acid (Acute Toxicity) -

Ingestion: Low acute oral toxicity; LD_{50} in rats is 3,500 to 4,100 mg/kg of body weight.
Skin/dermal: Low acute dermal toxicity; LD_{50} in rabbits is greater than 2,000 mg/kg of body weight.
Inhalation: Low acute inhalation toxicity; LC_{50} in rats is greater than 2.0 mg/L (or g/m^3)
Eye irritation: Draize tests in rabbits produced mild eye irritation effects. Years of occupational exposure to Boric Acid indicates no adverse effects on human eye.

Diurea Phosphate (Acute Toxicity) -

Ingestion Effects: Low acute oral toxicity; LD_{50} in rats is 5,840 mg/kg of body weight.

Chlorothalonil (Acute Toxicity) -

Ingestion: Low acute oral toxicity; LD_{50} in rats is 4,200 mg/kg of body weight. Can cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Can result in some corrosive action to the mouth, throat, esophagus, and stomach tissue. Studies on rats and mice have suggested that technical chlorothalonil (97%), when fed at high levels in diet, may have oncogenic potential to these laboratory animals. However, neither chlorothalonil nor its metabolites interact with DNA and thus are not mutagenic. Metabolism studies have demonstrated that the rat metabolizes chlorothalonil to form metabolites that are toxic to kidney mitochondria. Much lower levels (150 to >2000 fold) of these metabolites are formed in dogs and monkeys, thus, effects seen in rats may not translate to man. Tumor formation has been related to a non-genotoxic mechanism of action for which threshold levels have been established on rats and mice. Comprehensive dietary and worker exposure studies have shown exposure levels for humans to be well below these threshold levels. In addition, surveillance of chlorothalonil plant workers for over twenty years has not demonstrated any increase in oncogenic potential to humans.
Skin/dermal: Low acute dermal toxicity; LD_{50} in rabbits is greater than 2,000 mg/kg and less than 20,000 mg/kg of body weight. Repeated or excessive dermal exposure may cause marked skin irritation. On overexposed skin, may cause moderate irritation, redness, and a flaky rash may result. Skin rash is seldom observed if the following recommended safeguards are followed:

Wear rubber gloves when handling, using, or applying this product. Special precautions should be taken to ensure that material cannot get inside gloves. Wear long-sleeved shirts, long pants, and rubber boots or disposable coveralls when handling this product.
Inhalation: LC_{50} in rats is greater than 0.20 mg/L and less than 2.1 mg/L (or g/m^3).
Eye irritation (Rabbit/Monkey): Reversible corneal, iridal and conjunctival effects. Maximum mean score (noted at 24 hours): Rabbit = 23.3/110 Monkey = 25.3/110. Human experience indicates that this product may cause mild to severe irritation, depending on the degree of exposure.

The Following Are Taken As A Group:
5-Chloro-2-methly-4-Isothiazolin-3-one
2-Methyl-4-Isothiazolin-3-one
Magnesium Nitrate
(Acute Toxicity) -

The below statements are with the above components at 10.6%, 3.5% and 15.0% respectively; numerous times the actual present in the product.

ROUTES OF ENTRY: Inhalation, dermal absorption, skin contact and eye contact.
SIGNS AND SYMPTOMS OF ACUTE OVEREXPOSURE:

Eyes - Corrosive to eyes. Severely irritating to the eyes and may cause eye burns. May cause permanent eye injury.

Skin - Corrosive to the skin. Severely irritating to the skin and may cause chemical burns to the skin. May cause allergic skin sensitization of susceptible persons. May be fatal if absorbed through the skin.

Ingestion - May be harmful or fatal if swallowed. Ingesting may produce chemical burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.

Inhalation - Harmful if inhaled. Inhalation of vapors, mists or sprays can cause irritation or burns of the nose, throat and lungs.

CHRONIC OVEREXPOSURE: Allergic contact dermatitis observed. Collective data indicate non-mutagenic; not teratogenic.

CHEMICAL LISTED AS A CARCINOGEN OR POTENTIAL CARCINOGEN?:

- NATIONAL TOXICOLOGY PROGRAM (Y/N): N
- IARC MONOGRAPHS (Y/N) N
- OSHA (Y/N) N:

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: N/A

TOXICOLOGICAL DATA:

Dermal LD50 - rabbit: > 1,000 mg/kg
Oral LD50 - rat: 481 mg/Kg
Eye Irritation - rabbit: corrosive
Skin Irritation - rabbit: corrosive
Inhalation LC50 (4hr) – 1.23 mg/l (aerosol)

WOOD DUST (softwood or hardwood) -

OSHA Hazard Rating = 3.3; moderately toxic with probable oral lethal dose to humans being 0.5-5 g/kg (about 1 pound for a 150 pound person) Source: *OSHA Regulated Hazardous Substances*, Government Institutes, Inc., February 1990.

Wood dust generated from sawing, grinding, drilling, sanding or machining may cause nasal dryness, irritation, coughing and sinusitis. NTP and IARC classify wood dust as a human carcinogen (IARC Group 1). This classification is based primarily on increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to wood dust. The evaluation did not find sufficient evidence to associate cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum with exposure to wood dust.

SECTION XII - Ecological Information

(a) Ecotoxicity (aquatic and terrestrial, where available); Not available

(b) Persistence and degradability;
(c) Bioaccumulative potential;

Environmental fate of wood dust would be expected to be biodegradable.

(d) Mobility in soil; N/A

(e) Other adverse effects (such as hazardous to the ozone layer). None Known

SECTION XIII - Disposal Considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose of material according to Local, State, Federal, and Provincial Environmental Regulations.

The producer has made a determination that this product is not considered hazardous waste under Federal hazardous waste regulations 40 CFR Part 261. Incinerate or landfill in accordance with Local, State, and Federal regulations.

SECTION XIV – Transport Information

(a) UN number;
(b) UN proper shipping name;
(c) Transport hazard class(es);
(d) Packing group, if applicable;
(e) Environmental hazards (e.g., Marine pollutant (Yes/No));
(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code);

(g) Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.

This product is not regulated as a dangerous good or hazardous material by the U.S. Department of Transportation (DOT).

SECTION XV - Regulatory Information

Safety, health and environmental regulations specific for the product in question.

Toxic Substance Control Act (TSCA): N/A

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): N/A

Domestic Substance List (DSL): N/A

OSHA: Wood products per se are not hazardous under the criteria of the federal OSHA Hazard Communication Standard 29CFR 1910.1200. However, wood dust generated by sawing, sanding or machining wood products may be hazardous and hence included under 1910.1200.

STATE RIGHT-TO-KNOW:
California Prop 65:
Warning: Drilling, sawing, sanding or machining wood products generates wood dust, a substance known to the State of California to cause cancer.
Pennsylvania – When cut or otherwise machined, wood products may emit wood dust. Wood dust appears on Pennsylvania's Appendix A, Hazardous Substance List.
New Jersey – When cut or otherwise machined, wood products may emit wood dust. Wood dust appears on New Jersey's Environmental Hazardous Substance List.

Section 302 extremely hazardous substance: No regulated ingredients.

SARA 313 Information: This product contains one chemical ingredient with known CAS number that exceed the de minimis reporting levels established by SARA Title III, section 313 and 40 CFR section 372. This is Chlorothalonil.

SARA 311/312 Hazard Category: This product has been reviewed according to the EPA "Hazard Categories" promulgated under SARA Title III Sections 311 and 312 and is considered, under applicable definitions, to meet the following categories:

An immediate (acute) health hazard	Yes
A delayed (chronic) health hazard	Yes
A corrosive hazard	No
A fire hazard	No
A reactivity hazard	No
A sudden release hazard	No

FDA: Not intended for use as a food additive or indirect food contact item.

SECTION XVI - Other Information

The date of preparation of the SDS or the last change to it.

Current Issue: 08/01/2014
Previous Issue: None

User's Responsibility: The information contained in this Safety Data Sheet is based on the experience of health and safety professionals and comes from sources believed to be accurate or otherwise technically correct. It is the user's responsibility to determine if the product is suitable for its proposed application(s) and to follow necessary safety precautions. The user has the responsibility to make sure that this SDS is the most up-to-date issue.

NOTICE: Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Hoover Treated Wood Products, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for the purposes prior to use. In no event will Hoover Treated Wood Products, Inc. be responsible for damages or any nature whatsoever resulting from the use of or reliance upon this information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

MAYCO MSDS
North American:
Lead & Copper Bearing Ceramic Glazes

SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION

Prepared: December 6, 2006
Supersedes: All previous
Manufacturer: Mayco Colors
Division of Coloramics, LLC
4077 Weaver Court South
Hilliard, Ohio 43026
United States of America

Distributor Contacts:

USA_____ Local Phone_____
EC_____ Local Phone_____
Australia_____ Local Phone_____

IN CASE OF EMERGENCY PLEASE CONTACT YOUR LOCAL POISON CONTROL CENTER
Prepared by: MSDS department
Information Telephone Number: 614-876-1171

Ceramic Glaze (s): Lead and Copper Bearing

Discontinued Products: E-963

Art Glazes	AG-224, AG-226, AG-405, AG-410, AG-420, AG-605
Exotic Glazes	E-810, E-824, E-853, E-881, E-962, E-964, E-966, E-967, E-970
Jungle Gems Crystal Glazes	CG-701L, CG-703L, CG-704L, CG-706L, CG-707L, CG-708L, CG-713L, CG-717L, CG-720L, CG-780L, CG-789L, CG-932L
Series 2000 Glazes	AG-400

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS	ACGIH TLV	OSHA PEL
Leaded Frit	65997-18-4	Lead 15mg/m3	Lead .05mg/m3
Alumina Silicate	1352-58-7	NA	NA
Bentonite	1302-78-9	NA	NA
Water	7732-18-5	NA	NA
Silica	14808-60-7	0.10mg/M3	0.10mg/M3
Zinc	7440-66-6	NA	5.0mg/M3
Copper (oxide)	1317-39-1	1.0 mg/M3	0.10mg/M3

SECTION 3: HAZARDS IDENTIFICATION

Frit contains Lead. Crystalline Silica may also be present (OSHA PEL= 0.1mg/m3)
Route(s) of Entry: Igestion, absorption through the skin is negligible.
Inhalation only if sprayed.
Health Hazards (acute and chronic): Prolonged or repeated inhalation and/or ingestion of lead containing frit may result in lead poisoning. Prolonged inhalation of silica, in excess of TLV, over an extended period of time may result in injury to the lungs. Carcinogenicity: In IARC Supplement 7, inorganic lead compounds are given a 2B rating. This indicates "sufficient evidence" for Carcinogenicity to animals and "inadequate evidence" for Carcinogenicity to humans. California lists lead as a possible carcinogen and requires Prop. 65 warning as required.
Copper: See section 11

SECTION 4: FIRST AID MEASURES

- If inhaled: Remove from exposure
- If on skin: Wash skin with soap and water
- If in eyes: Flush eyes with large quantities of water for at least 15 minutes. If irritation persists after washing, contact a physician.
- If swallowed: Dilute by drinking water

SECTION 5: FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARD DATA
Flash Point (method used): N/A
LEL: N/A
UEL: N/A
Flammable Limits: N/A
Extinguishing Media: None required - not combustible
Special Fire Fighting Procedures: None
Unusual Fire and Explosion Hazards: None

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps to be taken in case material is released or spilled:

Uncontaminated material may be recovered and re-used. If contaminated, scoop, vacuum, or wash into a receptacle for disposal.

Waste Disposal Method: Follow Federal or State and Local regulations for disposal.

Lead is listed in US-EPA Code of Federal Regulations 40, Part 261.24. Testing of the waste may be required to determine status under the hazardous waste regulations.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING AND USE
Engineer Control - None
Work practices- Store away from feed and food. Do not smoke, eat or drink while handling.
Procedure / equipment- None
Procedure for leaks or spills: Uncontaminated material may be recovered and re-used. If contaminated, scoop, vacuum, or wash into a receptacle for disposal.
Waste Disposal Method: Follow Federal or State and Local regulations for disposal. Lead is listed in US-EPA Code of Federal Regulations 40, Part 261.24. Testing of the waste may be required to determine status under the hazardous waste regulations.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Use of the following protective measures are strongly recommended if the glazes are to be applied by spraying.
The Work/Hygienic Practices apply regardless of the method of application. Respiratory Protection (Specify Type): Use a NIOSH approved dust and/or fume respirator as necessary.
Ventilation: Local Exhaust - for spraying
Protective Gloves: N/A
Eye Protection: for spraying
Other Protective Clothing or Equipment: Wear appropriate clean, protective clothing such as, but not limited to,overalls, smocks, and aprons.
Work/Hygienic Practices: Food, beverages, and smoking materials should not be in the work area. Hygiene is very important. Wash thoroughly before eating, drinking, smoking, or applying cosmetics.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Various colors
Odor and odor threshold: Negligible
Ph: Not available
Boiling Point: None
Vapor Pressure: NA
Vapor Density: NA
Melting Point: above 1000º F
Specific Gravity (H2O=1): 1.4 to 1.6
Flammable Limits: None
Explosive limits: None
Partition Coefficient: None
Oxidizing Properties: None
Solubility in Water: Negligible
Percent Volatile by Volume: None
Evaporation Rate: None
Freezing point: NA
Flash Point: None
Auto ignition temperature: None

SECTION 10: STABILITY AND REACTIVITY DATA

- Incompatibility (material to avoid): Avoid fumes from firing by venting kiln area.
- Stability: Stable (conditions to avoid): N/A
- Hazardous Decomposition or By products: N/A
- Hazardous Polymerization: Will not occur
- Conditions to avoid: Fumes from firing in kiln. Inhalation of spray.

SECTION 11: TOXICOLOGY INFORMATION

Hazard to Human: None during normal use. Harmful if inhaled or swallowed.
Lead Bearing Frit (s) - Frit is a fused silicate glass substance.
DO NOT SPRAY APPLY
If glaze is spray applied the following warnings apply: Warning: Contains Quartz.
1. Possible cancer agent based on tests with laboratory animals.
2. Exposure may cause lung damage.
3. Keep out of reach of children; avoid inhalation.

This product contains chemicals known to the State of California to cause cancer.

Health Hazards (acute and chronic): Prolonged or repeated inhalation and/or ingestion of lead containing frit may result in lead poisoning. Prolonged inhalation of silica, in excess of TLV, over an extended period of time may result in injury to the lungs. Carcinogenicity: In IARC Supplement 7, inorganic lead compounds are given a 2B rating. This indicates "sufficient evidence" for Carcinogenicity to animals and "inadequate evidence" for Carcinogenicity to humans.

Additional information: Frits are fused silica glass like substances. The bioavailability may be limited because of the physical nature of the frit.

EFFECTS OF OVEREXPOSURE: Copper is slightly toxic. Inhalation of copper dust / fumes may cause acute irritation of the nose and/or trachea, may produce acute gastroenteric symptoms resulting in vomiting and/or inflammation, and/or may cause acute metal fume fever. Exposure of skin to copper dust may cause acute dermatitis. In the case of chronic exposure, the liver, kidneys and/or spleen may be injured, and/or anemia may develop. Chronic toxicity is confined to those persons suffering from pre-existing Wilson's Disease.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: The following medical conditions may be aggravated by exposure to copper dust:
1. Persons afflicted with chronic respiratory disease and/or impaired pulmonary functions, especially those with obstructive airway diseases.
2. Persons afflicted with pre-existing liver disease.
3. Persons afflicted with pre-existing kidney disease.
4. Persons afflicted with pre-existing skin disorders.
5. Persons afflicted with pre-existing blood disorders.
6. Persons afflicted with pre-existing Wilsons Disease.

PRIMARY ROUTE(S) OF ENTRY: Inhalation, Only if spray applied ---DO NOT SPRAY.
Ingestion. When heated copper compounds may give off copper fume which may cause symptoms simular to the common cold.
If ingested in large amounts gastrointestinal irritation may occur with salivation, nausea , vomiting , gastric pain , diarrhea and possible hemorrhagic gastritis.
Eye contact is irritating and may cause conjunctivitus.

SECTION 12: ECOLOGICAL INFORMATION

- Mobility: N/A
- Persistence/degradability: N/A
- Bioaccumulation: N/A
- Ecotoxicity: N/A

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Follow your Federal or State and Local regulations for disposal. Lead is listed in US-EPA Code of Federal Regulations 40, Part 261.24.

Testing of the waste may be required to determine status under the hazardous waste regulations.

Waste from residue/unused product: Can be landfilled according to local regulations. Contaminated packing: Can be landfilled according to local regulations.

SECTION 14: TRANSPORTATION INFORMATION

UN Number: None for this product.
For soluble lead UN number is 2291, guide number is 53

SECTION 15: REGULATORY INFORMATION

Lead and Silica are listed by California, Proposition 65

Lead and Silica are listed on the IARC, OSHA or NTP carcinogen list.

All ingredients are on U.S. TSCA / EC / AICS / DSL Inventory.

See local requirements.

EU Status:
Symbol- None for Frit
For lead compounds:

Repr. Cat 1: R 61- May cause harm to unborn child.
Repr. Cat 3: R 62 - Possible risk of impaired fertility
Harmful (xb): R20/22 - Harmful by inhalation and if swallowed.
R33 - Danger of cumulative effects

WHMIS Status : Not Controlled

SECTION 16: ADDITIONAL INFORMATION

This information is furnished with out warranty, representation, inducement or license of any kind, except that it is accurate to the best of knowledge of COLORAMICS, LLC or obtained from sources believed to be accurate.

COLORAMICS, LLC does not assume any legal responsibility for use or reliance on same. Customers are encouraged to conduct their own tests before using any product. Read the product label.

For more information in AUSTRALIA see web site www.nohsc.gov.au

ALUMINUM SHEETAND SHOT - 3XXX SERIES ALLOY

Safety Data Sheet

Date of issue: 06/08/2015 Revision date: 06/03/2015 Supersedes: Version 1 Version: 2.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture (Sheet and Shot)

Trade name : Aluminum Sheet and Shot – 3XXX Series Alloy

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Raw material and the production of aluminum containing products

1.3. Details of the supplier of the safety data sheet

Manufacturer : Aleris International, Inc.
25825 Science Park Drive, Suite 400
Beachwood, OH 44122

1.4. Emergency telephone number

Emergency number : CHEMTREC 1 800 424 9300
(24 Hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Aluminum sheet and shot alloys are considered "articles" and not hazardous in solid form. However, the formation of dust, fines or fumes from the processing of aluminium sheet or shot by cutting, milling, grinding, heating and welding could result in the following hazards as identified in OHSA's hazard communication (HazCom 2012):

Combustible Dust : H232
Water Reactive 3 : H261
Flammable Solid 1 : H228

Full text of H-statements: see Section 16

2.2. Label elements

No labelling is applicable.

2.3. Other hazards

According to criteria of OSHA's hazard communication (HazCom 21012), this product as supplied is not classified as hazardous.

2.4. Unknown acute toxicity

Not applicable.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable.

3.2. Mixture

Name	Product identifier	% Wt. composition
Aluminum	(CAS No) 7429-90-5	90.00 – 95.00
Antimony	(CAS No) 7440-36-0	<= 0.05
Beryllium	(CAS No) 7440-41-7	<= 0.05
Boron	(CAS No) 7440-42-8	<= 0.05
Bismuth	(CAS No) 7440-69-9	<= 0.05
Cadmium	(CAS No) 7440-43-9	<= 0.05
Chromium	(CAS No) 7440-47-3	<= 0.40
Copper	(CAS No) 7440-50-8	<= 0.50
Iron	(CAS No) 7439-89-6	<= 0.90
Gallium	(CAS No) 7440-55-3	<= 0.05
Lead	(CAS No) 7439-92-1	<= 0.05
Magnesium	(CAS No) 7439-95-4	<= 1.5
Manganese	(CAS No) 7439-96-5	<= 1.5
Nickel	(CAS No) 7440-02-0	<= 0.05
Silicon	(CAS No) 7440-21-3	<= 1.3
Tin	(CAS No) 7440-31-5	<= 0.05
Titanium	(CAS No) 7440-32-6	<= 0.35
Zinc	(CAS No) 7440-66-6	<= 0.50
Zirconium	(CAS No) 7440-67-7	<= 0.05
Vanadium	(CAS No) 7440-62-2	<= 0.05

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

First-aid measures after inhalation : Unlikely route of exposure.
Dust from processing: Allow victim to breathe fresh air. Allow the victim to rest. If feel unwell, seek medical attention.

First-aid measures after skin contact : Wash hands with water and soap.
Dust from processing: Wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Unlikely route of exposure.
Dust from processing: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Unlikely route of exposure.
Dust from processing: Ingestion is not considered a potential route of exposure. In case of accidential intake, rinse mouth

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after eye contact : Dust from processing: May cause physical reversible eye irritation. Redness, watering.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : This product does not present fire or explosion hazards as shipped. Fine turnings, fine dust from processing may be readily ignitable. Use dry chemical extinguisher.

Unsuitable extinguishing media : Do not use water or foam.

5.2. Special hazards arising from the substance or mixture

Fire hazard : This product does not present fire or explosion hazards as shipped. Fine turnings, fine dust from processing may be readily ignitable. Flammable solid. May form combustible dust concentrations in air.

Explosion hazard : This product does not present fire or explosion hazards as shipped. Avoid generation of dust; fine dust dispersed in air in sufficient concentration, and in the presence of an ignition source is a potential dust explosion hazards.

Reactivity : This product is not reactive as supplied. Dust or fine particles are violently reactive to strong oxidizers with considerable heat generation.

5.3. Advice for firefighters

Protective equipment for firefighters : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Dust and fumes from processing: Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

6.1.1. For non-emergency personnel

No additional information available.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to Section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain for re-use.

Methods for cleaning up : Recover mechanically the product. No special precautions for large product fragments. For dust cleanup use protective equipment. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. Avoid dispersal of dust in the air (i.e. cleaning dust surfaces with compressed air). In case of formation of dust during processing, non-sparking tools should be used.

Other information : Dispose of materials or solid residues at an authorized site. Clean up spilled material and place in dry containers.

6.4. Reference to other sections

For further information refer to Section 8 : Exposure-controls/personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wear appropriate personal protective equipment. In case of formation of dust during processing, routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build statics electricity charges when subjected to the friction of transfer and mixture operations. Provide adequate precautions, such as electrical grounding and bonding or inert atmospheres.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry area.

Incompatible materials : Strong acids and alkalies. Strong oxidizers.

7.3. Specific end use(s)

No additional information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Aluminum (7429-90-5)		
ACGIH	ACGIH TWA (mg/m³)	1 mg/m³ (respirable fraction)
OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	10 mg/m³ (dust)

Antimony (7440-36-0)		
ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m³
OSHA	OSHA PEL (TWA) (mg/m³)	0.5 mg/m³
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.5 mg/m³ (dust)

Beryllium (7440-41-7)		
ACGIH	ACGIH TWA (mg/m³)	0.00005 mg/m³ (inhalable fraction)
OSHA	OSHA PEL (TWA) (mg/m³)	2 µg/m³
OSHA	OSHA PEL (Ceiling) (mg/m³)	5 µg/m³
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.002 mg/m³

Cadmium (7440-43-9)		
ACGIH	ACGIH TWA (mg/m³)	0.01 mg/m³ 0.002 mg/m³ (respirable fraction)
OSHA	OSHA PEL (TWA) (mg/m³)	0.1 mg/m³ (fume) 0.2 mg/m³ (dust) 5 µg/m³
OSHA	OSHA PEL (Ceiling) (mg/m³)	0.3 mg/m³ (applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect-fume) 0.6 mg/m³ (applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect-dust)
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.01 mg/m³ (total dust) 0.002 mg/m³ (respirabble dust)

Chromium (7440-47-3)		
ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m³
OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.5 mg/m³

Copper (7440-50-8)		
ACGIH	ACGIH TWA (mg/m³)	0.2 mg/m³ (fume)
OSHA	OSHA PEL (TWA) (mg/m³)	0.1 mg/m³ (fume) 1 mg/m³ (dust and mist)
Mexico-Occupational Exposure limits	STEL (LMPE-CT) (mg/m³)	2 mg/m³ (dust) 2 mg/m³ (fume)
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.2 mg/m³ (fume) 1 mg/m³ (dust / mist)

Lead (7439-92-1)		
ACGIH	ACGIH TWA (mg/m³)	0.05 mg/m³
OSHA	OSHA PEL (TWA) (mg/m³)	50 µg/m³
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.15 mg/m³ (dust, fume)

Manganese (7439-96-5)		
ACGIH	ACGIH TWA (mg/m³)	0.02 mg/m³ (respirable fraction) 0.1 mg/m³ (inhalable fraction)
OSHA	OSHA PEL (Ceiling) (mg/m³)	5 mg/m³ (fume)
Mexico-Occupational Exposure limits	STEL (LMPE-CT) (mg/m³)	3 mg/m³ (fume)
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.2 mg/m³ (fume)

Nickel (7440-02-0)		
ACGIH	ACGIH TWA (mg/m³)	1.5 mg/m³ (inhalable fraction)
OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	1 mg/m³ (dust)

Silicon (7440-21-3)		
OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	10 mg/m³ (dust)

Tin (7440-31-5)		
ACGIH	ACGIH TWA (mg/m³)	2 mg/m³

Vanadium (7440-62-2)		
OSHA	OSHA PEL (Ceiling) (mg/m³)	0.5 mg/m³ (respirable dust) 0.1 mg/m³ (fume)

Zirconium (7440-67-7)		
ACGIH	ACGIH TWA (mg/m³)	5 mg/m³
ACGIH	ACGIH STEL (mg/m³)	10 mg/m³

8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation.
In case of formation of dust during processing: It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust dusts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area. Use only appropriately classifies electrical equipment and powered industrial trucks.

Personal protective equipment : Safety glasses. Gloves. Protective clothing.

Hand protection : Protective gloves.

Eye protection : Safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Dust from processing: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Silver/gray metal sheet
Color	: Silver/ gray
Odor	: Odorless.
Odor threshold	: Not applicable
pH	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 970-1200 °F (520-650 °C)
Freezing point	: No data available
Boiling point	: 4550 °F (2450 °C)
Flash point	: Not applicable

Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: ca. 2.7 (water=1)
Solubility	: Not soluble
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

This product is not reactive as supplied. Dust or fine particles are violently reactive to strong oxidizers with considerable heat generation.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization does not occur.

10.4. Conditions to avoid

Avoid storage or potential contact with strong oxidizing agents.
Avoid dust formation.

10.5. Incompatible materials

Halocarbons, mercury, chlorine, chlorates, bromates, iodates, peroxides, perchlorates, nitrates, nitrites, oxides, performates, persulfates, halogens, oxides of nitrogen, melted sulfates, sulfur dioxide, propylene dichloride sodium carbide, sodium carbonate and sodium hydroxide.

10.6. Hazardous decomposition products

No additional information available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified
(Based on available data, the classification criteria are not met.)

Antimony (7440-36-0)	
ATE US (oral)	7000 mg/kg

Bismuth (7440-69-9)	
ATE US (oral)	5000 mg/kg

Cadmium (7440-43-9)	
LD50 oral rat	1140 mg/kg
LC50 inhalation rat (mg/l)	25 mg/m³ (Exposure time: 30 min)
ATE US (oral)	2330 mg/kg
ATE US (dust,mist)	0.005 mg/l/4h

Copper (7440-50-8)	
ATE US (oral)	500 mg/kg

Iron (7439-89-6)	
LD50 oral rat	984 mg/kg
ATE US (oral)	984 mg/kg bodyweight

Lead (7439-92-1)	
ATE US (oral)	500 mg/kg

Magnesium (7439-95-4)	
LD50 oral rat	230 mg/kg

Nickel (7440-02-0)	
LD50 oral rat	> 9000 mg/kg

Silicon (7440-21-3)	
ATE US (oral)	3160 mg/kg

Tin (7440-31-5)	
LD50 oral rat	700 mg/kg

Skin corrosion/irritation : Not classified
(Based on available data, the classification criteria are not met.)

Serious eye damage/irritation : Not classified
(Based on available data, the classification criteria are not met.)

Respiratory or skin sensitisation : Not classified
(Based on available data, the classification criteria are not met.)

Germ cell mutagenicity : Not classified
(Based on available data, the classification criteria are not met.)

Carcinogenicity : Not classified
(Based on available data, the classification criteria are not met.)

Beryllium (7440-41-7)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens

Cadmium (7440-43-9)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens

Chromium (7440-47-3)	
IARC group	3 - Not classifiable

Lead (7439-92-1)	
IARC group	2A - Probably carcinogenic to humans
National Toxicology Program (NTP) Status	3 - Reasonably anticipated to be Human Carcinogen

Nickel (7440-02-0)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	3 - Reasonably anticipated to be Human Carcinogen

Reproductive toxicity : Not classified
(Based on available data, the classification criteria are not met.)

Specific target organ toxicity (single exposure) : Not classified
(Based on available data, the classification criteria are not met.)

Specific target organ toxicity (repeated exposure) : Not classified
(Based on available data, the classification criteria are not met.)

Aspiration hazard : Not classified
(Based on available data, the classification criteria are not met.)

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Cadmium (7440-43-9)	
LC50 fish 1	0.003 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 1	0.0244 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	0.006 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])

Copper (7440-50-8)	
LC50 fish 1	0.0068 - 0.0156 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	< 0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Lead (7439-92-1)	
LC50 fish 1	0.44 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 1	600 µg/l (Exposure time: 48 h - Species: water flea)
LC50 fish 2	1.17 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

Nickel (7440-02-0)	
LC50 fish 1	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 Daphnia 1	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 2	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

Zinc (7440-66-6)	
LC50 fish 1	2.16 - 3.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	0.139 - 0.908 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	0.211 - 0.269 mg/l (Exposure time: 96 h - Species: Pimephales promelas [semi-static])

12.2. Persistence and degradability

No additional information available.

12.3. Bioaccumulative potential

No additional information available.

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Reuse or recycle material wherever possible. If reuse or recycling not possible, disposal must be made according to local or governmental regulations.

Additional Information : Waste codes must be determined at the point of waste generation. Refer to 40 CFR 261 or state equivalent in the U.S.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

14.1. US Department of Transporation (DOT) information

Not regulated for transport.

14.2. Additional information

Other information : No supplementary information available.

14.3. European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)

No additional information available.

14.4. Transport by sea

No additional information available.

14.5. Air transport

No additional information available.

SECTION 15: Regulatory information

15.1. US federal regulations

Aluminum (7429-90-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 % (dust or fume only)

Antimony (7440-36-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

Beryllium-Pure (7440-41-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

Boron (7440-42-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Bismuth (7440-69-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Cadmium (7440-43-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

Chromium (7440-47-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

Copper (7440-50-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

Iron (7439-89-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Gallium (7440-55-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Lead (7439-92-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

Magnesium (7439-95-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Manganese (7439-96-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

Nickel (7440-02-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

Silicon (7440-21-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Tin (7440-31-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Titanium (7440-32-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Zinc (7440-66-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 % (dust or fume only)

Vanadium (7440-62-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 % (except when contained in an alloy)

Zirconium (7440-67-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. US state regulations

Beryllium-Pure (7440-41-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	No	No	No	0.1 µg/day

Cadmium (7440-43-9)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	Yes	No	Yes	0.05 µg/day

Lead (7439-92-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	Yes	Yes	Yes	15 µg/day

Nickel (7440-02-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	No	No	No	

15.3. International regulations

15.3.1. Canada

Aluminum-metal (7429-90-5)	
Listed on the Canadian DSL (Domestic Sustances List) and on the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Class B Division 6 - Reactive Flammable Material

Antimony (7440-36-0)	
Listed on the Canadian DSL (Domestic Sustances List) and on the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Beryllium (7440-41-7)	
Listed on the Canadian DSL (Domestic Sustances List) and on the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Boron (7440-42-8)
Listed on the Canadian DSL (Domestic Sustances List)

Bismuth (7440-69-9)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Cadmium (7440-43-9)	
Listed on the Canadian DSL (Domestic Sustances List) and on the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

Chromium (7440-47-3)	
Listed on the Canadian DSL (Domestic Sustances List) and on the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Copper (7440-50-8)	
Listed on the Canadian DSL (Domestic Sustances List) and on the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Iron (7439-89-6)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Gallium (7440-55-3)
Listed on the Canadian DSL (Domestic Sustances List) and on the Canadian IDL (Ingredient Disclosure List)

Lead (7439-92-1)	
Listed on the Canadian DSL (Domestic Sustances List) and on the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

Magnesium (7439-95-4)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class B Division 4 - Flammable Solid Class B Division 6 - Reactive Flammable Material

Manganese (7439-96-5)	
Listed on the Canadian DSL (Domestic Sustances List) and on the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

Nickel (7440-02-0) and on the Canadian IDL (Ingredient Disclosure List)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Silicon (7440-21-3)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class B Division 4 - Flammable Solid

Tin (7440-31-5)	
Listed on the Canadian DSL (Domestic Sustances List) and on the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Titanium (7440-32-6)
Listed on the Canadian DSL (Domestic Sustances List)

Zinc (7440-66-6)
Listed on the Canadian DSL (Domestic Sustances List)

Vanadium (7440-62-2)
Listed on the Canadian DSL (Domestic Sustances List) and on the Canadian IDL (Ingredient Disclosure List)

Zirconium (7440-67-7)	
Listed on the Canadian DSL (Domestic Sustances List) and on the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

15.3.2. European Union

Aluminum-metal (7429-90-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Antimony (7440-36-0)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Beryllium-Pure (7440-41-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Boron (7440-42-8)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Bismuth (7440-69-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Cadmium (7440-43-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Chromium (7440-47-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Copper (7440-50-8)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Iron (7439-89-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Gallium (7440-55-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Lead (7439-92-1)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Magnesium (7439-95-4)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Manganese (7439-96-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Nickel (7440-02-0)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Silicon (7440-21-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Tin (7440-31-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Titanium (7440-32-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Zinc (7440-66-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Vanadium (7440-62-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Zirconium (7440-67-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.3.3. Classification according to Regulation (EC) No. 1272/2008 [CLP]
No additional information available

15.3.4. Classification according to Directive 67/548/EEC [DSD] or 1999/45EC [DPD]
No additional information available

.4. Other nations

Aluminum-metal (7429-90-5)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Antimony (7440-36-0)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Beryllium-Pure (7440-41-7)
Listed on IARC (International Agency for Research on Cancer)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Boron (7440-42-8)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Bismuth (7440-69-9)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Cadmium (7440-43-9)
Listed on IARC (International Agency for Research on Cancer)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Chromium (7440-47-3)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Copper (7440-50-8)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Iron (7439-89-6)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Gallium (7440-55-3)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Lead (7439-92-1)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Magnesium (7439-95-4)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Manganese (7439-96-5)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Nickel (7440-02-0)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Silicon (7440-21-3)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Tin (7440-31-5)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Titanium (7440-32-6)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Zinc (7440-66-6)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Vanadium (7440-62-2)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Zirconium (7440-67-7)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

SECTION 16: Other information

Other information : None.

Abbreviations and acronyms : ACGIH (American Conference of Governement Industrial Hygienists).
ATE - acute toxicity estimate.
CAS - Chemical Abstracts Service.
GHS - Globally Harmonised System.
TWA- Time Weighted Average.
PEL- Permissible Exposure Level.
STEL- Short-Term Exposure Limit.
OSHA - Occupational Safety and Health Administration.
IARC-International Agency for Research on Cancer.

Full text of H-statements:

Flammable Solid 1	Flammable solids, Category 1
Water-react. 3	Substances and Mixtures which, in contact with water, emit flammable gases, Category 3
H228	Flammable solid
H232	May form combustible dust concentrations in air
H261	In contact with water releases flammable gases

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

United States Steel Corporation

GALVALUME® Sheet–Carbon Steel

Safety Data Sheet (SDS)

USS IHS Number: 18878

(Replaces USS Code Number: 3C016)

Locations: Fairfield, Granite City, Great Lakes, Irvin

Original: 12/16/2010 **Revision: 6/29/2020**

Section 1 – Identification

1(a) Product Identifier Used on Label: GALVALUME® Sheet–Carbon Steel

1(b) Other Means of Identification: ACRYLUME® Sheet – Carbon Steel

1(c) Recommended Use of the Chemical and Restrictions on Use: None

1(d) Name, Address, and Telephone Number:

United States Steel Corporation
600 Grant Street, Room 1662
Pittsburgh, PA 15219-2800

Phone number: (412) 433-6840 (8:00 am to 5:00 pm)
FAX: (412) 433-5019

1(e) Emergency Phone Number: 1-800-262-8200 (CHEMTREC)

Section 2 – Hazard(s) Identification

2(a) Classification of the Chemical: As sold, this product, **GALVALUME® Sheet–Carbon Steel** is not hazardous according to the criteria specified in REACH [REGULATION (EC) No 1907/2006] and CLP [REGULATION (EC) No 1272/2008]. Under 29 CFR 1910.1200 Hazard Communication Standard, steel products are considered mixtures due to further processing which may produce dusts and or fume. The categories of Health Hazards as defined in "GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS), Third revised edition ST/SG/AC.10/30/Rev. 3" United Nations, New York and Geneva, 2009 have been evaluated. Refer to Section 3, 8 and 11 for additional information. Precautionary Statement/Emergency Overview: This formed solid metal product poses little or no immediate health or fire hazard. When product is subjected to welding, burning, melting, sawing, brazing, grinding or other similar processes, potentially hazardous airborne particulate and fumes may be generated.

2(b) Signal Word, Hazard Statement(s), Symbols and Precautionary Statement(s):

Hazard Symbol	Hazard Classification	Signal Word	Hazard Statement(s)
	Carcinogenicity - 2 Toxic to Reproduction - 2 Single Target Organ Toxicity (STOT) Repeat Exposure - 1	**DANGER**	Suspected of causing cancer. Suspected of damaging fertility or the unborn child. Causes damage to lungs through prolonged or repeated inhalation exposure. Harmful if swallowed. May cause an allergic skin reaction. May cause respiratory irritation. Causes eye irritation.
	Acute Toxicity-Oral 4 Skin Sensitization - 1 STOT Single Exposure - 3		
NA	Eye Irritation - 2B		

Precautionary Statement(s)

Prevention	Response	Storage/Disposal
Do not breathe dusts / fume / spray. Wear protective gloves / protective clothing / eye protection / face protection. Contaminated work clothing must not be allowed out of the workplace. Use only outdoors or in well ventilated areas. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product.	If inhaled: Remove person to fresh air and keep comfortable for breathing. If exposed, concerned or feel unwell: Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If on skin: Wash with plenty of water. If irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.	Dispose of contents in accordance with federal, state and local regulations.

Section 2 – Hazard(s) Identification (continued)

2(c) Hazards Not Otherwise Classified: None Known

2(d) Unknown Acute Toxicity Statement (mixture): None Known

Section 3 – Composition/Information on Ingredients

3(a-c) Chemical Name, Common Name (synonyms), CAS Number and Other Identifiers, and Concentration:

Chemical Name	CAS Number	EC Number	% weight
Iron	7439-89-6	231-096-4	>90
Manganese	7439-96-5	231-105-1	≤2.0
Nickel	7440-02-0	231-111-4	≤0.2
Metallic Coating			
Aluminum	7429-90-5	231-072-3	0.82 – 3.4
Iron	7439-89-6	231-096-4	≤0.52
Zinc	7440-66-6	231-175-3	0.58 – 2.26

EC- European Community
CAS- Chemical Abstract Service

Section 4 – First-aid Measures

4(a) Description of Necessary Measures: If exposed, concerned or feel unwell: Get medical advice/attention.

- **Inhalation: GALVALUME® Sheet–Carbon Steel** as sold/shipped is not a likely form of exposure. However, during further processing (welding, grinding, burning, etc.). If inhaled: Remove person to fresh air and keep comfortable for breathing. If exposed, concerned or feel unwell: Get medical advice/attention.
- **Eye Contact: GALVALUME® Sheet–Carbon Steel** as sold/shipped is not a likely form of exposure. However, during further processing (welding, grinding, burning, etc.). If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing. If eye irritation persists: Get medical advice attention. If exposed, concerned or feel unwell: Get medical advice/attention.
- **Skin Contact:** If on skin: Wash thoroughly after handling. Wash with plenty of water. If irritation or rash occurs: Get medical advice/attention. Take off and wash contaminated clothing before reuse.
- **Ingestion: GALVALUME® Sheet–Carbon Steel** as sold/shipped is not a likely form of exposure. However, during further processing (welding, grinding, burning, etc.). If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If exposed, concerned or feel unwell: Get medical advice/attention.

4(b) Most Important Symptoms/Effects, Acute and Delayed (chronic):

- **Inhalation: GALVALUME® Sheet-Carbon Steel** as sold/shipped is not likely to present an acute or chronic health effect.
- **Eye: GALVALUME® Sheet–Carbon Steel** as sold/shipped is not likely to present an acute or chronic health effect.
- **Skin: GALVALUME® Sheet–Carbon Steel** as sold/shipped is not likely to present an acute or chronic health effect.
- **Ingestion: GALVALUME® Sheet–Carbon Steel** as sold/shipped is not likely to present an acute or chronic health effect.

4(c) Immediate Medical Attention and Special Treatment: None Known

Section 5 – Fire-fighting Measures

5(a) Suitable (and unsuitable) Extinguishing Media: Not applicable for **GALVALUME® Sheet–Carbon Steel** as sold/shipped. Use extinguishers appropriate for surrounding materials.

5(b) Specific Hazards Arising from the Chemical: Not applicable for this product as sold/shipped. When burned, toxic smoke and vapor may be emitted.

Section 6 - Accidental Release Measures

6(a) Personal Precautions, Protective Equipment and Emergency Procedures: Not applicable for **GALVALUME® Sheet–Carbon Steel** as sold/shipped. For spills involving finely divided particles, clean-up personnel should be protected against contact with eyes and skin. If material is in a dry state, avoid inhalation of dust.

6(b) Methods and Materials for Containment and Clean Up: Not applicable for this product as sold/shipped. Fine, dry material should be removed by vacuuming or wet sweeping methods to prevent spreading of dust. Avoid using compressed air. Do not release into sewers or waterways. Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations. Follow applicable OSHA regulations (29 CFR 1910.120) and all other pertinent state and federal requirements.

Section 7 - Handling and Storage

7(a) Precautions for Safe Handling: Not applicable for **GALVALUME® Sheet–Carbon Steel** as sold/shipped, however further processing (welding, burning, grinding, etc.) with the potential for generating high concentrations of airborne particulates should be evaluated and controlled as necessary. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Practice good housekeeping. Avoid breathing metal fumes and/or dust. Do not eat, drink or smoke when using this product.

7(b) Conditions for Safe Storage, Including any Incompatibilities: Store away from acids and incompatible materials.

Section 8 - Exposure Controls / Personal Protection

8(a) Occupational Exposure Limits (OELs): GALVALUME® Sheet–Carbon Steel as sold/shipped in its physical form does not present an inhalation, ingestion or contact hazard, nor would any of the following exposure data apply. However, operations such as high temperature (burning, welding), sawing, brazing, machining and grinding may produce fumes and/or particulates. The following exposure limits are offered as reference, for an experience industrial hygienist to review.

Ingredients	8(a) OSHA PEL [1]	ACGIH TLV [2]	NIOSH REL [3]	IDLH [4]
Iron	10 mg/m³ (iron oxide fume)	5.0 mg/m³ (iron oxide, respirable fraction [5])	5.0 mg/m³ (iron oxide dust and fume)	2,500 mg/m³ (as Fe)
Manganese	"C" 5.0 mg/m³ (as fume & inorganic compounds, as Mn)	0.02 mg/m³ (as fume & inorganic compounds, as Mn, respirable fraction) 0.1 mg/m³ (as fume & inorganic compounds, as Mn, inhalable fraction [6])	1.0 mg/m³ (as fume & inorganic compounds, as Mn) "STEL" 3.0 mg/m³ (as fume & inorganic compounds, as Mn)	500 mg/m³ (as Mn)
Nickel	1.0 mg/m³ (metal, insoluble & soluble compounds, as Ni)	1.5 mg/m³ (metal, as Ni, as inhalable fraction) 0.2 mg/m³ (insoluble compounds, as Ni, inhalable fraction, inorganic only) 0.1 mg/m³ (soluble compounds, as Ni, inhalable fraction, inorganic only)	0.015 mg/m³ (metal & insoluble and soluble compounds, as Ni)	10 mg/m³ (as Ni)
Aluminum	15 mg/m³ (as aluminum oxide, metal & insoluble compounds, total dust) 5.0 mg/m³ (as aluminum oxide, metal & insoluble compounds, respirable fraction)	1.0 mg/m³ (as metal & insoluble compounds, respirable fraction)	10 mg/m³ (as metal & insoluble compounds, total dust) 5.0 mg/m³ (as metal & insoluble compounds, respirable fraction) 5.0 mg/m³ (as welding fumes & pyro powders)	NE
Zinc	15 mg/m³ (as zinc oxide, total dust) 5.0 mg/m³ (as zinc oxide, respirable fraction & zinc oxide fume)	2.0 mg/m³ (as zinc oxide, respirable fraction) "STEL" 10 mg/m³ (as zinc oxide, respirable fraction)	5.0 mg/m³ (as zinc oxide dust or fume) "STEL" 10 mg/m³ (as zinc oxide fume) "C" 15 mg/m³ (as zinc oxide dust)	500 mg/m³ (as zinc oxide)

NE - None Established

1. OSHA PELs (Permissible Exposure Limits) are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A ("C") designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. A Short Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded at any time during a workday. An Action level (AL) is used by OSHA and NIOSH to express a health or physical hazard. They indicate the level of a harmful or toxic substance/activity, which requires medical surveillance, increased industrial hygiene monitoring, or biological monitoring. Action Levels are generally set at one half of the PEL but the actual level may vary from standard to standard. The intent is to identify a level at which the vast majority of randomly sampled exposures will be below the PEL.
2. Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted. ACGIH TLVs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes. DSEN – May cause dermal sensitization. This notation is used to indicate the potential for dermal sensitization resulting from the interaction of an absorbed agent and ultraviolet light (i.e. photosensitization). RSEN – May cause respiratory sensitization.
3. The National Institute for Occupational Safety and Health Recommended Exposure Limits (NIOSH-REL)- Compendium of Policy and Statements. NIOSH, Cincinnati, OH (1992). NIOSH is the federal agency designated to conduct research relative to occupational safety and health. As is the case with ACGIH TLVs, NIOSH RELs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes.
4. The "immediately dangerous to life or health air concentration values (IDLHs)" are used by NIOSH as part of the respirator selection criteria and were first developed in the mid-1970's by NIOSH. The Documentation for Immediately Dangerous to Life or Health Concentrations (IDLHs) is a compilation of the rationale and sources of information used by NIOSH during the original determination of 387 IDLHs and their subsequent review and revision in 1994. Ca is designated as carcinogen.
5. Respirable fraction. The concentration of respirable dust for the application of this limit is to be determined from the fraction passing a size-selector with the characteristics defined in ACGIH 2020 TLVs ® and BEIs ® Appendix D, paragraph C.
6. Inhalable fraction. The concentration of inhalable particulate for the application of this TLV is to be determined from the fraction passing a size-selector with the characteristics defined in the ACGIH 2020 TLVs ® and BEIs ® (Biological Exposure Indices) Appendix D, paragraph A.

8(b) Appropriate Engineering Controls: Use controls as appropriate to minimize exposure to metal fumes and dusts during handling operations. Provide general or local exhaust ventilation systems to minimize airborne concentrations. Local exhaust is necessary for use in enclosed or confined spaces. Provide sufficient general/local exhaust ventilation in pattern/volume to control inhalation exposures below current exposure limits.

8(c) Individual Protection Measures:

- **Respiratory Protection:** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, use only a NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Concentration in air of the various contaminants determines the extent of respiratory protection needed. Half-face, negative-pressure, air-purifying … (continued)

Section 8 - Exposure Controls / Personal Protection (continued)

8(c) Individual Protection Measures (continued):

- **Respiratory Protection (continued):** (continued) … respirator equipped with P100 filter is acceptable for concentrations up to 10 times the exposure limit. Full-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 50 times the exposure limit. Protection by air-purifying negative-pressure and powered air respirators is limited. Use a positive-pressure-demand, full-face, supplied air respirator or self-contained breathing apparatus (SCBA) for concentrations above 50 times the exposure limit. If exposure is above the IDLH (Immediately dangerous to life or health) for any of the constituents, or there is a possibility of an uncontrolled release or exposure levels are unknown, then use a positive-demand, full-face, supplied air respirator with escape bottle or SCBA.

  Warning! Air-purifying respirators both negative-pressure and powered-air do not protect workers in oxygen-deficient atmospheres.
- **Eyes**: Wear appropriate eye protection to prevent eye contact. For operations, which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, use safety glasses to prevent eye contact. Contact lenses should not be worn where industrial exposures to this material are likely. Use safety glasses or goggles as required for welding, burning, sawing, brazing, grinding or machining operations.
- **Skin**: Wear appropriate personal protective clothing to prevent skin contact. Cut resistant gloves and sleeves should be worn when working with steel products. For operations, which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, use protective clothing, and gloves to prevent skin contact. Protective gloves should be worn as required for welding, burning or handling operations. Contaminated work clothing must not be allowed out of the workplace.
- **Other protective equipment**: An eyewash fountain and deluge shower should be readily available in the work area.

Section 9 - Physical and Chemical Properties

9(a) Appearance (physical state, color, etc.): Metallic Gray, Odorless

9(b) Odor: NA

9(c) Odor Threshold: NA

9(d) pH: NA

9(e) Melting Point/Freezing Point: ~2750ºF (~1510ºC), Coating: ~1030ºF (~554ºC)

9(f) Initial Boiling Point and Boiling Range: Coating: ~1700ºF (~927ºC)

9(g) Flash Point: NA

9(h) Evaporation Rate: NA

9(i) Flammability (solid, gas): Non-flammable, non-combustible

9(j) Upper/lower Flammability or Explosive Limits: NA

9(k) Vapor Pressure: NA

9(l) Vapor Density (Air = 1): NA

9(m) Relative Density: 7.85 g/cc **Coating:** 3.75 g/cc

9(n) Solubility(ies): Insoluble

9(o) Partition Coefficient n-octanol/water: ND

9(p) Auto-ignition Temperature: NA

9(q) Decomposition Temperature: ND

9(r) Viscosity: NA

NA - Not Applicable

ND - Not Determined for product as a whole

Section 10 - Stability and Reactivity

10(a) Reactivity: Not Determined (ND)

10(b) Chemical Stability: Steel products are stable under normal storage and handling conditions.

10(c) Possibility of Hazardous Reaction: None Known

10(d) Conditions to Avoid: Storage with strong acids or calcium hypochlorite.

10(e) Incompatible Materials: Will react with strong acids to form hydrogen. Iron oxide dusts in contact with calcium hypochlorite evolve oxygen and may cause an explosion.

10(f) Hazardous Decomposition Products: Thermal oxidative decomposition of steel products can produce fumes containing oxides of iron and manganese as well as other alloying elements.

Section 11 - Toxicological Information

11(a-e) Information on toxicological effects: The following toxicity data has been determined for **GALVALUME® Sheet–Carbon Steel** as a mixture when further processed using the information available for its components applied to the guidance on the preparation of an SDS under the GHS requirements of OSHA and the EU CPL:

Hazard Classification	Hazard Category		Hazard Symbols	Signal Word	Hazard Statement
	EU	OSHA			
Acute Toxicity Hazard (covers Categories 1-5)	NA*	4[a]		**Warning**	Harmful if swallowed.
Eye Damage/ Irritation (covers Categories 1, 2A and 2B)	NA*	2B[c]	No Pictogram	**Warning**	Causes eye irritation.
Skin/Dermal Sensitization (covers Category 1)	NA*	1[d]		**Warning**	May cause an allergic skin reaction.

Section 11 - Toxicological Information (continued)

11(a-e) Information on toxicological effects (continued):

Hazard Classification	Hazard Category		Hazard Symbols	Signal Word	Hazard Statement
	EU	OSHA			
Carcinogenicity (covers Categories 1A, 1B and 2)	NA*	2[g]		**Warning**	Suspected of causing cancer.
Toxic to Reproduction (covers Categories 1A, 1B and 2)	NA*	2[h]		Warning	Suspected of damaging fertility or the unborn child.
Specific Target Organ Toxicity (STOT) Following Single Exposure (covers Categories 1-3)	NA*	3[i]		**Warning**	May cause respiratory irritation.
STOT following Repeated Exposure (covers Categories 1 and 2)	1	1[j]		**Danger**	Causes damage to lungs through prolonged or repeated inhalation exposure.

* Not Applicable

Toxicological data listed below are presented regardless to classification criteria. Individual hazard classification categories where the toxicological information has met or exceeded a classification criteria threshold are listed above.

a. No LC_{50} or LD_{50} has been established for **GALVALUME® Sheet–Carbon Steel**. The following data has been determined for the components:

- **Iron:** Rat LD_{50} =98.6 g/kg (REACH)
  Rat LD_{50} =1060 mg/kg (IUCLID)
  Rat LD_{50} =984 mg/kg (IUCLID)
  Rabbit LD_{50} =890 mg/kg (IUCLID)
  Guinea Pig LD_{50} =20 g/kg (TOXNET)
  Human LD_{LO} =77 g/kg (IUCLID)
- **Nickel:** LD_{50} >9000 mg/kg (Oral/Rat); NOAEC >10.2 mg/l (Inhalation/Rat)
- **Manganese:** Rat LD_{50} > 2000 mg/kg (REACH)
  Rat LD_{50} > 9000 mg/kg (NLM Toxnet)
- **Zinc**: Rat LD_{50} > 2000 mg/kg

b. No Skin (Dermal) Irritation data available for **GALVALUME® Sheet–Carbon Steel** as a mixture or its components.

c. No Eye Irritation data available for **GALVALUME® Sheet–Carbon Steel** as a mixture. The following Eye Irritation information was found for the components:

- **Iron:** Causes eye irritation.
- **Nickel:** Slight eye irritation from particulate abrasion only.

d. No Skin (Dermal) Sensitization data available **for GALVALUME® Sheet–Carbon Steel** as a mixture. The following Skin (Dermal) Sensitization information was found for the components:

- **Nickel:** May cause allergic skin sensitization.

e. No Respiratory Sensitization data available for **GALVALUME® Sheet–Carbon Steel** as a mixture or its components.

f. No Germ Cell Mutagenicity data available for **GALVALUME® Sheet–Carbon Steel** as a mixture. The following Mutagenicity and Genotoxicity information was found for the components:

- **Iron:** IUCLID has found some positive and negative findings in vitro.
- **Nickel:** EU RAR has found positive results in vitro and in vivo but insufficient data for classification.

g. Carcinogenicity: IARC, NTP, and OSHA do not list **GALVALUME® Sheet–Carbon Steel** as carcinogens. The following Carcinogenicity information was found for the components:

- **Welding Fumes -** IARC-2B, possibly carcinogenic to humans; NIOSH–Ca, potential occupational carcinogen.
- **Nickel and certain nickel compounds –** IARC-1 (compounds), carcinogen to humans; IARC-2B (elemental & alloys), possibly carcinogenic to humans; ACGIH TLV-A1 (insoluble compounds, as Ni), confirmed human carcinogen; TLV-A5 (elemental), not suspected as a human carcinogen; NTP–K, known to be a carcinogen; NIOSH–Ca, potential occupational carcinogen.
- **Iron Oxide (Fe_2O_3):** IARC-3, unclassifiable as to carcinogenicity in humans; ACGIH TLV-A4, not classifiable as a human carcinogen.
- **Manganese (inorganic compounds, as Mn)**: ACGIH TLV-A4, not classifiable as a human carcinogen; EPA-D, not classifiable as to human carcinogenicity (CBD, cannot be determined).
- **Manganese (fume, as Mn)**: EPA-D, not classifiable as to human carcinogenicity (CBD, cannot be determined).
- **Aluminum (metal and insoluble compounds):** IARC-1 (production), carcinogen to humans; ACGIH TLV-A4, not classifiable as a human carcinogen.
- **Zinc (compounds, oxide, as Zn):** EPA-II, inadequate information to assess carcinogenic potential & EPA-D not classifiable as to human carcinogenicity & EPA-I, data are inadequate for assessment of human carcinogenic potential.

h. No Toxic to Reproduction data available for **GALVALUME® Sheet–Carbon Steel** as a mixture. The following Toxic to Reproductive information was found for the components:

- **Nickel**: Effects on fertility.

i. No Specific Target Organ Toxicity (STOT) following a Single Exposure data available for **GALVALUME® Sheet–Carbon Steel** as a mixture. The following STOT following a Single Exposure data was found for the components:

- **Iron:** Irritating to respiratory tract.

Section 11 - Toxicological Information (continued)

11(a-e) Information on toxicological effects (continued):

j. No Specific Target Organ Toxicity (STOT) following Repeated Exposure data was available for **GALVALUME® Sheet–Carbon Steel** as a whole. The following STOT following Repeated Exposure data was found for the components:

- **Nickel**: Rat 4 wk inhalation LOEL 4 mg/m^3 Lung and Lymph node histopathology. Rat 2 yr inhalation LOEL 0.1 mg/ m^3 Pigment in kidney, effects on hematopoiesis spleen and bone marrow and adrenal tumor. Rat 13 Week Inhalation LOAEC 1.0 mg/m^3 Lung weights, and Alveolar histopathology.
- **Manganese**: Inhalation of metal fumes - Degenerative changes in human brain; Behavioral: Changes in motor activity and muscle weakness (Whitlock *et al.,* 1966).

The above toxicity information was determined from available scientific sources to illustrate the prevailing posture of the scientific community. The scientific resources includes: The American Conference of Governmental Industrial Hygienist (ACGIH) Documentation of the Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs) with Other Worldwide Occupational Exposure Values 2020, The International Agency for Research on Cancer (IARC), The National Toxicology Program (NTP) updated documentation, the World Health Organization (WHO) and other available resources, the International Uniform Chemical Information Database (IUCLID), European Union Risk Assessment Report (EU-RAR), Concise International Chemical Assessment Documents (CICAD), European Union Scientific Committee for Occupational Exposure Limits (EU-SCOEL), Agency for Toxic Substances and Disease Registry (ATSDR), Hazardous Substance Data Bank (HSDB), and International Programme on Chemical Safety (IPCS).

The following health hazard information is provided regardless to classification criteria and is based on the individual component(s) and potential resultant components from further processing:

Acute Effects by component:

- **Iron and oxides:** Iron is harmful if swallowed, causes skin irritation, and causes eye irritation. Contact with iron oxide has been reported to cause skin irritation and serious eye damage.
- **Manganese and oxides:** Manganese and Manganese oxide are harmful if swallowed.
- **Nickel and oxides:** Nickel may cause allergic skin sensitization. Nickel oxide may cause an allergic skin.
- **Aluminum:** Not Reported/ Not Classified
- **Zinc and zinc oxides:** Not Reported/ Not Classified

Delayed (chronic) Effects by component:

- **Iron and oxides**: Chronic inhalation of excessive concentrations of iron oxide fumes or dusts may result in the development of a benign pneumoconiosis, called siderosis, which is observable as an X-ray change. No physical impairment of lung function has been associated with siderosis. Inhalation of excessive concentrations of ferric oxide may enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens. Iron oxide is listed as a Group 3 (not classifiable) carcinogen by the International Agency for Research on Cancer (IARC).
- **Manganese and oxides:** Chronic exposure to high concentrations of manganese fumes and dusts may adversely affect the central nervous system with symptoms including languor, sleepiness, weakness, emotional disturbances, spastic gait, mask-like facial expression and paralysis. Animal studies indicate that manganese exposure may increase susceptibility to bacterial and viral infections. Occupational overexposure (Manganese) is a progressive, disabling neurological syndrome that typically begins with relatively mild symptoms and evolves to include altered gait, fine tremor, and sometimes, psychiatric disturbances. May cause damage to lungs with repeated or prolonged exposure. Neurobehavioral alterations in worker populations exposed to MnO including: speed and coordination of motor function are especially impaired.
- **Nickel and oxides:** Exposure to nickel dusts and fumes can cause sensitization dermatitis, respiratory irritation, asthma, pulmonary fibrosis, edema, and may cause nasal or lung cancer in humans. Causes damage to lungs through prolonged or repeated inhalation exposure. IARC lists nickel and certain nickel compounds as Group 2B carcinogens (sufficient animal data). ACGIH 2017 TLVs® and BEIs® lists insoluble nickel compounds as confirmed human carcinogens. Suspected of damaging the unborn child.
- **Aluminum**: Chronic inhalation of finely divided powder has been reported to cause pulmonary fibrosis and emphysema. Repeated skin contact has been associated with bleeding into the tissue, delayed hypersensitivity and granulomas. Chronic exposure to aluminum flake has been reported to cause pneumoconiosis in workers. Repeat oral exposure to aluminum results in decrements in neurobehavioral function and development.
- **Zinc and zinc oxides:** Zinc is a low health risk by inhalation and should be treated as a nuisance dust. Inhalation of zinc oxide fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count.

Section 12 - Ecological Information

12(a) Ecotoxicity (aquatic & terrestrial): No Data Available for **GALVALUME® Sheet – Carbon Steel** as sold/shipped. However, individual components of the product when processed have been found to be toxic to the environment. Metal dusts may migrate into soil and groundwater and be ingested by wildlife as follows:

- **Iron Oxide**: LC_{50}: >1000 mg/L; Fish 48 h-EC_{50} > 100 mg/L (Currenta, 2008k); 96 h-$LC_0 \geq$ 50,000 mg/l. Test substance: Bayferrox 130 red (95 – 97% Fe_2O_3; < 4% SiO_2 and Al_2O_3) (Bayer, 1989a).
- **Nickel Oxide:** IUCLID found LC_{50} in fish, invertebrates and algae > 100 mg/l.
- **Zinc:** EU RAR lists as Category 1 Very toxic to aquatic life with long lasting effects.

12(b) Persistence & Degradability: No Data Available

12(c) Bioaccumulative Potential: No Data Available

12(d) Mobility (in soil): No data available for **GALVALUME® Sheet – Carbon Steel** as sold/shipped. However, individual components of the product have been found to be absorbed by plants from soil.

12(e) Other adverse effects: None Known

Section 12 - Ecological Information (continued)

Additional Information:

Hazard Category: Category 1 **Signal Word:** Warning

Hazard Symbol: 

Hazard Statement: Very Toxic to aquatic life with long lasting effects.

Section 13 - Disposal Considerations

Disposal: GALVALUME® Sheet–Carbon Steel should be recycled whenever possible. Product dusts and fumes from processing operations should also be recycled, or classified by a competent environmental professional and disposed of in accordance with applicable federal, state or local regulations.

Container Cleaning and Disposal: Follow applicable federal, state and local regulations. Observe safe handling precautions. European Waste Catalogue (EWC): 16-01-17 (ferrous metals), 12-01-99 (wastes not otherwise specified), 16-03 (off specification batches and unused products), or 15-01-04 (metallic packaging).

Please note this information is for GALVALUME® Sheet–Carbon Steel in its original form. Any alterations can void this information.

Section 14 - Transport Information

14 (a-g) Transportation Information:

US Department of Transportation (DOT) under 49 CFR 172.101 **does not** regulate **GALVALUME® Sheet–Carbon Steel** as a hazardous material. All federal, state, and local laws and regulations that apply to the transport of this type of material must be adhered to.

Shipping Name: Not Applicable (NA) **Shipping Symbols:** NA **Hazard Class:** NA **UN No:** NA **Packing Group:** NA **DOT/ IMO Label:** NA **Special Provisions (172.102):** NA	**Packaging Authorizations** **a) Exceptions:** NA **b) Group:** NA **c) Authorization:** NA	**Quantity Limitations** **a) Passenger, Aircraft, or Railcar:** NA **b) Cargo Aircraft Only:** NA **Vessel Stowage Requirements** **a) Vessel Stowage:** NA **b) Other:** NA **DOT Reportable Quantities**: NA

International Maritime Dangerous Goods (IMDG) and the Regulations Concerning the International Carriage of Dangerous Goods by Rail (RID) classification, packaging and shipping requirements follow the US DOT Hazardous Materials Regulation.

Regulations Concerning the International Carriage of Dangerous Goods by Road (ADR) does not regulate **GALVALUME® Sheet–Carbon Steel** as a hazardous material.

Shipping Name: Not Applicable (NA) **Classification Code:** NA **UN No:** NA **Packing Group:** NA **ADR Label:** NA **Special Provisions:** NA **Limited Quantities:** NA	**Packaging** **a) Packing Instructions:** NA **b) Special Packing Provisions:** NA **c) Mixed Packing Provisions:** NA	**Portable Tanks & Bulk Containers** **a) Instructions:** NA **b) Special Provisions:** NA

International Air Transport Association (IATA) does not regulate **GALVALUME® Sheet–Carbon Steel** as a hazardous material.

Shipping Name: Not Applicable (NA) **Class/Division:** NA **Hazard Label (s):** NA **UN No:** NA **Packing Group:** NA **Excepted Quantities (EQ):** NA	**Passenger & Cargo Aircraft** **Limited Quantity (EQ)**		**Cargo Aircraft Only:** **Pkg Inst:** NA **Max Net Qty/Pkg:** NA	**Special Provisions:** NA **ERG Code:** NA
	Pkg Inst: NA **Max Net Qty/Pkg:** NA	**Pkg Inst:** NA **Max Net Qty/Pkg:** NA		

Pkg Inst – Packing Instructions Max Net Qty/Pkg – Maximum Net Quantity per Package ERG – Emergency Response Drill Code

Transport Dangerous Goods (TDG) Classification: GALVALUME® Sheet–Carbon Steel does not have a TDG classification.

Section 15 - Regulatory Information

Regulatory Information: *The following listing of regulations relating to a U. S. Steel product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.*

This product and/or its constituents are subject to the following regulations:

SARA Potential Hazard Categories: Immediate Acute Health Hazard; Delayed Chronic Health Hazard

Section 15 - Regulatory Information

Section 313 Supplier Notification: The product, **GALVALUME® Sheet–Carbon Steel** contains the following toxic chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372:

CAS #	Chemical Name	Percent by Weight
7439-96-5	Manganese	2.0 max
7440-02-0	Nickel	0.2 max
7440-66-6	Zinc	4.2 max

State Regulations: The product, **GALVALUME® Sheet–Carbon Steel** as a whole is not listed in any state regulations. However, individual components of the product are listed in various state regulations:

California Prop. 65:

This product can expose you to chemicals including nickel (metallic) which is known to the State of California to cause cancer; and no chemicals which is known to the State of California to cause reproductive toxicity. For more information go to www.P65Warnings.ca.gov.

Other Regulations:

WHMIS Classification (Canadian): The product, **GALVALUME® Sheet–Carbon Steel** is not listed as a whole. However individual components are listed.

Ingredients	WHMIS Classification
Iron	Combustible dusts - Category 1 (may form combustible dust concentrations in air)
Manganese	Reproductive toxicity - Category 2; Specific target organ toxicity - repeated exposure - Category 1; Combustible dusts*
Nickel	Skin sensitization – Category 1; Carcinogenicity – Category 2; Specific target organ toxicity – repeated exposure - Category 1

* This product could belong to the hazard class "Combustible dust", based on various factors related to the combustibility and explosiveness of its dust, including composition, shape and size of the particles

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations

Section 16 - Other Information

Prepared By: United States Steel Corporation

Revision History:

6/29/2020 – Update Sections 2, 8, 11 & 15

5/01/2017 – Update WHMIS 2015

4/01/2014 - Update to OSHA HAZ COM 2012

Expiration Date: 6/29/23 (For shipments to Canada only)

12/16/10 – Update of content and format to comply with GHS. Replaces USS Code 3C016

8/01/1985 - Original

Additional Information:

Hazardous Material Identification System (HMIS) Classification

Health Hazard	1
Fire Hazard	0
Physical Hazard	0

HEALTH= **1**, Denotes possible chronic hazard if airborne dusts or fumes are generated Irritation or minor reversible injury possible.

FIRE= **0**, Materials that will not burn.

PHYSICAL HAZARD= **0**, Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.

National Fire Protection Association (NFPA)

HEALTH = **1**, Exposure could cause irritation but only minor residual injury even if no treatment is given.

FIRE = **0,** Materials that will not burn.

INSTABILITY = **0**, Normally stable, even under fire exposure conditions, and are not reactive with water.

ABBREVIATIONS/ACRONYMS:

ACGIH	American Conference of Governmental Industrial Hygienists	**NIF**	No Information Found
BEIs	Biological Exposure Indices	**NIOSH**	National Institute for Occupational Safety and Health
CAS	Chemical Abstracts Service	**NTP**	National Toxicology Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	**ORC**	Organization Resources Counselors
CFR	Code of Federal Regulations	**OSHA**	Occupational Safety and Health Administration
CNS	Central Nervous System	**PEL**	Permissible Exposure Limit
GI, GIT	Gastro-Intestinal, Gastro-Intestinal Tract	**PNOR**	Particulate Not Otherwise Regulated
HMIS	Hazardous Materials Identification System	**PNOC**	Particulate Not Otherwise Classified
IARC	International Agency for Research on Cancer	**PPE**	Personal Protective Equipment
LC50	Median Lethal Concentration	**ppm**	parts per million
LD50	Median Lethal Dose	**RCRA**	Resource Conservation and Recovery Act
LD $_{Lo}$	Lowest Dose to have killed animals or humans	**RTECS**	Registry of Toxic Effects of Chemical Substances
LEL	Lower Explosive Limit	**SARA**	Superfund Amendment and Reauthorization Act
LOEL	Lowest Observed Effect Level	**SCBA**	Self-contained Breathing Apparatus
LOAEC	Lowest Observable Adverse Effect Concentration	**SDS**	Safety Data Sheet

Section 16 - Other Information (continued)

ABBREVIATIONS/ACRONYMS (continued):

µg/m³	microgram per cubic meter of air		**STEL**	Short-term Exposure Limit
mg/m³	milligram per cubic meter of air		**TLV**	Threshold Limit Value
mppcf	million particles per cubic foot		**TWA**	Time-weighted Average
MSHA	Mine Safety and Health Administration		**UEL**	Upper Explosive Limit
NFPA	National Fire Protection Association			

Disclaimer: This information is taken from sources or based upon data believed to be reliable. However, United States Steel Corporation makes no warranty as to the absolute correctness or sufficiency of any of the foregoing or that additional or other measures may not be required under particular conditions.

STONEWOOD

Safety Data Sheet

Section 1: Identification

Product Name: Stonewood Arch. Class-A UV Resistant Exterior Panels

Product Traits: Class-A, UV Resistant, Dyed, Decorative

Supplier Information:
Fiberesin Industries Inc.
37031 E. Wisconsin Ave.
PO Box 88, Oconomowoc, WI 53066
262-567-4427

Emergency Phone Number: CHEMTREC (800) 424-9300 (USA)
(703) 527-3887 (International)

Section 2: Hazards Identification

Material Classification: Non-Hazardous

GHS Label Elements:

Hazard Pictograms- NA

Signal Word- Non-Hazardous

Hazard Statements- Product is considered non-hazardous.

NFPA Rating: 

Health-0 Fire-1 Reactivity-0 Special-None

Precautionary Statements: Fine particle dust may be combustible during handling and processing. Dust may cause skin/lung irritation.

Section 3: Composition & Information On Components

Component	CAS Number	Composition	Component Information
Phenolic Resin	9003-35-4	25-40%	Phenolic resin is thermoset material that in a cured state possess no harmful effects.
Melamine Resin	108-78-1	2-7%	Melamine resin is thermoset material that in as cured state poses no harmful effects.
Treated Cellulose Pulp	65996-61-4	60-75%	Treated cellulose pulp that after being thermally cured poses no harmful effects during normal use.
Black Dye	Redacted	Minimal	Trade Secret Black Dye; poses no harmful effects during normal use.
UV Protector	Redacted	Minimal	Trade Secret UV Protector; poses no harmful effects during regular use.

Section 4: First-Aid Measures

Descriptions of First Aid:

Eye Contact-	Product is a non-hazardous solid. Fabrication operations such as milling, grinding, or cutting may produce particles that may irritate the eyes. In case of contact, rinse eyes with water for 15 minutes; if irritation persists, seek medical attention.
Respiratory Contact-	Product is a non-hazardous solid. Fabrication operations such as milling, grinding, or cutting may produce particles that may cause irritation to the respiratory track. If irritation persists, seek medical attention.
Skin Contact-	Product might be abrasive, and sharp edges may break the skin; wear gloves during product transportation. Fabrication operations such as milling, grinding, or cutting may produce particles that may irritate the skin and aggravate existing skin conditions; wash with soap and water. If irritation persists, seek medical attention.
Ingestion-	The product is not designed for ingestion and is not to be expected to be consumed during normal use.

Medical Treatments: No special medical treatments are required.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media:	Appropriate extinguishing media include, but are not limited to: Water Fog, Carbone Dioxide, Dry Chemical, Chemical Foam, and Full Water Jet.
Unsuitable Extinguishing Media:	No inappropriate extinguishing media has been recorded.
Hazards During Decomposition:	During decomposition Carbon-Oxides (CO and CO_2) and various Hydrocarbons may be released.
Fire Fighter Recommendations:	Self-contained breathing apparatus and appropriate apparel for surrounding fires is recommended.

Section 6: Accidental Release Measures

Non-Emergency Personal:	Product is a non-hazardous solid.
Emergency Responders:	Product is a non-hazardous solid.
Environmental Precautions:	Product poses no environmental concern.
Material Clean Up:	Product is a non-hazardous solid. Use of sound judgment when cleaning will limit any potential risk.

Section 7: Handling and Storage

Handling Precautions:	Handling should follow normal good hygiene practices: protect skin from cuts and abrasions, minimize dust generation and accumulation, practice routine housekeeping, etc.
Storage Conditions:	Product should be stored in a dry, well-ventilated area. Exposure to excess moisture may produce pre-mature delamination and visual imperfections.

Section 8: Exposure Control & Personal Protection

Occupational Exposure Limits:	Laminate Dust PNOR OSHA PEL: TWA 5 mg/m^3 (Respirable) OSHA PEL: TWA 15 mg/m^3 (Total)
Engineering Controls:	Provide adequate ventilation to maintain exposure levels of dust particles bellow acceptable limits.
Environmental Controls:	Dust generated is a Class ST-1 and precautions recommended by NFPA-68 should be followed.

Personal Protection:

Eye and Face Protection-	Wear safety glasses with side shields during fabrication that produces chips, dusts, or fines.
Respiratory Protection-	Respirators must be used if OSHA PEL for laminated dust is exceeded; recommended during fabrication.
Hearing Protection-	Hearing protection should be used during fabrication.
Hand Protection-	Use of appropriate gloves is recommended when handling and processing the uninstalled product to protect against cuts and abrasions from sharp edges.
Body Protection-	Use of sound judgment shall limit the need for any additional body protection.

Section 9: Physical and Chemical Properties

Physical State	Product is a solid panel, with a decorative exterior and a dyed black core.
Odor	Product has no significant odor.
Solubility	Product is not soluble in water.

Section 10: Stability and Reactivity

Reactivity	Product is non-reactive during intended use.
Chemical Stability	Product is stable during regular use.
Hazardous Reactions:	Product only hazardously reacts during catastrophic thermal decomposition.
Hazards During Decomposition:	During decomposition Carbon-Oxides (CO and CO_2) and various Hydrocarbons may be released.
Conditions to Avoid:	Product should be removed from environments that are at a risk of being at an elevated temperature that are abnormal to the products intended use.
Incompatible Materials:	Product should be removed from environments with strong acids or alkaline solutions and solvents, failure to do so will damage the surface appearance.

Section 11: Toxicological Information

Toxicological Effects:

Acute Toxicity-	Product has not been tested, but it is not expected to be toxic to humans or animals.
Irritation & Corrosion-	Dust particles generated in the fabrication of the product may cause mild irritation to the skin, eyes, or respiratory track. Those with pre-existing conditions may be more sensitive and should proceed accordingly.
Sensitization-	Susceptible persons might be subject to sensitization.
Mutagenicity-	The risk of mutagenicity is not expected.
Carcinogenicity-	This product may contain trace amounts of Formaldehyde and is listed by NTP as carcinogenic. Formaldehyde is known in the State of California to cause cancer.
Reproductive Toxicity-	The risk of reproductive function loss has not been reported with any resin used.

Acute Health Effects:

Eye Contact-	Not considered an issue under normal use. Dust created during fabrication may cause irritation; if irritation persists seek medical attention.
Respiratory Contact-	Not considered an issue under normal use. Dust created during fabrication may cause irritation; if symptoms persists seek medical attention.
Skin Contact-	Not considered an issue under normal use. Dust created during fabrication may cause irritation; if irritation persists seek medical attention.
Ingestion-	The product is not designed for ingestion and is not to be expected to be consumed during normal use.

Section 12: Ecological Information

Eco-Toxicity: No distinguishable eco-toxins when cured.

Degradability: Thermosetting resins do not decompose readily.

Bioacculalative Potential: Not expected to absorb or diffuse any harmful chemicals.

Mobility in Soil: Not expected move within the environment.

Other Adverse Effects: No additional information available.

Section 13: Disposal Information

EPA Hazardous Waste Number: Product has no RCRA.

Disposal Methods: Product is not classified as hazardous waste. Dispose in accordance to federal, state, and local regulations.

Section 14: Transport Information

Precautions for User: Product is non-toxic and no special accommodations or restrictions are necessary for its transport. Gloves are recommended during loading, unloading, and packaging to prevent against cuts and abrasions form sharp edges.

Section 15: Regulatory Information

U.S. Federal Regulations: Product has no federal restrictions or regulations.

U.S. State Regulations: CA Prop 65: This Product contains a chemical know to the State of California to cause cancer and or reproductive toxicity. Contains Formaldehyde (CAS 50-0-0) or Methanol (CAS 67-56-1) in trace amounts. Risk assessment has not been performed on this product, however it is not expected to pose significant risks.

Section 16: Additional Information

Date of Issue: August 31st, 2016

Date of Previous Issue: May 31st, 2016

Version: R-1

Authorized By: Technical Services Director

Triangle Fastener Corporation

Conforms to OSHA HazCom 2012 Standard and WHMIS 2015

SAFETY DATA SHEET

Section 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: APS 500 Advanced Polymer Sealant

Product Code: Not Available

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: Sealant

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEETS

Name/Address: Triangle Fastemer Corporation
1925 Preble Ave
Pittsburgh, PA 15233

Telephone Number: (412) 321-5000

1.4 EMERGENCY TELEPHONE NUMBER

Emergency Telephone Number: CHEMTREC 1-800-424-9300 (US and Canada)
INTERNATIONAL + 1-703-527-3887

Section 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL IN ACCORDANCE WITH PARAGRAPH (d) OF 29 CFR 1910.1200 (OSHA HAZCOM2012)

Eye Irritation	**Category 2A**
Skin Sensitization	**Category 1**
Carcinogenicity	**Category 1A**
Reproductive Toxicity	**Category 1B**

2.2 LABEL ELEMENTS ACCORDING TO OSHA HAZCOM2012

2.2a SIGNAL WORD:
DANGER!

2.2b HAZARD STATEMENTS
Causes serious eye irritation
May cause an allergic skin reaction
May cause cancer
May damage fertility or the unborn child

2.2c HAZARD PICTOGRAMS

2.2d PRECAUTIONARY STATEMENTS

i. PREVENTION	Wash hands thoroughly after handling. Do not breathe vapors/fumes. Do not eat, drink or smoke while using this product. Use in a well ventilated area. Wear impervious gloves/protective clothing/eye protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Contaminated work clothing must not be allowed out of the workplace.
ii. RESPONSE	If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center/doctor. If swallowed: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell. If exposed or concerned: Get medical advice/attention.
iii. STORAGE	Store locked up. Store in a well-ventilated place. Keep container tightly closed.
iv. DISPOSAL	Dispose of contents/containers in accordance with all local, state, provincial, and federal regulations.

2.3 ADDITIONAL INFORMATION

2.3a HNOC – HAZARDS NOT OTHERWISE CLASSIFIED

Not Applicable

2.3b UNKNOWN ACUTE TOXICITY

40.8% of the mixture consists of ingredient(s) of unknown acute toxicity.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Chemical Name	CAS Number	Weight %
Calcium Carbonate**	1317-65-3	30 – 60%*
Silyl Terminated Polyethers	Proprietary	10 – 30%*
Trimethoxyvinylsilane	2768-02-7	0.5 – 1.5%*
Aminoalkoxysilane	1760-24-3	0.5 – 1.5%*
Dibutyltin bis(acetylacetonate)	22673-19-4	0.1 – 1.0%*
Crystalline Silica, Quartz**	14808-60-7	0.1 – 1.0%*

**Inhalation of particulates unlikely due to product's physical state.

*Means that the component will fall into one of the ranges specified due to batch-to-batch variability and to protect Confidential Business Information.

Section 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST-AID MEASURES

ROUTES OF EXPOSURE	DESCRIPTION
Eye Contact:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention immediately.
Skin Contact:	In case of contact, immediately flush skin with plenty of soap and water. For minor skin contact, avoid spreading material on unaffected skin. If skin irritation or rash occurs: get medical attention/advice. Take off contaminated clothing and wash before reuse.
Inhalation:	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
Ingestion:	If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2 MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED

ROUTES OF EXPOSURE	DESCRIPTION
Eye Contact:	Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Skin Contact:	May cause skin irritation. Handling can cause dry skin, discomfort, irritation, and dermatitis. May cause an allergic skin reaction.

Inhalation: May cause respiratory tract irritation. May cause damage to organs through prolonged or repeated exposure. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica from this product can cause silicosis, a serious disabling and fatal lung disease.

Ingestion: May be harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

4.3 INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Note to Physicians: Symptoms may not appear immediately.

Specific Treatments: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Section 5: FIRE-FIGHTING MEASURES

5.1 FLAMMABILITY

Flammability: Not Flammable/Not Combustible by WHMIS/OSHA HAZCOM2012 Criteria

5.2 EXTINGUISHING MEDIA

5.2a. Suitable Extinguishing Media:
Treat for surrounding material.

5.2b. Unsuitable Extinguishing Media:
Water

5.3 SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

5.3a. Products of Combustion:
By heating and fire, harmful vapors/gases may be formed. Nitrogen Oxides(corrosive)

5.3b. Explosion Data

i. Sensitivity to Mechanical Impact:
Not Available

ii. Sensitivity to Static Discharge:
Not Available

5.4 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS

Keep upwind of fire. Wear full fire fighting turn-out gear(full bunker gear) and respiratory protection (SCBA).

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Methods for Containment: Recover all usable material. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for Cleaning-Up: Dispose of unwanted material properly in accordance with all local, regional, national and international regulations.

Section 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Handling: Use in well-ventilated areas. Wear impervious gloves and eye protection. Do not mix with other chemical products, except as indicated by the manufacturers. Do not get in eyes. Do not get on skin or clothing. Do not breathe vapors/fumes. Do not take internally.

General Hygiene Advice: Use good industrial hygiene practices and wear recommended personal protection. Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage: Store locked up. Keep out of the reach of children. Keep container tightly closed. Store at room temperature and keep containers closed when not in use.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETER

Exposure Guidelines:

Occupational Exposure Limits		
Chemical Name	**OSHA-PEL**	**ACGIH-TLV**
Calcium Carbonate**	5 mg/m^3 (Resp.) 15 mg/m^3 (Total)	5 mg/m^3 (Resp.)
Silyl Terminated Polyethers	Not Available	Not Available
Trimethoxyvinylsilane	Not Available	Not Available

Aminoalkoxysilane	Not Available	Not Available
Dibutyltin bis(acetylacetonate)	0.1 mg/m^3	0.1 mg/m^3
Crystalline Silica, Quartz**	0.05 mg/m^3	0.025 mg/m^3 (Resp.)

**Inhalation of particulates unlikely due to product's physical state.

8.2 EXPOSURE CONTROLS

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

8.3 INDIVIDUAL PROTECTION MEASURES

8.3a. Personal Protective Equipment:

i. **Eye/Face Protection:** Wear approved eye protection [properly fitted dust- or splash-proof chemical safety goggles/face (face shield)]

ii. **Skin Protection:**

1. **Hand Protection:** Wear impervious gloves, such as nitrile.

2. **Body Protection:** Wear suitable protective clothing.

iii. **Respiratory Protection:** A NIOSH approved respirator or filtering face piece, such as N95, is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

iv. **General Health and Safety Measures:** Handle according to established industrial hygiene and safety practices.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.):	Opaque Paste
Odor:	Mint-like
Odor Threshold:	Mild
pH:	7 - 8
Melting point/Freezing point:	Not Available
Initial boiling point and boiling range:	Not Available
Flash point:	Not Available
Evaporation rate (Water=1):	Not Available
Flammability:	Not Flammable/Not Combustible
Upper Flammability/Explosive Limit:	Not Available
Lower Flammability/Explosive Limit:	Not Available
Vapor Pressure	Not Available

Vapor Density:	Not Available
Relative Density:	1.65 – 1.85 g/mL
Solubility in Water:	Insoluble
Partition coefficient: n-octanol/water:	Not Available
Auto-ignition temperature:	Not Available
Decomposition Temperature:	Not Available
Viscosity (cps):	Approximately 1,000,000 cP
VOC Content:	<16 g/L, less water and exempt solvents

Section 10: STABILITY AND REACTIVITY

10.1. REACTIVITY
No dangerous reaction known under conditions of normal use.

10.2. CHEMICAL STABILITY
Stable under normal storage conditions. Keep dry in storage.

10.3. POSSIBILITY OF HAZARDOUS REACTION
No dangerous reaction known under conditions of normal use.

10.4. CONDITIONS TO AVOID
Heat. Incompatible materials.

10.5. INCOMPATIBLE MATERIALS
Strong oxidizing agents. Water and moisture.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS
Carbon oxides. Nitrogen Oxides (NOx). Aldehydes. Methanol.

Section 11: TOXICOLOGICAL INFORMATION

11.1. LIKELY ROUTES OF EXPOSURE:
Skin contact, eye contact, inhalation, and ingestion.

11.2. SYMPTOMS RELATED TO PHYSICAL/CHEMICAL/TOXICOLOGICAL CHARACTERISTICS:

Eye Contact: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Skin Contact: May cause skin irritation. Handling can cause dry skin, discomfort, irritation, and dermatitis. May cause an allergic skin reaction.

Inhalation: May cause respiratory tract irritation. May cause damage to organs through prolonged or repeated exposure. This product contains crystalline silica. Prolonged or repeated inhalation of

respirable crystalline silica from this product can cause silicosis, a serious disabling and fatal lung disease.

Ingestion: May be harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

Acute Toxicity(ATE_{mix}= 5,889 mg/kg)		
Chemical Name	**LC50**	**LD50**
Calcium Carbonate	Not Available	Oral: 6,450 mg/kg, rat
Silyl Terminated Polyethers	Not Available	Not Available
Trimethoxyvinylsilane	Not Available	Oral: >7,000 mg/kg, rat
Aminoalkoxysilane	Not Available	Oral: >7,500 mg/kg, rat
Dibutyltin bis(acetylacetonate)	Not Available	Oral: 1,864 mg/kg, rat
Crystalline Silica, Quartz	Not Available	Oral: >10,000 mg/kg, rat

Carcinogenicity	
Chemical Name	**Chemical Listed as Carcinogens or Potential Carcinogen (NTP,IARC,OSHA,ACGIH,CP65)**
Calcium Carbonate	Not Listed
Silyl Terminated Polyethers	Not Listed
Trimethoxyvinylsilane	Not Listed
Aminoalkoxysilane	Not Listed
Dibutyltin bis(acetylacetonate)	Not Listed
Crystalline Silica, Quartz	N-2, I-1, O-1, ACGIH-A2, CP65

11.3. DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT AND LONG-TERM EXPOSURE

SHORT-TERM	
Skin Corrosion/Irritation:	May cause skin irritation
Serious Eye Damage/Irritation:	Causes serious eye irritation
Respiratory Sensitization:	Not Classified
Skin Sensitization:	May cause an allergic skin reaction
STOT-Single Exposure:	May cause respiratory irritation
Aspiration Hazard:	Not Classified
LONG-TERM	
Carcinogenicity:	May cause cancer
Germ Cell Mutagenicity:	Not Classified
Reproductive Toxicity:	May damage fertility or the unborn child
STOT-Repeated Exposure:	Not Classified
Synergistic/Antagonistic Effects:	Not Classified

Section 12: ECOLOGICAL INFORMATION

12.1. ECOTOXICITY

May cause long-term adverse effects to the aquatic environment. Keep from entry into sewers and waterways.

Ecotoxicity		
Chemical Name	**EC50/NOEC-48 Hours**	**LC50/NOEC-96 Hours**
Calcium Carbonate	Not Available	Not Available
Silyl Terminated Polyethers	Not Available	Not Available
Trimethoxyvinylsilane	168.7 mg/L, Daphnia magna	597 mg/L, Brachydanio rerio
Aminoalkoxysilane	81 mg/L, Daphnia magna	597 mg/L, Brachydanio rerio
Dibutyltin bis(acetylacetonate)	0.0036 mg/L, Daphnia magna	Not Available
Crystalline Silica, Quartz	Not Available	Not Available

12.2. PERSISTENCE AND DEGRADABILITY
Not Available

12.3. BIOACCUMULATIVE POTENTIAL
Not Available

12.4. MOBILITY IN SOIL
Not Available

12.5. OTHER ADVERSE EFFECTS
Not Available

Section 13: DISPOSAL CONSIDERATIONS

13.1. DISPOSAL METHOD
Dispose of contents/containers in accordance with all local, state, provincial, and federal regulations

13.2. OTHER DISPOSAL CONSIDERATIONS
Not Available

Section 14: TRANSPORT INFORMATION

DOT (U.S.)	TDG (CANADA)	IATA
UN NUMBER: Not Regulated	**UN NUMBER:** Not Regulated	**UN NUMBER:** Not Regulated
UN PROPER SHIPPING NAME: Not Regulated	**UN PROPER SHIPPING NAME:** Not Regulated	**UN PROPER SHIPPING NAME:** Not Regulated
TRANSPORT HAZARD CLASS (ES): Not Regulated	**TRANSPORT HAZARD CLASS (ES):** Not Regulated	**TRANSPORT HAZARD CLASS (ES):** Not Regulated
PACKING GROUP (if applicable): Not Regulated	**PACKING GROUP (if applicable):** Not Regulated	**PACKING GROUP (if applicable):** Not Regulated

SUMMARY: Product is NOT regulated under DOT/TDG and other transportation regulations.

14.1. ENVIRONMENTAL HAZARDS
Not Available

14.2. TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE
Not Available

14.3. SPECIAL PRECAUTIONS FOR USER
Do not handle until all safety precautions have been read and understood.

Section 15: REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATIONS SPECIFIC FOR THE CHEMICAL

Canada: This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

US: SDS prepared pursuant to the Hazard Communication Standard (29 CFR 1910.1200) HazCom 2012

15.2. US FEDERAL INFORMATION:

	SARA TITLE III			
CHEMICAL NAME	**SECTION 302 (EHS) TPQ (LBS)**	**SECTION 304 EHS RQ (LBS)**	**CERCLA RQ (LBS)**	**SECTION 313 (TRI)**
Calcium Carbonate	Not Listed	Not Listed	Not Listed	Not Listed
Silyl Terminated Polyethers	Not Listed	Not Listed	Not Listed	Not Listed
Trimethoxyvinylsilane	Not Listed	Not Listed	Not Listed	Not Listed
Aminoalkoxysilane	Not Listed	Not Listed	Not Listed	Not Listed
Dibutyltin bis(acetylacetonate)	Not Listed	Not Listed	Not Listed	Not Listed
Crystalline Silica, Quartz	Not Listed	Not Listed	Not Listed	Not Listed

15.3. US STATE RIGHT TO KNOW LAWS:

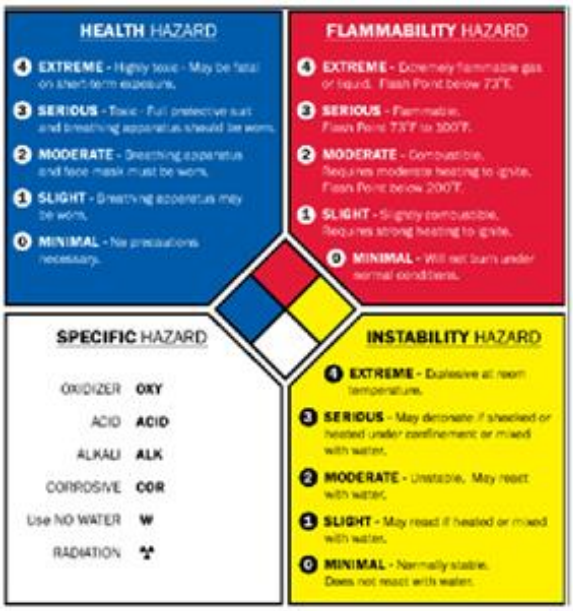
California Proposition 65:	**WARNING:** This product can expose you to chemicals including crystalline silica, which is known to the State of California to cause cancer, and methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to **www.P65Warnings.ca.gov**
Other U.S. States "Right to Know" Lists:	Calcium Carbonate: **CAS#1317-65-3** Silyl Terminated Polyethers: **CAS# N/A** Trimethoxyvinylsilane: **CAS#2768-02-7** Aminoalkoxysilane: **CAS#1760-24-3** Dibutyltin bis(acetylacetonate): **CAS#22673-19-4** Crystalline Silica, Quartz: **CAS#14808-60-7**

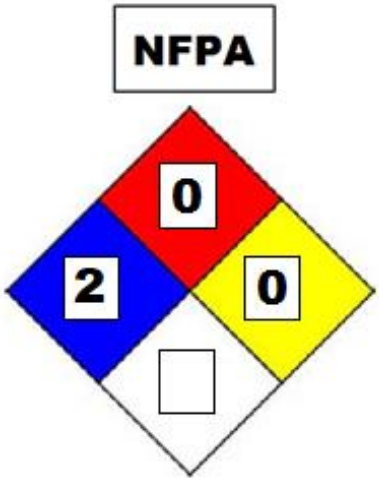
15.4. GLOBAL INVENTORIES

Chemical Name	USA TSCA	Canada DSL/NDSL
Calcium Carbonate	Yes	NDSL
Silyl Terminated Polyethers	Yes	DSL
Trimethoxyvinylsilane	Yes	DSL
Aminoalkoxysilane	Yes	DSL
Dibutyltin bis(acetylacetonate)	Yes	DSL
Crystalline Silica, Quartz	Yes	DSL

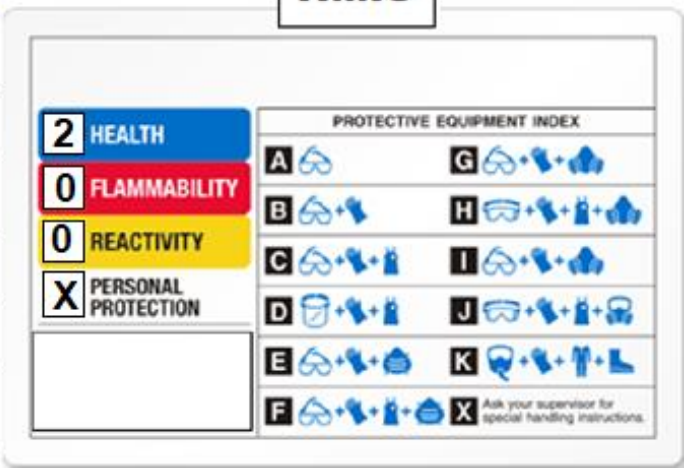
15.5. NFPA AND HMIS RATINGS:

SAFETY DATA SHEET





Hazard Index	
4	Severe Hazard
3	Serious Hazard
2	Moderate Hazard
1	Slight Hazard



15.6. SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

CP65	California Proposition 65
OSHA (O)	Occupational Safety and Health Administration
ACGIH (G)	American Conference of Governmental Industrial Hygienists • A1 – Confirmed human carcinogen • A2 – Suspected human carcinogen • A3 – Animal carcinogen • A4 – Not classifiable as a human carcinogen • A5 – Not suspected a human carcinogen
IARC (I)	International Agency for Research on Cancer • 1 – The agent (mixture) is carcinogenic to humans

	• 2A – The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals. • 2B – The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals. • 3 – The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans. • 4 – The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.
NTP (N)	National Toxicology Program • 1 – Known to be carcinogens • 2 – Reasonably anticipated to be carcinogens

Section 16: OTHER INFORMATION

Date of Preparation: May 5, 2015

Version: 1.2

Revision Date: June 15, 2020

Disclaimer: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.

Prepared by:

Triangle Fastemer Corporation
Phone: (412) 321-5000
http://www.trianglefastener.com/

End of Safety Data Sheet

Conforms to OSHA HazCom 2012 Standard and WHMIS 2015

SAFETY DATA SHEET

Section 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: TFC Non-Skinning Butyl Sealant

Product Code: Not Available

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: Sealant

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEETS

Name/Address: **Triangle Fastener Corporation**
1925 Preble Ave
Pittsburgh, PA 15233

Telephone Number: 1-412-321-5000

1.4 EMERGENCY TELEPHONE NUMBER

Emergency Telephone Number: CHEMTREC 1-800-424-9300 (US and Canada)
INTERNATIONAL + 1-703-527-3887

Section 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL IN ACCORDANCE WITH PARAGRAPH (d) OF 29 CFR 1910.1200 (OSHA HAZCOM2012)

Flammable Liquid	**Category 4**
Aspiration Hazard	**Category 1**
Eye Irritation	**Category 2A**
Carcinogenicity	**Category 1A**
Specific Target Organ Toxicity—Single Exposure	**Category 3**
Specific Target Organ Toxicity—Repeated Exposure	**Category 2**

2.2 LABEL ELEMENTS ACCORDING TO OSHA HAZCOM2012

2.2a SIGNAL WORD:
DANGER!

2.2b HAZARD STATEMENTS
Combustible liquid
May be fatal if swallowed and enters airways
Causes serious eye irritation
May cause cancer
May cause respiratory irritation
May cause damage to organs through prolonged or repeated exposure

2.2c HAZARD PICTOGRAMS

2.2d PRECAUTIONARY STATEMENTS

i. PREVENTION	Keep away from flames and hot surfaces. No smoking. Wash hands thoroughly after handling. Do not breathe vapors/fumes. Do not eat, drink or smoke while using this product. Use outdoors or in a well-ventilated area. Wear impervious gloves/protective clothing/eye protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
ii. RESPONSE	In case of fire: Use ABC extinguisher to extinguish. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center/doctor. If swallowed: Immediately call a poison center/doctor. Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.
iii. STORAGE	Store locked up. Store in a well-ventilated place. Keep cool. Keep container tightly closed.
iv. DISPOSAL	Dispose of contents/containers in accordance with all local, state, provincial, and federal regulations.

2.3 ADDITIONAL INFORMATION

2.3a HNOC – HAZARDS NOT OTHERWISE CLASSIFIED

Not Applicable

2.3b UNKNOWN ACUTE TOXICITY

11.1% of the mixture consists of ingredient(s) of unknown acute toxicity.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Chemical Name	CAS Number	Weight %
Calcium Carbonate**	1317-65-3	40 – 70%*
Polybutene	9003-29-6	10 – 30%*
Distillates (petroleum), hydrotreated light	64742-47-8	10 – 30%*

C9-C15 Cycloalkanes	8052-41-3	1 – 5%*
C9-C15 Alkanes	8052-41-3	0.5 – 1.5%*
C9-C15 Aromatics	8052-41-3	0.5 – 1.5%*
Crystalline Silica**	14808-60-7	0.1 – 1.0%*

**Inhalation of particulates unlikely due to product's physical state.

*Means that the component will fall into one of the ranges specified due to batch-to-batch variability and to protect Confidential Business Information.

Section 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST-AID MEASURES

ROUTES OF EXPOSURE	DESCRIPTION
Eye Contact:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention immediately.
Skin Contact:	In case of contact, immediately flush skin with plenty of soap and water. For minor skin contact, avoid spreading material on unaffected skin. If skin irritation or rash occurs: get medical attention/advice. Take off contaminated clothing and wash before reuse.
Inhalation:	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
Ingestion:	If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2 MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED

ROUTES OF EXPOSURE	DESCRIPTION
Eye Contact:	Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Skin Contact:	May cause skin irritation. Handling can cause dry skin, discomfort, irritation, and dermatitis.
Inhalation:	May cause respiratory tract irritation. Prolonged exposure may cause chronic effects.
Ingestion:	May be harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

4.3 INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Note to Physicians: Symptoms may not appear immediately.

Specific Treatments: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Section 5. FIRE-FIGHTING MEASURES

5.1 FLAMMABILITY

Flammability: Combustible by WHMIS/OSHA HAZCOM2012 Criteria

5.2 EXTINGUISHING MEDIA

5.2a. Suitable Extinguishing Media:
Treat for surrounding material.

5.2b. Unsuitable Extinguishing Media:
CAUTION: Use of water spray when fighting fire may be inefficient.

5.3 SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

5.3a. Products of Combustion:
By heating and fire, harmful vapors/gases may be formed. Carbon Oxides

5.3b. Explosion Data

i. Sensitivity to Mechanical Impact:
Not Available

ii. Sensitivity to Static Discharge:
Not Available

5.4 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS

Keep upwind of fire. Wear full fire fighting turn-out gear(full bunker gear) and respiratory protection (SCBA).

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Methods for Containment: Recover all usable material. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for Cleaning-Up: Dispose of unwanted material properly in accordance with all local, regional, national and international regulations.

SAFETY DATA SHEET

Section 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Handling: Keep away from flames and hot surfaces. No smoking. Use in well-ventilated areas. Wear impervious gloves and eye protection. Do not mix with other chemical products, except as indicated by the manufacturers. Do not get in eyes. Do not get on skin or clothing. Do not breathe vapors/fumes. Do not take internally.

General Hygiene Advice: Use good industrial hygiene practices and wear recommended personal protection. Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage: Store locked up. Keep out of the reach of children. Keep container tightly closed. Store at room temperature and keep containers closed when not in use.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETER
Exposure Guidelines:

Occupational Exposure Limits		
Chemical Name	**OSHA-PEL**	**ACGIH-TLV**
Calcium Carbonate**	5 mg/m^3 (Resp.) 15 mg/m^3 (Total)	5 mg/m^3 (Resp.)
Polybutene	Not Available	Not Available
Distillates (petroleum), hydrotreated light	Not Available	200 mg/m^3
C9-C15 Cycloalkanes	Not Available	400 ppm
C9-C15 Alkanes	Not Available	200 ppm
C9-C15 Aromatics	Not Available	400 ppm
Crystalline Silica**	0.1 mg/m^3	0.025 mg/m^3

**Inhalation of particulates unlikely due to product's physical state.

8.2 EXPOSURE CONTROLS

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

8.3 INDIVIDUAL PROTECTION MEASURES

8.3a. Personal Protective Equipment:

i. **Eye/Face Protection:** Wear approved eye protection [properly fitted dust- or splash-proof chemical safety goggles/face (face shield)]

ii.Skin Protection:

1. **Hand Protection:** Wear impervious gloves, such as nitrile.

2. **Body Protection:** Wear suitable protective clothing

iii. **Respiratory Protection:** A NIOSH approved respirator or filtering face piece, such as N95, is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

iv. **General Health and Safety Measures:** Handle according to established industrial hygiene and safety practices.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.):	Paste
Odor:	Mild
Odor Threshold:	Not Available
pH:	Not Available
Melting point/Freezing point:	Not Available
Initial boiling point and boiling range:	Not Available
Flash point:	>176°F (>80°C)
Evaporation rate (Water=1):	Not Available
Flammability:	Combustible
Upper Flammability/Explosive Limit:	Not Available
Lower Flammability/Explosive Limit:	Not Available
Vapor Pressure	Not Available
Vapor Density:	Not Available
Relative Density:	1.30 – 1.40 g/mL
Solubility in Water:	Insoluble
Partition coefficient: n-octanol/water:	Not Available
Auto-ignition temperature:	Not Available
Decomposition Temperature:	Not Available
Viscosity (cps):	Not Available
VOC Content:	<150 g/L (11.2%)

Section 10: STABILITY AND REACTIVITY

10.1. REACTIVITY
No dangerous reaction known under conditions of normal use.

10.2. CHEMICAL STABILITY
Stable under normal storage conditions. Keep dry in storage.

10.3. POSSIBILITY OF HAZARDOUS REACTION
No dangerous reaction known under conditions of normal use.

10.4. CONDITIONS TO AVOID
Heat. Incompatible materials.

10.5. INCOMPATIBLE MATERIALS
Strong oxidizing agents. Water and moisture.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS
Carbon Oxides.

Section 11: TOXICOLOGICAL INFORMATION

11.1. LIKELY ROUTES OF EXPOSURE:
Skin contact, eye contact, inhalation, and ingestion.

11.2. SYMPTOMS RELATED TO PHYSICAL/CHEMICAL/TOXICOLOGICAL CHARACTERISTICS:

Eye Contact: Causes eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Skin Contact: Causes skin irritation. Handling can cause dry skin, discomfort, irritation, and dermatitis. May cause an allergic skin reaction.

Inhalation: May cause respiratory tract irritation. Prolonged exposure may cause chronic effects.

Ingestion: May be harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

Acute Toxicity (ATE_{mix}= 5,627 mg/kg)		
Chemical Name	**LC50**	**LD50**
Calcium Carbonate	Not Available	Oral: 6,450 mg/kg, rat
Polybutene	Not Available	Oral: >34,600 mg/kg, rat
Distillates (petroleum), hydrotreated light	Not Available	Oral: >2,000 mg/kg, rat
C9-C15 Cycloalkanes	Not Available	Oral: >5,000 mg/kg, rat
C9-C15 Alkanes	Not Available	Oral: >5,000 mg/kg, rat
C9-C15 Aromatics	Not Available	Oral: >5,000 mg/kg, rat
Crystalline Silica	Not Available	Oral: >10,000 mg/kg, rat

Carcinogenicity	
Chemical Name	**Chemical Listed as Carcinogens or Potential Carcinogen (NTP,IARC,OSHA,ACGIH,CP65)**
Calcium Carbonate	Not Listed
Polybutene	Not Listed
Distillates (petroleum), hydrotreated light	Not Listed
C9-C15 Cycloalkanes	Not Listed
C9-C15 Alkanes	Not Listed
C9-C15 Aromatics	Not Listed
Crystalline Silica	N-2, I-1, O-1, ACGIH-A2, CP65

11.3. DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT AND LONG-TERM EXPOSURE

SHORT-TERM	
Skin Corrosion/Irritation:	May cause skin irritation
Serious Eye Damage/Irritation:	Causes serious eye irritation
Respiratory Sensitization:	Not Classified
Skin Sensitization:	Not Classified
STOT-Single Exposure:	May cause respiratory irritation
Aspiration Hazard:	May be fatal if swallowed and enters airways
LONG-TERM	
Carcinogenicity:	May cause cancer
Germ Cell Mutagenicity:	Not Classified
Reproductive Toxicity:	Not Classified
STOT-Repeated Exposure:	May cause damage to organs through prolonged or repeated exposure
Synergistic/Antagonistic Effects:	Not Classified

Section 12: ECOLOGICAL INFORMATION

12.1. ECOTOXICITY

May cause long-term adverse effects to the aquatic environment. Keep from entry into sewers and waterways.

Ecotoxicity		
Chemical Name	**EC50/NOEC-48 Hours**	**LC50/NOEC-96 Hours**
Calcium Carbonate	Not Available	Not Available
Polybutene	>1,000 mg/L, Fish	>1,000 mg/L, Daphnia magna
Distillates (petroleum), hydrotreated light	Not Available	>1,000 mg/L, Daphnia magna
C9-C15 Cycloalkanes	Not Available	Not Available
C9-C15 Alkanes	Not Available	Not Available
C9-C15 Aromatics	Not Available	Not Available
Crystalline Silica	Not Available	Not Available

12.2. PERSISTENCE AND DEGRADABILITY

Not Available

12.3. BIOACCUMULATIVE POTENTIAL

Not Available

12.4. MOBILITY IN SOIL

Not Available

12.5. OTHER ADVERSE EFFECTS

Not Available

Section 13: DISPOSAL CONSIDERATIONS

13.1. DISPOSAL METHOD

Dispose of contents/containers in accordance with all local, state, provincial, and federal regulations

13.2. OTHER DISPOSAL CONSIDERATIONS

Not Available

Section 14: TRANSPORT INFORMATION

DOT (U.S.)	TDG (CANADA)	IATA
UN NUMBER: Not Regulated	**UN NUMBER:** Not Regulated	**UN NUMBER:** Not Regulated
UN PROPER SHIPPING NAME: Not Regulated	**UN PROPER SHIPPING NAME:** Not Regulated	**UN PROPER SHIPPING NAME:** Not Regulated
TRANSPORT HAZARD CLASS (ES): Not Regulated	**TRANSPORT HAZARD CLASS (ES):** Not Regulated	**TRANSPORT HAZARD CLASS (ES):** Not Regulated
PACKING GROUP (if applicable): Not Regulated	**PACKING GROUP (if applicable):** Not Regulated	**PACKING GROUP (if applicable):** Not Regulated

SUMMARY: Product is NOT regulated under DOT/TDG and other transportation regulations.

14.1. ENVIRONMENTAL HAZARDS

Not Available

14.2. TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE

Not Available

14.3. SPECIAL PRECAUTIONS FOR USER

Do not handle until all safety precautions have been read and understood.

Section 15: REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATIONS SPECIFIC FOR THE CHEMICAL

Canada: This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

US: SDS prepared pursuant to the Hazard Communication Standard (29 CFR 1910.1200) HazCom 2012

15.2. US FEDERAL INFORMATION:

	SARA TITLE III			
CHEMICAL NAME	**SECTION 302 (EHS) TPQ (LBS)**	**SECTION 304 EHS RQ (LBS)**	**CERCLA RQ (LBS)**	**SECTION 313 (TRI)**
Calcium Carbonate	Not Listed	Not Listed	Not Listed	Not Listed

Polybutene	Not Listed	Not Listed	Not Listed	Not Listed
Distillates (petroleum), hydrotreated light	Not Listed	Not Listed	Not Listed	Not Listed
C9-C15 Cycloalkanes	Not Listed	Not Listed	Not Listed	Not Listed
C9-C15 Alkanes	Not Listed	Not Listed	Not Listed	Not Listed
C9-C15 Aromatics	Not Listed	Not Listed	Not Listed	Not Listed
Crystalline Silica	Not Listed	Not Listed	Not Listed	Not Listed

15.3. US STATE RIGHT TO KNOW LAWS:

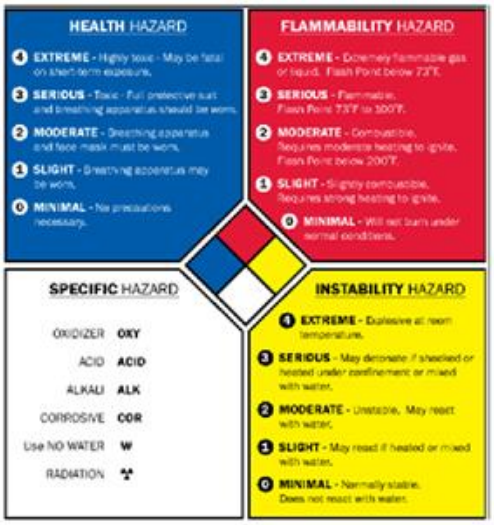
California Proposition 65:	**WARNING:** This product can expose you to chemicals including crystalline silica, which is known to the State of California to cause cancer, and benzene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to **www.P65Warnings.ca.gov**
Other U.S. States "Right to Know" Lists:	Calcium Carbonate: **CAS#1317-65-3** Polybutene: **CAS#9003-29-6** Distillates (petroleum), hydrotreated light: **CAS#64742-47-8** C9-C15 Cycloalkanes: **CAS#8052-41-3** C9-C15 Alkanes: **CAS#8052-41-3**

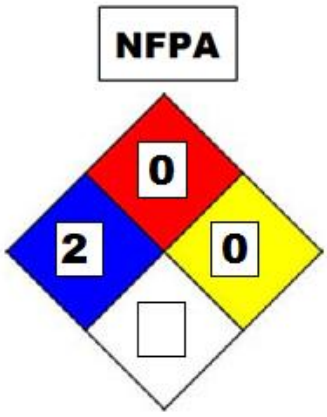
15.4. GLOBAL INVENTORIES

Chemical Name	USA TSCA	Canada DSL/NDSL
Calcium Carbonate	Yes	NDSL
Polybutene	Yes	DSL
Distillates (petroleum), hydrotreated light	Yes	DSL
C9-C15 Cycloalkanes	Yes	DSL
C9-C15 Alkanes	Yes	DSL
C9-C15 Aromatics	Yes	DSL
Crystalline Silica	Yes	DSL

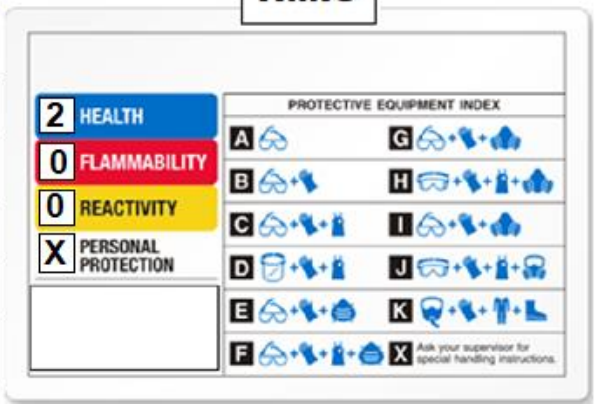
15.5. NFPA AND HMIS RATINGS:

SAFETY DATA SHEET





Hazard Index	
4	Severe Hazard
3	Serious Hazard
2	Moderate Hazard
1	Slight Hazard



15.6. SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

CP65	California Proposition 65
OSHA (O)	Occupational Safety and Health Administration
ACGIH (G)	American Conference of Governmental Industrial Hygienists • A1 – Confirmed human carcinogen • A2 – Suspected human carcinogen • A3 – Animal carcinogen • A4 – Not classifiable as a human carcinogen • A5 – Not suspected a human carcinogen
IARC (I)	International Agency for Research on Cancer • 1 – The agent (mixture) is carcinogenic to humans • 2A – The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals. • 2B – The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals. • 3 – The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans.

	• 4 – The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.
NTP (N)	National Toxicology Program • 1 – Known to be carcinogens • 2 – Reasonably anticipated to be carcinogens

Section 16: OTHER INFORMATION

Date of Preparation: July 7, 2017

Version: 1.4

Revision Date: June 10, 2020

Disclaimer: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.

Prepared by: Triangle Fastener Corporation
Phone: (412)-321-5000
http://www.trianglefastener.com/

End of Safety Data Sheet

TFC Butyl Tape

Report #: 102615SDS

Section 1. Identification

GHS product identifier : TFC Butyl Tape

Product code : 41-3700-0126-0

Other means of identification : TFC Butyl Tape, 126 Tape, 126, Edge Adhesives Rubex 126 Butyl Sealant Tape

Product type : Solid.

Relevant identified uses of the substance or mixture and uses advised against **Product use** : Sealants.

Area of application : Industrial applications.

Supplier's details : Edge Adhesives
5117 Northeast Parkway
Fort Worth, Texas, 76106

Telephone: 817-232-2026
www.EdgeAdhesives.com

Emergency telephone number (with hours of operation) : **CHEMTREC**: +1 800 424 9300 (24/7)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture :

H350	CARCINOGENICITY - Category 1A
H372	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 15.8%
Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 90.8%
Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 90.8%

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H350 - May cause cancer.
H372 - Causes damage to organs through prolonged or repeated exposure. (lungs)

Precautionary statements

TFC Butyl Tape

Section 2. Hazards identification

Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing. P260 - Do not breathe dust.
P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.

Response : P314 - Get medical attention if you feel unwell.
P308 + P313 - IF exposed or concerned: Get medical attention.

Storage : P405 - Store locked up.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification :TFC Butyl Tape, 126 Tape, 126, Edge Adhesives Rubex 126 Butyl Sealant Tape

Ingredient name	Other names	%	CAS number
Limestone	-	≥75 - ≤90	1317-65-3
Talc , not containing asbestiform fibers	-	≤10	14807-96-6
crystalline silica, respirable powder	-	<1	14808-60-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials: carbon dioxide
carbon monoxide metal
oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

TFC Butyl Tape

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non- emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers.
Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

TFC Butyl Tape

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Limestone	**OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust **NIOSH REL (United States, 10/2016).** TWA: 5 mg/m³ 10 hours. Form: Respirable fraction TWA: 10 mg/m³ 10 hours. Form: Total
Talc , not containing asbestiform fibers	**ACGIH TLV (United States, 3/2019).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction **NIOSH REL (United States, 10/2016).** TWA: 2 mg/m³ 10 hours. Form: Respirable fraction
crystalline silica, respirable powder	**OSHA PEL Z3 (United States, 6/2016).** TWA: 250 mppcf / (%SiO2+5) 8 hours. Form: Respirable TWA: 10 mg/m³ / (%SiO2+2) 8 hours. Form: Respirable **OSHA PEL (United States, 5/2018).** TWA: 50 µg/m³ 8 hours. Form: Respirable dust **ACGIH TLV (United States, 3/2019).** TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction **NIOSH REL (United States, 10/2016).** TWA: 0.05 mg/m³ 10 hours. Form: respirable dust

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side- shields.

Skin protection

TFC Butyl Tape

Section 8. Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid.

Color : Gray.

Odor : Neutral.

Odor threshold : Not available.

pH : Not applicable.

Melting point : Not available.

Boiling point : >232.22°C (>450°F)

Flash point : Not applicable.

Evaporation rate : Not applicable.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not applicable.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.65 to 1.75 [Water = 1]

Density Solubility : 1.68 to 1.74 g/cm³ [25°C (77°F)]

: Insoluble in the following materials: cold water and hot water.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : >232.22°C (>450°F)

SADT : Not available.

Viscosity : Not available.

Flow time (ISO 2431) : Not available.

TFC Butyl Tape

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Limestone	LD50 Oral	Rat	6450 mg/kg	-

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Talc , not containing asbestiform fibers	-	3	-
crystalline silica, respirable powder	-	1	Known to be a human carcinogen.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure) Not available.

Specific target organ toxicity (repeated exposure)

TFC Butyl Tape

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
Limestone	Category 1	Not determined	lungs
Talc , not containing asbestiform fibers	Category 1	Not determined	lungs
crystalline silica, respirable powder	Category 1	Inhalation	lungs

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure. No known

Mutagenicity : significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

TFC Butyl Tape

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Limestone	6450	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Conclusion/Summary : Not available.

Persistence and degradability

Not available.

Bio accumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-

TFC Butyl Tape

Section 14. Transport information

Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Additional information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

United States inventory (TSCA 8b): Not determined.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : CARCINOGENICITY - Category 1A
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1

Composition/information on ingredients

United States

TFC Butyl Tape

Section 15. Regulatory information

Name	%	Classification
Limestone	≥75 - ≤90	CARCINOGENICITY - Category 1B SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1
Talc , not containing asbestiform fibers	≤10	COMBUSTIBLE DUSTS SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1
crystalline silica, respirable powder	<1	CARCINOGENICITY - Category 1A SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) (inhalation) - Category 1

SARA 313

Not applicable.

State regulations Massachusetts : The following components are listed: CALCIUM CARBONATE; MARBLE DUST; TALC; SOAPSTONE

New York : None of the components arelisted.

New Jersey : The following components are listed: CALCIUM CARBONATE; LIMESTONE; SILICA, QUARTZ; QUARTZ (SiO2); SOAPSTONE

Pennsylvania : The following components are listed: LIMESTONE; QUARTZ DUST; QUARTZ; TALC; SOAPSTONE DUST

California Prop. 65

⚠ **WARNING**: This product can expose you to Silica, crystalline, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Silica, crystalline	-	-

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

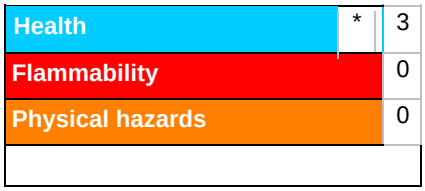
Not listed.

United States

TFC Butyl Tape

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)

Reprinted with permission from NFPA 704, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
Carc. 1A, H350 STOT RE 1, H372 (lungs)	Calculation method Calculation method

History

Date of issue/Date of revision : 09.22.20

Date of previous issue : No previous validation

Version : 1

Prepared by : Triangle Fastener Corporation

Key to abbreviations :
ATE = Acute Toxicity Estimate
AMP = Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift
BCF = Bio concentration Factor
GHS = Globally Harmonized System of Classification and Labeling of Chemicals IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

United States

TFC Butyl Tape

Section 16. Other information

N/A = Not available
UN = United Nations

References : HCS (U.S.A.)- Hazard Communication Standard
International transport regulations

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Report #: 102615SDS

REV: 08.18.21 JS

Product: Steel and Stainless Steel Screws and Rivets

Brands: BLAZER® Drill Screws, CONCEALOR® Pancake Head Screws, PANEL-TITE® Metal Roofing Screws, TRACER® Drywall Screws, DEKFAST® Roofing Screws, TFC Tapping Screws .GET-A-GRIP® Blind Rivets, FAB-LOK Rivets

1. IDENTIFICATION

Product Identifier: Threaded Fasteners
Use Restrictions: None known.
Company: Triangle Fastener Corporation | Pittsburgh, PA
Phone: 1.800.486.1832
Website: www.trianlgefastener.com
Emergency: 1.800.486.1832
For most current SDS, please visit our website at **www.trianglefastener.com**

2. HAZARD IDENTIFICATION

These products are considered an "article", and does not require an SDS as defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200. Although these products are not subject to the OSHA Standard or GHS labeling elements, TFC would like to disclose as much health and safety information as possible to ensure that this product is handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. In its manufactured and shipped state, these products are considered to present a low hazard. Under normal use conditions, these products are not expected to create any health or safety hazards. However, individual customer processes (welding, sawing, grinding, brazing, abrasive blasting) could result in the formation of fumes, dust, and/or particulate matter that may present the following hazards.

Physical Hazards: Not Classified.
Health Hazards Skin Corrosion/Irritation Category 3
Serious Eye Damage/Irritation Category 2
Sensitization, Skin Category 1
STOT, Single Exposure Category 3 (Respiratory Tract Irritation)
STOT, Repeated Exposure Category 2 (Lung)
Environmental Hazards: Not Classified.
Signal Word: WARNING!
Hazard Statements: May cause mild skin irritation. May cause eye irritation. May cause an allergic skin reaction. May cause respiratory irritation. May cause damage to organs (lung) through prolonged or repeated exposure (inhalation of dust).

Precautionary Statements:
Prevention: Observe good industrial hygiene practices. Wear protective gloves/clothing/eye protection/face protection. Wash thoroughly after handling. Avoid breathing dust.
Response: If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If inhaled: Remove victim to fresh air and keep in a position comfortable for breathing. If you feel unwell: Get medical advice/attention.
Storage: Store away from incompatible materials.
Hazards not otherwise Classified (HNOC): Dust and/or powders may form explosive dust/air mixtures. Avoid generating dust. Do not allow dust to build up on work surfaces.

3. COMPOSITION INFORMATION

Various metals, ferrous and non-ferrous platings.

4. FIRST-AID MEASURES

Eye Contact: Flush with large amounts of water to remove particles. If redness, burning, blurred vision, or swelling persists, **consult a physician.**
Skin Contact: Wash affected area with soap and water. If a thermal burn has occurred, flush area with cold water and **consult a physician**.
Ingestion: Not a probable route of industrial exposure, however, if ingested immediately **consult a physician.**
Inhalation: For over-exposure to airborne dust or fumes, move patient to fresh air. Give oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**
Most Important Symptoms: Irritant effects.
General Information: Provide general supportive measures and treat symptomatically. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: This material is not combustible and will not burn. Choose extinguishing media suitable for surrounding materials.
Additional Information: None known.
Hazards during Fire-Fighting: Dusts may present a fire or explosion hazard under rare favoring conditions of particle size, dispersion and strong ignition source. However, this is not expected to be a problem under normal handling conditions.
Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate personal protective equipment. Avoid inhalation of dusts.
Clean-up Methods: Solid articles do not represent a spill hazard. Avoid actions that cause dust to be generated. Collect dust generated during processing using a vacuum cleaner equipped with a HEPA filter. If not possible, gently moisten dust before collection with shovel, broom, or the like.
Environmental Precautions: Avoid release of dust to the environment. Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE

Handling: Wear appropriate personal protective equipment. If grinding or cutting use work methods which minimize dust production. Avoid inhalation of dust. Ensure adequate ventilation. Wash thoroughly after handling. Observe good industrial hygiene practices.
Storage: Store away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Measure: Protective coatings are used on most metal fasteners. Typically this will be commercial zinc, zinc plating with chromate conversion coating, hot dipped galvanizing, ceramic plating, or mechanically galvanized plating. This information should be considered when evaluating employee personal protective equipment.
Eye Protection: Wear goggles or safety glasses to protect eyes from dust and other particles.
Hand Protection: Gloves recommended.
Skin and Body Protection: Wear long sleeve shirts/long pants and other clothing as required to minimize contact.
Respirator Protection: Not required in properly ventilated areas.
General Hygiene: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
Engineering Controls: When using indoors good general ventilation should be used. Provide eyewash station.
Exposure Limits: No exposure limits noted for ingredients.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid **Freezing/Melting Point:** 2600-2700°F (1426-1482°C)
Form: Solid **Boiling Point:** N/A
Color: Gray/Various Colors **Flash Point:** N/A
Odor: None **Evaporation Rate:** N/A
Odor Threshold: N/A **Specific Gravity:** N/A
pH: N/A **VOC:** N/A
Flammability: N/A **U/L Flammability:** N/A
Vapor Pressure: N/A **Vapor Density:** N/A
Solubility: N/A **Kow:** N/A
Decomposition: N/A **Viscosity:** N/A

10. STABILITY AND REACTIVITY

Reactivity: Stable.
Chemical Stability: Stable.
Condition to Avoid: None known.
Substances to Avoid: Acids.
Hazardous Reactions: Hazardous polymerization will not occur.
Decomposition Products: Thermal oxidative decomposition of galvanized steel products can produce fumes containing oxides of zinc, iron, manganese, as well as other elements.

11. TOXILOGICAL INFORMATION

Information on likely routes of exposure
Ingestion: Not expected to be an ingestion hazard. Do not place metal fasteners in mouth.
Inhalation: May cause respiratory tract irritation if dust is inhaled.
Skin contact: May cause mild skin irritation. Sharp pointed tip may puncture or pierce skin.
Eye contact: May cause eye irritation. Particles can cause corneal abrasion.
Information on toxicological effects
Acute toxicity: Not expected to be acutely toxic.
Skin corrosion/irritation: May cause mild skin irritation. Sharp pointed tip may puncture or pierce skin.
Eye damage/eye irritation: Particles can cause corneal abrasion.
Respiratory sensitization: Not applicable.
Skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: No data available
Carcinogenicity: This product is not a carcinogen. This product may contain small amounts of compounds which are listed carcinogens; these compounds are bound in the product and exposure to these compounds is highly unlikely during normal product use. Exposure to these compounds is possible only if the product is ground or cut, exposure to oxides of component metals is possible if product is welded or exposed to excessive heat. Ensure good work practice and use appropriate personal protective equipment as needed.
Reproductive toxicity: No data available.
Aspiration hazard: Not applicable.
Specific target organ toxicity:

a. **Single exposure** Inhalation of dust may cause respiratory irritation.
b. **Repeated exposure** May cause damage to organs (lung) through prolonged or repeated exposure (inhalation of dust).

Further information: Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with certain pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. ECOLOGICAL INFORMATION

Ecotoxicity: The product is not classified as environmentally hazardous.
Persistence and degradability: Not applicable.

Bioaccumulative potential: Not applicable.
Mobility in soil: Not applicable.
Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption) are expected from this product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal of Substance: Dispose of contents/container in accordance with local/regional/national/international regulations. Steel scrap should be recycled whenever possible.

14. TRANSPORTATION INFORMATION

DOT: Not regulated as a hazardous material by DOT.
IATA: Not regulated as a dangerous good.
IMDG: Not regulated as a dangerous good.
Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not Applicable

15. REGULATORY INFORMATION

US federal regulations: This product is considered an article as defined by OSHA Hazard Communication Standard, 29 CFR 1910.1000
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4): Not regulated.
SARA 302 Extremely hazardous substance: No
SARA 311/312 Hazardous chemical: No
SARA 313 (TRI reporting): Manganese and Zinc are subject to SARA 313 reporting requirements.
Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories: Immediate Hazard No
Delayed Hazard No
Fire Hazard No
Pressure Hazard No
Reactivity Hazard No
US. California Proposition 65: Components of this article are on the Prop 65 List of Chemicals known to cause cancer or reproductive harm. The nature of this product makes exposure to these chemicals very unlikely. WARNING: This product contains a chemical listed by the State of California as known to cause cancer, birth defects, or reproductive harm.
This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

16. OTHER INFORMATION

Date Prepared or Revised: October 2015
Supersedes: May 2011

This Safety Data Sheet (SDS) is prepared by Triangle Fastener Corporation in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this SDS. This SDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

SAFETY DATA SHEET

1. Identification

Product identifier **SECUROCK® Brand Gypsum-Fiber Roof Board**

Other means of identification

SDS number 54000004007

Synonyms Gypsum Panels, Drywall, Plasterboard, Wallboard

Recommended use Exterior use.

Recommended restrictions Use in accordance with manufacturer's recommendations.

Manufacturer/Importer/Supplier/Distributor information

Company name United States Gypsum Company

Address 550 West Adams Street
Chicago, Illinois 60661-3637

Telephone 1-800-874-4968

Website www.usg.com

Emergency phone number 1-800-507-8899

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement None.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Get medical attention/advice if you feel unwell.

Storage Store as indicated in Section 7.

Disposal Dispose of in accordance with local, state, and federal regulations.

Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Calcium sulfate dihydrate (alternative CAS 10101-41-4)	13397-24-5	≥ 85
Cellulose	9004-34-6	< 10

Composition comments All concentrations are in percent by weight unless ingredient is a gas.

The amount of respirable crystalline silica is less than 0.1%. The gypsum used to manufacture these panels contains respirable crystalline silica varying by source and over time, as determined by testing the gypsum bulk samples. Good work practices which minimize the extent of total dust generation should be followed, and actual employee exposure on a given jobsite must be determined by workplace industrial hygiene testing.

4. First-aid measures

Inhalation Dust irritates the respiratory system, and may cause coughing and difficulties in breathing. Move injured person into fresh air and keep person calm under observation. Get medical attention if symptoms persist.

Skin contact	Contact with dust: Rinse area with plenty of water. Get medical attention if irritation develops or persists.
Eye contact	Dust in the eyes: Do not rub eyes. Flush thoroughly with water. If irritation occurs, get medical assistance.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Under normal conditions of intended use, this material does not pose a risk to health. Dust may irritate throat and respiratory system and cause coughing.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	Not applicable.
Specific hazards arising from the chemical	Not a fire hazard.
Special protective equipment and precautions for firefighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials.
Specific methods	Cool material exposed to heat with water spray and remove it if no risk is involved.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	See Section 8 of the SDS for Personal Protective Equipment.
Methods and materials for containment and cleaning up	No specific clean-up procedure noted. For waste disposal, see Section 13 of the SDS.
Environmental precautions	Avoid discharge to drains, sewers, and other water systems.

7. Handling and storage

Precautions for safe handling	Use work methods which minimize dust production. Avoid inhalation of dust and contact with skin and eyes. Wear appropriate personal protective equipment. Wash hands after handling. Observe good industrial hygiene practices. When moving board with a forklift or similar equipment, it is essential that the equipment be rated capable of handling the loads. The forks should always be long enough to extend completely through the width of the load. Fork spacing between supports should be one half the length of the panels or base being handled so that a maximum of 4' extends beyond the supports on either end. Follow traditional building practices; such as management of water away from the interior of the structure to avoid the growth of mold, mildew and fungus. Remove any building products suspected of being exposed to sustained moisture and considered conducive to mold growth from the job site. Gypsum panels are very heavy, awkward loads posing the risk of severe back injury. Use proper lifting techniques.
Conditions for safe storage, including any incompatibilities	Store in a cool, dry, well-ventilated place. Store away from incompatible materials. Protect product from physical damage. Protect from weather and prevent exposure to sustained moisture. Gypsum Association literature (GA-801-07) recommends storing board flat to avoid damaging edges, warping the board and the potential safety hazards of the board falling over. However, in other situations, storing the board flat may cause a tripping hazard or exceed floor limit loads. If stacking board vertically, leave at least 4 inches from the wall to decrease the risk of falling board and no more than 6 inches to avoid too much lateral weight against the wall.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Calcium sulfate dihydrate (alternative CAS 10101-41-4) (CAS 13397-24-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Cellulose (CAS 9004-34-6)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Calcium sulfate dihydrate (alternative CAS 10101-41-4) (CAS 13397-24-5)	TWA	10 mg/m3	Inhalable fraction.
Cellulose (CAS 9004-34-6)	TWA	10 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Calcium sulfate dihydrate (alternative CAS 10101-41-4) (CAS 13397-24-5)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Cellulose (CAS 9004-34-6)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Provide sufficient ventilation for operations causing dust formation. Observe occupational exposure limits and minimize the risk of exposure.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear approved safety goggles.

Skin protection

Hand protection It is a good industrial hygiene practice to minimize skin contact. For prolonged or repeated skin contact use suitable protective gloves.

Other Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use positive pressure, air-supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respirator protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use. Observe any medical surveillance requirements.

Thermal hazards None.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Observe any medical surveillance requirements.

9. Physical and chemical properties

Appearance Gypsum-Fiber panel.

Physical state Solid.

Form Panel.

Color Gray to off-white.

Odor Low to no odor.

Odor threshold Not applicable.

pH	9 - 10
Melting point/freezing point	Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Explosive limit - lower (%)	Not applicable.
Explosive limit - upper (%)	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	2.32 (Gypsum) (H2O=1)
Solubility(ies)	
Solubility (water)	0.26 g/100 g (H2O)
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	2642 °F (1450 °C)
Viscosity	Not applicable.
Other information	
Bulk density	61 - 75 lb/ft³
Particle size	Varies.
VOC (Weight %)	0 %

10. Stability and reactivity

Reactivity	The product is stable and non reactive under normal conditions of storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Strong acids.
Hazardous decomposition products	Calcium oxides, carbon dioxide, and carbon monoxide.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Not likely, due to the form of the product.
Inhalation	Mechanical processing may generate dust. Gypsum dust has an irritant action on mucous membranes of the upper respiratory tract and eyes (1).
Skin contact	Under normal conditions of intended use, this material does not pose a skin hazard. Gypsum was not found to be a skin irritant (2).
Eye contact	Mechanical processing may generate dust. Direct contact with eyes may cause temporary irritation (1).
Symptoms related to the physical, chemical and toxicological characteristics	Under normal conditions of intended use, this material does not pose a risk to health.

Information on toxicological effects

Acute toxicity	Low hazard.

Skin corrosion/irritation	Gypsum was not found to be a skin irritant.
Serious eye damage/eye irritation	Gypsum does not cause serious eye damage or irritation.
Respiratory or skin sensitization	
Respiratory sensitization	No data available, but based on results from the skin sensitization study, calcium sulfate is not expected to be a respiratory sensitizer.
Skin sensitization	Not a skin sensitizer (2).
Germ cell mutagenicity	No evidence of mutagenic potential exists (3,4,5).
Carcinogenicity	No evidence of carcinogenic potential exists (6).

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	No evidence of reproductive toxicity exists (2).
Specific target organ toxicity - single exposure	Not toxic to lung tissue.
Specific target organ toxicity - repeated exposure	Not toxic to lung tissue (6).
Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.
Further information	Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung disease might be aggravated by exposure.

12. Ecological information

Ecotoxicity The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Calcium sulfate dihydrate (alternative CAS 10101-41-4) (CAS 13397-24-5)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	> 1970 mg/l, 96 hours

Persistence and degradability	Not applicable for the salt of inorganic compounds. Calcium sulfate dissolves in water without undergoing chemical degradation.
Bioaccumulative potential	Bioaccumulation is not expected.
Mobility in soil	Calcium sulfate has a low potential for adsorption to soil. If water is applied, gypsum dissolves and the calcium and sulfate ions are mobile and penetrate the subsoil (7).
Other adverse effects	None expected.

13. Disposal considerations

Disposal instructions	Dispose in accordance with applicable federal, state, and local regulations. Recycle responsibly.
Local disposal regulations	Dispose of in accordance with local regulations.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Dispose of in accordance with local regulations.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable. This product is a solid. Therefore, bulk transport is governed by IMSBC code.

15. Regulatory information

US federal regulations This product is not hazardous according to OSHA 29CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Calcium sulfate dihydrate (alternative CAS 10101-41-4) (CAS 13397-24-5)
Cellulose (CAS 9004-34-6)

US. New Jersey Worker and Community Right-to-Know Act

Calcium sulfate dihydrate (alternative CAS 10101-41-4) (CAS 13397-24-5)
Cellulose (CAS 9004-34-6)

US. Pennsylvania Worker and Community Right-to-Know Law

Calcium sulfate dihydrate (alternative CAS 10101-41-4) (CAS 13397-24-5)
Cellulose (CAS 9004-34-6)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 30-July-2014
Revision date 16-May-2019
Version # 04

Further information

NFPA Ratings:
Health: 1
Flammability: 0
Physical hazard: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

NFPA ratings

List of abbreviations

NFPA: National Fire Protection Association.

References

1. US National Library of Medicine (NLM) (1998). Hazardous Substances Data Bank (HSDB).
2. Tested by LG Life Science/Toxicology Center, Korea (2002). National Institute of Environmental Research (NIER).
3. Dopp E et al. (1995). Environ. Health Perspect. 103(3), 268-271.
4. Cremer H.H. et al. (1988). Wiss. Umwelt. 4, 202-205.
5. Fujita H et al. (1988). Kenkya Nenpo-Tokyo-Toritsu Eisei Kenkynsho. 39, 343-350.
6. Clouter et al. (1998). Inhal. Toxicol. 10, 3-14.
7. Shainberg et al. (1989). Advanced Soil Sci. 9, 1-111.

Disclaimer

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

ECLECTIC
IN THE HOME & ON THE JOB PRODUCTS

SAFETY DATA SHEET

Section 1. Identification

Trade name : E6000 - Clear

Product code : 1000132

Date of issue/Date of revision : 2/5/2015.

Supplier : Eclectic Products Inc.
1075 Arrowsmith
Eugene, OR 97402
541-484-9621

Responsible name : Regulatory Compliance

Emergency telephone number (with hours of operation) : CALL INFOTRAC
800-535-5053
001-352-323-3500
24 hours per day, 7 days per week.

Relevant identified uses of the substance or mixture and uses advised against

Adhesive.

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B
CARCINOGENICITY - Category 1B

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Causes skin and eye irritation.
May cause cancer.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Wash hands thoroughly after handling.

Response : IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Tetrachloroethylene	60-100%	127-18-4
Styrene Butadiene Copolymer	10-30%	9003-55-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes skin irritation.

Ingestion : Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Section 4. First aid measures

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
carbonyl halides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Section 6. Accidental release measures

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Tetrachloroethylene	**ACGIH TLV (United States, 3/2012). Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. Substances for which there is a Biological Exposure Index or Indices Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. Refers to Appendix A -- Carcinogens.** STEL: 685 mg/mÂ³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 170 mg/mÂ³ 8 hours. TWA: 25 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989). Notes: See Table Z-2.** TWA: 170 mg/mÂ³ 8 hours. TWA: 25 ppm 8 hours. **OSHA PEL Z2 (United States, 11/2006).**

Section 8. Exposure controls/personal protection

	AMP: 300 ppm 5 minutes. CEIL: 200 ppm TWA: 100 ppm 8 hours.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Clear.

Odor : Not available.

pH : Not available.

Boiling point : 121.11°C (250°F)

Flash point : Closed cup:None. [Setaflash. ASTM D3828]

Flammability : Non-flammable mixture.

Evaporation rate : <1 (Water = 1)

Lower and upper explosive (flammable) limits : Not available.

Section 9. Physical and chemical properties

Vapor pressure : 1.7 kPa (13 mm Hg) [room temperature]

Vapor density : >1 [Air = 1]

Specific gravity : 1.35 to 1.37

Solubility : Very slightly soluble in the following materials: water.

VOC (wt%) : 0.10-0.12%

Viscosity : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Tetrachloroethylene	LD50 Oral	Rat	2629 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Tetrachloroethylene	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	162 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 810 milligrams	-
Styrene Butadiene Copolymer	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Conclusion/Summary : Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.

Classification

Product/ingredient name	OSHA	IARC	NTP
Tetrachloroethylene	-	2A	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

Not available.

Section 11. Toxicological information

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	3699.8 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Tetrachloroethylene	Acute EC50 200 µg/l Marine water	Algae - Skeletonema costatum	72 hours
	Acute EC50 >500000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 7500 µg/l Fresh water	Daphnia - Daphnia magna - Instar	48 hours
	Acute LC50 3.5 mg/l Marine water	Crustaceans - Elminius modestus	48 hours
	Acute LC50 4000 µg/l Fresh water	Fish - Jordanella floridae - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic EC10 1.77 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Chronic NOEC >0.4 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 500 µg/l Fresh water	Fish - Pimephales promelas - Larvae	32 days

Persistence and degradability

Not available.

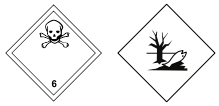
Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	1897	1897	1897	8000
UN proper shipping name	Tetrachloroethylene mixture	Tetrachloroethylene mixture	Tetrachloroethylene mixture	Consumer commodity
Transport hazard class (es)	6.1 	6.1 	6.1 	9 
Packing group	III	III	III	III
Environmental hazards	No.	No.	Yes.	No.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Tetrachloroethylene	127-18-4	60-100
Supplier notification	Tetrachloroethylene	127-18-4	60-100

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

California Prop. 65

Section 15. Regulatory information

WARNING: This product contains a chemical known to the State of California to cause cancer.
WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive
Tetrachloroethylene	Yes.	No.
Methanol	No.	Yes.

WHMIS (Canada) : Class D-1B: Material causing immediate and serious toxic effects (Toxic).
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

Canada inventory : All components are listed or exempted.

International regulations

International lists : **Australia inventory (AICS)**: Not determined.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

EU Inventory : Not determined.

Section 16. Other information

National Fire Protection Association (U.S.A.)

Key to abbreviations : ATE = Acute Toxicity Estimate
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product:	**WHITEWALK®**	**Part Number:**	**7303000**
Manufacturer:	**W. R. Meadows®, Inc.**	**Address:**	300 Industrial Drive Hampshire, Illinois 60140
Telephone:	(847) 214-2100	In case of emergency, dial (800) 424-9300 (CHEMTREC)	
Revision Date:	4/3/2020		
Product Use:	Roof Protection Pads		

SECTION 2: HAZARDS IDENTIFICATION/EXPOSURE LIMITS

HMIS	
|Health|	|0|
|Flammability|	|1|
|Reactivity|	|0|
|Personal Protection|	| |

Product is classified as non-hazardous per OSHA 1910.1200. White Walk is defined by OSHA as an "article." A manufactured item that is formed to a specific shape or design during manufacture that does not release or result in exposure to a hazardous chemical under normal use conditions.

SECTION 3: HAZARDS COMPONENTS

Chemical Name:	CAS Number	% by Weight	SARA 313	Vapor Pressure (mm Hg@20°C)	LEL (@24°C)
1. Petroleum Asphalt	8052-42-4	60-70	No	N/A	N/A
2. Fiberglass Mat	65997-17-3	1-5	No	N/A	N/A

Under the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1966 (SARA) and 40 CFR Part 372, chemicals listed on the 313 List (40 CFR Part 373.65) are identified under the heading "SARA 313." *N/A = Not Applicable*

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Not expected to be an exposure route.
SKIN CONTACT: Wash affected areas with soap and water if available.
INHALATION: Not expected to be an exposure route.
INGESTION: Not expected to be an exposure source.
MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND CHRONIC: See Section Eleven for Symptoms/Effects.

SECTION 5: FIRE AND EXPLOSIVES HAZARDS

FLASHPOINT: Not applicable; product is a solid.
EXTINGUISHING MEDIA: Water fog, foam, dry chemical.
CHEMICAL/COMBUSTION HAZARDS: Oxides and compounds of nitrogen/sulfur.
PRECAUTIONS/PERSONAL PROTECTIVE EQUIPMENT: Avoid smoke inhalation. Use appropriate respiratory protection.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: Not applicable. Product is a solid.

SECTION 7: HANDLING AND STORAGE

SAFE HANDLING PROCEDURES: Avoid direct contact.
SAFE STORAGE: Prevent job-site damage.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

	OSHA				ACGIH			
Chemical Name:	PEL	PEL/CEILING	PEL/STEL	SKIN	TLV	TLV/CEILING	TLV/STEL	SKIN
1. Petroleum Asphalt	5 mg/m^3*	N/E	N/E	No	0.5 mg/m^3*	N/E	N/E	N/E
2. Fiberglass Mat	1 f/cc**	N/E	N/E	No	1 f/cc**	N/E	N/E	N/E

ENGINEERING CONTROLS: None required under normal use conditions.
PERSONAL PROTECTIVE EQUIPMENT: Safety glasses, chemical-resistant gloves.
N/E = Not Established * : Asphalt Fumes ** : Respirable

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: N/A	**VAPOR DENSITY:** N/A	**% VOLATILE BY VOLUME:** N/A
EVAPORATION RATE: N/A	**pH LEVEL:** N/A	**% VOLATILE BY WEIGHT:** N/A
WEIGHT PER GALLON: N/A	**PRODUCT APPEARANCE:** Black Solid	**VOC CONTENT:** N/A

SAFETY DATA SHEET

SECTION 9 continued

ODOR: None
ODOR THRESHOLD: N/D
MELTING/FREEZING POINT: N/D
FLASH POINT: See Section 5
FLAMMABILITY: N/D
UEL/LEL: N/D
VAPOR PRESSURE: N/D
RELATIVE DENSITY: N/D
SOLUBILITY: N/D
PARTITION COEFFICENT: N/D
AUTOIGNITION TEMPERATURE: N/D
DECOMPOSITION TEMPERATURE: N/D
VISCOSITY: N/D
N/D: Not Determined

SECTION 10: STABILITY/REACTIVITY

STABILITY: Stable.
HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS AND MATERIALS TO AVOID: None recognized.
HAZARDOUS DECOMPOSITION PRODUCTS: None recognized.

SECTION 11: TOXICOLOGICAL INFORMATION

EYE CONTACT: Direct contact may cause mild irritation.
SKIN CONTACT: Direct contact may cause slight skin irritation.
INGESTION: Not anticipated to be an exposure route.
INGESTION: Not anticipated to be an exposure route.
SIGNS AND SYMPTOMS: Symptoms of eye irritation include tearing, reddening, and swelling. Symptoms of skin irritation include redness and swelling. Gastrointestinal irritation symptoms include nausea, vomiting, and abdominal discomfort.
AGGRAVATED MEDICAL CONDITIONS: None recognized.
OTHER HEALTH EFFECTS: None recognized.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: N/E
DEGRADABILITY: N/E
BIOACCUMULATIVE POTENTIAL: N/E
SOIL MOBILITY: N/E
OTHER ADVERSE EFFECTS: None Recognized

SECTION 13: WASTE DISPOSAL INFORMATION

WASTE DISPOSAL INFORMATION: Product is classified as a non-hazardous waste.

SECTION 14: TRANSPORTATION INFORMATION

HAZARDOUS/NON-HAZARDOUS MATERIAL: Not regulated by DOT.
UN NUMBER: None.
HAZARD CLASS: N/A
PACKING GROUP: N/A
UN PROPER SHIPPING NAME: N/A
ENVIRONMENTAL HAZARDS: None recognized.
BULK TRANSPORTATION INFORMATION: None.
SPECIAL PRECAUTIONS: None.

SECTION 15: REGULATORY INFORMATION

OTHER REGULATORY CONSIDERATIONS: None recognized.

SECTION 16: OTHER INFORMATION

PREPARATION DATE: 4/3/2020
PREPARED BY: Dave Carey

The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. We assume no responsibility for injury from the use of this product described herein.

Safety Data Sheet Firestone Building Products Company

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Ply IV, Ply VI**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Construction

1.3 Details of the supplier of the safety data sheet

Manufacturer • Firestone Building Products Company

200 4th Avenue S
Nashville, TN 37201-2208
United States

firestonemsds@bfdp.com

Telephone (General) • 800-428-4442

1.4 Emergency telephone number

Manufacturer • (800) 424-9300 - CHEMTREC

Manufacturer • (703) 527-3887 - CHEMTREC - International

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

2.1 Classification of the substance or mixture

CLP • Skin Irritation 2 - H315
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335
Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects - H336
Carcinogenicity 1B - H350

2.2 Label Elements

CLP

DANGER

Hazard statements • H315 - Causes skin irritation
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H350 - May cause cancer.

Precautionary statements

Prevention • P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P264 - Wash thoroughly after handling.
P261 - Avoid breathing dust..

P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P281 - Use personal protective equipment as required.

Response • P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P321 - Specific treatment, see supplemental first aid information.
P362 - Take off contaminated clothing and wash before reuse.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P308+P313 - IF exposed or concerned: Get medical advice/attention.

Storage/Disposal • P403 - Store in a well-ventilated place.
P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3 Other Hazards

CLP • According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012 • Skin Irritation 2
Eye Mild Irritation 2B
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects
Carcinogenicity 1B

2.2 Label elements

OSHA HCS 2012

DANGER

Hazard statements • Causes skin irritation
Causes eye irritation
May cause respiratory irritation
May cause drowsiness or dizziness
May cause cancer.

Precautionary statements

Prevention • Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Response • IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
If on skin: Wash with plenty of water.
Specific treatment, see supplemental first aid information.
Take off contaminated clothing and wash before reuse.
If skin irritation occurs: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.

Storage/Disposal
- Store in a well-ventilated place.
  Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3 Other hazards

OSHA HCS 2012
- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

WHMIS
- Other Toxic Effects - D2A
  Other Toxic Effects - D2B

2.2 Label elements

WHMIS
-

WHMIS
- Other Toxic Effects - D2A
  Other Toxic Effects - D2B

2.3 Other hazards

WHMIS
- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance.

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Petroleum asphalt, oxidized	**CAS:**64742-93-4 **EINECS:**265-196-4	75% TO 80%	NDA	**EU CLP:** Carc. 1B, H350 **OSHA HCS 2012:** Carc. 1B	NDA
Glass, oxide, chemicals	**CAS:**65997-17-3 **EC Number:**266-046-0	20% TO 25%	NDA	**EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. If signs/symptoms continue, get medical attention.

Skin
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. If irritation develops and persists, get medical attention.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion
- Rinse mouth. Do not give anything by mouth to an unconscious person. Obtain medical attention immediately if ingested.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- Use dry chemical, foam and carbon dioxide.

Unsuitable Extinguishing Media
- No data available.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Burning of this product will produce thick black smoke.

Hazardous Combustion Products
- Primary combustion products are carbon monoxide, carbon dioxide and water. Combustion products may include sulfur oxides and hydrogen sulfide. Other undetermined compounds could be released in small quantities.

5.3 Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Cool fire exposed containers with water.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- No special precautions expected to be necessary if material is used under ordinary conditions and as recommended.

Emergency Procedures
- No special emergency procedures are expected to be needed as this material is a solid sheet.

6.2 Environmental precautions

- Avoid release to the environment.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Pick up large pieces. Sweep and scoop up material and put into a suitable container for disposal.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling
- Use only with adequate ventilation. Hydrogen sulfide may be emitted from heated asphalt. Wear appropriate personal protective equipment, avoid direct contact. Avoid breathing dust. Avoid contact with skin and eyes. Wash thoroughly with soap and

water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Store in a well-ventilated place. Keep container tightly closed.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	**ACGIH**	**Belgium**	**Canada Alberta**	**Canada British Columbia**	**Canada Manitoba**
Glass, oxide, chemicals	TWAs	1 fiber/cm3 TWA (respirable fibers: length >5 µm, aspect ratio >=3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination, listed under Synthetic vitreous fibers) *as Glass wool fiber*	10 mg/m3 TWA (dust and fiber)	1 fibre/cm3 TWA *as Glass wool fiber*	1 fibre/cm3 TWA (fibres >5 µm, with an aspect ratio of >=3:1, as determined by the membrane filter method at 400-450 times magnification (4 mm objective), using phase-contrast illumination, listed under Synthetic vitreous fibres) *as Glass wool fiber*	1 fiber/cm3 TWA (length >5 µm, aspect ratio >=3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination, respirable fibers, listed under Synthetic vitreous fibers) *as Glass wool fiber*

Exposure Limits/Guidelines (Con't.)						
	Result	**Canada New Brunswick**	**Canada Northwest Territories**	**Canada Nova Scotia**	**Canada Nunavut**	**Canada Ontario**
Glass, oxide, chemicals	TWAs	1 fibre/cm3 TWA (fibres >5 µm with a diameter <3 µm, aspect ratio >5:1) *as Glass wool fiber*	3 fibre/cm3 TWA (with a diameter <=3.5 µm and a length >=10 µm); 5 mg/m3 TWA (total mass) *as Glass wool fiber*	1 fiber/cm3 TWA (length >5 µm, aspect ratio >=3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination, respirable fibers, listed under Synthetic vitreous fibers) *as Glass wool fiber*	3 fibre/cm3 TWA (with a diameter <=3.5 µm and a length >=10 µm); 5 mg/m3 TWA (total mass) *as Glass wool fiber*	1 fibre/cm3 TWA (fibres >5 µm in length and an aspect ratio >=3:1 as determined by the membrane filter method at 400-450 times magnification (4 -mm objective), using phase-contrast illumination, respirable, listed under Synthetic Vitreous Fibres (Man Made Mineral Fibres)) *as Glass wool fiber*

Exposure Limits/Guidelines (Con't.)						
	Result	**Canada Quebec**	**Canada Saskatchewan**	**Canada Yukon**	**Denmark**	**NIOSH**

Glass, oxide, chemicals	TWAs	1 fibre/cm3 TWAEV (respirable, listed under Fibres - Artificial Vitreous Mineral Fibres) *as Glass wool fiber*	1 fibre/cm3 TWA (respirable fibres, listed under Synthetic vitreous fibres) *as Glass wool fiber*	30 mppcf TWA (dust or fibrous); 10 mg/m3 TWA (dust or fibrous)	1 fiber/cm3 TWA *as Glass wool fiber*	3 fiber/cm3 TWA (fibers <= 3.5 µm in diameter and >= 10 µm in length); 5 mg/m3 TWA (total) *as Glass wool fiber*

Exposure Control Notations

ACGIH

•Glass, oxide, chemicals as Glass wool fiber: **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans (listed under Synthetic vitreous fibers))

8.2 Exposure controls

Engineering Measures/Controls

- This material is designed to be used outdoors, in roofing applications. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory

- For limited exposure use an N95 dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH or European Standard EN 149 certified respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear safety goggles.

Skin/Body

- Wear appropriate gloves. Wear long sleeves and/or protective coveralls.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene
NIOSH = National Institute of Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	A fibrous black membrane with a petroleum odor.
Color	Black	Odor	Petroleum
Odor Threshold	Data lacking		
General Properties			
Boiling Point	> 1000 °F(> 537.7778 °C)	Melting Point/Freezing Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	1.08 to 1.11 Water=1	Water Solubility	Insoluble
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking	Volatiles (Wt.)	0 %

Volatiles (Vol.)	0 %		
Flammability			
Flash Point	> 535 °F(> 279.4444 °C) COC (Cleveland Open Cup)	UEL	Data lacking
LEL	Data lacking	Autoignition	> 650 °F(> 343.3333 °C)
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization not indicated.

10.4 Conditions to avoid

- Incompatible materials.

10.5 Incompatible materials

- These products may react with strong oxidizing agents and water.

10.6 Hazardous decomposition products

- Primary combustion products are carbon monoxide, carbon dioxide and water. Combustion products may include sulfur oxides and hydrogen sulfide.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Glass, oxide, chemicals (20% TO 25%)	65997-17-3	**Tumorigen / Carcinogen:** Inhalation-Rat TCLo • 5 mg/m³ 7 Hour(s) 90 Week(s)-Intermittent; *Tumorigenic*:**Carcinogenic by RTECS criteria**; *Blood*:**Leukemia**

GHS Properties	Classification
Acute toxicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Skin corrosion/Irritation	**EU/CLP** • Skin Irritation 2 **OSHA HCS 2012** • Skin Irritation 2
Serious eye damage/Irritation	**EU/CLP** • Data lacking **OSHA HCS 2012** • Eye Mild Irritation 2B
Skin sensitization	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking

Respiratory sensitization	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Aspiration Hazard	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Carcinogenicity	**EU/CLP** • Carcinogenicity 1B **OSHA HCS 2012** • Carcinogenicity 1B
Germ Cell Mutagenicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Toxicity for Reproduction	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
STOT-SE	**EU/CLP** • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation **OSHA HCS 2012** • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
STOT-RE	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking

Potential Health Effects

Inhalation

Acute (Immediate)
- May cause respiratory irritation. May affect the central nervous system. Symptoms may include dizziness, drowsiness, lethargy, coma and death.

Chronic (Delayed)
- No data available

Skin

Acute (Immediate)
- Causes skin irritation.

Chronic (Delayed)
- No data available.

Eye

Acute (Immediate)
- Causes eye irritation.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.

Chronic (Delayed)
- No data available.

Carcinogenic Effects
- Repeated and prolonged exposure may cause cancer.

Key to abbreviations
TC = Toxic Concentration

Section 12 - Ecological Information

12.1 Toxicity

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
ADN	NDA	Not Regulated	NDA	NDA	NDA
ADR/RID	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user
- None specified.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
- Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications
- Acute, Chronic

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
Glass, oxide, chemicals	65997-17-3	No	No	No
Petroleum asphalt, oxidized	64742-93-4	No	Yes	No

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**EU EINECS**	**EU ELNICS**	**TSCA**
Glass, oxide, chemicals	65997-17-3	Yes	No	Yes	No	Yes

Petroleum asphalt, oxidized	64742-93-4	Yes	No	Yes	No	Yes

Belgium

Labor

Belgium - Substances and Preparations - Carcinogens and Mutagens

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Bulgaria

Environment

Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - 24 Hour

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - 30 Minute

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Bulgaria - Air Quality - Maximum Admissible Hazardous Contaminant Levels - Annual

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Canada - WHMIS - Ingredient Disclosure List

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Denmark

Environment

Denmark - List of Undesirable Substances - Product Groups/Function

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Germany

Labor

Germany - Immission Control - Qualifying Quantities for Major Accident Prevention

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Germany - Immission Control - Qualifying Quantities for Safety Reporting

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Germany - TRGS 505 - Specific Lead Regulations

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Germany - TRGS 511 - Specific Ammonium Nitrate Regulations

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Environment

Germany - TA Luft - Types and Classes

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Germany - TA Luft - Emission Limits for Carcinogenic Substances

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Germany - TA Luft - Emission Limits for Fibers

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Germany - TA Luft - Emission Limits for Inorganic Dusts

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Germany - TA Luft - Emission Limits for Inorganic Gases

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Germany - TA Luft - Emission Limits for Organic Substances

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Germany - Water Classification (VwVwS) - Annex 1

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Germany - Water Classification (VwVwS) - Annex 3

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Petroleum asphalt, oxidized	64742-93-4	Not Listed

• Glass, oxide, chemicals	65997-17-3	Not Listed
U.S. - California - Proposition 65 - Developmental Toxicity		
• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)		
• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)		
• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Female		
• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		
• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List		
• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances		
• Petroleum asphalt, oxidized	64742-93-4	Not Listed
• Glass, oxide, chemicals	65997-17-3	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Revision Date
- 26/January/2018

Preparation Date
- 29/October/2015

Other Information
- Changes to this revision: Updated mailing address.

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Key to abbreviations

NDA = No data available