Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
3M Brand Fire Barrier CP-25WB+

Product Identification Numbers
DE-2729-4483-1

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

Identified uses
Fire Protection

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number
+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:
This material is not classified as hazardous according to Regulation (EC) No. 1272/2008, as amended, on classification, labelling, and packaging of substances and mixtures.

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive
Indication of danger
Dangerous for the environment; R52

For full text of R phrases, see Section 16.

2.2. Label elements
CLP REGULATION (EC) No 1272/2008
Not applicable

SUPPLEMENTAL INFORMATION

Supplemental Hazard Statements:

EUH208	Contains Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one. May produce an allergic reaction.

Notes on labelling

Based on the available data, CASRN 1344-09-8 (sodium silicate) is classified as Skin 1C and Eye 1 at >50% and Skin 2/Eye 2A at 40-50%. At concentrations <40%, this substance would not be classified as irritating. Product is not classified as dangerous to the environment based on test data.

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

Symbol(s)

None.

Contains:

No ingredients are assigned to the label.

Risk phrases

R52	Harmful to aquatic organisms.

Safety phrases

S61	Avoid release to the environment. Refer to special instructions/safety data sheets.

Notes on labelling

Based on the available data, CASRN 1344-09-8 (sodium silicate) is classified as C; R34 at >50% and Xi; R36/37/38 at 40-50%. At concentrations <40%, this substance would not be classified as irritating. Environmental classification based on test data.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Polymer (NJTS Reg. No. 04499600-7270)	Trade Secret		10 - 30	
Silicic acid, sodium salt	1344-09-8	EINECS 215-687-4	10 - 30	C:R34; Xi:R37 (Self Classified) Met. Corr. 1, H290; Acute Tox. 4, H302; Skin Corr. 1C, H314; STOT SE 3, H335 (Self Classified)
Non-Hazardous Ingredients	Mixture		10 - 30	
Boron zinc hydroxide oxide	138265-88-0		10 - 30	N:R50/53 (Self Classified)

				Aquatic Acute 1, H400,M=10; Aquatic Chronic 1, H410,M=1 (Self Classified)
2-Ethylhexyl diphenyl phosphate	1241-94-7	EINECS 214-987-2	3 - 7	N:R50/53 (Self Classified) Aquatic Acute 1, H400,M=1; Aquatic Chronic 1, H410,M=1 (Self Classified)
Polyethylene Glycol	25322-68-3		1 - 5	
NUC - Oxide Glass Chemicals	65997-17-3	EINECS 266-046-0	1 - 5	
Diiron trioxide	1309-37-1	EINECS 215-168-2	1 - 5	
Bis(2-Ethylhexyl) phenyl phosphate	16368-97-1	EINECS 240-424-5	< 1.0	N:R50/53 (Self Classified) Aquatic Acute 1, H400,M=1; Aquatic Chronic 1, H410,M=1 (Self Classified)
Polyoxyethylene monooctylphenyl ether	9036-19-5		< 1	Xi:R41; N:R51/53 (Vendor) Xn:R22 (Self Classified) Eye Dam. 1, H318; Aquatic Chronic 2, H411 (Vendor) Acute Tox. 4, H302 (Self Classified)
Triphenyl Phosphate	115-86-6	EINECS 204-112-2	< 1.0	N:R50/53 (Self Classified) Aquatic Acute 1, H400,M=1; Aquatic Chronic 2, H411 (Self Classified)
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	55965-84-9		< 0.001	T:R23-24-25; C:R34; N:R50/53; R43 (EU) Acute Tox. 3, H331; Acute Tox. 3, H311; Acute Tox. 3, H301; Skin Corr. 1B, H314; Skin Sens. 1A, H317; Aquatic Acute 1, H400,M=10; Aquatic Chronic 1, H410,M=10 (CLP)

Please see section 16 for the full text of any R phrases and H statements referred to in this section
Please refer to section 15 for the any applicable Notas that have been applied to the above components

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
Remove person to fresh air. If you feel unwell, get medical attention.

Skin contact
Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye contact

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If swallowed
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1 Information on toxicological effects

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Extinguishing media
Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

5.3. Advice for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections
Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid eye contact. Keep out of reach of children. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities
Keep cool. Store away from heat. Store away from areas where product may come into contact with food or pharmaceuticals. Store in a dry place.

7.3. Specific end use(s)
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Triphenyl Phosphate	115-86-6	UK HSC	TWA:3 mg/m3;STEL:6 mg/m3	
Diiron trioxide	1309-37-1	UK HSC	TWA(as Fe, fume):5 mg/m3;TWA(Inhalable):10 mg/m3;TWA(respirable):4 mg/m3;STEL(as Fe, fume):10 mg/m3	
NUC - Oxide Glass Chemicals	65997-17-3	Manufacturer determined	TWA(as dust):10 mg/m3	
Glass, oxide, chemicals	65997-17-3	UK HSC	TWA(as fiber):5 mg/m3(1 fibers/ml)	

UK HSC : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

Biological limit values
No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect vented goggles.

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended:

Material	Thickness (mm)	Breakthrough Time
Butyl rubber.	No data available	No data available
Neoprene.	No data available	No data available
Nitrile rubber.	No data available	No data available

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Paste
Appearance/Odour	Red with negligible odour
Odour threshold	*No data available.*
Melting point	*No data available.*
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	No flash point
Autoignition temperature	*Not applicable.*
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Relative density	1.35 [*Ref Std:*WATER=1]
Water solubility	Complete
Solubility- non-water	*No data available.*
Decomposition temperature	*No data available.*

9.2. Other information

Volatile organic compounds (VOC)	< 1 g/l
VOC less H2O & exempt solvents	< 1 g/l

SECTION 10: Stability and reactivity

10.1 Reactivity
This material is considered to be non reactive under normal use conditions

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
None known.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

Substance	Condition
Carbon monoxide.	Not specified.
Carbon dioxide.	Not specified.
Oxides of phosphorus.	Not specified.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin contact
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Eye contact
Moderate eye irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion
May be harmful if swallowed.
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg
Polymer (NJTS Reg. No. 04499600-7270)	Ingestion	Rat	LD50 > 2,000 mg/kg
Boron zinc hydroxide oxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Boron zinc hydroxide oxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Silicic acid, sodium salt	Dermal	Rabbit	LD50 > 4,640 mg/kg
Silicic acid, sodium salt	Ingestion	Rat	LD50 500 mg/kg
2-Ethylhexyl diphenyl phosphate	Dermal	Rabbit	LD50 > 7,940 mg/kg
2-Ethylhexyl diphenyl phosphate	Ingestion	Rat	LD50 > 24,000 mg/kg
Diiron trioxide	Dermal	Not available	LD50 3,100 mg/kg
Diiron trioxide	Ingestion	Not available	LD50 3,700 mg/kg
Polyethylene Glycol	Dermal	Rabbit	LD50 > 20,000 mg/kg
Polyethylene Glycol	Ingestion	Rat	LD50 32,770 mg/kg
NUC - Oxide Glass Chemicals	Dermal		LD50 estimated to be > 5,000 mg/kg
NUC - Oxide Glass Chemicals	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Polyoxyethylene monooctylphenyl ether	Dermal	Rabbit	LD50 > 3,000 mg/kg
Polyoxyethylene monooctylphenyl ether	Ingestion	Rat	LD50 > 500 mg/kg
Triphenyl Phosphate	Dermal	Rabbit	LD50 > 7,900 mg/kg
Triphenyl Phosphate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 50 mg/l
Triphenyl Phosphate	Ingestion	Rat	LD50 > 3,000 mg/kg
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Dermal	Rabbit	LD50 87 mg/kg
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-	Inhalation-	Rat	LC50 0.33 mg/l

2H-isothiazol-3-one	Dust/Mist (4 hours)		
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Rat	LD50 40 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Polymer (NJTS Reg. No. 04499600-7270)	Rabbit	Minimal irritation
Silicic acid, sodium salt	Rabbit	Corrosive
Diiron trioxide	Rabbit	No significant irritation
Polyethylene Glycol	Rabbit	Minimal irritation
NUC - Oxide Glass Chemicals	Professional judgement	No significant irritation
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Polymer (NJTS Reg. No. 04499600-7270)	Professional judgement	Mild irritant
Silicic acid, sodium salt	Rabbit	Corrosive
Diiron trioxide	Rabbit	No significant irritation
Polyethylene Glycol	Rabbit	Mild irritant
NUC - Oxide Glass Chemicals	Professional judgement	No significant irritation
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
Silicic acid, sodium salt	Mouse	Not sensitizing
Diiron trioxide	Human	Some positive data exist, but the data are not sufficient for classification
Polyethylene Glycol	Guinea pig	Not sensitizing
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Human and animal	Sensitising

Photosensitisation

Name	Species	Value
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Human and animal	Not sensitizing

Respiratory Sensitisation

For the component/components, either no data is currently available or the data is not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Silicic acid, sodium salt	In Vitro	Not mutagenic
Silicic acid, sodium salt	In vivo	Not mutagenic

Diiron trioxide	In Vitro	Not mutagenic
Polyethylene Glycol	In Vitro	Not mutagenic
Polyethylene Glycol	In vivo	Not mutagenic
NUC - Oxide Glass Chemicals	In Vitro	Some positive data exist, but the data are not sufficient for classification
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	In vivo	Not mutagenic
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Diiron trioxide	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
Polyethylene Glycol	Ingestion	Rat	Not carcinogenic
NUC - Oxide Glass Chemicals	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Dermal	Mouse	Not carcinogenic
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Silicic acid, sodium salt	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL 200 mg/kg/day	during gestation
Polyethylene Glycol	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,125 mg/kg/day	during gestation
Polyethylene Glycol	Ingestion	Not toxic to male reproduction	Rat	NOAEL 5699 +/- 1341 mg/kg/day	5 days
Polyethylene Glycol	Not specified.	Some positive reproductive/developmental data exist, but the data are not sufficient for classification		NOEL N/A	
Polyethylene Glycol	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL 562 mg/animal/day	during gestation
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Not toxic to female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Not toxic to male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Not toxic to development	Rat	NOAEL 15 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Silicic acid, sodium salt	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
Polyethylene Glycol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.008 mg/l	2 weeks
Mixture of 5-chloro-2-	Inhalation	respiratory irritation	Some positive data exist, but the	similar	NOAEL Not	

methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one			data are not sufficient for classification	health hazards	available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Silicic acid, sodium salt	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	LOAEL 2,400 mg/kg/day	4 weeks
Silicic acid, sodium salt	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 804 mg/kg/day	3 months
Silicic acid, sodium salt	Ingestion	blood	All data are negative	Rat	NOAEL 804 mg/kg/day	3 months
Silicic acid, sodium salt	Ingestion	heart | liver	All data are negative	Rat	NOAEL 1,259 mg/kg/day	8 weeks
Diiron trioxide	Inhalation	pulmonary fibrosis | pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Polyethylene Glycol	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.008 mg/l	2 weeks
Polyethylene Glycol	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 5,640 mg/kg/day	13 weeks
Polyethylene Glycol	Ingestion	heart | endocrine system | hematopoietic system | liver | nervous system	All data are negative	Rat	NOAEL 5,640 mg/kg/day	13 weeks
NUC - Oxide Glass Chemicals	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL not available	occupational exposure

Aspiration Hazard
For the component/components, either no data is currently available or the data is not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No component test data available.

Material	Organism	Type	Exposure	Test endpoint	Test result
3M Brand Fire Barrier CP-25WB+	Water flea	Experimental	48 hours	Aquatic Toxicity - Acute	27 mg/l
3M Brand Fire Barrier CP-25WB+	Green algae	Experimental	72 hours	Aquatic Toxicity - Chronic	2.6 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Silicic acid, sodium salt	1344-09-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Non-Hazardous Ingredients	Mixture	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
NUC - Oxide Glass Chemicals	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Diiron trioxide	1309-37-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Boron zinc hydroxide oxide	138265-88-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Polymer (NJTS Reg. No. 04499600-7270)	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Polyoxyethylene monooctylphenyl ether	9036-19-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Triphenyl Phosphate	115-86-6	Experimental Hydrolysis		Hydrolytic half-life	19 days (t 1/2)	Other methods
Triphenyl Phosphate	115-86-6	Experimental Biodegradation	28 days	BOD	90 % weight	OECD 301C - MITI test (I)
Polyethylene Glycol	25322-68-3	Experimental Biodegradation	28 days	BOD	56.2 % weight	OECD 301C - MITI test (I)
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	55965-84-9	Experimental Biodegradation	28 days	CO2 evolution	48 % weight	Other methods
2-Ethylhexyl diphenyl phosphate	1241-94-7	Experimental Biodegradation	28 days	CO2 evolution	67 % weight	Other methods
Bis(2-Ethylhexyl) phenyl phosphate	16368-97-1	Estimated Biodegradation	28 days	BOD	55 % weight	OECD 301F - Manometric respirometry

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Silicic acid, sodium salt	1344-09-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Non-Hazardous Ingredients	Mixture	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	55965-84-9	Estimated Bioconcentration		Log Kow	0.5	Other methods
Polyethylene Glycol	25322-68-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
NUC - Oxide Glass Chemicals	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Diiron trioxide	1309-37-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Boron zinc hydroxide oxide	138265-88-0	Estimated Bioconcentration		Bioaccumulation factor	=217	OECD 305E - Bioaccumulation flow-through fish test
Polymer (NJTS Reg. No. 04499600-7270)	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Bis(2-Ethylhexyl) phenyl phosphate	16368-97-1	Estimated Bioconcentration		Bioaccumulation factor	1200	Other methods
Polyoxyethylene monooctylphenyl ether	9036-19-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Ethylhexyl diphenyl phosphate	1241-94-7	Experimental BCF - Bluegill	36 days	Bioaccumulation factor	934	Other methods
Triphenyl Phosphate	115-86-6	Experimental BCF - Rainbow Tr	90 days	Bioaccumulation factor	271	Other methods

12.4. Mobility in soil
Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

No information available at this time, contact manufacturer for more details

12.6. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
See Section 11.1 Information on toxicological effects

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 04 09*	Waste adhesives and sealants containing organic solvents or other dangerous substances
20 01 27*	Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

DE-2729-4483-1

Not hazardous for transportation

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
Diiron trioxide	1309-37-1	Gr. 3: Not classifiable	International Agency for Research on Cancer

Global inventory status
Contact 3M for more information. The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. The components of this product are in compliance with the chemical notification requirements of TSCA.

15.2. Chemical Safety Assessment

Not applicable

SECTION 16: Other information

List of relevant H statements

H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

List of relevant R-phrases

R22	Harmful if swallowed.
R23	Toxic by inhalation.
R24	Toxic in contact with skin.
R25	Toxic if swallowed.
R34	Causes burns.
R37	Irritating to respiratory system.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R50/53	Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R52	Harmful to aquatic organisms.

Revision information:
Revision Changes:
Section 3: Composition/ Information of ingredients table information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Copyright information was modified.
Section 8: Occupational exposure limit table information was modified.
OEL Reg Agency Desc information was modified.
Telephone header information was modified.
Company Telephone information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Carcinogenicity Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 5: Fire - Advice for fire fighters information information was modified.
Prints No Data if Component ecotoxicity information is not present information was added.
Section 8: Occupational exposure limit table information was added.
Section 12: Classification Warning information was added.
Section 11: Classification disclaimer information was added.
Section 11: Aspiration Hazard text information was added.
Section 11: Respiratory Sensitization text information was added.

Section 11: Skin Sensitization table - Name heading information was added.
Section 11: Skin Sensitization table - Species heading information was added.
Section 11: Skin Sensitization table - Value heading information was added.
Section 11: Serious Eye Damage/Irritation table - Name heading information was added.
Section 11: Serious Eye Damage/Irritation table - Species heading information was added.
Section 11: Serious Eye Damage/Irritation table - Value heading information was added.
Section 11: Skin Corrosion/Irritation table - Name heading information was added.
Section 11: Skin Corrosion/Irritation table - Species heading information was added.
Section 11: Skin Corrosion/Irritation table - Value heading information was added.
Section 11: Germ Cell Mutagenicity table - Name heading information was added.
Section 11: Germ Cell Mutagenicity table - Route heading information was added.
Section 11: Germ Cell Mutagenicity table - Value heading information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure table - Name heading information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure table - Route heading information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure table - Target Organ(s) heading information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure table - Value heading information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure table - Species heading information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure table - Test Result heading information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure table - Exposure Duration heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Name heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Route heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Target Organ(s) heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Value heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Species heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Test Result heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Exposure Duration heading information was added.
Section 11: Reproductive and/or Developmental Effects table - Name heading information was added.
Section 11: Reproductive and/or Developmental Effects table - Route heading information was added.
Section 11: Reproductive and/or Developmental Effects table - Value heading information was added.
Section 11: Reproductive and/or Developmental Effects table - Species heading information was added.
Section 11: Reproductive and/or Developmental Effects table - Test Result heading information was added.
Section 11: Reproductive and/or Developmental Effects text information was added.
Section 11: Carcinogenicity table - Name heading information was added.
Section 11: Carcinogenicity table - Route heading information was added.
Section 11: Carcinogenicity table - Species heading information was added.
Section 11: Carcinogenicity table - Value heading information was added.
Section 8: glove data - Material heading information was added.
Section 8: glove data - Thickness heading information was added.
Section 8: glove data - Breakthrough Time heading information was added.
Section 8: glove data value information was added.
Section 8: Skin protection - recommended gloves information information was deleted.
Section 12: Component ecotoxicity information information was deleted.
Section 12: Component Ecotoxicity table Material column header information was deleted.
Section 12: Component Ecotoxicity table CAS No column header information was deleted.
Section 12: Component Ecotoxicity table Organism column header information was deleted.
Section 12: Component Ecotoxicity table Type column header information was deleted.
Section 12: Component Ecotoxicity table Exposure column header information was deleted.
Section 12: Component Ecotoxicity table End point column header information was deleted.
Section 12: Component Ecotoxicity table Result column header information was deleted.
Section 11: Classification disclaimer information was deleted.
Section 11: Exposure Duration table heading information was deleted.
Section 11: Test Result table heading information was deleted.
Section 12: Classification Warning information was deleted.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use

(except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M United Kingdom MSDSs are available at www.3M.com/uk

Safety Data Sheet

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Document Group:	21-2441-0	**Version Number:**	9.01
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SECTION 1: Identification

1.1. Product identifier
3M Fire Barrier Moldable Putty + Pads

Product Identification Numbers
44-0042-9351-8, 44-0042-9352-6, 98-0400-5524-0, 98-0400-5525-7, 98-0400-5526-5, 98-0400-5547-1

1.2. Recommended use and restrictions on use

Recommended use
Passive fire protection in industrial applications

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Serious Eye Damage/Irritation: Category 2A.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 2.

2.2. Label elements
Signal word
Warning

Symbols
Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves and eye/face protection.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:
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: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
IF exposed or concerned: Get medical advice/attention.

Storage:
Store locked up.

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

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Methyl Esters of Hydrogenated Rosin	8050-15-5	10 - 30 Trade Secret *
Polybutylene	9003-29-6	10 - 30 Trade Secret *
Sodium Silicate	1344-09-8	10 - 30 Trade Secret *
Zinc Borate 2335	138265-88-0	10 - 30 Trade Secret *
Polymer NJTS Reg. No. 04499600-7177	Trade Secret*	10 - 30 Trade Secret *
Melamine Phosphate	41583-09-9	7 - 13 Trade Secret *
Glass Wool	65997-17-3	3 - 7 Trade Secret *
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	1 - 5 Trade Secret *
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	62258-49-5	1 - 5 Trade Secret *
Amorphous Silica	112945-52-5	1 - 5 Trade Secret *
Butadiene-Styrene-Meta-Divinylbenzene Polymer	26471-45-4	1 - 5 Trade Secret *
Water	7732-18-5	1 - 5 Trade Secret *
Rayon Fiber	None	1 - 5 Trade Secret *

Rosin	8050-09-7	< 1 Trade Secret *

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion

5.3. Special protective actions for fire-fighters
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
No special storage requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
SILICA, AMORPHOUS	112945-52-5	OSHA	TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft.	
Rosin	8050-09-7	ACGIH	Limit value not established:	Dermal/Respiratory Sensitizer, Cntrl all exposr-low as possib

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face

protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Neoprene
Nitrile Rubber
Natural Rubber

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - Neoprene
Apron – Nitrile

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Specific Physical Form:	Putty
Odor, Color, Grade:	Red putty with pine-like odor
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point	*Not Applicable*
Boiling Point	*Not Applicable*
Flash Point	No flash point
Evaporation rate	*Not Applicable*
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Vapor Pressure	*Not Applicable*
Vapor Density	*Not Applicable*
Density	1.25 g/cm3
Specific Gravity	1.25 [*Ref Std:*WATER=1]
Solubility In Water	*No Data Available*
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*Not Applicable*
Decomposition temperature	*No Data Available*
Viscosity	*No Data Available*
Volatile Organic Compounds	< 1 % weight
VOC Less H2O & Exempt Solvents	< 1 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:
May be harmful if swallowed.
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg
Zinc Borate 2335	Dermal	Rabbit	LD50 > 5,000 mg/kg
Zinc Borate 2335	Inhalation-Dust/Mist	Rat	LC50 > 4.95 mg/l
Zinc Borate 2335	Ingestion	Rat	LD50 > 5,000 mg/kg
Sodium Silicate	Dermal	Rabbit	LD50 > 4,640 mg/kg
Sodium Silicate	Ingestion	Rat	LD50 500 mg/kg
Polybutylene	Dermal	Rat	LD50 > 10,250 mg/kg
Polybutylene	Ingestion	Rat	LD50 > 34,600 mg/kg
Polymer NJTS Reg. No. 04499600-7177	Dermal	Rabbit	LD50 > 2,000 mg/kg
Polymer NJTS Reg. No. 04499600-7177	Ingestion	Rat	LD50 > 5,000 mg/kg
Melamine Phosphate	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Melamine Phosphate	Ingestion	Rat	LD50 > 4,000 mg/kg
Glass Wool	Dermal		LD50 estimated to be > 5,000 mg/kg
Glass Wool	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Butadiene-Styrene-Meta-Divinylbenzene Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Butadiene-Styrene-Meta-Divinylbenzene Polymer	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Amorphous Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Amorphous Silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Amorphous Silica	Ingestion	Rat	LD50 > 5,110 mg/kg
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	Rat	LD50 > 1,600 mg/kg
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Rat	LD50 > 1,000 mg/kg
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	Ingestion	Rat	LD50 > 40,000 mg/kg
Rosin	Dermal	Rabbit	LD50 > 2,500 mg/kg
Rosin	Ingestion	Rat	LD50 7,600 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Zinc Borate 2335	Rabbit	No significant irritation
Sodium Silicate	Rabbit	Corrosive
Polybutylene	Rabbit	Minimal irritation
Polymer NJTS Reg. No. 04499600-7177	Professional judgement	No significant irritation
Glass Wool	Professional judgement	No significant irritation
Butadiene-Styrene-Meta-Divinylbenzene Polymer	Professio	Minimal irritation

	nal judgeme nt	
Amorphous Silica	Rabbit	No significant irritation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Rabbit	Mild irritant
Rosin	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Zinc Borate 2335	Rabbit	Severe irritant
Sodium Silicate	Rabbit	Corrosive
Polybutylene	Rabbit	Mild irritant
Glass Wool	Professio nal judgeme nt	No significant irritation
Amorphous Silica	Rabbit	No significant irritation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Rabbit	Moderate irritant
Rosin	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Zinc Borate 2335	Guinea pig	Not classified
Sodium Silicate	Mouse	Not classified
Amorphous Silica	Human and animal	Not classified
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Human and animal	Sensitizing
Rosin	Guinea pig	Sensitizing

Respiratory Sensitization

Name	Species	Value
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Human	Not classified
Rosin	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Zinc Borate 2335	In Vitro	Some positive data exist, but the data are not sufficient for classification
Sodium Silicate	In Vitro	Not mutagenic
Sodium Silicate	In vivo	Not mutagenic
Glass Wool	In Vitro	Some positive data exist, but the data are not sufficient for classification
Amorphous Silica	In Vitro	Not mutagenic
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	In vivo	Not mutagenic
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Glass Wool	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Amorphous Silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	Mouse	Some positive data exist, but the data are not

			sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Zinc Borate 2335	Ingestion	Toxic to male reproduction	Rat	NOAEL 100 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	Toxic to development	Rat	LOAEL 100 mg/kg/day	during gestation
Sodium Silicate	Ingestion	Not classified for development	Mouse	NOAEL 200 mg/kg/day	during gestation
Amorphous Silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Amorphous Silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Amorphous Silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Zinc Borate 2335	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Sodium Silicate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Zinc Borate 2335	Inhalation	immune system | respiratory system | heart | endocrine system | hematopoietic system | liver | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Ingestion	endocrine system | liver | kidney and/or bladder | heart | skin | bone, teeth, nails, and/or hair | hematopoietic system | immune system | nervous system | eyes | respiratory system | vascular system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days

Sodium Silicate	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	LOAEL 2,400 mg/kg/day	4 weeks
Sodium Silicate	Ingestion	endocrine system | blood	Not classified	Rat	NOAEL 804 mg/kg/day	3 months
Sodium Silicate	Ingestion	heart | liver	Not classified	Rat	NOAEL 1,259 mg/kg/day	8 weeks
Polybutylene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.07 mg/l	2 weeks
Polybutylene	Inhalation	liver	Not classified	Rat	NOAEL 0.7 mg/l	2 weeks
Glass Wool	Inhalation	respiratory system	Not classified	Human	NOAEL not available	occupational exposure
Amorphous Silica	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

Aspiration Hazard
For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards
Not applicable

Health Hazards
Reproductive toxicity
Respiratory or Skin Sensitization
Serious eye damage or eye irritation

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Zinc Borate 2335 (ZINC COMPOUNDS)	138265-88-0	10 - 30

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this product are in compliance with the chemical notification requirements of TSCA.

15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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Issue Date:	01/22/18	**Supercedes Date:**	08/14/14

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Safety Data Sheet

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Document Group:	27-3508-2	**Version Number:**	4.03
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SECTION 1: Identification

1.1. Product identifier
3M(TM) Fire Barrier Sealant FD 150+, Red

Product Identification Numbers
98-0400-5598-4, 98-0400-5599-2, 98-0400-5600-8, 98-0400-5601-6

1.2. Recommended use and restrictions on use

Recommended use
Fire Protection, Caulk used as a passive fire protection.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1A.
Reproductive Toxicity: Category 2.
Carcinogenicity: Category 1A.
Specific Target Organ Toxicity (single exposure): Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Causes skin irritation.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
May cause cancer.

Causes damage to organs:
cardiovascular system |
nervous system |
kidney/urinary tract |
respiratory system |

Precautionary Statements
General:
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.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see Notes to Physician on this label).

Storage:
Store locked up.

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

Notes to Physician:
This product contains ethylene glycol. If there is reasonable suspicion of ethylene glycol poisoning, intravenous (IV) administration with either fomepizole (preferred) or ethanol (if fomepizole is unavailable) should be considered as part of the medical management.

9% of the mixture consists of ingredients of unknown acute oral toxicity.
9% of the mixture consists of ingredients of unknown acute dermal toxicity.
3% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Calcium Carbonate	1317-65-3	40 - 70 Trade Secret *
Polymer NJTS Reg. No. 04499600-7187	Trade Secret*	10 - 30 Trade Secret *
Acrylic Emulsion	70677-00-8	5 - 10 Trade Secret *
Mineral Spirits	64742-88-7	5 - 10 Trade Secret *
Water	7732-18-5	5 - 10 Trade Secret *
Ethylene Glycol	107-21-1	1 - 5 Trade Secret *
Iron Oxide	1309-37-1	1 - 5 Trade Secret *
Plasticizer	27138-31-4	1 - 5 Trade Secret *
Ethyl hydroxyethyl cellulose	9004-58-4	0.5 - 1.5 Trade Secret *
2-Aminoisobutanol	124-68-5	< 1.0 Trade Secret *
Quartz Silica	14808-60-7	0.1 - 1 Trade Secret *
2-Methyl-4-Isothiazoline-3-one	2682-20-4	< 0.1 Trade Secret *
5-Chloro-2-Methyl-4-Isothiazoline-3-one	26172-55-4	< 0.1 Trade Secret *

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
This product contains ethylene glycol. If there is reasonable suspicion of ethylene glycol poisoning, intravenous (IV) administration with either fomepizole (preferred) or ethanol (if fomepizole is unavailable) should be considered as part of the medical management.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Ethylene Glycol	107-21-1	ACGIH	TWA(Vapor fraction):25 ppm;STEL(Inhalable aerosol):10 mg/m3;STEL(Vapor fraction):50 ppm	A4: Not class. as human carcin
Iron Oxide	1309-37-1	ACGIH	TWA(respirable fraction):5 mg/m3	A4: Not class. as human carcin

Iron Oxide	1309-37-1	OSHA	TWA(as fume):10 mg/m3	
Calcium Carbonate	1317-65-3	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Quartz Silica	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
Quartz Silica	14808-60-7	OSHA	TWA Table Z-1(respirable):0.05 mg/m3;TWA Table Z-3(respirable):0.1 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety Glasses with side shields

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Specific Physical Form:	Paste
Odor, Color, Grade:	Red paste with low odor
Odor threshold	*No Data Available*

pH	8 - 9
Melting point	*No Data Available*
Boiling Point	*Not Applicable*
Flash Point	No flash point
Evaporation rate	1 [*Ref Std:*BUOAC=1]
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Vapor Pressure	0.18 mmHg
Vapor Density	[*Details:*Lighter than air]*No Data Available*
Density	1.45 g/cm3
Specific Gravity	1.45 [*Ref Std:*WATER=1]
Solubility in Water	Miscible [*Details:*Miscible in wet stage]
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*Not Applicable*
Decomposition temperature	*No Data Available*
Viscosity	*No Data Available*
Volatile Organic Compounds	< 15 % weight
VOC Less H2O & Exempt Solvents	< 250 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:
Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Cardiac Effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
SILICA, CRYS AIRRESP	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens
Quartz Silica	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg

Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Calcium Carbonate	Dermal	Rat	LD50 > 2,000 mg/kg
Calcium Carbonate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
Calcium Carbonate	Ingestion	Rat	LD50 6,450 mg/kg
Polymer NJTS Reg. No. 04499600-7187	Dermal		LD50 estimated to be > 5,000 mg/kg
Polymer NJTS Reg. No. 04499600-7187	Ingestion	Rat	LD50 > 2,000 mg/kg
Mineral Spirits	Inhalation-Vapor		LC50 estimated to be 20 - 50 mg/l
Mineral Spirits	Dermal	Rabbit	LD50 > 3,000 mg/kg
Mineral Spirits	Ingestion	Rat	LD50 > 5,000 mg/kg
Plasticizer	Dermal	Rat	LD50 > 2,000 mg/kg
Plasticizer	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 200 mg/l
Plasticizer	Ingestion	Rat	LD50 3,295 mg/kg
Iron Oxide	Dermal	Not available	LD50 3,100 mg/kg
Iron Oxide	Ingestion	Not available	LD50 3,700 mg/kg
Ethylene Glycol	Ingestion	Human	LD50 1,600 mg/kg
Ethylene Glycol	Inhalation-Dust/Mist (4 hours)	Other	LC50 estimated to be 5 - 12.5 mg/l
Ethylene Glycol	Dermal	Rabbit	9,530 mg/kg
Ethyl hydroxyethyl cellulose	Dermal		LD50 estimated to be > 5,000 mg/kg
Ethyl hydroxyethyl cellulose	Ingestion	Rat	LD50 > 10,000 mg/kg
2-Aminoisobutanol	Dermal	Rabbit	LD50 > 2,000 mg/kg
2-Aminoisobutanol	Ingestion	Rat	LD50 2,900 mg/kg
Quartz Silica	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz Silica	Ingestion		LD50 estimated to be > 5,000 mg/kg
2-Methyl-4-Isothiazoline-3-one	Dermal	Rabbit	LD50 87 mg/kg
5-Chloro-2-Methyl-4-Isothiazoline-3-one	Dermal	Rabbit	LD50 87 mg/kg
2-Methyl-4-Isothiazoline-3-one	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.33 mg/l
2-Methyl-4-Isothiazoline-3-one	Ingestion	Rat	LD50 40 mg/kg
5-Chloro-2-Methyl-4-Isothiazoline-3-one	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.33 mg/l
5-Chloro-2-Methyl-4-Isothiazoline-3-one	Ingestion	Rat	LD50 40 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Calcium Carbonate	Rabbit	No significant irritation
Polymer NJTS Reg. No. 04499600-7187	Rabbit	Minimal irritation
Mineral Spirits	Rabbit	Irritant
Plasticizer	Rabbit	No significant irritation
Iron Oxide	Rabbit	No significant irritation
Ethylene Glycol	Rabbit	Minimal irritation
Ethyl hydroxyethyl cellulose	Professional judgement	Minimal irritation
2-Aminoisobutanol	Rabbit	Irritant
Quartz Silica	Professional judgement	No significant irritation

2-Methyl-4-Isothiazoline-3-one	Rabbit	Corrosive
5-Chloro-2-Methyl-4-Isothiazoline-3-one	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Calcium Carbonate	Rabbit	No significant irritation
Polymer NJTS Reg. No. 04499600-7187	Professional judgement	Mild irritant
Mineral Spirits	Rabbit	No significant irritation
Plasticizer	Rabbit	No significant irritation
Iron Oxide	Rabbit	No significant irritation
Ethylene Glycol	Rabbit	Mild irritant
Ethyl hydroxyethyl cellulose	Professional judgement	Mild irritant
2-Aminoisobutanol	Rabbit	Corrosive
2-Methyl-4-Isothiazoline-3-one	Rabbit	Corrosive
5-Chloro-2-Methyl-4-Isothiazoline-3-one	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
Mineral Spirits	Guinea pig	Not classified
Plasticizer	Guinea pig	Not classified
Iron Oxide	Human	Not classified
Ethylene Glycol	Human	Not classified
2-Aminoisobutanol	Guinea pig	Not classified
2-Methyl-4-Isothiazoline-3-one	Human and animal	Sensitizing
5-Chloro-2-Methyl-4-Isothiazoline-3-one	Human and animal	Sensitizing

Photosensitization

Name	Species	Value
2-Methyl-4-Isothiazoline-3-one	Human and animal	Not sensitizing
5-Chloro-2-Methyl-4-Isothiazoline-3-one	Human and animal	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Mineral Spirits	In vivo	Not mutagenic
Mineral Spirits	In Vitro	Some positive data exist, but the data are not sufficient for classification
Plasticizer	In Vitro	Not mutagenic
Iron Oxide	In Vitro	Not mutagenic
Ethylene Glycol	In Vitro	Not mutagenic
Ethylene Glycol	In vivo	Not mutagenic

2-Aminoisobutanol	In Vitro	Not mutagenic
2-Aminoisobutanol	In vivo	Not mutagenic
Quartz Silica	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In vivo	Some positive data exist, but the data are not sufficient for classification
2-Methyl-4-Isothiazoline-3-one	In vivo	Not mutagenic
2-Methyl-4-Isothiazoline-3-one	In Vitro	Some positive data exist, but the data are not sufficient for classification
5-Chloro-2-Methyl-4-Isothiazoline-3-one	In vivo	Not mutagenic
5-Chloro-2-Methyl-4-Isothiazoline-3-one	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Mineral Spirits	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Mineral Spirits	Inhalation	Human and animal	Some positive data exist, but the data are not sufficient for classification
Iron Oxide	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
Ethylene Glycol	Ingestion	Multiple animal species	Not carcinogenic
Quartz Silica	Inhalation	Human and animal	Carcinogenic
2-Methyl-4-Isothiazoline-3-one	Dermal	Mouse	Not carcinogenic
2-Methyl-4-Isothiazoline-3-one	Ingestion	Rat	Not carcinogenic
5-Chloro-2-Methyl-4-Isothiazoline-3-one	Dermal	Mouse	Not carcinogenic
5-Chloro-2-Methyl-4-Isothiazoline-3-one	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Calcium Carbonate	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	premating & during gestation
Mineral Spirits	Inhalation	Not classified for development	Rat	NOAEL 2.4 mg/l	during organogenesis
Plasticizer	Ingestion	Not classified for female reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
Plasticizer	Ingestion	Not classified for male reproduction	Rat	NOAEL 400 mg/kg/day	2 generation
Plasticizer	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
Ethylene Glycol	Dermal	Not classified for development	Mouse	NOAEL 3,549 mg/kg/day	during organogenesis
Ethylene Glycol	Ingestion	Not classified for development	Mouse	LOAEL 750 mg/kg/day	during organogenesis
Ethylene Glycol	Inhalation	Not classified for development	Mouse	NOAEL 1,000 mg/kg/day	during organogenesis
2-Aminoisobutanol	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
2-Aminoisobutanol	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	37 days
2-Aminoisobutanol	Dermal	Not classified for development	Rat	NOAEL 300 mg/kg/day	during gestation

2-Aminoisobutanol	Ingestion	Toxic to development	Rat	NOAEL 100 mg/kg/day	premating into lactation
2-Methyl-4-Isothiazoline-3-one	Ingestion	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
2-Methyl-4-Isothiazoline-3-one	Ingestion	Not classified for male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
2-Methyl-4-Isothiazoline-3-one	Ingestion	Not classified for development	Rat	NOAEL 15 mg/kg/day	during organogenesis
5-Chloro-2-Methyl-4-Isothiazoline-3-one	Ingestion	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
5-Chloro-2-Methyl-4-Isothiazoline-3-one	Ingestion	Not classified for male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
5-Chloro-2-Methyl-4-Isothiazoline-3-one	Ingestion	Not classified for development	Rat	NOAEL 15 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Calcium Carbonate	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes
Mineral Spirits	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Mineral Spirits	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Mineral Spirits	Inhalation	nervous system	Not classified	Dog	NOAEL 6.5 mg/l	4 hours
Mineral Spirits	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Ethylene Glycol	Ingestion	heart | nervous system | kidney and/or bladder | respiratory system	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
Ethylene Glycol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Ethylene Glycol	Ingestion	liver	Not classified	Human	NOAEL Not available	poisoning and/or abuse
2-Aminoisobutanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	
2-Methyl-4-Isothiazoline-3-one	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
5-Chloro-2-Methyl-4-Isothiazoline-3-one	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Calcium Carbonate	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Mineral Spirits	Inhalation	nervous system	Not classified	Rat	LOAEL 4.6 mg/l	6 months
Mineral Spirits	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.9 mg/l	13 weeks
Mineral Spirits	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 0.6 mg/l	90 days

Mineral Spirits	Inhalation	bone, teeth, nails, and/or hair | blood | liver | muscles	Not classified	Rat	NOAEL 5.6 mg/l	12 weeks
Mineral Spirits	Inhalation	heart	Not classified	Multiple animal species	NOAEL 1.3 mg/l	90 days
Plasticizer	Ingestion	hematopoietic system | liver	Not classified	Rat	NOAEL 2,500 mg/kg/day	90 days
Iron Oxide	Inhalation	pulmonary fibrosis | pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Ethylene Glycol	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	2 years
Ethylene Glycol	Ingestion	vascular system	Not classified	Rat	NOAEL 200 mg/kg/day	2 years
Ethylene Glycol	Ingestion	heart | hematopoietic system | liver | immune system | muscles	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Ethylene Glycol	Ingestion	respiratory system	Not classified	Mouse	NOAEL 12,000 mg/kg/day	2 years
Ethylene Glycol	Ingestion	skin | endocrine system | bone, teeth, nails, and/or hair | nervous system | eyes	Not classified	Multiple animal species	NOAEL 1,000 mg/kg/day	2 years
2-Aminoisobutanol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 23 mg/kg/day	90 days
2-Aminoisobutanol	Ingestion	blood | eyes | kidney and/or bladder	Not classified	Dog	NOAEL 2.8 mg/kg/day	1 years
Quartz Silica	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

Name	Value
Mineral Spirits	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Test Organism	Test Type	Result
Water flea, Daphnia magna	48 hours Effect Level 50%	96.5 mg/l

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

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

Dispose of waste product in a permitted industrial waste facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards
Not applicable

Health Hazards
Carcinogenicity
Reproductive toxicity
Respiratory or Skin Sensitization
Skin Corrosion or Irritation
Specific target organ toxicity (single or repeated exposure)

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Ethylene Glycol	107-21-1	Trade Secret 1 - 5

15.2. State Regulations
Contact 3M for more information.

California Proposition 65

Ingredient	C.A.S. No.	Listing
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	None	Carcinogen
Ethylene Glycol	107-21-1	Developmental Toxin

15.3. Chemical Inventories
The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 0 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Document Group:	27-3508-2	**Version Number:**	4.03
Issue Date:	04/12/18	**Supercedes Date:**	01/19/18

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Safety Data Sheet
prepared to UN GHS Revision 3

1. Identification of the Substance/Mixture and the Company/Undertaking

1.1 Product Identifier 03ADS1NL

Product Name: A/D FIREBARRIER SILICONE SL

Revision Date: 01/13/2016

Supercedes Date: 08/26/2015

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

1.3 Details of the supplier of the safety data sheet

Manufacturer:
A/D FIRE PROTECTION SYSTEMS
420 Tapscott Road, Unit #5
Scarborough, On, M1B 1Y4

Regulatory / Technical Information:
Contact A/D Fire Technical Services at: 1-800-263-4087

Datasheet Produced by: Schlereth, Ken - ehs@stoncor.com

1.4 Emergency telephone number:
CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)
HEALTH - Pittsburgh Poison Control 1-412-681-6669

2. Hazard Identification

2.1 Classification of the substance or mixture

Eye Irritation, category 2
Skin Irritation, category 2
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product

Signal Word

Warning

Named Chemicals on Label

OXIMOSILANE

GHS HAZARD STATEMENTS

Skin Irritation, category 2	H315	Causes skin irritation.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Eye Irritation, category 2	H319	Causes serious eye irritation.

GHS PRECAUTION PHRASES

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/ face protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P332+313	If skin irritation occurs: Get medical advice/attention.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.

2.3 Other hazards

No Information

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous Ingredients

CAS-No.	Chemical Name	%
1317-65-3	LIMESTONE	10-25
112945-52-5	SILICA, CRYSTALLINE FREE	2.5-10
022984-54-9	OXIMOSILANE	2.5-10

CAS-No.	GHS Symbols	GHS Hazard Statements	M-Factors
1317-65-3	GHS07	H315-319	0
112945-52-5			0
022984-54-9	GHS07-GHS08	H317-319-373	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.

AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Irritating to respiratory system.

4.3 Indication of any immediate medical attention and special treatment needed

No Information

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

Evacuate personnel to safe areas. Use NIOSH approved respiratory protection. Use water spray to cool unopened containers.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

No Information

6.2 Environmental precautions

No Information

6.3 Methods and material for containment and cleaning up

No Information

6.4 Reference to other sections

No Information

7. Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection. Avoid breathing vapors, mist or gas.
PROTECTION AND HYGIENE MEASURES : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: No Information
STORAGE CONDITIONS: Keep container closed when not in use.

7.3 Specific end use(s)

No Information

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (US)

Name	%	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	OEL Note
LIMESTONE	10-25	N/E	N/E	5 MGM3	N/E	
SILICA, CRYSTALLINE FREE	2.5-10	10. MG/M3	N/E	5 MG/M3	N/E	
OXIMOSILANE	2.5-10	N/E	N/E	N/E	N/E	

FURTHER INFORMATION: No Information

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Safety glasses with side-shields.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious gloves. Request information on glove permeation properties from the glove supplier.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location. Lightweight protective clothing

ENGINEERING CONTROLS: Use with adequate ventilation.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Caulk: Red Or Grey
Physical State	Liquid
Odor	Mild
Odor threshold	N/D
pH	N/D
Melting point / freezing point (°C)	32F (0C)
Boiling point/range (°C)	N/A - N/A
Flash Point, (°C)	120
Evaporation rate	Slower Than Ether
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	6.0 - 36.0
Vapour Pressure, mmHg	17 mmHg @ 20C
Vapour density	Heavier than Air
Relative density	Not determined
Solubility in / Miscibility with water	N/D
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	Unknown
Explosive properties	Not determined
Oxidising properties	Not determined

9.2 Other information

VOC Content g/l:	60
Specific Gravity (g/cm3)	1.265

10. Stability and Reactivity

10.1 Reactivity
No Information

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerisation does not occur.

10.4 Conditions to avoid
No Information

10.5 Incompatible materials
No Information

10.6 Hazardous decomposition products
None known.

11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50: N/D

Inhalation LC50: N/D

Irritation: Unknown

Corrosivity: Unknown

Sensitization: Unknown

Repeated dose toxicity: Unknown

Carcinogenicity: Unknown

Mutagenicity: Unknown

Toxicity for reproduction: Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
1317-65-3	LIMESTONE	6450 mg/kg, oral, rat	Not Available	Not Available
112945-52-5	SILICA, CRYSTALLINE FREE	10000 mg/kg, oral, rat	Not Available	0.139 mg/L/4 hrs, rat, inh
022984-54-9	OXIMOSILANE	2563 mg/kg, oral, rat	Not Available	Not Available

Additional Information:
Irritating to respiratory system.

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia):	Unknown
IC50 72hr (Algae):	Unknown
LC50 96hr (fish):	Unknown

12.2 Persistence and degradability: Unknown

12.3 Bioaccumulative potential: Unknown

12.4 Mobility in soil: Unknown

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects: Unknown

CAS-No.	Chemical Name	EC50 48hr	IC50 72hr	LC50 96hr
1317-65-3	LIMESTONE	No information	No information	No information
112945-52-5	SILICA, CRYSTALLINE FREE	No information	No information	No information
022984-54-9	OXIMOSILANE	No information	No information	No information

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: Dispose of in accordance with local regulations.

14. Transport Information

14.1	**UN number**	None
14.2	**UN proper shipping name**	Not Regulated
	Technical name	N/A
14.3	**Transport hazard class(es)**	None
	Subsidiary shipping hazard	N/A
14.4	**Packing group**	N/A
14.5	**Environmental hazards**	Unknown
14.6	**Special precautions for user**	Unknown
	EmS-No.:	None
14.7	**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**	Unknown

15. Regulatory Information

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

U.S. Federal Regulations: As follows -

CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.

No Sara 313 components exist in this product.

Toxic Substances Control Act:

All components of this product are either listed on the TSCA Inventory or are exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS-No.
DIMETHYLPOLYSILOXANE	70131-67-8
POLYDIMETHYL SILOXANE	63148-62-9

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name	CAS-No.
DIMETHYLPOLYSILOXANE	70131-67-8
POLYDIMETHYL SILOXANE	63148-62-9

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

Chemical Name	CAS-No.
MICROCRYSTALLINE SILICA	14808-60-7

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

Chemical Name	CAS-No.
METHYL ALCOHOL	67-56-1

International Regulations: As follows -

*** Canadian DSL:**

No Information

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Reasons for revision

No Information

No Information

Safety Data Sheet
prepared to UN GHS Revision 3

1. Identification of the Substance/Mixture and the Company/Undertaking

1.1 Product Identifier 02ADS1NL

Product Name: A/D FIREBARRIER SILICONE

Revision Date: 01/13/2016

Supercedes Date: 08/10/2015

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

1.3 Details of the supplier of the safety data sheet

Manufacturer:
A/D FIRE PROTECTION SYSTEMS
420 Tapscott Road, Unit #5
Scarborough, On, M1B 1Y4

Regulatory / Technical Information:
Contact A/D Fire Technical Services at: 1-800-263-4087

Datasheet Produced by: Schlereth, Ken - ehs@stoncor.com

1.4 Emergency telephone number:
CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)
HEALTH - Pittsburgh Poison Control 1-412-681-6669

2. Hazard Identification

2.1 Classification of the substance or mixture

Eye Irritation, category 2
Skin Irritation, category 2
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product

Signal Word

Warning

Named Chemicals on Label

OXIMOSILANE

GHS HAZARD STATEMENTS

Skin Irritation, category 2	H315	Causes skin irritation.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Eye Irritation, category 2	H319	Causes serious eye irritation.

GHS PRECAUTION PHRASES

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/ face protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P332+313	If skin irritation occurs: Get medical advice/attention.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.

2.3 Other hazards

No Information

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous Ingredients

CAS-No.	Chemical Name	%
1317-65-3	LIMESTONE	10-25
112945-52-5	SILICA, CRYSTALLINE FREE	2.5-10
022984-54-9	OXIMOSILANE	2.5-10

CAS-No.	GHS Symbols	GHS Hazard Statements	M-Factors
1317-65-3	GHS07	H315-319	0
112945-52-5			0
022984-54-9	GHS07-GHS08	H317-319-373	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.

AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Irritating to respiratory system.

4.3 Indication of any immediate medical attention and special treatment needed

No Information

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

Evacuate personnel to safe areas. Use NIOSH approved respiratory protection. Use water spray to cool unopened containers.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

No Information

6.2 Environmental precautions

No Information

6.3 Methods and material for containment and cleaning up

No Information

6.4 Reference to other sections

No Information

7. Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection. Avoid breathing vapors, mist or gas.
PROTECTION AND HYGIENE MEASURES : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: No Information
STORAGE CONDITIONS: Keep container closed when not in use.

7.3 Specific end use(s)

No Information

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (US)

Name	%	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	OEL Note
LIMESTONE	10-25	N/E	N/E	5 MGM3	N/E	
SILICA, CRYSTALLINE FREE	2.5-10	10. MG/M3	N/E	5 MG/M3	N/E	
OXIMOSILANE	2.5-10	N/E	N/E	N/E	N/E	

FURTHER INFORMATION: No Information

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Safety glasses with side-shields.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious gloves. Request information on glove permeation properties from the glove supplier.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location. Lightweight protective clothing

ENGINEERING CONTROLS: Use with adequate ventilation.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Smoth Thixatropic Paste
Physical State	Liquid
Odor	Mild
Odor threshold	N/D
pH	N/D
Melting point / freezing point (°C)	N/D
Boiling point/range (°C)	N/A - N/A
Flash Point, (°C)	120
Evaporation rate	N/A
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	6.0 - 36.0
Vapour Pressure, mmHg	17 mmHg @ 20C
Vapour density	Heavier than Air
Relative density	Not determined
Solubility in / Miscibility with water	N/D
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	Unknown
Explosive properties	Not determined
Oxidising properties	Not determined

9.2 Other information

VOC Content g/l:	83
Specific Gravity (g/cm3)	1.13

10. Stability and Reactivity

10.1 Reactivity
No Information

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerisation does not occur.

10.4 Conditions to avoid
No Information

10.5 Incompatible materials
No Information

10.6 Hazardous decomposition products
None known.

11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50: N/D

Inhalation LC50: N/D

Irritation: Unknown

Corrosivity: Unknown

Sensitization: Unknown

Repeated dose toxicity: Unknown

Carcinogenicity: Unknown

Mutagenicity: Unknown

Toxicity for reproduction: Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
1317-65-3	LIMESTONE	6450 mg/kg, oral, rat	Not Available	Not Available
112945-52-5	SILICA, CRYSTALLINE FREE	10000 mg/kg, oral, rat	Not Available	0.139 mg/L/4 hrs, rat, inh
022984-54-9	OXIMOSILANE	2563 mg/kg, oral, rat	Not Available	Not Available

Additional Information:
Irritating to respiratory system.

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia):	Unknown
IC50 72hr (Algae):	Unknown
LC50 96hr (fish):	Unknown

12.2 Persistence and degradability: Unknown

12.3 Bioaccumulative potential: Unknown

12.4 Mobility in soil: Unknown

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects: Unknown

CAS-No.	Chemical Name	EC50 48hr	IC50 72hr	LC50 96hr
1317-65-3	LIMESTONE	No information	No information	No information
112945-52-5	SILICA, CRYSTALLINE FREE	No information	No information	No information
022984-54-9	OXIMOSILANE	No information	No information	No information

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: Dispose of in accordance with local regulations.

14. Transport Information

14.1	**UN number**	None
14.2	**UN proper shipping name**	Not Regulated
	Technical name	N/A
14.3	**Transport hazard class(es)**	None
	Subsidiary shipping hazard	N/A
14.4	**Packing group**	N/A
14.5	**Environmental hazards**	Unknown
14.6	**Special precautions for user**	Unknown
	EmS-No.:	None
14.7	**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**	Unknown

15. Regulatory Information

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

U.S. Federal Regulations: As follows -

CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.

No Sara 313 components exist in this product.

Toxic Substances Control Act:

All components of this product are either listed on the TSCA Inventory or are exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS-No.
DIMETHYLPOLYSILOXANE	70131-67-8
POLYDIMETHYL SILOXANE	63148-62-9

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name	CAS-No.
DIMETHYLPOLYSILOXANE	70131-67-8
POLYDIMETHYL SILOXANE	63148-62-9

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

Chemical Name	CAS-No.
MICROCRYSTALLINE SILICA	14808-60-7

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

Chemical Name	CAS-No.
METHYL ALCOHOL	67-56-1

International Regulations: As follows -

*** Canadian DSL:**

No Information

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Reasons for revision

No Information

No Information

SAFETY DATA SHEET

DOW CORNING(R) 736 HEAT RESISTANT/SEALANT

Version	Revision Date:	SDS Number:	Date of last issue: 03/18/2017
3.0	09/14/2017	1347794-00009	Date of first issue: 02/18/2015

SECTION 1. IDENTIFICATION

Product name : DOW CORNING(R) 736 HEAT RESISTANT/SEALANT

Product code : 000000000003145824

Manufacturer or supplier's details

Company name of supplier : Dow Corning Corporation

Address : South Saginaw Road
Midland Michigan 48686

Telephone : (989) 496-6000

Emergency telephone : 24 Hour Emergency Telephone : (989) 496-5900
CHEMTREC : (800) 424-9300

Recommended use of the chemical and restrictions on use

Recommended use : Adhesive, binding agents

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Precautionary Statements :

Prevention:

P271 Use only outdoors or in a well-ventilated area.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Silicone elastomer

Hazardous ingredients

Chemical name	CAS-No.	Concentration (% w/w)
Silicon dioxide	7631-86-9	>= 8 - <= 9

SECTION 4. FIRST AID MEASURES

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact	:	Wash with water and soap as a precaution. Get medical attention if symptoms occur.
In case of eye contact	:	Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.
If swallowed	:	If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	:	None known.
Protection of first-aiders	:	No special precautions are necessary for first aid responders.
Notes to physician	:	Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Silicon oxides Formaldehyde
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions	:	Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation	:	Use only with adequate ventilation.
Advice on safe handling	:	Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment Take care to prevent spills, waste and minimize release to the environment.
Conditions for safe storage	:	Keep in properly labeled containers. Store in accordance with the particular national regulations.
Materials to avoid	:	Do not store with the following product types: Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Silicon dioxide	7631-86-9	TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA Z-3
		TWA (Dust)	80 mg/m3	OSHA Z-3

			/ %SiO2 (Silica)	
		TWA	6 mg/m³ (Silica)	NIOSH REL

These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.

Silicon dioxide

Engineering measures : Processing may form hazardous compounds (see section 10).
Ensure adequate ventilation, especially in confined areas.
Minimize workplace exposure concentrations.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection

Remarks : Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:
Safety glasses

Skin and body protection : Skin should be washed after contact.

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place.
When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.
These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : paste

Color : red

Odor : Acetic acid

Odor Threshold : No data available

pH : Not applicable

Melting point/freezing point : No data available

Initial boiling point and boiling range : Not applicable

Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Not classified as a flammability hazard
Self-ignition	:	The substance or mixture is not classified as pyrophoric. The substance or mixture is not classified as self heating.
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	Not applicable
Relative vapor density	:	No data available
Relative density	:	1.04
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Use at elevated temperatures may form highly hazardous compounds. Can react with strong oxidizing agents. Acetic acid is formed upon contact with water or humid air.

When heated to temperatures above 150 °C (300 °F) in the presence of air, product can form formaldehyde vapors.
Safe handling conditions may be maintained by keeping vapor concentrations within the occupational exposure limit for formaldehyde.
See OSHA formaldehyde standard, 29 CFR 1910.1048
Formaldehyde may cause cancer. It is also toxic by inhalation, skin absorption and ingestion, corrosive to skin and eyes, and may cause skin sensitization and respiratory irritation.
Hazardous decomposition products will be formed at elevated temperatures.

Conditions to avoid : None known.

Incompatible materials : Oxidizing agents

Hazardous decomposition products
Thermal decomposition : Formaldehyde

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Ingredients:

Silicon dioxide:

Acute oral toxicity : LD50 (Rat): > 3,300 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Information taken from reference works and the literature.

Acute inhalation toxicity : LC50 (Rat): > 2.08 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Information taken from reference works and the literature.

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Information taken from reference works and the literature.

Skin corrosion/irritation

Not classified based on available information.

Ingredients:

Silicon dioxide:

Result: No skin irritation
Remarks: Information taken from reference works and the literature.

Serious eye damage/eye irritation

Not classified based on available information.

Ingredients:

Silicon dioxide:

Result: No eye irritation
Remarks: Information taken from reference works and the literature.

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Ingredients:

Silicon dioxide:

Assessment: Does not cause skin sensitization.

Test Type: Skin: test type not specified
Species: Guinea pig
Result: negative
Remarks: Information taken from reference works and the literature.

Germ cell mutagenicity

Not classified based on available information.

Ingredients:

Silicon dioxide:

Genotoxicity in vitro	:	Result: negative Remarks: Information taken from reference works and the literature.
Genotoxicity in vivo	:	Application Route: Ingestion Result: negative Remarks: Information taken from reference works and the literature.
Germ cell mutagenicity - Assessment	:	Animal testing did not show any mutagenic effects.

Carcinogenicity

Not classified based on available information.

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Resource Conservation and Recovery Act (RCRA)	:	This product has been evaluated for RCRA characteristics and does not meet the criteria of hazardous waste if discarded in its purchased form.
Waste from residues	:	Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

49 CFR
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Ingredients	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Acetic acid	64-19-7	5000	*
Acetic anhydride	108-24-7	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Pennsylvania Right To Know

Dimethyl siloxane, hydroxy-terminated	70131-67-8
Silicon dioxide	7631-86-9
Acetic acid	64-19-7

Acetic anhydride	108-24-7

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

California Permissible Exposure Limits for Chemical Contaminants

Silicon dioxide	7631-86-9

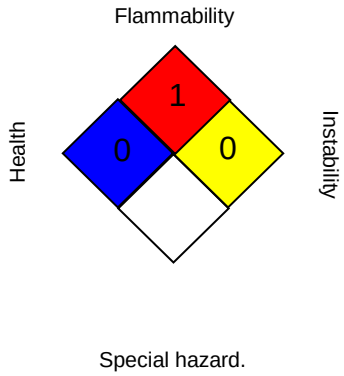
The ingredients of this product are reported in the following inventories:

NZIoC	:	All ingredients listed or exempt.
REACH	:	For purchases from Dow Corning EU legal entities, all ingredients are currently pre/registered or exempt under REACH. Please refer to section 1 for recommended uses. For purchases from non-EU Dow Corning legal entities with the intention to export into EEA please contact your DC representative/local office.
TSCA	:	All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.
PICCS	:	All ingredients listed or exempt.
KECI	:	All ingredients listed, exempt or notified.
AICS	:	All ingredients listed or exempt.
IECSC	:	All ingredients listed or exempt.
ENCS/ISHL	:	All components are listed on ENCS/ISHL or exempted from inventory listing.
DSL	:	All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).
TCSI	:	All ingredients listed or exempt.

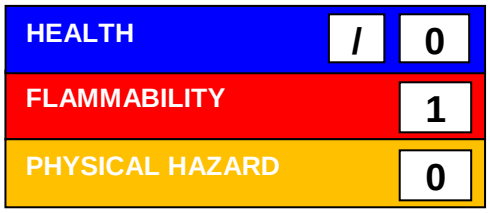
SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA Z-3	:	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA Z-3 / TWA	:	8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic sub-

stance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
Revision Date	:	09/14/2017

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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 is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8

MATERIAL SAFETY DATA SHEET

Product name: **CP 617 Firestop Putty Pad, CP 618 Firestop Putty Stick, CP 619T Firestop Putty Roll**

Description: Firestopping putty

Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121

Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	TLV:	PEL:	STEL:
Calcium carbonate	1317-65-3	NE	5 mg/m^3(R)	NE
Talc	14807-96-6	2 mg/m^3	20 mppcf	NE
Silica	14808-60-7	0.025 mg/m^3(R)	$\frac{30 \text{ mg/m}^3}{\%SiO_2 + 5}$ (R)	NE
Boron oxide	1303-86-2	10 mg/m^3	15 mg/m^3(T)	NE
Iron oxide	1309-37-1	5 mg/m^3(R)	10 mg/m^3(f)	NE

Abbreviations: **PEL** = OSHA Permissible Exposure Limit. **TLV** = ACGIH Threshold Limit Value. **STEL** = Short Term Exposure Limit. **NE** = None Established. **R** = Respirable dust. **mppcf** = million particles per cubic foot. **T** = Total dust. **F** = as fume.

PHYSICAL DATA

Appearance:	Red colored putty	**Odor:**	Negligible
Vapor Density: (air = 1)	Not applicable	**Vapor Pressure:**	Not applicable
Boiling Point:	Not applicable	**VOC Content:**	Not determined
Evaporation Rate:	Not applicable	**Solubility in Water:**	Slightly soluble
Specific Gravity:	1.45	**pH:**	Not determined

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Not applicable	**Flammable Limits:**	Not applicable
Extinguishing Media:	Water, CO_2, Dry Chemical, Foam		
Special Fire Fighting Procedures:	A NIOSH-approved self-contained breathing apparatus (SCBA) should be worn when fighting fires involving chemical products.		
Unusual Fire and Explosion Hazards:	Fire conditions will activate product causing it to intumesce.		

REACTIVITY DATA

Stability:	Stable.
Hazardous Polymerization:	Will not occur.
Incompatibility:	None known.
Decomposition Products:	Thermal decomposition can yield CO and CO_2.
Conditions to Avoid:	Avoid temperature extremes that could shorten the shelf-life or affect product performance (See handling and storage requirements).

HEALTH HAZARD DATA

Known Hazards:	Irritation of the eyes and skin is possible.
Signs and Symptoms of Exposure:	**Eyes -** Can cause irritation and watering but injury is unlikely. **Skin -** May cause irritation. **Inhalation** - No effects expected. Not considered to be a route of exposure. **Ingestion** – Not known.
Routes of Exposure:	Contact
Carcinogenicity:	IARC classifies crystalline silica as a Group I carcinogen based upon evidence among workers in industries where there has been long term and chronic exposure (via inhalation) to silica dust; e.g. mining, quarry, stone crushing, refractory brick and pottery. This product does not pose a dust hazard; therefore, this classification is not relevant.

HILTI ® is a registered trademark of Hilti Corp.

Medical Conditions Aggravated by Exposure:	None known.

EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Flush with plenty of water. Contact a physician if symptoms occur.
Skin:	Wash with soap and water. Contact a physician if symptoms occur.
Inhalation:	No effects expected.
Ingestion:	Do not induce vomiting unless directed by a physician. Contact a physician immediately.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Safety glasses with side shields.
Skin Protection:	Impermeable gloves recommended.
Respiratory Protection:	Not required.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool, dry area preferably between 41° and 77° F. For industrial use only. Keep out of reach of children. Avoid prolonged or repeated contact with the skin. Do not rub the eyes after contact with the hands. Practice good hygiene; i.e. wash after using and before eating or smoking.
Spill Procedures:	No special requirements.

REGULATORY INFORMATION

Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard. 29 CFR 1910.1200.
HMIS Codes:	Health 1, Flammability 0, Reactivity 0, PPE B
DOT Shipping Name:	Not regulated.
IATA / ICAO Shipping Name:	Not regulated.
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product does not contain any ingredients that are subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	**Technical Service:**	1 800 879 8000
Health / Safety:	1 800 879 6000	Jerry Metcalf	(x6704)
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.

Hilti Firestop Foam solid CFS-F SOL; CP 620

Safety information for 2-Component-products

Date of issue: 02/03/2016 Revision date: 02/03/2016 Supersedes: 06/03/2015 Version: 6.1

SECTION 1: Kit identification

1.1 Product identifier

Name: Hilti Firestop Foam solid CFS-F SOL; CP 620

Product code: BU Chemicals

1.2 Details of the supplier of the Safety information for 2-Component-products

Hilti, Inc.
Legacy Tower, Suite 1000
75024 Plano - USA
T +1 9724035800
1-800-879-8000 toll free - F +1 918 254 0522

SECTION 2: General information

A SDS for each of these components is included. Please do not separate any component SDS from this cover page

SECTION 3: Kit contents

Classification of the Product

GHS-US classification

Skin Irrit. 2	H315
Eye Irrit. 2	H319
Resp. Sens. 1	H334
Skin Sens. 1	H317
Carc. 2	H351
Repr. 2	H361d
STOT SE 3	H335
STOT RE 2	H373

Label elements

GHS-US labelling

Hazard pictograms (GHS-US)

GHS07 GHS08

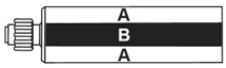
Signal word (GHS-US): Danger

Hazard statements (GHS-US):
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H361d - Suspected of damaging the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US): P260 - Do not breathe vapours

P280 - Wear eye protection, protective clothing, protective gloves
P285 - In case of inadequate ventilation wear respiratory protection
P302+P352 - IF ON SKIN: Wash with plenty of water
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P342+P311 - If experiencing respiratory symptoms: Call a doctor, a POISON CENTER

Additional information



Name	General description	Quantity	Unit	GHS-US classification
CFS-F SOL / CP 620, B		1	pcs (pieces)	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373
CFS-F SOL / CP 620, A		1	pcs (pieces)	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361

SECTION 4: General advice

General advice — For professional users only

SECTION 5: Safe handling advice

Environmental precautions — Avoid release to the environment

Storage conditions — Store in a well-ventilated place
Keep cool

Precautions for safe handling — Do not handle until all safety precautions have been read and understood
Wear personal protective equipment
Do not breathe vapours
Use only outdoors or in a well-ventilated area
Avoid contact with skin and eyes
In case of inadequate ventilation wear respiratory protection

Methods for cleaning up — Take up liquid spill into absorbent material
Notify authorities if product enters sewers or public waters

SECTION 6: First aid measures

First-aid measures after eye contact — 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

First-aid measures after ingestion — Call a poison center or a doctor if you feel unwell

First-aid measures after inhalation — Remove person to fresh air and keep comfortable for breathing
Call a poison center or a doctor if you feel unwell

First-aid measures after skin contact — Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Take off contaminated clothing

First-aid measures general — If you feel unwell, seek medical advice (show the label where possible)

Symptoms/injuries after eye contact — Eye irritation

Symptoms/injuries after inhalation — May cause respiratory irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled

Symptoms/injuries after skin contact — Irritation
May cause an allergic skin reaction

Other medical advice or treatment — Treat symptomatically

SECTION 7: Fire fighting measures

Protection during firefighting	Self-contained breathing apparatus Complete protective clothing
Hazardous decomposition products in case of fire	Toxic fumes may be released Carbon dioxide Carbon monoxide

SECTION 8: Other information

No data available

CFS-F SOL / CP 620, A

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 03/02/2016 Revision date: 04/26/2016 Supersedes: 03/02/2016 Version: 6.1

SECTION 1: Identification

1.1. Identification

Product form	Mixture
Name	CFS-F SOL / CP 620, A
Product code	BU Chemicals

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

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier
Hilti, Inc.
Legacy Tower, Suite 1000
75024 Plano - USA
T +1 9724035800
1-800-879-8000 toll free - F +1 918 254 0522

Department issuing data specification sheet
Hilti AG
Feldkircherstraße 100
9494 Schaan - Liechtenstein
T +423 234 2111
chemicals.hse@hilti.com

1.4. Emergency telephone number

Emergency number

Chem-Trec
Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada)
Tel.: 703 527 3887 (Other countries)

+1 918 8723000
1-800-879-8000 toll free

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Irrit. 2	H315 -	Causes skin irritation
Eye Irrit. 2A	H319 -	Causes serious eye irritation
Repr. 2	H361 -	Suspected of damaging fertility or the unborn child

Full text of H-statements: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US)

GHS07 GHS08

Signal word (GHS-US) Warning

Hazard statements (GHS-US)
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H361 - Suspected of damaging fertility or the unborn child

Precautionary statements (GHS-US)
P280 - Wear eye protection, protective clothing, protective gloves
P302+P352 - If on skin: Wash with plenty of water
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned: Get medical advice/attention
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Ethylenediamine, propoxylated	(CAS No) 25214-63-5	25 - 40	Eye Irrit. 2A, H319
tris(2-chloro-1-methylethyl) phosphate	(CAS No) 13674-84-5	2.5 - 5	Acute Tox. 4 (Oral), H302
2,2',6,6'-Tetrabromo-4,4'-isopropylidenediphenol, oligomeric reaction products with Propylene oxide and n-butyl glycidyl ether		2.5 - 5	Acute Tox. 4 (Oral), H302
Boric acid, zinc salt	(CAS No) 1332-07-6	2.5 - 5	Repr. 2, H361 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact: 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.

First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after skin contact: Irritation.

Symptoms/injuries after eye contact: Eye irritation.

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: Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Reactivity: The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

Protection during firefighting: 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

6.1.1. For non-emergency personnel

Emergency procedures: Ventilate spillage area. Avoid contact with skin and eyes.

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

Methods for cleaning up: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes.

Hygiene measures: Wash contaminated clothing before reuse. 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 locked up. Store in a well-ventilated place. Keep cool.

Storage temperature: 41 - 77 °F

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Boric acid, zinc salt (1332-07-6)		
ACGIH	ACGIH TWA (mg/m³)	2 mg/m³
ACGIH	ACGIH STEL (mg/m³)	6 mg/m³

8.2. Exposure controls

Appropriate engineering controls: Ensure good ventilation of the work station.

Personal protective equipment: Safety glasses. Protective clothing. Gloves.

Hand protection: Wear impervious gloves.

Eye protection: Safety glasses.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection	Wear respiratory protection.
Environmental exposure controls	Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Colour	red
Odour	There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour(s): No data available on odour Mild odour Characteristic odour Amine-like odour Almost odourless Alcohol odour Odourless
Odour threshold	No data available
pH	Not determined
Melting point	Not applicable
Freezing point	No data available
Boiling point	No data available
Flash point	Not applicable
Relative evaporation rate (butylacetate=1)	No data available
Flammability (solid, gas)	No data available
Explosive limits	No data available
Explosive properties	No data available
Oxidising properties	No data available
Vapour pressure	No data available
Relative density	No data available
Relative vapour density at 20 °C	No data available
Density	≈ 1.17 g/cm³
Solubility	No data available
Log Pow	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Not classified

tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
LD50 oral rat	2800 - 4200 mg/kg bodyweight (Rat; Equivalent or similar to OECD 401; Experimental value; 1011-1824 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rat	> 2000 mg/kg (Rat; Experimental value)
LD50 dermal rabbit	> 2000 mg/kg bodyweight (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity)
ATE US (oral)	500.000 mg/kg bodyweight

Boric acid, zinc salt (1332-07-6)	
LD50 oral rat	> 5000 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)

2,2',6,6'-Tetrabromo-4,4'-isopropylidenediphenol, oligomeric reaction products with Propylene oxide and n-butyl glycidyl ether	
LD50 oral rat	732 mg/kg
LD50 dermal rat	> 2000 mg/kg
ATE US (oral)	500.000 mg/kg bodyweight

Skin corrosion/irritation: Causes skin irritation.
pH: Not determined

Serious eye damage/irritation: Causes serious eye irritation.
pH: Not determined

Respiratory or skin sensitisation: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Suspected of damaging fertility or the unborn child.

Specific target organ toxicity (single exposure): Not classified

Specific target organ toxicity (repeated exposure): Not classified

Aspiration hazard: Not classified

Symptoms/injuries after skin contact: Irritation.

Symptoms/injuries after eye contact: Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general: Harmful to aquatic life with long lasting effects.

tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
LC50 fish 1	98 mg/l (96 h; Pimephales promelas; GLP)
EC50 Daphnia 1	65 - 335 mg/l (48 h; Daphnia magna; GLP)
LC50 fish 2	56.2 mg/l (96 h; Brachydanio rerio)

tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
Threshold limit algae 1	73 mg/l (96 h; Selenastrum capricornutum; Growth rate)

Boric acid, zinc salt (1332-07-6)	
LC50 fish 1	2.61 mg/l (96 h; Pimephales promelas; Zinc ion)
EC50 Daphnia 1	0.068 mg/l (48 h; Daphnia magna; Zinc ion)

12.2. Persistence and degradability

tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
Persistence and degradability	Not readily biodegradable in water. No (test)data on mobility of the substance available.

Boric acid, zinc salt (1332-07-6)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
BCF fish 1	0.8 - 4.6 (Cyprinus carpio; Test duration: 6 weeks)
Log Pow	2.59 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Boric acid, zinc salt (1332-07-6)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming — No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods — Dispose of contents/container in accordance with licensed collector's sorting instructions.

Waste disposal recommendations — Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (ADR) — Not applicable

Proper Shipping Name (IMDG) — Not applicable

Proper Shipping Name (IATA) — Not applicable

Proper Shipping Name (ADN) — Not applicable

Proper Shipping Name (RID)	Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	Not applicable

IMDG

Transport hazard class(es) (IMDG)	Not applicable

IATA

Transport hazard class(es) (IATA)	Not applicable

ADN

Transport hazard class(es) (ADN)	Not applicable

RID

Transport hazard class(es) (RID)	Not applicable

14.4. Packing group

Packing group (ADR)	Not applicable
Packing group (IMDG)	Not applicable
Packing group (IATA)	Not applicable
Packing group (ADN)	Not applicable
Packing group (RID)	Not applicable

14.5. Environmental hazards

Dangerous for the environment	No
Marine pollutant	No
Other information	No supplementary information available

14.6. Special precautions for user

- Overland transport

- Transport by sea

No data available

- Air transport

No data available

- Inland waterway transport

Carriage prohibited (ADN)	No
Not subject to ADN	No

- Rail transport

Carriage prohibited (RID)	No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

15.1. US Federal regulations

No additional information available

15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Skin Irrit. 2 H315
Eye Irrit. 2 H319
Repr. 2 H361
Full text of hazard classes and H-statements : see section 16

National regulations
No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

Revision date 04/26/2016

Full text of H-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H361	Suspected of damaging fertility or the unborn child
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

SDS_US_Hilti

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

CFS-F SOL / CP 620, B

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 03/02/2016 Revision date: 04/26/2016 Supersedes: 03/02/2016 Version: 6.1

SECTION 1: Identification

1.1. Identification

Product form	Mixture
Name	CFS-F SOL / CP 620, B
Product code	BU Chemicals

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

No additional information available

1.3. Details of the supplier of the safety data sheet

Hilti, Inc.
Legacy Tower, Suite 1000
75024 Plano - USA
T +1 9724035800
1-800-879-8000 toll free - F +1 918 254 0522

Supplier
Hilti, Inc.
Legacy Tower, Suite 1000
75024 Plano - USA
T +1 9724035800
1-800-879-8000 toll free - F +1 918 254 0522

Department issuing data specification sheet
Hilti AG
Feldkircherstraße 100
9494 Schaan - Liechtenstein
T +423 234 2111
chemicals.hse@hilti.com

1.4. Emergency telephone number

Emergency number

Chem-Trec
Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada)
Tel.: 703 527 3887 (Other countries)

+1 918 8723000
1-800-879-8000 toll free

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Irrit. 2	H315 -	Causes skin irritation
Eye Irrit. 2A	H319 -	Causes serious eye irritation
Resp. Sens. 1	H334 -	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin Sens. 1	H317 -	May cause an allergic skin reaction
Carc. 2	H351 -	Suspected of causing cancer
STOT SE 3	H335 -	May cause respiratory irritation
STOT RE 2	H373 -	May cause damage to organs through prolonged or repeated exposure

Full text of H-statements: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US)

GHS07 GHS08

Signal word (GHS-US)	Danger
Hazard statements (GHS-US)	H315 - Causes skin irritation H317 - May cause an allergic skin reaction H319 - Causes serious eye irritation H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled H335 - May cause respiratory irritation H351 - Suspected of causing cancer H373 - May cause damage to organs through prolonged or repeated exposure
Precautionary statements (GHS-US)	P260 - Do not breathe vapours P280 - Wear eye protection, protective clothing, protective gloves P302+P352 - If on skin: Wash with plenty of water P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P342+P311 - If experiencing respiratory symptoms: Call a doctor, a POISON CENTER P284 - In case of inadequate ventilation wear respiratory protection

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
4,4'-diphenylmethanediisocyanate, isomeres and homologues	(CAS No) 9016-87-9	54 - 90	Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373
tris(2-chloro-1-methylethyl) phosphate	(CAS No) 13674-84-5	5 - 10	Acute Tox. 4 (Oral), H302

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact	Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	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.
First-aid measures after ingestion	Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation	May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/injuries after skin contact	Irritation. May cause an allergic skin reaction.
Symptoms/injuries after eye contact	Eye irritation.

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	Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

Protection during firefighting	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

6.1.1. For non-emergency personnel

Emergency procedures	Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

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

Methods for cleaning up	Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.
Hygiene measures	Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. 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 locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Storage temperature	41 - 77 °F

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls	Ensure good ventilation of the work station.
Personal protective equipment	Gloves. Protective clothing. Safety glasses.

Hand protection	Wear impervious gloves.
Eye protection	Safety glasses.
Skin and body protection	Wear suitable protective clothing.
Respiratory protection	Wear respiratory protection.
Environmental exposure controls	Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Colour	amber
Odour	There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour(s): Stuffy odour Mild odour Characteristic odour
Odour threshold	No data available
pH	No data available
Melting point	Not applicable
Freezing point	No data available
Boiling point	No data available
Flash point	No data available
Relative evaporation rate (butylacetate=1)	No data available
Flammability (solid, gas)	No data available
Explosive limits	No data available
Explosive properties	No data available
Oxidising properties	No data available
Vapour pressure	No data available
Relative density	No data available
Relative vapour density at 20 °C	No data available
Density	≈ g/cm³
Solubility	No data available
Log Pow	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Inhalation:dust,mist: Not classified.

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
LD50 oral rat	> 10000 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit; Literature study)
ATE US (gases)	4500.000 ppmv/4h
ATE US (vapours)	11.000 mg/l/4h
ATE US (dust,mist)	1.500 mg/l/4h

tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
LD50 oral rat	2800 - 4200 mg/kg bodyweight (Rat; Equivalent or similar to OECD 401; Experimental value; 1011-1824 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rat	> 2000 mg/kg (Rat; Experimental value)
LD50 dermal rabbit	> 2000 mg/kg bodyweight (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity)
ATE US (oral)	500.000 mg/kg bodyweight

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/irritation: Causes serious eye irritation.

Respiratory or skin sensitisation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity: Not classified

Carcinogenicity: Suspected of causing cancer.

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
IARC group	3 - Not classifiable

Reproductive toxicity: Not classified

Specific target organ toxicity (single exposure): May cause respiratory irritation.

Specific target organ toxicity (repeated exposure): May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Not classified

Symptoms/injuries after inhalation: May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/injuries after skin contact: Irritation. May cause an allergic skin reaction.

Symptoms/injuries after eye contact: Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
LC50 other aquatic organisms 1	> 1000 mg/l (96 h)
Threshold limit other aquatic organisms 1	> 1000 mg/l (96 h)

tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
LC50 fish 1	98 mg/l (96 h; Pimephales promelas; GLP)
EC50 Daphnia 1	65 - 335 mg/l (48 h; Daphnia magna; GLP)
LC50 fish 2	56.2 mg/l (96 h; Brachydanio rerio)
Threshold limit algae 1	73 mg/l (96 h; Selenastrum capricornutum; Growth rate)

12.2. Persistence and degradability

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
Persistence and degradability	Not readily biodegradable in water. Hydrolysis in water. No (test)data on mobility of the substance available.

tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
Persistence and degradability	Not readily biodegradable in water. No (test)data on mobility of the substance available.

12.3. Bioaccumulative potential

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
BCF fish 1	1 (Pisces)
Bioaccumulative potential	Not bioaccumulative.

tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
BCF fish 1	0.8 - 4.6 (Cyprinus carpio; Test duration: 6 weeks)
Log Pow	2.59 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming: No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods: Dispose of contents/container in accordance with licensed collector's sorting instructions.

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (ADR): Not applicable

Proper Shipping Name (IMDG)	Not applicable
Proper Shipping Name (IATA)	Not applicable
Proper Shipping Name (ADN)	Not applicable
Proper Shipping Name (RID)	Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	Not applicable

IMDG

Transport hazard class(es) (IMDG)	Not applicable

IATA

Transport hazard class(es) (IATA)	Not applicable

ADN

Transport hazard class(es) (ADN)	Not applicable

RID

Transport hazard class(es) (RID)	Not applicable

14.4. Packing group

Packing group (ADR)	Not applicable
Packing group (IMDG)	Not applicable
Packing group (IATA)	Not applicable
Packing group (ADN)	Not applicable
Packing group (RID)	Not applicable

14.5. Environmental hazards

Dangerous for the environment	No
Marine pollutant	No
Other information	No supplementary information available

14.6. Special precautions for user

- Overland transport

- Transport by sea

No data available

- Air transport

No data available

- Inland waterway transport

Carriage prohibited (ADN)	No
Not subject to ADN	No

- Rail transport

Carriage prohibited (RID)	No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

15.1. US Federal regulations

No additional information available

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral)	H302
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Resp. Sens. 1	H334
Skin Sens. 1	H317
Carc. 2	H351
STOT SE 3	H335
STOT RE 2	H373

Full text of hazard classes and H-statements : see section 16

National regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

Revision date 04/26/2016

Full text of H-statements:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Resp. Sens. 1	Sensitisation — Respiratory, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, Category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H302	Harmful if swallowed
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
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure

CFS-F SOL / CP 620, B

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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

MATERIAL SAFETY DATA SHEET

Product identifier: **CP 604 Self-Leveling Firestop Sealant**
Product use: A self-leveling flexible sealant for firestopping construction joints and metal pipes
Supplier: Hilti (Canada) Corporation, 2360 Meadowpine Blvd., Mississauga, Ontario L5N 6S2V
Originator Hilti, Inc., P. O. Box 21148, Tulsa, Oklahoma, USA 74121
Emergency number: **1 800 424 9300 (Chem-Trec)**

INGREDIENTS INFORMATION

Ingredient	CAS Number	% (wt.)	LC_{50}, (rat)	LD_{50} (rat)	TLV	STEL
Polydimethylsiloxane diol	70131-67-8	35 – 45	N/Av	> 64 ml/kg	N/E	N/E
Calcium carbonate	01317-65-3	35 – 45	N/Av	N/E	N/E	N/E
Polydimethylsiloxane	63148-62-9	10 – 15	N/Av	N/E	N/E	N/E
Methyl oximino silane	22984-54-9	0.1 – 05	N/Av	N/E	N/E	N/E
Vinyl oximino silane	02224-33-1	0.1 – 05	N/Av	N/E	N/E	N/E
Fumed silica	68611-44-9	0.1 – 05	N/Av	N/E	N/E	N/E
Titanium dioxide	13463-67-7	0.1 – 05	N/Av	N/E	10 mg/m^3	N/E
Ferric oxide	01309-37-1	0.1 – 05	N/Av	N/E	5 mg/m^3	N/E

PHYSICAL PROPERTIES

Appearance / Physical state:	Grey paste	**Odour:**	Mild odour.
Specific gravity (at 20ºC):	1.3 – 1.4	**VOC Content:**	41.0 g/L.
Vapour pressure (at 20ºC):	Not applicable.	**Vapour density:**	Not applicable.
Evaporation rate:	Not determined.	**Boiling point:**	Not determined.
Freezing point:	Not determined.	**pH:**	Not determined.
Coefficient of H_20 / oil distrib:	Not determined.	**Solubility in water:**	Not easily mixed.

FIRE AND EXPLOSION DATA

Flash point / Method:	Not applicable.	**Flammable limits:**	Not applicable.
Conditions of flammability:	Not determined.	**Auto-ignition temperature:**	Not applicable.
Means of extinction:	As appropriate for surrounding fire (e.g. Water, CO_2, Dry Chemical, Foam).		
Special fire fighting procedures:	None known. A NIOSH-approved self-contained breathing apparatus (SCBA) should be worn when fighting fires involving chemicals.		
Hazardous combustion products:	None known. Thermal decomposition products can be formed; e.g. CO and CO_2.		
Sensitivity to mechanical impact / static discharge:	Not susceptible to mechanical impact or to a static discharge.		

REACTIVITY DATA

Stability:	Stable.	**Conditions of reactivity:**	None known.
Incompatible materials:	None known.		
Hazardous decomposition products:	Thermal decomposition products can be formed; e.g. CO and CO_2.		

TOXICOLOGICAL PROPERTIES

Likely routes of exposure:	☐ None known ☒ Skin contact ☐ Skin absorption ☐ Eye contact ☒ Inhalation
Exposure limits:	See “Ingredients” section above.
Chronic effects of exposure:	None known.
Synergistic materials:	None known.
Acute effects of exposure:	**Eyes:** No effects expected. **Skin:** Prolonged and repeated contact can cause skin sensitization with some individuals (e.g. rash, itching, reddening). **Inhalation:** No ill effects expected. **Ingestion:** Effects of ingestion have not been determined. No ill effects expected. NOTE: Reaction with air and moisture during the curing process can release trace amounts of methyl ethyl ketoxime (MEKO). MEKO can be irritating to the eyes, skin and respiratory tract. The body easily metabolizes MEKO; therefore, no lasting or adverse effects are expected.

HILTI ® is a registered trademark of Hilti Corp.

FIRST AID MEASURES

Eyes:	Flush with plenty of water. Call a physician if symptoms occur.
Skin:	Wash with soap and water. Seek medical attention if any effects persist.
Inhalation:	No ill effects expected. Should discomfort occur, move to fresh air.
Ingestion:	Do not induce vomiting unless directed to by a physician. Contact a Physician immediately.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure

PREVENTIVE MEASURES

Engineering controls:	General (natural or mechanically induced fresh air movements).
Eye protection:	Safety glasses with side shields recommended.
Skin protection:	Impermeable gloves recommended.
Respiratory protection:	None normally required.
Other:	No additional measures are normally required.
Handling procedures and equipment:	For industrial use only. Use with adequate ventilation. Keep container closed when not in use. Avoid prolonged or repeated contact with the skin. Practice good hygiene; i.e., wash after using and before eating or smoking.
Storage requirements:	Keep out of reach of children. Store in a cool dry area. Keep from freezing. Store between 5º and 25º C.
Spill, leak or release:	Wear appropriate personal protective equipment. Allow to cure, scrape up and place in a salvage container for proper disposal. See disposal guidelines below.
Waste disposal:	No known restrictions. Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, provincial, and federal safety, health and environmental regulations.
Special shipping instructions:	Avoid temperature extremes. Keep from freezing.

REGULATORY INFORMATION

WHMIS classification:	D2B
HMIS codes:	Health 1, Flammability 0, Reactivity 0, PPE B (glasses, gloves)
TDG shipping name:	Not regulated.

PREPARATION INFORMATION / CONTACTS

Prepared by:	Hilti, Inc., Tulsa, OK USA	Date of Preparation: May 23,2012	**Emergency phone number:**	1 800 424 9300
Customer Service:	Hilti (Canada) Corporation, Mississauga, Ontario; 1 800 363 4458			
Health / Safety contacts:	Hilti, Inc., Tulsa, OK USA; 1 800 879 6000, Jerry Metcalf (x1003704)			
Abbreviations used:	**N/E** = None Established. **N/Ap** = Not Applicable. **N/Av** = Not Available. **HMIS:** Hazardous Materials Identification System			

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.

MATERIAL SAFETY DATA SHEET

Product name: **FS-ONE High Performance Intumescent Firestop Sealant**

Description: One-part acrylic-based sealant

Supplier: Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121

Emergency # (Chem-Trec.): 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)

INGREDIENTS AND EXPOSURE LIMITS

Ingredients:	CAS Number:	PEL:	TLV:	STEL:
Polyacrylate dispersion	Mixture	NE	NE	NE
Calcium carbonate	001317-65-3	5 mg/m^3 (R)	NE	NE
Zinc borate	1332-07-6	NE	NE	NE
Talc	014807-96-6	20 mppcf	2 mg/m^3(R)	NE
Ethylene glycol	000107-21-1	NE	NE	C:100 mg/m^3 (A)
Iron oxide	001309-37-1	10 mg/m^3 (F)	5 mg/m^3(R)	NE

Abbreviations: **PEL** = OSHA Permissible Exposure Limit. **TLV** = ACGIH Threshold Limit Value. **C** = Ceiling. **STEL** = Short Term Exposure Limit. **NE** = None Established. **NA** = Not Applicable. **(T)** indicates "as total dust". **(R)** indicates "as respirable fraction". **(A)** indicates "as an aerosol". **mppcf** = million particles per cubic foot. **F** = Fume

PHYSICAL DATA

Appearance:	Red paste.	**Odor:**	Odorless.
Vapor Density: (air = 1)	Not determined.	**Vapor Pressure:**	23mbar @ 20C / 68F
Boiling Point:	Not applicable.	**VOC Content:**	75.0 g/L.
Evaporation Rate:	Not applicable.	**Solubility in Water:**	Soluble.
Specific Gravity:	1.5	**pH:**	Not determined.

FIRE AND EXPLOSION HAZARD DATA

Flash Point:	Non-flammable.	**Flammable Limits:**	Not applicable.
Extinguishing Media:	Not applicable. Use extinguishing media as appropriate for surrounding fire.		
Special Fire Fighting Procedures:	None known. Use a self-contained breathing apparatus when fighting fires involving chemicals.		
Unusual Fire and Explosion Hazards:	None known. Thermal decomposition products can be formed such as oxides of carbon, sulfur and phosphorous.		

REACTIVITY DATA

Stability:	Stable.	**Hazardous Polymerization:**	Will not occur.
Incompatibility:	Strong acids, peroxides, and oxidizing agents.		
Decomposition Products:	Thermal decomposition can yield CO and CO_2.		
Conditions to Avoid:	None known.		

HEALTH HAZARD DATA

Known Hazards:	None known.
Signs and Symptoms of Exposure:	Possibly irritating upon contact with the eyes or upon repeated contact with the skin.
Medical Conditions Aggravated by Exposure:	Eye and skin conditions.
Routes of Exposure:	Dermal.
Carcinogenicity:	No ingredients are classified as carcinogens.

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EMERGENCY AND FIRST AID PROCEDURES

Eyes:	Immediately flush with plenty of water. Contact a physician if symptoms occur.
Skin:	Immediately wipe off material and wash with soap and water. Contact a physician if symptoms occur.
Inhalation:	Move victim to fresh air if discomfort develops. Contact a physician if symptoms occur. persist.
Ingestion:	Seek medical attention. Do not induce vomiting unless directed by a physician.
Other:	Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure.

CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

Ventilation:	General (natural or mechanically induced fresh air movements).
Eye Protection:	Safety glasses with side shields.
Skin Protection:	Impermeable gloves. Other protective clothing as required to prevent skin contact.
Respiratory Protection:	None normally required. Where ventilation is inadequate to control vapors, use a NIOSH-approved respirator with organic vapor cartridges. Never enter a confined space without an appropriate air-supplied respirator.

PRECAUTIONS FOR SAFE HANDLING AND USE

Handling and Storing Precautions:	Store in a cool, dry area preferably between 40º and 77º F. Keep from freezing. Do not store in direct sunlight. Avoid contact with the eyes or skin. Practice good hygiene; i.e. always wash thoroughly after handling and before eating or smoking. For industrial use only. Keep out of reach of children. Follow label/use instructions.
Spill Procedures:	Immediately wipe away spilled material before it hardens. Place in a container for proper disposal in accordance with all applicable local, state, or federal requirements.

REGULATORY INFORMATION

Hazard Communication:	This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
HMIS Codes:	Health 1, Flammability 0, Reactivity 0, PPE B
DOT Shipping Name:	Not regulated.
IATA / ICAO Shipping Name:	Not regulated.
TSCA Inventory Status:	Chemical components listed on TSCA inventory.
SARA Title III, Section 313:	This product contains < 3% ethylene glycol (CAS 107-21-1) and < 15% zinc borate (re: zinc compounds) which are subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).
EPA Waste Code(s):	Not regulated by EPA as a hazardous waste.
Waste Disposal Methods:	Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

CONTACTS

Customer Service:	1 800 879 8000	**Technical Service:**	1 800 879 8000
Health / Safety:	1 800 879 6000 Jerry Metcalf (x71003704)		
Emergency # (Chem-Trec):	1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (other countries)		

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.

NELSON
FIRESTOP
PRODUCTS

Safety Data Sheet

Material Name: Caulk, Type CLK (n/s or s/l)

* * * Section 1 - Product and Company Identification * * *

Manufacturer Information

Nelson Firestop
9810 E. 42nd St. Suite 102
Tulsa, OK 74146-3636

Phone: (918) 627-5530/(800) 331-7325

Emergency # 1-800-424-9300 CHEMTREC

* * * Section 2 - Hazards Identification * * *

GHS Classification:

Acute Toxicity - Oral Category 4
Acute Toxicity - Dermal Category 4
Acute Toxicity - Inhalation Category 4
Skin Corrosion/Irritation - Category 2
Eye Damage/Irritation - Category 2B
Specific Target Organ Toxicity - Single Exposure Category 3
Hazardous to the Aquatic Environment Acute – Category 3

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

Warning

Hazard Statements

Harmful if swallowed, in contact with skin or inhaled.
Causes skin and eye irritation.
May cause respiratory irritation.
Harmful to aquatic life.

Precautionary Statements

Prevention

Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid breathing dusts, fumes, vapors or mists.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid release to the environment.

Response

If swallowed: Call a poison center or doctor/physician if you feel unwell. Rinse mouth.
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.
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 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 in a well-ventilated place. Keep container tightly closed.

Disposal

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

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
22984-54-9	2-Butanone, O,O',O''-(methylsilylidyne)trioxime	3-6
1309-37-1	Iron oxide (Fe2O3)	1-2.5
96-29-7	Methyl ethyl ketoxime	< .006

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

If fumes or particulates generated from the product contaminate the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have the contaminated individual "roll" eyes. The recommended minimum flushing time is 15 minutes. Seek medical attention if any adverse effect occurs.

First Aid: Skin

Treat victim and seek medical attention if adverse reaction occurs.

First Aid: Ingestion

If the material is swallowed, get immediate medical attention or advice. Do not induce vomiting unless directed to do so by medical personnel.

First Aid: Inhalation

If fumes or particulates generated from the product are inhaled, remove victim to fresh air. If adverse effect occurs after removal to fresh air, seek medical attention.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.
This product is not combustible and does not contribute to the intensity of a fire.

Hazardous Combustion Products

When involved in a fire, this material may decompose and produce irritating vapors, acrid smoke, and toxic gases (e.g., carbon oxides, formaldehydes and silicone oxide).

Extinguishing Media

Use Dry Chemical, Carbon Dioxide (CO2), Foam, Halon, Water Spray, or Water Fog.

Unsuitable Extinguishing Media

None

Fire Fighting Equipment/Instructions

Firefighters should wear full protective gear.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Stop the flow of material, if this is without risk.

Materials and Methods for Clean-Up

Due to the nature of this product, no special accidental release measures are normally required.

Emergency Measures

Isolate area. Keep unnecessary personnel away.

Personal Precautions and Protective Equipment

Wear appropriate protective equipment and clothing during clean-up.

Environmental Precautions

None

Prevention of Secondary Hazards

None

* * * Section 7 - Handling and Storage * * *

Handling Procedures

If during the use of this product, vapors are generated during heating, avoid breathing the vapors or skin or eye contact with the vapors.

Storage Procedures

Store this product in a cool, dry location, away from sources of intense heat. Store away from incompatible materials.

Incompatibilities

Strong acids, mineral acids and strong oxidizers.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Component Exposure Limits

Iron oxide (Fe2O3) (1309-37-1)

ACGIH: 5 mg/m3 TWA (respirable fraction)
OSHA: 10 mg/m3 TWA (fume)
NIOSH: 5 mg/m3 TWA (dust and fume, as Fe)

Engineering Measures

No special ventilation and engineering controls are required for use of this product.

Personal Protective Equipment: Respiratory

If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

Personal Protective Equipment: Hands

Wear Neoprene Rubber gloves for routine industrial use.

Personal Protective Equipment: Eyes

No special eye protection is required for use of this product. Wear safety glasses or goggles if during use of this product operations may produce flying debris or particulates.

Personal Protective Equipment: Skin and Body

Use body protection appropriate for task.

* * * Section 9 - Physical & Chemical Properties * * *

Appearance:	Brick red putty like.	**Odor:**	Not established
Physical State:	Solid	**pH:**	NA
Vapor Pressure:	NA	**Vapor Density:**	ND
Boiling Point:	>500ºC (932ºF)	**Melting Point:**	>175ºC (347ºF)
Solubility (H2O):	Insoluble	**Specific Gravity:**	1.17 @ 68°F
Evaporation Rate:	NA	**VOC:**	ND
Percent Volatile:	CLK N/S: 57.8 g/L CLK S/L: 50.0 g/L	**Octanol/H2O Coeff.:**	NA
Flash Point:	NA	**Flash Point Method:**	NA
Upper Flammability Limit (UFL):	NA	**Lower Flammability Limit (LFL):**	NA
Burning Rate:	NA	**Auto Ignition:**	NA

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid exposure or contact to extreme temperatures and incompatible chemicals.

Incompatible Products

Strong acids, mineral acids and strong oxidizers.

Hazardous Decomposition Products

Thermal decomposition can generate carbon oxides.

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

Component Analysis - LD50/LC50

Iron oxide (Fe2O3) (1309-37-1)

Oral LD50 Rat >10000 mg/kg

Methyl ethyl ketoxime (96-29-7)

Inhalation LC50 Rat 20 mg/L 4 h; Oral LD50 Rat 930 mg/kg; Dermal LD50 Rabbit 0.2 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

Skin contact with this product is not expected to present significant health hazards, however due to the presence of Methyl Ethyl Ketoxime in this product, a hazard of skin sensitization exists.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Eye contact should not normally present a significant health hazard. The product can form an oil film on the eyeball which may cause a temporary harmless and reversible clouding of the vision. In event of the generation of particulates, stinging, tearing, and redness from mechanical irritation could result.

Potential Health Effects: Ingestion

Harmful if swallowed.

Potential Health Effects: Inhalation

Breathing airborne particulates, if generated during use of this product this product may irritate the nose, throat, or respiratory system. Symptoms of such exposure could include coughing and sneezing. Symptoms are generally alleviated when exposure ends.

Respiratory Organs Sensitization/Skin Sensitization

Susceptible individuals may experience allergic respiratory reaction after subsequent exposure to very small amounts of the product. Symptoms may include rash, welts and itching skin.

Generative Cell Mutagenicity

This product is not reported to produce mutagenic effects in humans.

Carcinogenicity

A: General Product Information

This product is not reported to have any carcinogenic effects.

B: Component Carcinogenicity

Iron oxide (Fe2O3) (1309-37-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: Supplement 7 [1987]; Monograph 1 [1972] (Group 3 (not classifiable))

Reproductive Toxicity

This product is not reported to have any reproductive effects.

Specified Target Organ General Toxicity: Single Exposure

May cause respiratory irritation.

Specified Target Organ General Toxicity: Repeated Exposure

This product is not reported to have any repeat exposure specific target organ toxicity effects.

Aspiration Respiratory Organs Hazard

This product is not reported to have any aspiration hazard effects.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

This product may be harmful to contaminated plant and animal-life (especially if large quantities are released).
This product may be harmful to contaminated aquatic plant and animal life.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Methyl ethyl ketoxime (96-29-7)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	777-914 mg/L [flow-through]	
96 Hr LC50 Leuciscus idus	320-1000 mg/L [static]	
96 Hr LC50 Poecilia reticulata	760 mg/L [static]	

72 Hr EC50 Desmodesmus subspicatus	83 mg/L
48 Hr EC50 Daphnia magna	750 mg/L

Persistence/Degradability

This product will persist in the environment.

Bioaccumulation

No information available for the product.

Mobility in Soil

No information available for the product.

* * * Section 13 - Disposal Considerations * * *

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

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

* * * Section 14 - Transportation Information * * *

DOT Information

Shipping Name: Not Regulated

* * * Section 15 - Regulatory Information * * *

Regulatory Information

US Federal Regulations

Component Analysis

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

State Regulations

Component Analysis - State

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

Component	CAS	CA	MA	MN	NJ	PA	RI
Iron oxide (Fe2O3)	1309-37-1	Yes	Yes	Yes	Yes	Yes	No
Methyl ethyl ketoxime	96-29-7	No	No	Yes	No	No	No

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Iron oxide (Fe2O3)	1309-37-1	1 %

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
2-Butanone, O,O',O''-(methylsilylidyne)trioxime	22984-54-9	Yes	DSL	EINECS
Iron oxide (Fe2O3)	1309-37-1	Yes	DSL	EINECS
Methyl ethyl ketoxime	96-29-7	Yes	DSL	EINECS

* * * Section 16 - Other Information * * *

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References

None

Other Information

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Nelson assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, Nelson assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

End of Sheet

A CSW Industrials Company

SAFETY DATA SHEET

METACAULK® 1000

Intumescent, water-based firestop sealant

Section 1 – Product and Company Information

Product Name
Metacaulk® 1000 Intumescent Firestop Sealant

Product Codes
66640, 66242, 66302, 66303, 66305, 66307, 66309, 66312

Chemical Family
Organic/Inorganic

Use
Firestopping sealant

Manufacturer's Name
RectorSeal LLC
2601 Spenwick Drive
Houston, Texas 77055 USA

Date of Validation
July 11, 2017

Date of Preparation
May 22, 2012

HMIS Codes

Health	1
Flammability	0
Reactivity	0
PPI	B

Emergency Telephone No.
Chemtrec 24 Hours
(800)-424-9300 USA
(703)-527-3887 International

Technical Service Telephone No.
(800)-231-3345 or (713)-263-8001

Section 2 – Hazards Identification

GHS CLASSIFICATION

Physical Hazards:
None

Health Hazards

Acute Toxicity:
Oral: Not Classified
Dermal: Not Classified
Inhalation: Not Classified
Skin Corrosion/Irritation: Not Classified
Serious Eye Damage/Eye Irritation: Not Classified
Respiratory or Skin Sensitization: Not Classified
Germ Cell Mutagenicity: Not Classified
Carcinogenicity: Not Classified
Reproductive Toxicology: Not Classified

Target Organ Systemic Toxicity - Single Exposure: Not Classified
Target Organ Systemic Toxicity - Repeated Exposure: Not Classified

Aspiration Toxicity: Not Classified

ENVIRONMENTAL HAZARDS

Hazardous to the Aquatic Environment: Not Classified
Acute aquatic toxicity: Not Classified
Chronic aquatic toxicity: Not Classified
Bioaccumulation potential: Not Classified
Rapid degradability: Not Classified

GHS Label elements, including precautionary statements

Pictogram: None

Signal Word: None

Hazard Statements:
None

Precautionary Statements:
P102 - Keep out of reach of children.
P264 - Wash hands thoroughly after handling.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

LABELING SYMBOLS: None

RISK R-PHRASES: None

SAFETY S-PHRASES:
S2: Keep out of the reach of children.

Summary Of Acute Hazards

May cause skin irritation.

Route Of Exposure, Signs And Symptoms

INHALATION
Not a respiratory irritant.

EYE CONTACT
Contact may cause eye irritation.

SKIN CONTACT
Contact may cause skin irritation.

INGESTION
Possible irritation to mucous membranes of the mouth, throat, and stomach.

SUMMARY OF CHRONIC HAZARDS
None known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Persons with pre-existing skin conditions or chemical allergies may be more susceptible to contact effects of the cured elastomer.

Section 3 – Composition/Information on Ingredients

% by WT	CAS No.	INGREDIENT	UNITS

None as defined by OSHA Hazard Communication Standard 29 CFR 1910.1200.

Section 4 – First Aid Measures

If inhaled:	Not a respiratory irritant.
If on skin:	Wash with soap and water. If irritation occurs, seek medical attention.
If in eyes:	Immediately flush with large amounts of water. If irritation occurs, seek medical attention.
If swallowed:	If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Section 5 – Fire Fighting Measures

Extinguishing Media

Foam, dry chemical, carbon dioxide or water fog.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus (SCBA) and other protective clothing. Hazardous decomposition products possible (see Section 10).

Unusual Fire And Explosion Hazards: Heat may build up and rupture closed containers.

Section 6 – Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wipe up spills to prevent footing hazard. Avoid flushing into sewers, drains, waterways and soil. Wear protective clothing during clean up.

Section 7 – Handling and Storage

Precautions To Be Taken In Handling And Storing: Keep container closed and upright when not in use. To prevent freezing and possible rupture of container, do not store below 35°F.

Other Precautions: Avoid prolonged or repeated contact with skin or clothing. Empty containers may contain residues and vapors; treat as if full and observe all product precautions. Do not reuse empty containers.

KEEP OUT OF REACH OF CHILDREN.

Section 8 – Exposure Controls/Personal Protection

Respiratory Protection (Specify Type): None required.

Ventilation – Local Exhaust: N/A

Special: N/A

Mechanical (General): N/A

Other: N/A

Protective Gloves: None required.

Eye Protection: None required.

Other Protective Clothing Or Equipment: None required.

Work/Hygienic Practices: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

Section 9 – Physical and Chemical Properties

Boiling point:	212°F (100°C) @ 760mm Hg
Specific gravity (H20 = 1):	1.25
Vapor pressure (mmHg):	17 @ 68°F (20°C)
Melting point:	N/A
Vapor Density (Air = 1):	N/A
Evaporation rate (Ethyl Acetate = 1):	> 1
Appearance/Odor:	Red paste/Mild odor
Solubility in water:	Soluble
Volatile Organic Compounds (VOC) Content (theoretical percentage by weight):	< 1% or (< 10 g/L)
Flash point:	None
Lower explosion limit:	None
Upper explosion limit:	None

Section 10 – Stability and Reactivity

Stability: Stable

Conditions To Avoid: None.

Incompatibility (Materials To Avoid): None known.

Hazardous Decomposition Products: CO, CO_2 and fragmented hydrocarbons.

Hazardous Polymerization: Will not occur.

Section 11 – Toxicology Information

Chronic Health Hazards

No ingredient in this product is an IARC, NTP or OSHA Lister carcinogen.

Toxicology Data

Ingredient Name

None

Section 12 – Ecological Information

Ecological Data

Ingredient Name:	**None**
Food Chain Concentration Potential:	N/A
Waterfowl Toxicity:	N/A
BOD:	N/A
Aquatic Toxicity:	N/A

Section 13 – Disposal Considerations

Waste Classification: Non-regulated solid waste

Disposal Method: Approved landfill

Waste from this product is not considered hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of in accordance with federal, state, and local regulation regarding pollution.

Section 14 – Transportation Information

DOT:	Non-regulated
Ocean (IMDG):	Non-regulated
Air (IATA):	Non-regulated
WHMIS (Canada):	Non-regulated

Section 15 – Regulatory Information

Regulatory Data

Ingredient Name:	**None**
SARA 313	N/A
TSCA Inventory	All components listed
CERCLA RQ	N/A
RCRA Code	N/A

Section 16 – Other Information

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). The information herein is given in good faith, but no warranty, expressed or implied is made.

Consult RectorSeal for further information: (713) 263-8001

SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS, the Korean ISHA (Notice 2009-68), the Japanese Industrial Standard JIS Z 7250: 2000, Mexican NOM018-STPS 2000, SPRING Singapore, and the Global Harmonization Standard

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

IDENTIFICATION OF THE MIXTURE

TRADE/MATERIAL NAME: **SpecSeal® FireStop Pillows**

RELEVANT USE of the SUBSTANCE: Firestop and Sound Transmission

USES ADVISED AGAINST: None

SUPPLIER/MANUFACTURER'S NAME: **Specified Technologies, Inc.**

Address: 210 Evans Way,
Somerville, New Jersey 08876

Business Phone: (908) 526-8000 (8:00am to 5:00pm Eastern Standard Time)

Emergency Phone: U.S., Canada: 1-800-255-3924 (24 hrs)
International: +1-813-248-0585 (collect-24 hrs)

EMAIL of Competent Person for Information on SDS: techserv@stifirestop.com

NOTE: ALL United States Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, Canadian WHMIS [Controlled Products Regulations], Mexican NOM018-STPS 2000, SPRING Singapore, and Japanese JIS Z7250 required information is included in appropriate sections based on the U.S. ANSI Z400.1-2010 format. This product has been classified in accordance with the hazard criteria of the countries listed above.
This product is defined as an "Article" under the U.S. Federal OSHA Hazard Communication Standard (29 CFR 1910.1200), EU Directives, and the Canadian Workplace Hazardous Materials Standard. Refer to Section 15 (Regulatory Information) for specific regulatory citations. As articles, this product presents negligible health and physical hazards under reasonably anticipated circumstances of use. Subsequently, a Material Safety Data Sheet is not required under Standards cited above. This document is prepared to provide persons using this product with additional safety information.

2. HAZARD IDENTIFICATION

GLOBAL HARMONIZATION AND EU CLP REGULATION (EC) 1272/2008 LABELING AND CLASSIFICATION: This product is an article and is not required to be classified under CLP Regulation (EC) 1272/2008.
EU 67/548/EEC LABELING AND CLASSIFICATION: This product is an article and is not required to be classified under European Community Council Directive 67/548/EEC or subsequent Directives.
KOREAN ISHA (Notice 2009-68) LABELING AND CLASSIFICATION: As an article, this product is not subject to ISHA Notice 2009-68.

3. COMPOSITION and INFORMATION ON INGREDIENTS

This product is an article and as such no components of this product pose a hazard; no component information is given in this SDS.

4. FIRST-AID MEASURES

Skin Exposure: As an article, no need for first aid is anticipated.

Inhalation: As an article, no need for first aid is anticipated.

Eye Exposure: As an article, no need for first aid is anticipated.

Ingestion: As an article, no need for first aid is anticipated.

5. FIRE-FIGHTING MEASURES

FIRE EXTINGUISHING MEDIA: Use extinguishing materials suitable for the surrounding area.
UNSUITABLE FIRE EXTINGUISHING MEDIA: None known.
UNUSUAL FIRE AND EXPLOSION HAZARDS: This product is formulated to be non-flammable and non-combustible.
SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: No Special protective actions for fire-fighters are anticipated.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES: Not applicable.
PERSONAL PROTECTIVE EQUIPMENT: Not applicable.
METHODS FOR CLEAN-UP AND CONTAINMENT: Not applicable.
ENVIRONMENTAL PRECAUTIONS: Not applicable.

7. HANDLING and STORAGE

PRECAUTIONS FOR SAFE HANDLING: No special requirements.

CONDITIONS FOR SAFE STORAGE: No special requirements.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS: As an article which does not release or otherwise result in exposure to hazardous chemicals under normal use, no personal protective equipment (PPE) is required.

9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Solid
ODOR: Mild acrylic.
FLAMMABLE LIMITS (in air by volume, %): Not applicable.
DECOMPOSITION TEMPERATURE: Not available.
AUTOIGNITION TEMPERATURE: Not available.
FREEZING/MELTING POINT: Not applicable.
VAPOR PRESSURE: Not applicable.
VAPOR DENSITY (air = 1): Not applicable.
EVAPORATION RATE (*n*-BuAc = 1): Not applicable.
SOLUBILITY IN WATER: Not applicable.
COEFFICIENT WATER/OIL DISTRIBUTION: Not established.

COLOR: Red
ODOR THRESHOLD: Not available.
OXIDIZING PROPERTIES: Not applicable.
PERCENT VOLATILE
FLASH POINT: Not available.
BOILING POINT: Not applicable.
SPECIFIC GRAVITY (water = 1): 0.1
CARB VOC: Not applicable.
SCAQMD (U.S. EPA Method 24): Not applicable.
SOLUBILITY IN SOLVENTS: Not applicable.
pH: Not applicable.

10. STABILITY and REACTIVITY

CHEMICAL STABILITY: This product is stable when properly stored at normal temperatures.

11. TOXICOLOGICAL INFORMATION

SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE:

Inhalation: Due to the form of the product, inhalation is unlikely.

Contact with Skin or Eyes: Due to the form of the product, contact with the eyes is unlikely

Skin Absorption: Due to form of product, skin absorption is not a likely route of exposure.

Ingestion: Ingestion is not a likely route of exposure, due to the form of the product.

Injection: Injection is not likely, due to the form of the product.

12. ECOLOGICAL INFORMATION

MOBILITY: This product has not been tested for mobility in soil.
PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability. The mineral components are not expected to biodegrade to great extent.
BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential.
ECOTOXICITY: This product has not been tested for aquatic or animal toxicity. All releases to terrestrial, atmospheric and aquatic environments should be avoided. No aquatic toxicity data are available for components.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: Waste disposal must be in accordance with appropriate Federal, State, and local regulations.
U.S. EPA WASTE NUMBER: Not applicable.

14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS: This product is not classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is not classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA): This product is not classified as dangerous goods under rules of IATA.

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION: This product is not classified as Dangerous Goods by the International Maritime Organization.

OFFICIAL MEXICAN STANDARD; REGULATION FOR THE TRANSPORT OF DANGEROUS GOODS AND RESIDUES: This product is not classified as Dangerous Goods, per transport regulations of Mexico.

SINGAPORE STANDARD 286: PART A: This product has no requirements under the Specification for Caution Labeling for Hazardous Substances, Part 4: Marking of Packages, Containers and Vehicles, as it does not meet the criteria for any hazard class under this regulation.

TRANSPORT IN BULK ACCORDING TO THE IBC CODE: Not applicable.

ENVIRONMENTAL HAZARDS: This material does not meet the criteria of environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID, and ADN) and is not listed in Annex III under MARPOL 73/78.

15. REGULATORY INFORMATION

UNITED STATES REGULATIONS:

- U.S. SARA Reporting Requirements: As an article, this product is not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.
- U.S. SARA Hazard Categories (Section 311/312, 40 CFR 370-21): ACUTE: No; CHRONIC: No; FIRE: No; REACTIVE: No; SUDDEN RELEASE: No
- U.S. SARA Threshold Planning Quantity (TPQ): As an article, this product is not subject to Threshold Planning Quantities, per 40 CFR 370.20.
- U.S. CERCLA Reportable Quantity (RQ): Not applicable.
- U.S. TSCA Inventory Status: Components of this product are listed on the TSCA Inventory.
- California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): No component is on the California Proposition 65 lists.

CANADIAN REGULATIONS:

- Canadian DSL/NDSL Inventory Status: Components are on the DSL or NDSL Inventories.
- Canadian Environmental Protection Act (CEPA) Priorities Substances Lists: Components are not on the CEPA Priorities Substances Lists.
- Canadian WHMIS Classification and Symbols: As an article, this product is not subject the Controlled Product Regulations.

CHINESE REGULATIONS:

- Chinese Inventory of Existing Chemical Substances Status: As an article, this product is not subjected to requirements under the Chinese Inventory of Existing Chemical Substances (IECSC).

JAPANESE REGULATIONS:

- Japanese ENCS: As an article, this product is not subjected to requirements under ENCS Inventory.
- Japanese Ministry of Economy, Trade, and Industry (METI) Status: As an article, this product is not subjected to requirements under the Japanese METI.
- Poisonous and Deleterious Substances Control Law: As an article, this product is not subjected to requirements under the Poisonous and Deleterious Substances Control Law.

KOREAN REGULATIONS:

- Korean Existing Chemicals List (ECL) Status: As an article, this product is not subjected to requirements under the Korean ECL Inventory.

MEXICAN REGULATIONS:

- Mexican Workplace Regulations (NOM-018-STPS-2000): This product is not classified as hazardous.

SINGAPORE REGULATIONS:

- List of Controlled Hazardous Substances: As an article, this product is not subjected to requirements under the Singapore List of Controlled Substances.
- Code of Practice on Pollution Control Requirements: As an article, this product is not subjected to requirements under the Singapore Code of Practice on Pollution Control.

TAIWANESE REGULATIONS:

- Taiwan Existing Chemical Substances Inventory Status: As an article, this product is not subjected to requirements under the Taiwan

16. OTHER INFORMATION

REFERENCES AND DATA SOURCES: Contact the supplier for information.
METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION: Criteria of the GHS were used for classification.
PREPARED BY: CHEMICAL SAFETY ASSOCIATES, Inc. • PO Box 1961, Hilo, HI 96721-1961 • (800) 441-3365
DATE OF PRINTING: January 9, 2017
REVISED: January 3, 2017
REVISION DETAILS: Reviewed January 3, 2017, no changes.

DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these, which are commonly used, include the following:
CAS #: This is the Chemical Abstract Service Number that uniquely identifies each constituent.

EXPOSURE LIMITS IN AIR:

CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.
DFG MAKs: Federal Republic of Germany Maximum Concentration Values in the workplace. Exposure limits are given as TWA (Time-Weighted Average) or PEAK (short-term exposure) values.
DFG MAK Germ Cell Mutagen Categories: 1: Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed humans. **2:** Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed mammals. **3A:** Substances that have been shown to induce genetic damage in germ cells of human of animals, or which produce mutagenic effects in somatic cells of mammals *in vivo* and have been shown to reach the germ cells in an active form. **3B:** Substances that are suspected of being germ cell mutagens because of their genotoxic effects in mammalian somatic cell *in vivo*; in exceptional cases, substances for which there are no *in vivo* data, but that are clearly mutagenic in vitro and structurally related to known in vivo mutagens. **4:** Not applicable (Category 4 carcinogenic substances are those with non-genotoxic mechanisms of action. By definition, germ cell mutagens are genotoxic. Therefore, a Category 4 for germ cell mutagens cannot apply. At some time in the future, it is conceivable that a Category 4 could be established for genotoxic substances with primary targets other than DNA [e.g. purely aneugenic substances] if research results make this seem sensible.) **5:** Germ cell mutagens, the potency of which is considered to be so low that, provided the MAK value is observed, their contribution to genetic risk for humans is expected not to be significant.
DFG MAK Pregnancy Risk Group Classification: Group A: A risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage of the developing organism, even when MAK and BAT (Biological Tolerance Value for Working Materials) values are observed. **Group B:** Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when MAK and BAT values are observed. **Group C:** There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAT values are observed. **Group D:** Classification in one of the groups A–C is not yet possible because, although the data available may indicate a trend, they are not sufficient for final evaluation.
IDLH: Immediately Dangerous to Life and Health. This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury.
LOQ: Limit of Quantitation.
NE: Not Established. When no exposure guidelines are established, an entry of NE is made for reference.
NIC: Notice of Intended Change.
NIOSH CEILING: The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.
NIOSH RELs: NIOSH's Recommended Exposure Limits.
PEL: OSHA's Permissible Exposure Limits. This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL" is placed next to the PEL that was vacated by Court Order.
SKIN: Used when a there is a danger of cutaneous absorption.
STEL: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8-hr TWA is within the TLV-TWA, PEL-TWA or REL-TWA.
TLV: Threshold Limit Value. An airborne concentration of a substance that represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour.
TWA: Time Weighted Average exposure concentration for a conventional 8-hr (TLV, PEL) or up to a 10-hr (REL) workday and a 40-hr workweek.
WEEL: Workplace Environmental Exposure Limits from the AIHA.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS: This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards.

HEALTH HAZARD: **0** Minimal Hazard: No significant health risk, irritation of skin or eyes not anticipated. *Skin Irritation*: Essentially non-irritating. Mechanical irritation may occur. PII or Draize = 0. *Eye Irritation*: Essentially non-irritating, minimal effects clearing in < 24 hours. Mechanical irritation may occur. Draize = 0. *Oral Toxicity LD_{50} Rat*: > 5000 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 2000 mg/kg. *Inhalation Toxicity 4-hrs LC_{50} Rat*: > 20 mg/L. **1** Slight Hazard: Minor reversible injury may occur; may irritate the stomach if swallowed; may defat the skin and exacerbate existing dermatitis. *Skin Irritation*: Slightly or mildly irritating. PII or Draize > 0 < 5. *Eye Irritation*: Slightly to mildly irritating, but reversible within 7 days. Draize > 0 ≤ 25. *Oral Toxicity LD_{50} Rat*: > 500–5000 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 1000–2000 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 2–20 mg/L. **2** Moderate Hazard: Temporary or transitory injury may occur; prolonged exposure may affect the CNS. *Skin Irritation*: Moderately irritating; primary irritant; sensitizer. PII or Draize ≥ 5, with no destruction of dermal tissue. *Eye Irritation*: Moderately to severely irritating; reversible corneal opacity; corneal involvement or irritation clearing in 8–21 days. Draize = 26–100, with reversible effects. *Oral Toxicity LD_{50} Rat*: > 50–500 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 200–1000 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 0.5–2 mg/L. **3** Serious Hazard: Major injury likely unless prompt action is taken and medical treatment is given; high level of toxicity; corrosive. *Skin Irritation*: Severely irritating and/or corrosive; may cause destruction of dermal tissue, skin burns, and dermal necrosis. PII or Draize > 5–8, with destruction of tissue. *Eye Irritation*: Corrosive, irreversible destruction of ocular tissue; corneal involvement or irritation persisting for more than 21 days. Draize > 80 with effects irreversible in 21 days. *Oral Toxicity LD_{50} Rat*: > 1–50 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 20–200 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 0.05–0.5 mg/L. **4** Severe Hazard: Life-threatening; major or permanent damage may result from single or repeated exposures; extremely toxic; irreversible injury may result from brief contact. *Skin Irritation*: Not appropriate. Do not rate as a 4, based on skin irritation alone. *Eye Irritation*: Not appropriate. Do not rate as a 4, based on eye irritation alone. *Oral Toxicity LD_{50} Rat*: ≤ 1 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: ≤ 20 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: ≤ 0.05 mg/L.

FLAMMABILITY HAZARD: **0** Minimal Hazard: Materials that will not burn in air when exposure to a temperature of 815.5°C (1500°F) for a period of 5 minutes.
1 Slight Hazard: Materials that must be pre-heated before ignition can occur. Material requires considerable pre-heating, under all ambient temperature conditions before ignition and combustion can occur. This usually includes the following: Materials that will burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less; Liquids, solids and semisolids having a flash point at or above 93.3°C (200°F) (i.e. OSHA Class IIIB); and Most ordinary combustible materials (e.g. wood, paper, etc.). **2** Moderate Hazard: Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or moderate heating may release vapor in sufficient quantities to produce hazardous atmospheres with air. This usually includes the following: Liquids having a flash-point at or above 37.8°C (100°F); Solid materials in the form of course dusts that may burn rapidly but that generally do not form explosive atmospheres. Solid materials in a fibrous or shredded form that may burn rapidly and create flash fire hazards (e.g. cotton, sisal, hemp); and Solids and semisolids (e.g. viscous and slow flowing as asphalt) that readily give off flammable vapors. **3** Serious Hazard: Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures, or, unaffected by ambient temperature, are readily ignited under almost all conditions. This usually includes the following: Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 38°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. OSHA Class IB and IC); Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air (e.g., dusts of combustible solids, mists or droplets of flammable liquids); and Materials that burn extremely rapidly, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). **4** Severe Hazard: Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and that will burn readily. This usually includes the following: Flammable gases; Flammable cryogenic materials; Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. OSHA Class IA); and Materials that ignite spontaneously when exposed to air at a temperature of 54.4°C (130°F) or below (pyrophoric).

PHYSICAL HAZARD: **0** *Water Reactivity*: Materials that do not react with water. *Organic Peroxides*: Materials that are normally stable, even under fire conditions and will not react with water. *Explosives*: Substances that are Non-Explosive. *Compressed Gases*: No Rating. *Pyrophorics*: No Rating. *Oxidizers*: No 0 rating. *Unstable Reactives*: Substances that will not polymerize, decompose, condense, or self-react.). **1** *Water Reactivity*: Materials that change or decompose upon exposure to moisture. *Organic Peroxides*: Materials that are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy violently. *Explosives*: Division 1.5 & 1.6 explosives. Substances that are very insensitive explosives or that do not have a mass explosion hazard. *Compressed Gases*: Pressure below OSHA definition. *Pyrophorics*: No Rating. *Oxidizers*: Packaging Group III oxidizers; Solids: any material that in either concentration tested, exhibits a mean burning time less than or equal to the mean burning time of a 3:7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise time of a 1:1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. *Unstable Reactives*: Substances that may decompose condense, or self-react, but only under conditions of high temperature and/or pressure and have little or no potential to cause significant heat generation or explosion hazard. Substances that readily undergo hazardous polymerization in the absence of inhibitors. **2** *Water Reactivity*: Materials that may react violently with water. *Organic Peroxides*: Materials that, in themselves, are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water. *Explosives*: Division 1.4 explosives. Explosive substances where the explosive effects are largely confined to the package and no projection of fragments of appreciable size or range are expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package. *Compressed Gases*: Pressurized and meet OSHA definition but < 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group II oxidizers. Solids: any material that, either in concentration tested, exhibits a mean burning time of less than or equal to the mean burning time of a 2:3 potassium bromate/cellulose mixture and the criteria for Packing Group I are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise of a 1:1 aqueous sodium chlorate solution (40%)/cellulose mixture and the criteria for Packing Group I are not met. *Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure, but have a low potential (or low risk) for significant heat generation or explosion. Substances that readily form peroxides upon exposure to air or oxygen at room temperature. **3** *Water Reactivity*: Materials that may form explosive reactions with water. *Organic Peroxides*: Materials that are capable of detonation or explosive reaction, but require a strong initiating source or must be heated under confinement before initiation; or materials that react explosively with water. *Explosives*: Division 1.3 explosives. Explosive substances that have a fire hazard and either

DEFINITION OF TERMS (Continued)

a minor blast hazard or a minor projection hazard or both, but do not have a mass explosion hazard. *Compressed Gases*: Pressure ≥ 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group I oxidizers. Solids: any material that, in either concentration tested, exhibits a mean burning time less than the mean burning time of a 3:2 potassium bromate/cellulose mixture. Liquids: any material that spontaneously ignites when mixed with cellulose in a 1:1 ratio, or which exhibits a mean pressure rise time less than the pressure rise time of a 1:1 perchloric acid (50%)/cellulose mixture. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a moderate potential (or moderate risk) to cause significant heat generation or explosion. **4** *Water Reactivity*: Materials that react explosively with water without requiring heat or confinement. *Organic Peroxides*: Materials that are readily capable of detonation or explosive decomposition at normal temperature and pressures. *Explosives*: Division 1.1 & 1.2 explosives. Explosive substances that have a mass explosion hazard or have a projection hazard. A mass explosion is one that affects almost the entire load instantaneously. *Compressed Gases*: No Rating. *Pyrophorics*: Add to the definition of Flammability 4. *Oxidizers*: No 4 rating. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion.

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS:

HEALTH HAZARD: **0** Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials. Gases and vapors with an LC_{50} for acute inhalation toxicity greater than 10,000 ppm. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 200 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 2000 mg/kg. Materials with an LD_{50} for acute oral toxicity greater than 2000 mg/kg. Materials essentially non-irritating to the respiratory tract, eyes, and skin. **1** Materials that, under emergency conditions, can cause significant irritation. Gases and vapors with an LC_{50} for acute inhalation toxicity greater than 5,000 ppm but less than or equal to 10,000 ppm. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 10 mg/L but less than or equal to 200 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 1000 mg/kg but less than or equal to 2000 mg/kg. Materials that slightly to moderately irritate the respiratory tract, eyes and skin. Materials with an LD_{50} for acute oral toxicity greater than 500 mg/kg but less than or equal to 2000 mg/kg. **2** Materials that, under emergency conditions, can cause temporary incapacitation or residual injury. Gases with an LC_{50} for acute inhalation toxicity greater than 3,000 ppm but less than or equal to 5,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 5000 ppm and that does not meet the criteria for either degree of hazard 3 or degree of hazard 4. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 2 mg/L but less than or equal to 10 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 200 mg/kg but less than or equal to 1000 mg/kg. Compressed liquefied gases with boiling points between -30°C (-22°F) and -55°C (-66.5°F) that cause severe tissue damage, depending on duration of exposure. Materials that are respiratory irritants. Materials that cause severe, but reversible irritation to the eyes or are lachrymators. Materials that are primary skin irritants or sensitizers. Materials whose LD_{50} for acute oral toxicity is greater than 50 mg/kg but less than or equal to 500 mg/kg. **3** Materials that, under emergency conditions, can cause serious or permanent injury. Gases with an LC_{50} for acute inhalation toxicity greater than 1,000 ppm but less than or equal to 3,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 3000 ppm and that does not meet the criteria for degree of hazard 4. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 0.5 mg/L but less than or equal to 2 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 40 mg/kg but less than or equal to 200 mg/kg. Materials that are corrosive to the respiratory tract. Materials that are corrosive to the eyes or cause irreversible corneal opacity. Materials corrosive to the skin. Cryogenic gases that cause frostbite and irreversible tissue damage. Compressed liquefied gases with boiling points below -55°C (-66.5°F) that cause frostbite and irreversible tissue damage. Materials with an LD_{50} for acute oral toxicity greater than 5 mg/kg but less than or equal to 50 mg/kg.

HEALTH HAZARD (continued): **4** Materials that, under emergency conditions, can be lethal. Gases with an LC_{50} for acute inhalation toxicity less than or equal to 1,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than ten times its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 1000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is less than or equal to 0.5 mg/L. Materials whose LD_{50} for acute dermal toxicity is less than or equal to 40 mg/kg. Materials whose LD_{50} for acute oral toxicity is less than or equal to 5 mg/kg.

FLAMMABILITY HAZARD: **0** Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in according with Annex D of NFPA 704. **1** Materials that must be preheated before ignition can occur. Materials in this degree require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur: Materials that will burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in according with Annex D of NFPA 704. Liquids, solids, and semisolids having a flash point at or above 93.4°C (200°F) (i.e. Class IIIB liquids). Liquids with a flash point greater than 35°C (95°F) that do not sustain combustion when tested using the *Method of Testing for Sustained Combustibility*, per 49 CFR 173, Appendix H or the UN *Recommendations on the Transport of Dangerous Goods, Model Regulations* (current edition) and the related *Manual of Tests and Criteria* (current edition). Liquids with a flash point greater than 35°C (95°F) in a water-miscible solution or dispersion with a water non-combustible liquid/solid content of more than 85% by weight. Liquids that have no fire point when tested by ASTM D 92, *Standard Test Method for Flash and Fire Points by Cleveland Open Cup*, up to the boiling point of the liquid or up to a temperature at which the sample being tested shows an obvious physical change. Combustible pellets with a representative diameter of greater than 2 mm (10 mesh). Most ordinary combustible materials. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **2** Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating could release vapor in sufficient quantities to produce hazardous atmospheres with air. Liquids having a flash point at or above 37.8°C (100°F) and below 93.4°C (200°F) (i.e. Class II and Class IIIA liquids.) Solid materials in the form of powders or coarse dusts of representative diameter between 420 microns (40 mesh) and 2 mm (10 mesh) that burn rapidly but that generally do not form explosive mixtures with air. Solid materials in fibrous or shredded form that burn rapidly and create flash fire hazards, such as cotton, sisal, and hemp. Solids and semisolids that readily give off flammable vapors. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **3** Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions. Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 37.8°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. Class IB and IC liquids). Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air. Flammable or combustible dusts with representative diameter less than 420 microns (40 mesh). Materials that burn with extreme rapidity, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS (continued):

Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and will burn readily. Flammable gases. Flammable cryogenic materials. Any liquid or gaseous materials that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. Class IA liquids). Materials that ignite when exposed to air, Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **4** Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and will burn readily: Flammable gases. Flammable cryogenic materials. Any liquid or gaseous materials that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. Class IA liquids). Materials that ignite when exposed to air. Solids containing greater than 0.5 percent by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

INSTABILITY HAZARD: **0** Materials that in themselves are normally stable, even under fire conditions: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) below 0.01 W/mL. Materials that do not exhibit an exotherm at temperatures less than or equal to 500°C (932°F) when tested by differential scanning calorimetry. **1** Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 0.01 W/mL and below 10 W/mL. **2** Materials that readily undergo violent chemical change at elevated temperatures and pressures: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 10 W/mL and below 100W/mL. **3** Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 100 W/mL and below 1000 W/mL. Materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures. **4** Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) of 1000 W/mL or greater. Materials that are sensitive to localized thermal or mechanical shock at normal temperatures and pressures.

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (**NFPA**). Flash Point: Minimum temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with air near the surface of the liquid or within the test vessel used. Autoignition Temperature: Minimum temperature of a solid, liquid, or gas required to initiate or cause self-sustained combustion in air with no other source of ignition. LEL: Lowest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame. UEL: Highest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame.

TOXICOLOGICAL INFORMATION:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. LD_{50}: Lethal Dose (solids & liquids) that kills 50% of the exposed animals. LC_{50}: Lethal Concentration (gases) that kills 50% of the exposed animals. ppm: Concentration expressed in parts of material per million parts of air or water. mg/m^3: Concentration expressed in weight of substance per volume of air. mg/kg: Quantity of material, by weight, administered to a test subject, based on their body weight in kg. TDLo: Lowest dose to cause a symptom. TCLo: Lowest concentration to cause a symptom. TDo, LDLo, and LDo, or TC, TCo, LCLo, and LCo: Lowest dose (or concentration) to cause lethal or toxic effects. **Cancer Information:** IARC: International Agency for Research on Cancer. NTP: National Toxicology Program. RTECS: Registry of Toxic Effects of Chemical Substances. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. **Other Information:** BEI: ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

ECOLOGICAL INFORMATION:

EC: Effect concentration in water. BCF: Bioconcentration Factor, which is used to determine if a substance will concentrate in life forms that consume contaminated plant or animal matter. TLm: Median threshold limit. log K_{OW} or log K_{OC}: Coefficient of Oil/Water Distribution is used to assess a substance's behavior in the environment.

REGULATORY INFORMATION:

U.S.:

EPA: U.S. Environmental Protection Agency. ACGIH: American Conference of Governmental Industrial Hygienists, a professional association that establishes exposure limits. OSHA: U.S. Occupational Safety and Health Administration. NIOSH: National Institute of Occupational Safety and Health, which is the research arm of OSHA. DOT: U.S. Department of Transportation. SARA: Superfund Amendments and Reauthorization Act. TSCA: U.S. Toxic Substance Control Act. CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act. Marine Pollutant status according to the DOT; CERCLA or Superfund; and various state regulations. This section also includes information on the precautionary warnings that appear on the material's package label.

CANADA:

WHMIS: Canadian Workplace Hazardous Materials Information System. TC: Transport Canada. DSL/NDSL: Canadian Domestic/Non-Domestic Substances List.

JAPAN:

METI: Ministry of Economy, Trade and Industry.

Common Name: SPECSEAL FIRESTOP PUTTY
Manufacturer: SPECIFIED TECHNOLOGIES
SDS Revision Date: 1/4/2015
SDS Format: GHS-US

Grainger Item Number(s): 3BE63, 3BE64, 4MM46
Manufacturer Model Number(s):

SDS Table of Contents

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STI(R*)

SAFETY DATA SHEET

PREPARED TO U.S. OSHA, CMA, ANSI, CANADIAN WHMIS, THE KOREAN ISHA (NOTICE 2009-68), THE JAPANESE INDUSTRIAL STANDARD JIS Z 7250: 2000, MEXICAN NOM018-STPS 2000, SPRING SINGAPORE, AND THE GLOBAL HARMONIZATION STANDARD

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE

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AND OF THE COMPANY UNDERTAKING

IDENTIFICATION OF THE MIXTURE:

TRADE/MATERIAL NAME: SPECSEAL(R*) FIRESTOP PUTTY

CHEMICAL NAMES: PHENOL POLYMER & ALUMINA MIXTURE

SYNONYMS: NONE

RELEVANT USE OF THE SUBSTANCE: SEALANT

USES ADVISED AGAINST: OTHER THAN RELEVANT USE

SUPPLIER/MANUFACTURER'S NAME (USA/CANADA): SPECIFIED TECHNOLOGIES, INC.

ADDRESS:
210 EVANS WAY
SOMERVILLE, NEW JERSEY 08876

BUSINESS PHONE: (908) 526-8000 (8:00AM TO 5:00PM EASTERN STANDARD TIME)

EMERGENCY PHONE:
U.S., CANADA: 1-800-255-3924 (24 HRS)
INTERNATIONAL: +1-813-248-0585 (COLLECT-24 HRS)

SUPPLIER/IMPORTER'S NAME (ASIA):

ADDRESS:

BUSINESS PHONE:

EMAIL OF COMPETENT PERSON FOR INFORMATION ON SDS: TECHSERV@STIFIRESTOP.COM

NOTE:
ALL UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARD (29 CFR 1910.1200), U.S. STATE EQUIVALENT STANDARDS, CANADIAN WHMIS [CONTROLLED PRODUCTS REGULATIONS], MEXICAN NOM018-STPS 2000, SPRING SINGAPORE, AND JAPANESE JIS Z7250 REQUIRED INFORMATION IS INCLUDED IN APPROPRIATE SECTIONS BASED ON THE U.S. ANSI Z400.1-2010 FORMAT. THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE COUNTRIES LISTED ABOVE.

2. HAZARD IDENTIFICATION

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GLOBAL HARMONIZATION AND JAPANESE JIS Z7253 LABELING AND CLASSIFICATION:
THIS PRODUCT HAS BEEN CLASSIFIED PER UN GHS STANDARDS UNDER U.S., JAPANESE AND OTHER APPLICABLE REGULATIONS THAT REQUIRE GLOBAL HARMONIZATION COMPLIANCE.

CLASSIFICATION:
CARCINOGENIC CAT. 2, GERM CELL MUTAGEN CAT. 2, ACUTE DERMAL TOXICITY CAT. 5, SKIN IRRITATION CAT. 2, EYE IRRITATION CAT. 2A, SKIN SENSITIZATION CAT. 1B, STOT RE CAT. 2

SIGNAL WORD: WARNING

HAZARD STATEMENT CODES: H351, H341, H303, H315, H319, H317, H373

PRECAUTIONARY STATEMENT CODES:
P201, P202, P260, P271, P272, P280, P308 + P313, P305 + P351 + P338, P337 + P313, P302 + P352, P333 + P313, P362 + P364, P312, P321, P403 + P233 + P405, P501

HAZARD SYMBOLS:
GHS07: EXCLAMATION MARK
GHS08: HEALTH HAZARD

KOREAN ISHA (NOTICE 2009-68) LABELING AND CLASSIFICATION:
CLASSIFIED IN ACCORDANCE WITH ISHA NOTICE 2009-68. UNDER ISHA, NO DIFFERENCES IN CLASSIFICATION ARE APPLICABLE.

EMERGENCY OVERVIEW:

PRODUCT DESCRIPTION:
THIS PRODUCT IS A RED, PUTTY-LIKE SOLID WITH A MILD ODOR.

HEALTH HAZARDS:
MAY BE HARMFUL IF ACCIDENTALLY INGESTED. INHALATION OF VAPORS OR FUME IF PRODUCT IS HEATED MAY CAUSE HEADACHE, NAUSEA AND RESPIRATORY IRRITATION. EYE CONTACT WITH VAPORS OR FUME IF HEATED MAY ALSO CAUSE IRRITATION. PROLONGED SKIN CONTACT MAY CAUSE IRRITATION. SKIN CONTACT MAY ALSO CAUSE SKIN SENSITIZATION DUE TO FORMALDEHYDE CONTENT. THIS PRODUCT CONTAINS A TWO KNOWN HUMAN CARCINOGENS IN TRACE AMOUNTS. IN ADDITION, THE PHENOL COMPONENT MAY PROMOTE THE DEVELOPMENT OF SKIN CANCER IN THE PRESENCE OF OTHER KNOWN CARCINOGENS (BY SKIN CONTACT). THE TRACE FORMALDEHYDE COMPONENT IS CONSIDERED A POSSIBLE MUTAGEN.

FLAMMABILITY HAZARDS:
THIS PRODUCT IS FORMULATED TO BE NON-FLAMMABLE AND NON-COMBUSTIBLE. IF INVOLVED IN A FIRE, THIS PRODUCT WILL RELEASE SMOKE, ACRID VAPORS AND TOXIC GASES (E.G., ALUMINUM, CARBON, SULFUR, AND NITROGEN OXIDES, PHENOL, FORMALDEHYDE, ALDEHYDES, KETONES AND ACIDS, FORMIC ACID, METHANOL AND BUTENE MONOMERS).

REACTIVITY HAZARDS: THIS PRODUCT IS NOT REACTIVE.

ENVIRONMENTAL HAZARDS:
THIS PRODUCT HAS NOT BEEN TESTED FOR POTENTIAL HAZARDS IF RELEASED TO THE ENVIRONMENT. ALL RELEASE SHOULD BE AVOIDED.

EMERGENCY CONSIDERATIONS:
EMERGENCY RESPONDERS SHOULD WEAR APPROPRIATE PROTECTION FOR THE SITUATION TO WHICH THEY RESPOND.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

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CHEMICAL NAME	CAS #	WT%
ALUMINUM TRIHYDRATE	21645-51-2	50-60%
PROPRIETARY POLYMER		20-30%
FORMALDEHYDE POLYMER WITH AMMONIA AND PHENOL	35297-54-2	10-15%
PHENOL	108-95-2	1-3%
SULFURIC ACID COMPOUND WITH GRAPHITE	12777-87-6	2-5%
CRYSTALLINE SILICA	14808-60-7	TRACE
FORMALDEHYDE	50-00-0	TRACE
WATER AND OTHER TRACE INGREDIENTS		BALANCE

CHEMICAL NAME	CHINESE IECSC INVENTORY	JAPANESE ENCS #	KOREAN ECL #	TAIWAN NESCI ECS
ALUMINUM TRIHYDRATE	LISTED	1-17	KE-00980	LISTED
PROPRIETARY POLYMER	LISTED	PROPRIETARY	PROPRIETARY	LISTED

FORMALDEHYDE POLYMER WITH AMMONIA AND PHENOL	LISTED	NOT LISTED	KE-17082	LISTED
PHENOL	LISTED	3-381	KE-28209	LISTED
SULFURIC ACID COMPOUND WITH GRAPHITE	NOT LISTED	NOT LISTED	KE-32585	LISTED
CRYSTALLINE SILICA	LISTED	1-548	KE-29983	LISTED
FORMALDEHYDE	LISTED	2-482	KE-17074	LISTED

WATER AND OTHER TRACE INGREDIENTS

CHEMICAL NAME	LABEL ELEMENTS GHS & JAPANESE JIS Z7253 CLASSIFICATION KOREAN ISHA CLASSIFICATION GHS HAZARD CODES
ALUMINUM TRIHYDRATE	SELF CLASSIFICATION GHS & JAPANESE JIS Z7253, KOREAN ISHA: CLASSIFICATION: EYE IRRITATION CAT. 2A HAZARD CODES: H319
PROPRIETARY POLYMER	CLASSIFICATION: NOT APPLICABLE
FORMALDEHYDE POLYMER WITH AMMONIA AND PHENOL	SELF CLASSIFICATION GHS & JAPANESE JIS Z7253, KOREAN ISHA: CLASSIFICATION: ACUTE ORAL TOXICITY CAT. 5, SKIN SENSITIZATION CAT. 1B, STOT RE CAT. 3 HAZARD CODES: H303, H317, H373
PHENOL	GHS & JAPANESE JIS Z7253, KOREAN ISHA: CLASSIFICATION: MUTAGENIC CAT. 2, ACUTE ORAL TOXICITY CAT. 3, ACUTE DERMAL TOXICITY CAT. 3, ACUTE INHALATION TOXICITY CAT. 3, SKIN CORROSION CAT. 1B, STOT RE CAT. 2 HAZARD CODES: H341, H301 + H311 + H331, H314, H373
SULFURIC ACID COMPOUND WITH GRAPHITE	SELF CLASSIFICATION GHS & JAPANESE JIS Z7253, KOREAN ISHA: CLASSIFICATION: CARCINOGENIC CAT. 2 HAZARD CODES: H351I
CRYSTALLINE SILICA	SELF CLASSIFICATION GHS & JAPANESE JIS Z7253, KOREAN ISHA: CLASSIFICATION:

	CARCINOGENIC CAT. 1, STOT (INHALATION-LUNGS) RE CAT. 2 HAZARD STATEMENT CODES: H350, H373
FORMALDEHYDE	GHS & JAPANESE JIS Z7253, KOREAN ISHA: CLASSIFICATION: CARCINOGENIC CAT. 2, ACUTE ORAL TOXICITY CAT. 3, ACUTE DERMAL TOXICITY CAT. 3, ACUTE INHALATION TOXICITY CAT. 3, SKIN CORROSION CAT. 1B, SKIN SENSITIZATION CAT. 1 HAZARD CODES: H351, H301 + H311 + H331, H314, H317
WATER AND OTHER TRACE INGREDIENTS	CLASSIFICATION: NOT APPLICABLE

SEE SECTION 16 FOR FULL TEXT OF CLASSIFICATION

4. FIRST-AID MEASURES

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DESCRIPTION OF FIRST AID MEASURES:
CONTAMINATED INDIVIDUALS MUST BE TAKEN FOR MEDICAL ATTENTION IF ANY ADVERSE EFFECTS OCCUR. REMOVE CONTAMINATED CLOTHING AND SHOES. TAKE A COPY OF THIS SDS TO HEALTH PROFESSIONAL WITH VICTIM. WASH CLOTHING AND THOROUGHLY CLEAN SHOES BEFORE REUSE. IF BREATHING IS DIFFICULT, GIVE OXYGEN. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. TAKE A COPY OF LABEL AND SDS TO PHYSICIAN OR HEALTH PROFESSIONAL WITH THE CONTAMINATED INDIVIDUAL.

SKIN EXPOSURE:
IF ADVERSE SKIN EFFECTS OCCUR, DISCONTINUE USE AND FLUSH CONTAMINATED AREA. SEEK MEDICAL ATTENTION IF ADVERSE EFFECT OCCURS AFTER FLUSHING.

INHALATION:
IF FUMES OR VAPORS ARE INHALED, REMOVE VICTIM TO FRESH AIR. IF NECESSARY, USE ARTIFICIAL RESPIRATION TO SUPPORT VITAL FUNCTIONS. SEEK MEDICAL ATTENTION IF ADVERSE EFFECT CONTINUES AFTER REMOVAL TO FRESH AIR.

EYE EXPOSURE:
IF THIS PRODUCT CONTAMINATES THE EYES, RINSE EYES UNDER GENTLY RUNNING WATER. USE SUFFICIENT FORCE TO OPEN EYELIDS AND THEN "ROLL" EYES WHILE FLUSHING. MINIMUM FLUSHING IS FOR 20 MINUTES. THE CONTAMINATED INDIVIDUAL MUST SEEK MEDICAL ATTENTION IF ANY ADVERSE EFFECT CONTINUES AFTER RINSING.

INGESTION:
IF THIS PRODUCT IS SWALLOWED, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. IF PROFESSIONAL ADVICE IS NOT AVAILABLE, DO NOT INDUCE VOMITING. NEVER INDUCE VOMITING OR GIVE DILUENTS (MILK OR WATER) TO SOMEONE WHO IS UNCONSCIOUS, HAVING CONVULSIONS, OR UNABLE TO SWALLOW. IF VICTIM IS CONVULSING, MAINTAIN AN OPEN AIRWAY AND OBTAIN IMMEDIATE MEDICAL ATTENTION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
PRE-EXISTING RESPIRATORY DISORDERS MAY BE AGGRAVATED BY OVEREXPOSURES TO THIS PRODUCT.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED:
TREAT SYMPTOMS AND ELIMINATE EXPOSURE.

5. FIRE-FIGHTING MEASURES

top

NFPA RATING:
HEALTH 2
FLAMMABILITY 0
INSTABILITY 0
OTHER

HAZARD SCALE:
0 = MINIMAL
1 = SLIGHT
2 = MODERATE
3 = SERIOUS
4 = SEVERE

FLASH POINT: 160C - 320F.

AUTOIGNITION TEMPERATURE: NOT AVAILABLE.

FLAMMABLE LIMITS (IN AIR BY VOLUME, %): NOT APPLICABLE.

FIRE EXTINGUISHING MEDIA:
USE EXTINGUISHING MATERIALS SUITABLE FOR THE SURROUNDING AREA.

UNSUITABLE FIRE EXTINGUISHING MEDIA: NONE KNOWN.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
THIS PRODUCT IS FORMULATED TO BE NON-FLAMMABLE AND NON-COMBUSTIBLE. WHEN INVOLVED IN A FIRE, THIS MATERIAL MAY DECOMPOSE AND PRODUCE IRRITATING VAPORS AND TOXIC GASES (E.G., ALUMINUM, CARBON, SULFUR, AND NITROGEN OXIDES, PHENOL, FORMALDEHYDE, ALDEHYDES, KETONES AND ACIDS, FORMIC ACID, METHANOL AND BUTENE MONOMERS).

EXPLOSION SENSITIVITY TO MECHANICAL IMPACT: NOT SENSITIVE.

EXPLOSION SENSITIVITY TO STATIC DISCHARGE: NOT SENSITIVE.

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS:
INCIPIENT FIRE RESPONDERS SHOULD WEAR EYE PROTECTION. STRUCTURAL FIREFIGHTERS MUST WEAR SELF-CONTAINED BREATHING APPARATUS (SCBA) AND FULL PROTECTIVE EQUIPMENT. CHEMICAL RESISTANT CLOTHING MAY BE NECESSARY. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK TO PERSONNEL. WATER SPRAY CAN BE USED TO COOL FIRE-EXPOSED CONTAINERS. WATER FOG OR SPRAY CAN ALSO BE USED BY TRAINED FIREFIGHTERS TO DISPERSE THIS PRODUCT'S VAPORS AND TO PROTECT PERSONNEL. IF POSSIBLE, PREVENT RUNOFF WATER FROM ENTERING STORM DRAINS, BODIES OF WATER, OR OTHER ENVIRONMENTALLY SENSITIVE AREAS.

6. ACCIDENTAL RELEASE MEASURES

top

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES:
UNCONTROLLED RELEASES SHOULD BE RESPONDED TO BY TRAINED PERSONNEL USING PRE-PLANNED PROCEDURES. PROPER PROTECTIVE EQUIPMENT SHOULD BE USED. CALL CHEMTREC (1-800-424-9300) FOR EMERGENCY ASSISTANCE. OR IF IN CANADA, CALL CANUTEC (613-996-6666). THE ATMOSPHERE MUST AT LEAST 19.5 PERCENT OXYGEN BEFORE NON-EMERGENCY PERSONNEL CAN BE ALLOWED IN THE AREA WITHOUT SELF-CONTAINED BREATHING APPARATUS AND FIRE PROTECTION.

PERSONAL PROTECTIVE EQUIPMENT:

PROPER PROTECTIVE EQUIPMENT SHOULD BE USED. USE ONLY NON-SPARKING TOOLS AND EQUIPMENT.

SMALL SPILLS:
WEAR RUBBER GLOVES, SPLASH GOGGLES, AND APPROPRIATE BODY PROTECTION.

LARGE SPILLS:
MINIMUM PERSONAL PROTECTIVE EQUIPMENT SHOULD BE RUBBER GLOVES, RUBBER BOOTS, FACE SHIELD, AND TYVEK SUIT. MINIMUM LEVEL OF PERSONAL PROTECTIVE EQUIPMENT FOR RELEASES IN WHICH THE LEVEL OF OXYGEN IS LESS THAN 19.5% OR IS UNKNOWN MUST BE LEVEL B:
TRIPLE-GLOVES (RUBBER GLOVES AND NITRILE GLOVES OVER LATEX GLOVES), BOOTS, TYVEK OR SIMILAR PROTECTIVE CLOTHING, HARD HAT, AND SELF-CONTAINED BREATHING APPARATUS.

METHODS FOR CLEAN-UP AND CONTAINMENT:
SPILLS OF THIS PRODUCT PRESENT MINIMAL HAZARD.

SMALL SPILLS:
SMALL RELEASES CAN BE CAREFULLY SWEPT UP OR CLEANED UP USING A DAMP SPONGE OR POLYPADS.

LARGE SPILLS:
ACCESS TO THE SPILL AREA SHOULD BE RESTRICTED. FOR LARGE SPILLS, DIKE OR OTHERWISE CONTAIN SPILL AND SWEEP-UP OR VACUUM WITH NON-SPARKING VACUUM.

ALL SPILLS:
PLACE ALL SPILL RESIDUE IN A DOUBLE PLASTIC BAG OR OTHER CONTAINMENT AND SEAL. CLOSE OFF SEWERS AND TAKE OTHER MEASURES TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT AS NECESSARY. RINSE AREA WITH SOAP AND WATER SOLUTION AND FOLLOW WITH A WATER RINSE. DECONTAMINATE THE AREA THOROUGHLY. DO NOT MIX WITH WASTES FROM OTHER MATERIALS. DISPOSE OF IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL PROCEDURES (SEE SECTION 13, DISPOSAL CONSIDERATIONS). FOR SPILLS ON WATER, CONTAIN, MINIMIZE DISPERSION AND COLLECT. DISPOSE OF RECOVERED MATERIAL AND REPORT SPILL PER REGULATORY REQUIREMENTS.

ENVIRONMENTAL PRECAUTIONS:
AVOID RELEASE TO THE ENVIRONMENT. RUN-OFF WATER MAY BE CONTAMINATED BY OTHER MATERIALS AND SHOULD BE CONTAINED TO PREVENT POSSIBLE ENVIRONMENTAL DAMAGE.

REFERENCE TO OTHER SECTIONS:
SEE INFORMATION IN SECTION 8 (EXPOSURE CONTROLS - PERSONAL PROTECTION) AND SECTION 13 (DISPOSAL CONSIDERATIONS) FOR ADDITIONAL INFORMATION.

7. HANDLING AND USE

top

PRECAUTIONS FOR SAFE HANDLING:
AS WITH ALL CHEMICALS, AVOID GETTING THIS MATERIAL ON YOU OR IN YOU. DO NOT EAT, DRINK, SMOKE, OR APPLY COSMETICS WHILE HANDLING THIS PRODUCT. WASH HANDS THOROUGHLY AFTER HANDLING THIS PRODUCT OR CONTAINERS OF THIS PRODUCT. AVOID BREATHING FUMES OR VAPORS GENERATED BY THIS PRODUCT. USE IN A WELL-VENTILATED LOCATION.

CONDITIONS FOR SAFE STORAGE:
STORE CONTAINERS IN A COOL, DRY LOCATION, AWAY FROM DIRECT SUNLIGHT, SOURCES OF INTENSE HEAT. CONTAINERS SHOULD BE GROUNDED AND SEPARATED FROM OXIDIZING MATERIALS BY A MINIMUM DISTANCE OF 20 FT. OR BY A BARRIER OF NON-COMBUSTIBLE MATERIAL AT LEAST 5 FT. HIGH HAVING A FIRE-RESISTANCE RATING OF AT LEAST 0.5 HOURS. STORAGE AREAS SHOULD BE MADE OF FIRE

RESISTANT MATERIALS. POST WARNING AND "NO SMOKING" SIGNS IN STORAGE AND USE AREAS AS APPROPRIATE. HAVE APPROPRIATE EXTINGUISHING EQUIPMENT IN THE STORAGE AREA (E.G., SPRINKLER SYSTEM, PORTABLE FIRE EXTINGUISHERS). DO NOT STORE ABOVE 55 DEG. C (131 DEG. F)

SPECIFIC END USE(S):
THIS PRODUCT IS FOR USE AS A SEALANT. FOLLOW ALL INDUSTRY STANDARDS FOR USE OF THIS PRODUCT.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:
FOLLOW PRACTICES INDICATED IN SECTION 6 (ACCIDENTAL RELEASE MEASURES). MAKE CERTAIN THAT APPLICATION EQUIPMENT IS LOCKED AND TAGGED-OUT SAFELY, IF NECESSARY. COLLECT ALL RINSATES AND DISPOSE OF ACCORDING TO APPLICABLE FEDERAL, STATE, AND LOCAL PROCEDURES.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

top

EXPOSURE LIMITS/CONTROL PARAMETERS:

VENTILATION AND ENGINEERING CONTROLS:
USE WITH ADEQUATE VENTILATION TO ENSURE EXPOSURE LEVELS ARE MAINTAINED BELOW THE LIMITS PROVIDED BELOW (IF APPLICABLE). EXHAUST DIRECTLY TO THE OUTSIDE, TAKING NECESSARY PRECAUTIONS FOR ENVIRONMENTAL PROTECTION.

WORKPLACE EXPOSURE LIMITS/CONTROL PARAMETERS:

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR			
		ACGIH-TLVS		OSHA-PELS	
		TWA MG/M3	STEL MG/M3	TWA MG/M3	STEL MG/M3
ALUMINUM TRIHYDRATE	21645-51-2	NE	NE	NE	NE
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	0.025 (RESP. FRACT.)	NE	30 MG/M3 (TOTAL DUST)/ % SO2 + 2 0.1 (VACATED 1989 PEL) 250 MPPCF (RESP. DUST)/ % SiO2 + 5 OR 10 MG/M3 (RESP. DUST)/ % SO2 + 2	
FORMALDEHYDE	50-00-0	SEN	0.37 (CEILING)	0.75 PPM	2 PPM
		NIC: D-SEN, RSEN		SEE 20 CFR 1910.1048(C)	
FORMALDEHYDE POLYMER WITH AMMONIA AND PHENOL	35297-54-2	NE	NE	NE	NE
PHENOL	108-95-2	19 (SKIN)	SKIN	19 (SKIN)	SKIN
PROPRIETARY POLYMER		NE	NE	NE	NE

SULFURIC ACID COMPOUND WITH GRAPHITE	12777-87-6	NE	NE	NE	NE

CHEMICAL NAME	EXPOSURE LIMITS IN AIR			
	NIOSH-RELS		NIOSH	OTHER
	TWA MG/M3	STEL MG/M3	IDLH MG/M3	MG/M3
ALUMINUM TRIHYDRATE	NE	NE	NE	DFG MAKS: TWA: 4 MG/M3 (INHALABLE FRACTION) 1.5 MG/M3 (RESPIRABLE FRACTION) DFG MAK: PREGNANCY RISK CLASSIFICATION: D
CRYSTALLINE SILICA (QUARTZ)	0.05 (RESP. DUST) SEE POCKET GUIDE APP. A	NE	50, CA	CARCINOGEN: IARC-1 MAK-1 (RESPIRABLE FRACTION), NOSH-CA, NTP-K (RESPIRABLE FRACTION), TLV-A2
FORMALDEHYDE	0.016 PPM SEE POCKET GUIDE APP. A	0.1 PPM, 15 MIN.	20 PPM (CA)	DFG MAKS: TWA: 0.37 PEAK: 2xMAK 15-MIN AVERAGE VALUE, 1-HR INTERVAL, 4 PER SHIFT; 1 (CEILING) DANGER OF SENSITIZATION OF THE SKIN DFG MAK GERM CELL MUTAGEN CATEGORY: 5 DFG MAK PREGNANCY RISK CLASSIFICATION: C CARCINOGEN: EPA-B1 IARC-1 MAK-4 NIOSH-CA NTP-K OSHA-CA TLV-A2
FORMALDEHYDE POLYMER WITH AMMONIA AND PHENOL	NE	NE	NE	NE
PHENOL	19 (SKIN)	60 (SKIN) 15 MIN.	25 PPM	DFG MAK: SKIN CARCINOGEN:

				EPA-I EPA-D IARC-3 MAK-3B TLV-A4
PROPRIETARY POLYMER	NE	NE	NE	NE
SULFURIC ACID COMPOUND WITH GRAPHITE	NE	NE	NE	NE

NE: NOT ESTABLISHED.

CA: CARCINOGEN

NIC: NOTICE OF INTENDED CHANGE

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

SEN:
CONFIRMED POTENTIAL WORKER SENSITIZATION AS A RESULT OF DERMAL CONTACT AND/OR INHALATION EXPOSURE, BASED ON THE WEIGHT OF SCIENTIFIC EVIDENCE

SEE SECTION 16 FOR DEFINITIONS OF OTHER TERMS USED

INTERNATIONAL OCCUPATIONAL EXPOSURE LIMITS:
CURRENTLY, THE FOLLOWING ADDITIONAL EXPOSURE LIMIT VALUES HAVE BEEN ESTABLISHED BY VARIOUS COUNTRIES FOR THE COMPONENTS OF THIS MIXTURE. MORE CURRENT LIMITS MAY BE AVAILABLE; INDIVIDUAL COUNTRIES SHOULD BE CONSULTED TO DETERMINE IF NEWER LIMITS ARE AVAILABLE.

ALUMINUM HYDROXIDE:

AUSTRALIA:
TWA: 2 MG(Al)/M3, JUL 2008

BELGIUM:
TWA: 2 MG(Al)/M3, MAR 2002

FINLAND:
TWA: 2 MG(Al)/M3, NOV 2011

FRANCE:
VME: 2 MG(Al)/M3, FEB 2006

KOREA:
TWA: 2 MG(Al)/M3, 2006

NEW ZEALAND:
TWA: 2 MG(Al)/M3, JAN 2002

RUSSIA:
TWA: 6 MG/M3, JUN 2003

SWEDEN:
TWA: 1 MG(Al)/M3, JUN 2005

SWITZERLAND:

MAK-W: 3 MG/M3, RESP, JAN 2011

UNITED KINGDOM:
TWA: 2 MG(Al)/M3, OCT 2007

IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, SINGAPORE, VIETNAM CHECK ACGIH TLV

CRYSTALLINE SILICA:

AUSTRALIA:
TWA: 0.1 MG/M3, JUL 2008

BELGIUM:
TWA: 0.1 MG/M3 (RESP. DUST), MAR 2002

DENMARK:
TWA: 0.1 MG/M3 (RESPIRABLE), CARC, MAY 2011

DENMARK:
TWA: 0.1 MG/M3 (RESP.), CARC, MAY2011

DENMARK:
TWA: 0.3 MG/M3 (TOTAL), MAY 2011

FINLAND:
TWA: 0.05 MG/M3, RESP. DUST, SEP 2009

FRANCE:
VME: 0.1 MG/M3, (RESP), FEB 2006

ICELAND:
TWA: 0.1 MG/M3 (RESP. DUST), NOV 2011

JAPAN:
OEL-C: 0.03 MG/M3 (RESPIRABLE), APR 2007

KOREA:
TWA: 0.1 MG/M3, 2006

MEXICO:
TWA: 0.1 MG/M3 (RESPIRABLE), 2004

THE NETHERLANDS:
MAC-TGG: 0.075 MG/M3, 2003

NEW ZEALAND:
TWA: 0.2 MG/M3 (RESPIRABLE DUST), JAN 2002

NORWAY:
TWA: 0.1 MG/M3 (RESP. DUST), JAN 1999

NORWAY:
TWA: 0.3 MG/M3 (TOTAL DUST), JAN 1999

PERU:
TWA: 0.05 MG/M3, JUL 2005

RUSSIA:
TWA: 1 MG/M3
STEL: 3 MG/M3, JUN 2003

SWEDEN:
TWA: 0.1 MG/M3 (RESP. DUST), JUN 2005

SWITZERLAND:
MAK-W: 0.15 MG/M3, DEC 2006

THAILAND:
TWA: 10 MG/M3 (RESP. DUST), JAN 1993

THAILAND:
TWA: 30 MG/M3 (TOTAL DUST), JAN 1993

UNITED KINGDOM:
TWA: 0.1 MG/M3 (RESP. DUST), OCT 2007

IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, SINGAPORE, VIETNAM CHECK ACGIH TLV

FORMALDEHYDE:

ARAB REPUBLIC OF EGYPT:
TWA: 2 PPM (3 MG/M3), JAN 1993

AUSTRALIA:
TWA: 1 PPM (1.2 MG/M3)
STEL: 2 PPM (2.5 MG/M3), CARCINOGEN, JUL 2008

AUSTRIA:
MAK-TMW: 0.5 PPM (0.6 MG/M3)
KZW: 0.5 PPM (0.6 MG/M3), SKIN, SEN, 2007

BELGIUM:
STEL: 0.3 PPM (0.38 MG/M3), MAR 2002

DENMARK:
CL: 0.3 PPM (0.4 MG/M3), CARC, MAY 2011

FINLAND:
TWA: 0.3 PPM (0.37 MG/M3)
CL: 1 PPM (1.2 MG/M3), NOV 2011

FRANCE:
VME: 0.5 PPM, VLE 1 PPM, C3 CARCINOGEN, FEB 2006

GERMANY:
MAK: 0.3 PPM (0.37 MG/M3), 2011

HUNGARY:
TWA: 0.6 MG/M3, STEL 0.6 MG/M3, SKIN, SEP 2000

ICELAND:
TWA: 0.3 PPM (0.4 MG/M3), STEL 1 PPM (1.2 MG/M3), SEN, NOV 2011

JAPAN:
OEL: 0.1 PPM (0.12 MG/M3), 2A CARC, A2 SEN, S1 SEN, MAY 2012

JAPAN:
OEL: 0.2 PPM (0.24 MG/M3), MAY 2012

KOREA:
TWA: 1 PPM (1.5 MG/M3)
STEL: 2 PPM (3 MG/M3), 2006

MEXICO:
PEAK: 2 PPM (3 MG/M3), 2004

THE NETHERLANDS:
MAC-TGG: 1.5 MG/M3, 2003

NEW ZEALAND:
CL: 1 PPM (1.2 MG/M3), SEN, JAN 2002

NORWAY:
TWA: 0.5 PPM (0.6 MG/M3), JAN 1999

PERU:
TWA STEL: 0,3 PPM (0,37 MG/M3), JUL 2005

THE PHILIPPINES:
TWA: 5 PPM (6 MG/M3), JAN 1993

POLAND:
MAC(TWA): 0.5 MG/M3
MAC(STEL): 1 MG/M3, JAN 1999

RUSSIA:
STEL: 0.5 MG/M3, SKIN, JUN 2003

SWEDEN:
TWA: 0.5 PPM (0.6 MG/M3)
CL: 1 PPM (1.2 MG/M3), CARCINOGEN, SEN, JUN 2005

SWITZERLAND:
MAK-W: 0.3 PPM (0.37 MG/M3)
KZG-W: 0.6 PPM (0.74 MG/M3), CARC 3, SEN, JAN 2011

THAILAND:
TWA: 3 PPM
STEL: 5 PPM, JAN 1993

TURKEY:
TWA: 5 PPM (6 MG/M3), JAN 1993

UNITED KINGDOM:
TWA: 2 PPM (2.5 MG/M3)
STEL: 2 PPM (2.5 MG/M3), OCT 2007

IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, SINGAPORE, VIETNAM CHECK ACGIH
TLV

PHENOL:

ARAB REPUBLIC OF EGYPT:
TWA: 5 PPM (19 MG/M3), SKIN, JAN 1993

AUSTRALIA:
TWA: 1 PPM (4 MG/M3), JUL 2008

AUSTRIA:
MAK-TMW: 2 PPM (7.8 MG/M3), SKIN, 2007

DENMARK:
TWA: 2 PPM (7.8 MG/M3), SKIN, MAR 2002

DENMARK:
TWA: 1 PPM (4 MG/M3), SKIN, MAY 2011

EC:
TWA: 7.8 MG/M3 (2 PPM), SKIN, JUN 2000

FINLAND:
TWA: 2 PPM (8 MG/M3)
STEL: 4 PPM (16 MG/M3), SKIN, NOV 2011

FRANCE:
VME: 2 PPM (7.8 MG/M3), SKIN, FEB 2006

HUNGARY:
TWA: 7.8 MG/M3
STEL: 78 MG/M3, SKIN, SEP 2000

ICELAND:
TWA: 1 PPM (4 MG/M3), SKIN, NOV 2011

JAPAN:
OEL: 5 PPM (19 MG/M3), SKIN, MAY 2012

KOREA:
TWA: 5 PPM (19 MG/M3), SKIN, 2006

MEXICO:
TWA: 5 PPM (19 MG/M3)
STEL: 10 PPM (38 MG/M3) (SKIN), 2004

THE NETHERLANDS:
MAC-TGG: 8 MG/M3, SKIN, 2003

NEW ZEALAND:
TWA: 5 PPM (19 MG/M3), SKIN, JAN 2002

NORWAY:
TWA: 1 PPM (4 MG/M3), JAN 1999

PERU:
TWA: 5 PPM (19 MG/M3), JUL 2005

THE PHILIPPINES:
TWA: 5 PPM (10 MG/M3), SKIN, JAN 1993

POLAND:
MAC(TWA): 10 MG/M3
MAC(STEL): 20 MG/M3, JAN 1999

RUSSIA:
TWA: 0.3 MG/M3
STEL: 1 MG/M3, SKIN, JUN 2003

SWEDEN:
TWA: 1 PPM (4 MG/M3)
STEL: 2 PPM (8 MG/M3), SKIN, JUN 2005

SWITZERLAND:
CL: 5 PPM (19 MG/M3), SKIN, JAN 2011

THAILAND:
TWA: 5 PPM (19 MG/M3), JAN 1993

TURKEY:
TWA: 5 PPM (19 MG/M3), SKIN, JAN 1993

UNITED KINGDOM:
TWA: 2 PPM (7.8 MG/M3), SKIN, OCT2007

IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, SINGAPORE, VIETNAM CHECK ACGIH

TLV

PROTECTIVE EQUIPMENT:
THE FOLLOWING INFORMATION ON APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT IS PROVIDED TO ASSIST EMPLOYERS IN COMPLYING WITH OSHA REGULATIONS FOUND IN 29 CFR SUBPART I (BEGINNING AT 1910.132, INCLUDING U.S. FEDERAL OSHA RESPIRATORY PROTECTION (29 CFR 1910.134), OSHA EYE PROTECTION 29 CFR 1910.133, OSHA HARD PROTECTION 29 CFR 1910.138, OSHA FOOT PROTECTION 29 CFR 1910.136 AND OSHA BODY PROTECTION 29 CFR1910.132), EQUIVALENT STANDARDS OF CANADA (INCLUDING CSA RESPIRATORY STANDARD Z94.4-02, Z94.3-M1982, INDUSTRIAL EYE AND FACE PROTECTORS AND CSA STANDARD Z195-02, PROTECTIVE FOOTWEAR), OR STANDARDS OF JAPAN (INCLUDING JIS T 8116:2005 FOR GLOVE SELECTION, JIS T 8150:2006 FOR RESPIRATORY PPE, JIS T 8147:2003 FOR EYE PROTECTORS, AND JIS T 8030:2005 FOR PROTECTIVE CLOTHING). PLEASE REFERENCE APPLICABLE REGULATIONS AND STANDARDS FOR RELEVANT DETAILS.

RESPIRATORY PROTECTION:
MAINTAIN AIRBORNE CONTAMINANT CONCENTRATIONS BELOW EXPOSURE LIMITS LISTED ABOVE. FOR MATERIALS WITHOUT LISTED EXPOSURE LIMITS, MINIMIZE RESPIRATORY EXPOSURE. IF NECESSARY, USE ONLY RESPIRATORY PROTECTION AUTHORIZED UNDER APPROPRIATE REGULATIONS. OXYGEN LEVELS BELOW 19.5% ARE CONSIDERED IDLH BY U.S. OSHA. IN SUCH ATMOSPHERES, USE OF A FULL-FACEPIECE PRESSURE/DEMAND SCBA OR A FULL FACEPIECE, SUPPLIED AIR RESPIRATOR WITH AUXILIARY SELF-CONTAINED AIR SUPPLY IS REQUIRED UNDER U.S. OSHA'S RESPIRATORY PROTECTION STANDARD (1910.134-1998).

EYE PROTECTION:
WEAR SPLASH GOGGLES OR SAFETY GLASSES AS APPROPRIATE FOR THE TASK.

HAND PROTECTION:
WASH HANDS AND WRISTS BEFORE PUTTING ON AND AFTER REMOVING GLOVES. DURING MANUFACTURE OR OTHER SIMILAR OPERATIONS, WEAR THE APPROPRIATE HAND PROTECTION FOR THE PROCESS. USE DOUBLE GLOVES FOR SPILL RESPONSE, AS STATED IN SECTION 6 (ACCIDENTAL RELEASE MEASURES) OF THIS SDS. BECAUSE ALL GLOVES ARE TO SOME EXTENT PERMEABLE AND THEIR PERMEABILITY INCREASES WITH TIME, THEY SHOULD BE CHANGED REGULARLY (HOURLY IS PREFERABLE) OR IMMEDIATELY IF TORN OR PUNCTURED. IF NECESSARY REFER TO APPROPRIATE REGULATIONS.

SKIN PROTECTION:
USE APPROPRIATE PROTECTIVE CLOTHING FOR THE TASK (E.G., LAB COAT, ETC.). IF NECESSARY, REFER TO THE U.S. OSHA TECHNICAL MANUAL (SECTION VII: PERSONAL PROTECTIVE EQUIPMENT) OR OTHER APPROPRIATE REGULATIONS. FULL-BODY CHEMICAL PROTECTIVE CLOTHING IS RECOMMENDED FOR EMERGENCY RESPONSE PROCEDURES. IF A HAZARD OF INJURY TO THE FEET EXISTS DUE TO FALLING OBJECTS, ROLLING OBJECTS, WHERE OBJECTS MAY PIERCE THE SOLES OF THE FEET OR WHERE EMPLOYEE'S FEET MAY BE EXPOSED TO ELECTRICAL HAZARDS, USE FOOT PROTECTION, AS DESCRIBED IN U.S. OSHA AND CANADIAN STANDARDS.

9. PHYSICAL AND CHEMICAL PROPERTIES

top

FORM: PUTTY-LIKE

COLOR: READ.

MOLECULAR FORMULA: MIXTURE.

MOLECULAR WEIGHT: MIXTURE.

ODOR: MINIMAL.

ODOR THRESHOLD: NOT AVAILABLE.

FLAMMABLE LIMITS (IN AIR BY VOLUME, %): NOT APPLICABLE.

OXIDIZING PROPERTIES: NOT APPLICABLE.

DECOMPOSITION TEMPERATURE: NOT AVAILABLE.

PERCENT VOLATILE: NOT AVAILABLE.

AUTOIGNITION TEMPERATURE: NOT AVAILABLE.

FLASH POINT: NOT AVAILABLE.

FREEZING/MELTING POINT: NOT AVAILABLE.

BOILING POINT: NOT AVAILABLE.

VAPOR PRESSURE: NOT AVAILABLE.

SPECIFIC GRAVITY (WATER = 1): 1.49

VAPOR DENSITY (AIR = 1): NOT AVAILABLE.

CARB VOC: NOT AVAILABLE.

EVAPORATION RATE (N-BUAC = 1): >1

SCAQMD (U.S. EPA METHOD 24): NOT AVAILABLE.

SOLUBILITY IN WATER: INSOLUBLE.

SOLUBILITY IN SOLVENTS: NOT AVAILABLE.

COEFFICIENT WATER/OIL DISTRIBUTION: NOT ESTABLISHED.

PH: NOT AVAILABLE.

HOW TO DETECT THIS SUBSTANCE (WARNING PROPERTIES IN EVENT OF ACCIDENTAL RELEASE):
THE APPEARANCE MAY BE CHARACTERISTICS TO DISTINGUISH A RELEASE OF THIS PRODUCT.

10. STABILITY AND REACTIVITY

top

CHEMICAL STABILITY:
THIS PRODUCT IS STABLE WHEN PROPERLY STORED AT NORMAL TEMPERATURE AND PRESSURES (SEE SECTION 7, HANDLING AND STORAGE).

DECOMPOSITION PRODUCTS:
COMBUSTION:
IF EXPOSED TO EXTREMELY HIGH TEMPERATURES, THERMAL DECOMPOSITION MAY GENERATE IRRITATING FUMES AND TOXIC GASES (E.G., ALUMINUM, CARBON, SULFUR, AND NITROGEN OXIDES, PHENOL, FORMALDEHYDE, ALDEHYDES, KETONES AND ACIDS, FORMIC ACID, METHANOL AND BUTENE MONOMERS).

HYDROLYSIS: NONE KNOWN.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE:
THIS PRODUCT IS INCOMPATIBLE WITH STRONG OXIDIZERS.

POSSIBILITY OF HAZARDOUS POLYMERIZATION OR REACTION: WILL NOT OCCUR.

CONDITIONS TO AVOID:
AVOID EXPOSURE TO OR CONTACT WITH EXTREME TEMPERATURES AND INCOMPATIBLE CHEMICALS.

11. TOXICOLOGICAL INFORMATION

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SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE:
THE HEALTH HAZARD INFORMATION PROVIDED BELOW IS PERTINENT TO EMPLOYEES USING THIS PRODUCT IN AN OCCUPATIONAL SETTING. THE FOLLOWING PARAGRAPHS DESCRIBE THE SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE.

INHALATION:
INHALATION OF FUMES OR VAPORS IF HEATED MAY CAUSE IRRITATION OF THE NOSE, THROAT, AND LUNGS AND CAUSE COUGHING. REMOVAL TO FRESH AIR SHOULD RELIEVE SYMPTOMS. THE TRACE CRYSTALLINE SILICA AND FORMALDEHYDE COMPONENTS ARE KNOWN HUMAN CARCINOGENS. DUE TO THE FORM OF THIS PRODUCT, THIS HAZARD IS NOT AS SIGNIFICANT, HOWEVER, ALL INHALATION EXPOSURE MUST BE AVOIDED IN ORDER TO MITIGATE CARCINOGENIC POTENTIAL.

CONTACT WITH SKIN OR EYES:
DIRECT EYE CONTACT MAY CAUSE IRRITATION, REDNESS, AND TEARING FROM MECHANICAL IRRITATION. PROLONGED OR REPEATED SKIN EXPOSURES MAY CAUSE DERMATITIS (DRY RED SKIN). DUE TO THE PHENOL COMPONENT, REPEATED OR PROLONGED SKIN CONTACT CAN LEAD TO A CHARACTERISTIC DARKENING OF SKIN AND URINE (OCHRONOSIS).

SKIN ABSORPTION:
THE PHENOL COMPONENT AND TRACE FORMALDEHYDE COMPONENT CAN BE ABSORBED THROUGH INTACT SKIN. PHENOL IN ALL FORMS (SOLID, SOLUTIONS AND VAPOR) IS READILY ABSORBED THROUGH THE SKIN AND CAN CAUSE HARMFUL EFFECTS IF A LARGE AREA OF THE SKIN IS INVOLVED OR IF CONTACT IS PROLONGED. DUE TO THE SMALL AMOUNT OF EACH OF THESE MATERIALS, THE POSSIBILITY OF ADVERSE EFFECTS IS NOT EXPECTED TO BE SIGNIFICANT HOWEVER, SKIN CONTACT SHOULD BE AVOIDED. FORMALDEHYDE AND PHENOL CAN CAUSE SENSITIZATION EFFECTS AS DESCRIBED UNDER 'SENSITIZATION EFFECT'S'.

INGESTION:
INGESTION IS NOT A SIGNIFICANT ROUTE OF OCCUPATIONAL EXPOSURE AND IS UNLIKELY TO OCCUR. IF THIS PRODUCT IS SWALLOWED, IRRITATION OF THE MOUTH, THROAT, ESOPHAGUS AND OTHER TISSUES OF THE DIGESTIVE SYSTEM MAY OCCUR. SYMPTOMS OF INGESTION MAY INCLUDE NAUSEA, VOMITING, AND DIARRHEA.

INJECTION:
ACCIDENTAL INJECTION OF THIS PRODUCT, VIA LACERATION OR PUNCTURE BY A CONTAMINATED OBJECT CAN CAUSE REDNESS AT THE SITE OF INJECTION. ANIMAL DATA FOR THE CRYSTALLINE SILICA COMPONENT INDICATE THAT IT MAY CAUSE CARCINOGENIC EFFECTS BY THIS ROUTE OF EXPOSURE.

OTHER HEALTH EFFECTS:
PHENOL CAN PROMOTE THE DEVELOPMENT OF SKIN CANCER WHEN APPLIED WITH KNOWN CARCINOGENS. IN ANIMAL STUDIES INVOLVING PHENOL, LIMITED INFORMATION SUGGESTS THAT REPEATED (UP TO 28 DAYS), RELATIVELY LOW EXPOSURES TO PHENOL MAY CAUSE HARMFUL EFFECTS ON SEVERAL BODY SYSTEMS, INCLUDING THE BLOOD AND IMMUNE SYSTEM, THE NERVOUS SYSTEM, THE KIDNEYS AND THE LIVER.

HEALTH EFFECTS OR RISKS FROM EXPOSURE:
AN EXPLANATION IN LAY TERMS. EXPOSURE TO THIS PRODUCT MAY CAUSE THE FOLLOWING HEALTH EFFECTS:

ACUTE:

INHALATION OF FUMES OR VAPORS MAY CAUSE IRRITATION OF RESPIRATORY SYSTEM. EYE CONTACT MAY CAUSE MECHANICAL IRRITATION. EYE CONTACT WITH FUMES CAN CAUSE IRRITATION. MAY BE HARMFUL IF SWALLOWED.

CHRONIC:
PROLONGED OR REPEATED SKIN EXPOSURE MAY CAUSE DERMATITIS (DRY RED SKIN) OR MAY BE HARMFUL DUE TO PHENOL CONTENT. DUE TO FORMALDEHYDE CONTENT, THIS PRODUCT MAY CAUSE SKIN SENSITIZATION IN SUSCEPTIBLE INDIVIDUALS. THIS PRODUCT CONTAINS TRACE AMOUNTS OF CRYSTALLINE SILICA AND FORMALDEHYDE, KNOWN HUMAN CARCINOGENS.

TARGET ORGANS:
ACUTE: SKIN, EYES, RESPIRATORY SYSTEM.

CHRONIC: SKIN.

TOXICITY DATA:
CURRENTLY, THE FOLLOWING TOXICOLOGICAL DATA ARE AVAILABLE FOR COMPONENTS OF 1% OR MORE CONCENTRATION.

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM:
HEALTH HAZARD (BLUE) 2*
FLAMMABILITY HAZARD (RED) 0
PHYSICAL HAZARD (YELLOW) 0

PROTECTIVE EQUIPMENT:
EYES: CHEMICAL GOGGLES
RESPIRATORY: SEE SECTION 8
HANDS: GLOVES
BODY: SEE SECTION 8

FOR ROUTINE INDUSTRIAL USE AND HANDLING APPLICATIONS

HAZARD SCALE:
0 = MINIMAL
1 = SLIGHT
2 = MODERATE
3 = SERIOUS
4 = SEVERE
* = CHRONIC HAZARD

ALUMINUM TRIHYDRATE:
TDLO (ORAL-CHILD):
79 GM/KG/2 YEARS-INTERMITTENT:
BEHAVIORAL:
CHANGES IN MOTOR ACTIVITY (SPECIFIC ASSAY), MUSCLE CONTRACTION OR SPASTICITY
MUSCULOSKELETAL: OSTEOMALACIA

TDLO (ORAL-CHILD):
122 GM/KG/4 DAYS:
GASTROINTESTINAL: OTHER CHANGES
NUTRITIONAL AND GROSS METABOLIC: BODY TEMPERATURE INCREASE

TDLO (ORAL-WOMAN):
84 GM/KG:
FEMALE 1-40 WEEK(S) AFTER CONCEPTION:
REPRODUCTIVE:
EFFECTS ON NEWBORN: PHYSICAL

TDLO (ORAL-INFANT):
68040 MG/KG/24 WEEKS-INTERMITTENT:
MUSCULOSKELETAL: OSTEOPOROSIS
NUTRITIONAL AND GROSS METABOLIC:

WEIGHT LOSS OR DECREASED WEIGHT GAIN, CHANGES IN PHOSPHORUS

TDLO (ORAL-WOMAN):
73912.5 MG/KG/26 WEEKS-INTERMITTENT:
BLOOD: CHANGES IN SERUM COMPOSITION (E.G. TP, BILIRUBIN, CHOLESTEROL)
MUSCULOSKELETAL: OSTEOPOROSIS
NUTRITIONAL AND GROSS:
METABOLIC: CHANGES IN PHOSPHORUS

TDLO (UNREPORTED-INFANT):
39 GM/KG/24 DAYS-INTERMITTENT:
MUSCULOSKELETAL: OSTEOMALACIA

TDLO (ORAL-RAT):
15 MG/KG:
GASTROINTESTINAL: OTHER CHANGES

TDLO (ORAL-RAT):
8040 MG/KG/67 DAYS-CONTINUOUS:
BLOOD: CHANGES IN SERUM COMPOSITION (E.G. TP, BILIRUBIN, CHOLESTEROL)
NUTRITIONAL AND GROSS METABOLIC: CHANGES IN PHOSPHORUS

TDLO (ORAL-MOUSE):
80,880 MG/KG/23 WEEKS-CONTINUOUS:
LIVER: OTHER CHANGES
MUSCULOSKELETAL: OTHER CHANGES
NUTRITIONAL AND GROSS METABOLIC: CHANGES IN METALS, NOT OTHERWISE SPECIFIED

TDLO (INTRAPERITONEAL-RAT): 150 MG/KG

TDLO (INTRAPERITONEAL-RAT):
6240 MG/KG/26 WEEKS-INTERMITTENT:
BLOOD: PIGMENTED OR NUCLEATED RED BLOOD CELLS
NUTRITIONAL AND GROSS METABOLIC:
WEIGHT LOSS OR DECREASED WEIGHT GAIN, CHANGES IN IRON

TDLO (INTRAPERITONEAL-RAT):
1920 MG/KG/8 WEEKS-INTERMITTENT:
BLOOD: MICROCYTOSIS WITH OR WITHOUT ANEMIA

TDLO (INTRAPERITONEAL-RAT):
960 MG/KG/4 WEEKS-INTERMITTENT:
BLOOD: CHANGES IN ERYTHROCYTE (RBC) COUNT

PHENOL:

LDLO (ORAL-HUMAN):
14 GM/KG:
BEHAVIORAL: MUSCLE WEAKNESS
LUNGS, THORAX, OR RESPIRATION: CYANOSIS

LDLO (ORAL-HUMAN):
140 MG/KG:
BEHAVIORAL: HALLUCINATIONS, DISTORTED PERCEPTIONS
SKIN AND APPENDAGES: SWEATING

LDLO (ORAL-INFANT):
10 MG/KG:
BEHAVIORAL: MUSCLE WEAKNESS
LUNGS, THORAX, OR RESPIRATION: CYANOSIS

TDLO (PARENTERAL-MAN):
105.3 MG/KG:
PERIPHERAL NERVE AND SENSATION: SENSORY CHANGE INVOLVING PERIPHERAL NERVE

LUNGS, THORAX, OR RESPIRATION: DYSPNEA
KIDNEY/URETER/BLADDER: RENAL FUNCTION TESTS DEPRESSED

TDLO (UNREPORTED-MAN):
5714 (MICRO)G/KG:
SENSE ORGANS AND SPECIAL SENSES (OLFACTION):
EFFECT, NOT OTHERWISE SPECIFIED

IC50 (IN VITRO-HUMAN LIVER):
3.02 MMOL/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL VIABILITY (MITOCHONDRIAL REDUCTASE ASSAYS):
MTT, XTT, MTS, WSTS ASSAYS ETC

IC50 (IN VITRO-HUMAN LIVER):
9.67 MMOL/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL VIABILITY (MITOCHONDRIAL REDUCTASE ASSAYS):
MTT, XTT, MTS, WSTS ASSAYS ETC

IC50 (IN VITRO-HUMAN LIVER TUMOR):
10 MMOL/L/24 HOURS:
IN VITRO TOXICITY STUDIES: CELL PROTEIN SYNTHESIS

IC50 (IN VITRO-HUMAN LIVER TUMOR):
3.47 MMOL/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL MEMBRANE INTEGRITY:
CYTOPLASMIC ENZYMES LEAKAGE (LACTATE DEHYDROGENASE, ATP ENZYMES ETC.),
CELL VIABILITY (MITOCHONDRIAL REDUCTASE ASSAYS):
MTT, XTT, MTS, WSTS ASSAYS ETC

IC50 (IN VITRO-HUMAN LIVER TUMOR):
14.66 MMOL/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL MEMBRANE INTEGRITY:
CYTOPLASMIC ENZYMES LEAKAGE (LACTATE DEHYDROGENASE, ATP ENZYMES ETC.),
CELL VIABILITY (MITOCHONDRIAL REDUCTASE ASSAYS):
MTT, XTT, MTS, WSTS ASSAYS ETC

IC50 (IN VITRO-HUMAN HELA CELL):
100 MG/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL MEMBRANE INTEGRITY:
CYTOPLASMIC ENZYMES LEAKAGE (LACTATE DEHYDROGENASE, ATP ENZYMES ETC.)

OPEN IRRITATION TEST (SKIN-RABBIT):
535 MG: SEVERE

STANDARD DRAIZE TEST (SKIN-RABBIT):
100 MG: MILD

STANDARD DRAIZE TEST (EYE-RABBIT):
5 MG: SEVERE

STANDARD DRAIZE TEST (EYE-RABBIT):
400 (MICRO)L/30 SECONDS: SEVERE

RINSED WITH WATER (EYE-RABBIT):
5 MG/30 SECONDS: MILD

LC50 (INHALATION-RAT): 316 MG/M3

LC50 (INHALATION-RAT): 316 MG/M3/4 HOURS

LC50 (INHALATION-MOUSE): 177 MG/M3

LC50 (INHALATION-MOUSE): 177 MG/M3/4 HOURS

LD50 (ORAL-RAT):
317 MG/KG:
BEHAVIORAL: CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD

LD50 (ORAL-RAT): 512 MG/KG

LD50 (ORAL-MOUSE): 270 MG/KG

LD50 (ORAL-MAMMAL-SPECIES UNSPECIFIED): 500 MG/KG

LD50 (SKIN-RAT): 1500 MG/KG

LD50 (SKIN-RAT):
669 MG/KG:
BEHAVIORAL: TREMOR
KIDNEY/URETER/BLADDER: HEMATURIA
SKIN AND APPENDAGES:
CUTANEOUS SENSITIZATION, EXPERIMENTAL (AFTER TOPICAL EXPOSURE)

LD50 (SKIN-RABBIT): 630 MG/KG

LD50 (INTRAPERITONEAL-RAT): 127 MG/KG

LD50 (INTRAPERITONEAL-MOUSE): 180 MG/KG

LD50 (SUBCUTANEOUS-RAT): 300 MG/KG

LD50 (SUBCUTANEOUS-MOUSE): 344 MG/KG

LD50 (INTRAVENOUS-MOUSE):
112 MG/KG:
BEHAVIORAL: TREMOR

IC10 (IN VITRO-RAT LIVER):
1.12 MMOL/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL MEMBRANE INTEGRITY:
CYTOPLASMIC ENZYMES LEAKAGE (LACTATE DEHYDROGENASE, ATP ENZYMES ETC.),
CELL VIABILITY (MITOCHONDRIAL REDUCTASE ASSAYS):
MTT, XTT, MTS, WSTS ASSAYS ETC

IC10 (IN VITRO-RAT LUNG):
0.03 GM/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL MEMBRANE INTEGRITY (PRELABELED CELLS):
RELEASE OF RADIOACTIVE ISOTOPES ([51CR], [3H]-THYMIDINE, [3H]-PROLINE,
[35S]- OR [75SE]-METHIONINE, 5-[125I]-2-DEOXY-URIDINE) OR FLUORESCENT
DYES (BIS-CARBOXYETHYL-CARBOXYFLUORESCEIN (BCECF) OR CALCEIN-AM) TIVIEQ

IC10 (IN VITRO-RAT LUNG):
0.2 GM/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL VIABILITY (MITOCHONDRIAL REDUCTASE ASSAYS):
MTT, XTT, MTS, WSTS ASSAYS ETC

IC10 (IN VITRO-CHICKEN NEURONS):
7470 (MICRO)MOL/L/21 HOUR... IN VITRO TOXICITY STUDIES:
CELL VIABILITY (MITOCHONDRIAL REDUCTASE ASSAYS):
MTT, XTT, MTS, WSTS ASSAYS ETC

IC10 (IN VITRO-CHICKEN NEURONS):
1862 (MICRO) MOL/L/21 HOURS:
IN VITRO TOXICITY STUDIES:
CELL VIABILITY (MITOCHONDRIAL REDUCTASE ASSAYS):
MTT, XTT, MTS, WSTS ASSAYS ETC

IC10 (IN VITRO-CHICKEN NEURONS):
614 (MICRO) MOL/L/20 HOURS:
IN VITRO TOXICITY STUDIES:
CELL VIABILITY (LYSOSOMAL DAMAGE): NEUTRAL RED ASSAY ETC.

IC50 (IN VITRO-RAT LIVER):
3.3 MMOL/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL MEMBRANE INTEGRITY:
CYTOPLASMIC ENZYMES LEAKAGE (LACTATE DEHYDROGENASE, ATP ENZYMES ETC.),
CELL VIABILITY (MITOCHONDRIAL REDUCTASE ASSAYS):
MTT, XTT, MTS, WSTS ASSAYS ETC.

IC50 (IN VITRO-RAT LUNG):
1 GM/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL VIABILITY (MITOCHONDRIAL REDUCTASE ASSAYS):
MTT, XTT, MTS, WSTS ASSAYS ETC.

IC50 (IN VITRO-RAT LUNG):
0.36 GM/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL MEMBRANE INTEGRITY (PRELABELED CELLS):
RELEASE OF RADIOACTIVE ISOTOPES ([51CR], [3H]-THYMIDINE, [3H]-PROLINE,
[35S]- OR [75SE]-METHIONINE, 5-[125I]-2-DEOXY-URIDINE) OR FLUORESCENT
DYES (BIS-CARBOXYETHYL-CARBOXYFLUORESCEIN (BCECF) OR CALCEIN-AM)

IC50 (IN VITRO-MOUSE FIBROBLAST):
2.47 MMOL/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL MEMBRANE INTEGRITY:
CYTOPLASMIC ENZYMES LEAKAGE (LACTATE DEHYDROGENASE, ATP ENZYMES ETC.),
CELL VIABILITY (MITOCHONDRIAL REDUCTASE ASSAYS):
MTT, XTT, MTS, WSTS ASSAYS ETC.

IC50 (IN VITRO-MOUSE FIBROBLAST):
9.91 MMOL/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL MEMBRANE INTEGRITY:
CYTOPLASMIC ENZYMES LEAKAGE (LACTATE DEHYDROGENASE, ATP ENZYMES ETC.),
CELL VIABILITY (MITOCHONDRIAL REDUCTASE ASSAYS):
MTT, XTT, MTS, WSTS ASSAYS ETC.

IC50 (IN VITRO-CHICKEN NEURONS):
3642 (MICRO) MOL/L/20 HOURS:
IN VITRO TOXICITY STUDIES:
CELL VIABILITY (LYSOSOMAL DAMAGE): NEUTRAL RED ASSAY ETC.

IC50 (IN VITRO-NON-MAMMALIAN SPECIES-FIBROBLAST):
10.4 MMOL/L/24 HOURS:
IN VITRO TOXICITY STUDIES: CELL COUNTING

IC75 (IN VITRO-RAT LUNG):
1.7 GM/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL MEMBRANE INTEGRITY (PRELABELED CELLS):
RELEASE OF RADIOACTIVE ISOTOPES ([51CR], [3H]-THYMIDINE, [3H]-PROLINE,

[35S]- OR [75SE]-METHIONINE, 5-[125I]-2-DEOXY-URIDINE) OR FLUORESCENT DYES (BIS-CARBOXYETHYL-CARBOXYFLUORESCEIN (BCECF) OR CALCEIN-AM)

IC75 (IN VITRO-RAT LUNG):
2.8 GM/L/24 HOURS:
IN VITRO TOXICITY STUDIES:
CELL VIABILITY (MITOCHONDRIAL REDUCTASE ASSAYS):
MTT, XTT, MTS, WSTS ASSAYS ETC.

LDLO (ORAL-DOG): 500 MG/KG

LDLO (ORAL-CAT): 80 MG/KG

LDLO (ORAL-RABBIT): 420 MG/KG

LDLO (SUBCUTANEOUS-CAT): 80 MG/KG

LDLO (SUBCUTANEOUS-RABBIT): 620 MG/KG

LDLO (SUBCUTANEOUS-GUINEA PIG): 450 MG/KG

LDLO (SUBCUTANEOUS-FROG): 75 MG/KG

LDLO (SUBCUTANEOUS-FROG): 290 MG/KG

LDLO (INTRAPERITONEAL-RABBIT): 620 MG/KG

LDLO (INTRAPERITONEAL-GUINEA PIG): 300 MG/KG

LDLO (INTRAVENOUS-RABBIT): 180 MG/KG

LDLO (PARENTERAL-FROG):
290 MG/KG:
PERIPHERAL NERVE AND SENSATION:
SPASTIC PARALYSIS WITH OR WITHOUT SENSORY CHANGE
BEHAVIORAL: CONVULSIONS OR EFFECT ON SEIZURE
THRESHOLD CARDIAC: OTHER CHANGES

LDLO (UNREPORTED-DOG): 200 MG/KG

LDLO (UNREPORTED-CAT): 250 MG/KG

LDLO (UNREPORTED-RABBIT): 150 MG/KG

TD (SKIN-MOUSE):
4000 MG/KG/24 WEEKS-INTERMITTENT:
TUMORIGENIC: NEOPLASTIC BY RTECS CRITERIA
SKIN AND APPENDAGES: TUMORS

TDLO (ORAL-RAT):
22,750 MG/KG/13 WEEKS-CONTINUOUS):
BEHAVIORAL: FOOD INTAKE (ANIMAL), FLUID INTAKE
NUTRITIONAL AND GROSS METABOLIC: WEIGHT LOSS OR DECREASED WEIGHT GAIN

TDLO (ORAL-RAT):
300 MG/KG:
FEMALE 6-15 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE:
FERTILITY:
POST-IMPLANTATION MORTALITY (E.G. DEAD AND/OR RESORBED IMPLANTS PER TOTAL NUMBER OF IMPLANTS)

TDLO (ORAL-RAT):
1200 MG/KG:

FEMALE 6-15 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE:
EFFECTS ON EMBRYO OR FETUS:
FETOTOXICITY (EXCEPT DEATH, E.G., STUNTED FETUS)

TDLO (ORAL-RAT):
3600 MG/KG:
FEMALE 6-15 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE:
MATERNAL EFFECTS: OTHER EFFECTS
REPRODUCTIVE:
EFFECTS ON EMBRYO OR FETUS:
FETOTOXICITY (EXCEPT DEATH, E.G., STUNTED FETUS)

TDLO (ORAL-RAT):
1200 MG/KG:
FEMALE 6-15 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE:
MATERNAL EFFECTS: OTHER EFFECTS

TDLO (ORAL-RAT):
300 MG/KG:
FEMALE 6-15 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE:
FERTILITY:
POST-IMPLANTATION MORTALITY (E.G. DEAD AND/OR RESORBED IMPLANTS PER TOTAL
NUMBER OF IMPLANTS)

EFFECTS ON EMBRYO OR FETUS:
FETOTOXICITY (EXCEPT DEATH, E.G., STUNTED FETUS)

TDLO (ORAL-MOUSE):
2300 MG/KG:
FEMALE 6-15 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE:
FERTILITY:
POST-IMPLANTATION MORTALITY (E.G. DEAD AND/OR RESORBED IMPLANTS PER TOTAL
NUMBER OF IMPLANTS)

EFFECTS ON EMBRYO OR FETUS: FETAL DEATH

TDLO (ORAL-MOUSE):
2600 MG/KG:
FEMALE 6-15 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE:
EFFECTS ON EMBRYO OR FETUS:
FETOTOXICITY (EXCEPT DEATH, E.G., STUNTED FETUS)

TDLO (ORAL-MOUSE):
4 GM/KG:
FEMALE 6-15 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE:
SPECIFIC DEVELOPMENTAL ABNORMALITIES: MUSCULOSKELETAL SYSTEM

TDLO (ORAL-MOUSE):
2800 MG/KG:
FEMALE 6-15 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE:
EFFECTS ON EMBRYO OR FETUS:
FETOTOXICITY (EXCEPT DEATH, E.G., STUNTED FETUS)
SPECIFIC DEVELOPMENTAL ABNORMALITIES:
CRANIOFACIAL (INCLUDING NOSE AND TONGUE)

TDLO (ORAL-MOUSE):

2800 MG/KG:
FEMALE 6-15 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE:
EFFECTS ON EMBRYO OR FETUS:
FETOTOXICITY (EXCEPT DEATH, E.G., STUNTED FETUS)
SPECIFIC DEVELOPMENTAL ABNORMALITIES:
CRANIOFACIAL (INCLUDING NOSE AND TONGUE)

TDLO (ORAL-MOUSE):
265 MG/KG/12 HOURS:
BLOOD: CHANGES IN BONE MARROW (NOT OTHERWISE SPECIFIED)

TDLO (ORAL-MOUSE):
174 MG/KG/28 DAYS-CONTINUOUS:
BRAIN AND COVERINGS: OTHER DEGENERATIVE CHANGES
BLOOD: CHANGES IN ERYTHROCYTE (RBC) COUNT
IMMUNOLOGICAL INCLUDING ALLERGIC: DECREASED IMMUNE RESPONSE

TDLO (ORAL-MOUSE):
2800 MG/KG/10 DAYS-INTERMITTENT:
NUTRITIONAL AND GROSS METABOLIC: WEIGHT LOSS OR DECREASED WEIGHT GAIN
RELATED TO CHRONIC DATA: DEATH

TDLO (ORAL-MOUSE):
1800 MG/KG/10 DAYS-INTERMITTENT:
KIDNEY/URETER/BLADDER: OTHER CHANGES
BIOCHEMICAL:
METABOLISM (INTERMEDIARY):
EFFECT ON INFLAMMATION OR MEDIATION OF INFLAMMATION

TDLO (ORAL-MOUSE):
2800 MG/KG/10 DAYS-INTERMITTENT:
BEHAVIORAL: TREMOR, ATAXIA

TDLO (SKIN-MOUSE):
329 MG/KG/30 MINUTES:
SKIN AND APPENDAGES: PRIMARY IRRITATION (AFTER TOPICAL EXPOSURE)
BIOCHEMICAL:
METABOLISM (INTERMEDIARY):
OTHER, EFFECT ON INFLAMMATION OR MEDIATION OF INFLAMMATION

TDLO (SKIN-MOUSE):
88.9 (MICRO)L/KG:
BIOCHEMICAL:
METABOLISM (INTERMEDIARY):
EFFECT ON INFLAMMATION OR MEDIATION OF INFLAMMATION

TDLO (SKIN-MOUSE):
16 GM/KG/40 WEEKS-INTERMITTENT:
TUMORIGENIC: CARCINOGENIC BY RTECS CRITERIA
SKIN AND APPENDAGES: TUMORS

TDLO (INTRAPERITONEAL-RAT):
650 MG/KG/17 DAYS-INTERMITTENT:
BLOOD: OTHER CHANGES

TDLO (INTRAPERITONEAL-RAT):
600 MG/KG:
FEMALE 12-14 DAY(S) AFTER CONCEPTION:
REPRODUCTIVE:
EFFECTS ON EMBRYO OR FETUS:
FETOTOXICITY (EXCEPT DEATH, E.G., STUNTED FETUS)

TDLO (INTRAPERITONEAL-MOUSE):

300 MG/KG:
NUTRITIONAL AND GROSS METABOLIC: BODY TEMPERATURE DECREASE

TDLO (INTRAPERITONEAL-MOUSE):
300 MG/KG:
IMMUNOLOGICAL INCLUDING ALLERGIC: HYPERSENSITIVITY DELAYED

TCLO (INHALATION-RAT):
110 MG/M3/4 HOURS:
BEHAVIORAL: SOMNOLENCE (GENERAL DEPRESSED ACTIVITY)
BLOOD: CHANGES IN SERUM COMPOSITION (E.G. TP, BILIRUBIN, CHOLESTEROL)
BIOCHEMICAL:
ENZYME INHIBITION, INDUCTION, OR CHANGE IN BLOOD OR TISSUE LEVELS:
PROTEASES

TCLO (INHALATION-RAT):
150 UG/M3/8 HOURS/26 WEEKS-INTERMITTENT:
KIDNEY/URETER/BLADDER:
CHANGES IN TUBULES (INCLUDING ACUTE RENAL FAILURE, ACUTE TUBULAR NECROSIS)
BIOCHEMICAL:
ENZYME INHIBITION, INDUCTION, OR CHANGE IN BLOOD OR TISSUE LEVELS:
PHOSPHATASES

TCLO (INHALATION-RAT):
5 MG/M3/4 HOURS/17 WEEKS-INTERMITTENT:
LIVER: LIVER FUNCTION TESTS IMPAIRED
ENDOCRINE: EFFECT ON MENSTRUAL CYCLE
BLOOD: CHANGES IN LEUKOCYTE (WBC) COUNT

TCLO (INHALATION-RAT):
100 (MICRO) G/M3/24 HOURS/61 DAYS-CONTINUOUS:
BEHAVIORAL: MUSCLE CONTRACTION OR SPASTICITY
BLOOD: OTHER CHANGES
BIOCHEMICAL:
ENZYME INHIBITION, INDUCTION, OR CHANGE IN BLOOD OR TISSUE LEVELS:
TRUE CHOLINESTERASE

TCLO (INHALATION-RAT):
0.5 MG/M3/4 HOURS/122 DAYS-INTERMITTENT:
BLOOD: CHANGES IN SERUM COMPOSITION (E.G. TP, BILIRUBIN, CHOLESTEROL)
BIOCHEMICAL:
ENZYME INHIBITION, INDUCTION, OR CHANGE IN BLOOD OR TISSUE LEVELS:
MULTIPLE ENZYME EFFECTS

TCLO (INHALATION-MOUSE):
15 PPM/6 MINUTES:
LUNGS, THORAX, OR RESPIRATION: RESPIRATORY DEPRESSION

LCLO (INHALATION-RAT): 232 MG/M3/ 4 HOURS

LCLO (INHALATION-MOUSE): 110 MG/M3/4 HOURS

MUTATION TEST SYSTEMS-NOT OTHERWISE SPECIFIED (HUMAN HELA CELL): 17 MG/L

MUTATION TEST SYSTEMS-NOT OTHERWISE SPECIFIED (HUMAN LYMPHOCYTE):
5 (MICRO)MOL/L

DNA INHIBITION (HUMAN HELA CELL): 1 MMOL/L

SISTER CHROMATID EXCHANGE (HUMAN LYMPHOCYTE): 5 (MICRO)MOL/L

CYTOGENETIC ANALYSIS (HUMAN CELLS-NOT OTHERWISE SPECIFIED):
300 (MICRO)MOL/L/30 HOURS

MUTATION IN MICROORGANISMS (BACTERIA-SALMONELLA TYPHIMURIUM):
40 (MICRO)MOL/PLATE

MUTATION IN MICROORGANISMS (MOUSE LYMPHOCYTE): 300 MG/L

MUTATION IN MICROORGANISMS (MICROORGANISM-NOT OTHERWISE SPECIFIED):
200 MG/L/8 HOURS

SEX CHROMOSOME LOSS AND NON-DISJUNCTION (INSECT-DROSOPHILA MELANOGASTER
OVARY): 100 PPM

GENE CONVERSION AND MITOTIC RECOMBINATION (MOLD-ASPERGILLUS NIDULANS):
15 (MICRO)MOL/L

DNA DAMAGE (MAMMAL-SPECIES UNSPECIFIED LYMPHOCYTE): 250 MMOL/L

MICRONUCLEUS TEST (ORAL-MOUSE): 265 MG/KG

MICRONUCLEUS TEST (INTRAPERITONEAL-MOUSE): 265 MG/KG

MICRONUCLEUS TEST (HAMSTER LUNG): 4 MMOL/L

MICRONUCLEUS TEST (HAMSTER OVARY): 175 MG/L

MICRONUCLEUS TEST (HAMSTER EMBRYO): 500 MG/L/4 HOURS

DNA INHIBITION (ORAL-MOUSE): 20 GM/KG

DNA INHIBITION (MOUSE LYMPHOCYTE): 800 (MICRO)MOL/L

DNA INHIBITION (HAMSTER LUNG): 1900 (MICRO)MOL/L

CYTOGENETIC ANALYSIS (MULTIPLE ROUTES-FISH-NOT OTHERWISE SPECIFIED):
300 NL/L

CYTOGENETIC ANALYSIS (HAMSTER OVARY): 2 GM/L

CYTOGENETIC ANALYSIS (HAMSTER EMBRYO): 100 (MICRO)MOL/L

UNSCHEDULED DNA SYNTHESIS (ORAL-RAT): 4 GM/KG

UNSCHEDULED DNA SYNTHESIS (HAMSTER EMBRYO): 3 (MICRO)MOL/L

DNA DAMAGE (MOUSE LYMPHOCYTE): 1500 (MICRO)MOL/L

MUTATION TEST SYSTEMS-NOT OTHERWISE SPECIFIED (MOUSE CELLS-NOT OTHERWISE
SPECIFIED): 2500 (MICRO)MOL/L

MUTATION TEST SYSTEMS-NOT OTHERWISE SPECIFIED (RABBIT BONE MARROW):
250 (MICRO)MOL/L

MUTATION IN MAMMALIAN SOMATIC CELLS (MOUSE LYMPHOCYTE MOUSE LYMPHOCYTE):
1890 (MICRO)MOL/L

MUTATION IN MAMMALIAN SOMATIC CELLS (HAMSTER EMBRYO): 3 MMOL/L

MORPHOLOGICAL TRANSFORMATION (HAMSTER EMBRYO): 10 (MICRO)MOL/L

SISTER CHROMATID EXCHANGE (HAMSTER OVARY): 300 MG/L

SISTER CHROMATID EXCHANGE (HAMSTER EMBRYO): 1 MMOL/L

POLYBUTENE:
TCLO (INHALATION-RAT):

700 MG/M3/7 HOURS/2 WEEKS-INTERMITTENT:
LIVER: CHANGES IN LIVER WEIGHT
NUTRITIONAL AND GROSS METABOLIC: WEIGHT LOSS OR DECREASED WEIGHT GAIN

IRRITANCY OF PRODUCT:
INHALATION OF FUMES OR VAPORS MAY CAUSE RESPIRATORY IRRITATION. EYE CONTACT MAY CAUSE IRRITATION. EYE CONTACT WITH FUMES MAY CAUSE IRRITATION. PROLONGED SKIN CONTACT MAY CAUSE IRRITATION.

SENSITIZATION OF PRODUCT:
THE PHENOL AND TRACE FORMALDEHYDE COMPONENTS ARE SKIN SENSITIZERS AND THE FORMALDEHYDE COMPONENT IS ALSO A POSSIBLE RESPIRATORY SENSITIZER. FORMALDEHYDE CAUSES OCCUPATIONAL SKIN SENSITIZATION. ONCE A PERSON IS SENSITIZED, CONTACT WITH EVEN A SMALL AMOUNT OF A FORMALDEHYDE SOLUTION CAN CAUSE OUTBREAKS OF DERMATITIS WITH SYMPTOMS SUCH AS REDNESS, RASH, ITCHING AND SWELLING. THIS REACTION CAN SPREAD FROM THE HANDS OR ARMS TO THE FACE AND BODY. MANY CASES OF ALLERGIC CONTACT DERMATITIS HAVE BEEN ASSOCIATED WITH EXPOSURE TO FORMALDEHYDE FORMULATIONS.

CARCINOGENIC POTENTIAL OF COMPONENTS:
COMPONENTS OF THIS PRODUCT ARE LISTED BY AGENCIES TRACKING THE CARCINOGENIC POTENTIAL OF CHEMICAL COMPOUNDS, AS FOLLOWS:

CRYSTALLINE SILICA:
ACGIH-TLV-A2 (SUSPECTED HUMAN CARCINOGEN)

IARC-1 (CARCINOGENIC TO HUMANS)

MAK-1 (SUBSTANCES THAT CAUSE CANCER IN MAN AND CAN BE ASSUMED TO MAKE A SIGNIFICANT CONTRIBUTION TO CANCER RISK)

NIOSH-CA (POTENTIAL OCCUPATIONAL CARCINOGEN WITH NO FURTHER CATEGORIZATION)

NTP-K (KNOWN TO BE A HUMAN CARCINOGEN)

FORMALDEHYDE:
ACGIH-TLV-A2 (SUSPECTED HUMAN CARCINOGEN)

EPA-B1 (PROBABLE HUMAN CARCINOGEN-LIMITED EVIDENCE OF CARCINOGENICITY FROM EPIDEMIOLOGICAL STUDIES)

IARC-1 (CARCINOGENIC TO HUMANS)

MAK-4 (SUBSTANCES WITH CARCINOGENIC POTENTIAL FOR WHICH GENOTOXICITY PLAYS NO OR AT MOST A MINOR ROLE. NO SIGNIFICANT CONTRIBUTION TO HUMAN CANCER RISK IS EXPECTED, PROVIDED THE MAK VALUE IS OBSERVED.)

NIOSH-CA (POTENTIAL OCCUPATIONAL CARCINOGEN WITH NO FURTHER CATEGORIZATION)

NTP-K (KNOWN TO BE A HUMAN CARCINOGEN)

OSHA-CA (CARCINOGEN DEFINED WITH NO FURTHER CATEGORIZATION)

PHENOL:
ACGIH TLV-A4 (NOT CLASSIFIABLE AS A HUMAN CARCINOGEN)

EPA-I (DATA ARE INADEQUATE FOR AN ASSESSMENT OF HUMAN CARCINOGENIC POTENTIAL)

EPA-D (NOT CLASSIFIABLE AS TO HUMAN CARCINOGENICITY)

IARC-3 (UNCLASSIFIABLE AS TO CARCINOGENICITY IN HUMANS)

MAK-3B (SUBSTANCES FOR WHICH IN VITRO TESTS OR ANIMAL STUDIES HAVE YIELDED

EVIDENCE OF CARCINOGENIC EFFECTS THAT IS NOT SUFFICIENT FOR CLASSIFICATION OF THE SUBSTANCE IN ONE OF THE OTHER CATEGORIES. FURTHER STUDIES ARE REQUIRED BEFORE A FINAL CLASSIFICATION CAN BE MADE.)

THE REMAINING COMPONENTS ARE NOT FOUND ON THE FOLLOWING LISTS:
U.S. EPA, U.S. NTP, U.S. OSHA, U.S. NIOSH, GERMAN MAK, IARC, OR ACGIH AND THEREFORE IS NEITHER CONSIDERED TO BE NOR SUSPECTED TO BE A CANCER-CAUSING AGENT BY THESE AGENCIES.

REPRODUCTIVE TOXICITY INFORMATION:
THIS PRODUCT IS NOT EXPECTED OR REPORTED TO CAUSE HUMAN MUTAGENIC, EMBRYOTOXIC, TERATOGENIC OR REPRODUCTIVE TOXICITY EFFECTS. THE FOLLOWING GIVES INFORMATION ON POSSIBLE EFFECTS FROM COMPONENTS.

MUTAGENICITY:
FORMALDEHYDE IS CONSIDERED MUTAGENIC, BASED ON POSITIVE RESULTS (E.G. CHROMOSOMAL ABERRATIONS IN LUNG CELLS) OBSERVED IN STUDIES WITH LIVE ANIMALS. IN OCCUPATIONAL EXPOSURE STUDIES, WHICH ARE LIMITED BY SUCH PROBLEMS AS LOW NUMBERS OF WORKERS STUDIED AND MIXED EXPOSURES, BOTH POSITIVE AND NEGATIVE RESULTS (MICRONUCLEI, SISTER CHROMATID EXCHANGES (SCES), CHROMOSOME ABERRATIONS IN LYMPHOCYTES OR CHEEK AND NOSE CELLS) AND A NEGATIVE RESULT (ABNORMAL SPERM) WERE OBTAINED.(19,44,46,81) HOWEVER, POSITIVE RESULTS (SCES IN LYMPHOCYTES, DNA-PROTEIN CROSSLINKS IN LYMPHOCYTES) WERE OBTAINED IN 2 REASONABLY WELL-CONDUCTED STUDIES.

EMBRYOTOXICITY/TERATOGENICITY:
NO COMPONENT IS KNOWN TO CAUSE HUMAN EMBRYOTOXICITY OR TERATOGENICITY. ANIMAL STUDIES ARE INCONCLUSIVE OR HAVE NOT SHOWN EMBRYOTOXICITY OR TERATOGENICITY.

REPRODUCTIVE TOXICITY:
THERE IS INSUFFICIENT EVIDENCE TO DETERMINE IF FORMALDEHYDE CAUSES REPRODUCTIVE TOXICITY IN HUMANS. DESPITE LIMITATIONS, THE FEW ANIMAL STUDIES AVAILABLE DO NOT SUGGEST THAT FORMALDEHYDE EXPOSURE WILL AFFECT FERTILITY.

ACGIH BIOLOGICAL EXPOSURE INDICES (BEIS):
CURRENTLY, THERE ARE NO ACGIH BIOLOGICAL EXPOSURE INDICES (BEIS) DETERMINED FOR THIS MATERIAL.

DEGREE OF EFFECT TO THE HEALTH OF THE POLLUTING AGENT OF ENVIRONMENT OF WORK (PER MEXICAN NOM-010 STPS-1999): 0

12. ECOLOGICAL INFORMATION

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ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: THIS PRODUCT HAS NOT BEEN TESTED FOR MOBILITY IN SOIL.

PERSISTENCE AND BIODEGRADABILITY:
THIS PRODUCT HAS NOT BEEN TESTED FOR PERSISTENCE OR BIODEGRADABILITY. THE MINERAL COMPONENTS ARE NOT EXPECTED TO BIODEGRADE TO GREAT EXTENT.

BIO-ACCUMULATION POTENTIAL:
THIS PRODUCT HAS NOT BEEN TESTED FOR BIO-ACCUMULATION POTENTIAL.

ECOTOXICITY:
THIS PRODUCT HAS NOT BEEN TESTED FOR AQUATIC OR ANIMAL TOXICITY. ALL RELEASES TO TERRESTRIAL, ATMOSPHERIC AND AQUATIC ENVIRONMENTS SHOULD BE AVOIDED.

OTHER ADVERSE EFFECTS:
THIS MATERIAL IS NOT LISTED AS HAVING OZONE DEPLETION POTENTIAL.

ENVIRONMENTAL EXPOSURE CONTROLS:
CONTROLS SHOULD BE ENGINEERED TO PREVENT RELEASE TO THE ENVIRONMENT, INCLUDING PROCEDURES TO PREVENT SPILLS, ATMOSPHERIC RELEASE AND RELEASE TO WATERWAYS.

13. DISPOSAL CONSIDERATIONS

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DISPOSAL METHODS:
IT IS THE RESPONSIBILITY OF THE GENERATOR TO DETERMINE AT THE TIME OF DISPOSAL WHETHER THE PRODUCT MEETS THE CRITERIA OF A HAZARDOUS WASTE PER REGULATIONS OF THE AREA IN WHICH THE WASTE IS GENERATED AND/OR DISPOSED OF. WASTE DISPOSAL MUST BE IN ACCORDANCE WITH APPROPRIATE FEDERAL, STATE, AND LOCAL REGULATIONS. THIS PRODUCT, IF UNALTERED BY USE, MAY BE DISPOSED OF BY TREATMENT AT A PERMITTED FACILITY OR AS ADVISED BY YOUR LOCAL HAZARDOUS WASTE REGULATORY AUTHORITY. SHIPMENT OF WASTES MUST BE DONE WITH APPROPRIATELY PERMITTED AND REGISTERED TRANSPORTERS.

DISPOSAL CONTAINERS:
WASTE MATERIALS MUST BE PLACED IN AND SHIPPED IN APPROPRIATE 5-GALLON OR 55-GALLON POLY OR METAL WASTE PAILS OR DRUMS. PERMEABLE CARDBOARD CONTAINERS ARE NOT APPROPRIATE AND SHOULD NOT BE USED. ENSURE THAT ANY REQUIRED MARKING OR LABELING OF THE CONTAINERS BE DONE TO ALL APPLICABLE REGULATIONS.

PRECAUTIONS TO BE FOLLOWED DURING WASTE HANDLING:
WEAR PROPER PROTECTIVE EQUIPMENT WHEN HANDLING WASTE MATERIALS.

U.S. EPA WASTE NUMBER: NOT APPLICABLE.

14. TRANSPORTATION INFORMATION

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U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS:
THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS, PER U.S. DOT REGULATIONS, UNDER 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS:
THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS, PER REGULATIONS OF TRANSPORT CANADA.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):
THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS UNDER RULES OF IATA.

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION:
THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS BY THE INTERNATIONAL MARITIME ORGANIZATION.

OFFICIAL MEXICAN STANDARD; REGULATION FOR THE TRANSPORT OF DANGEROUS GOODS AND RESIDUES:
THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS, PER TRANSPORT REGULATIONS OF MEXICO.

SINGAPORE STANDARD 286:

PART A:
THIS PRODUCT HAS NO REQUIREMENTS UNDER THE SPECIFICATION FOR CAUTION

LABELING FOR HAZARDOUS SUBSTANCES, PART 4:
MARKING OF PACKAGES, CONTAINERS AND VEHICLES, AS IT DOES NOT MEET THE CRITERIA FOR ANY HAZARD CLASS UNDER THIS REGULATION.

TRANSPORT IN BULK ACCORDING TO THE IBC CODE:
SEE THE INFORMATION UNDER THE INDIVIDUAL JURISDICTION LISTINGS FOR IBC INFORMATION.

ENVIRONMENTAL HAZARDS:
THIS MATERIAL DOES NOT MEET THE CRITERIA OF ENVIRONMENTALLY HAZARDOUS ACCORDING TO THE CRITERIA OF THE UN MODEL REGULATIONS (AS REFLECTED IN THE IMDG CODE, ADR, RID, AND ADN) AND IS NOT LISTED IN ANNEX III UNDER MARPOL 73/78.

15. REGULATORY INFORMATION

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UNITED STATES REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS:
THE COMPONENTS OF THIS PRODUCT ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SECTIONS 302, 304, AND 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT AS FOLLOWS.

CHEMICAL NAME	SARA 302 (40 CFR 355, APPENDIX A)	SARA 304 (40 CFR TABLE 302.4)	SARA 313 (40 CFR 372.65)
FORMALDEHYDE	YES	YES	YES
PHENOL	YES	YES	YES

U.S. SARA HAZARD CATEGORIES (SECTION 311/312, 40 CFR 370-21):
ACUTE: YES
CHRONIC: YES
FIRE: NO
REACTIVE: NO
SUDDEN RELEASE: NO

U.S. SARA THRESHOLD PLANNING QUANTITY (TPQ):
FORMALDEHYDE: 500 LB (27.2 KG)
PHENOL: 500 LB (27.2 KG)

U.S. CERCLA REPORTABLE QUANTITY (RQ):
FORMALDEHYDE: 100 LB (45.4 KG)
PHENOL: 1000 LB (454 KG)

U.S. TSCA INVENTORY STATUS:
COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):
THE CRYSTALLINE SILICA AND FORMALDEHYDE (GAS) COMPONENTS ARE ON THE CALIFORNIA PROPOSITION 65 LISTS.

WARNING!

THIS PRODUCT CONTAINS COMPOUNDS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS:

COMPONENTS ARE ON THE DSL OR NDSL INVENTORIES.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:
THE PHENOL AND FORMALDEHYDE COMPONENTS ARE ON THE CEPA PRIORITIES SUBSTANCES 2 LIST.

CANADIAN WHMIS CLASSIFICATION AND SYMBOLS:
THIS PRODUCT WOULD BE CATEGORIZED AS A CONTROLLED PRODUCT, D2B (OTHER TOXIC EFFECTS-POTENTIAL CARCINOGENIC AND MUTAGENIC EFFECT, IRRITATION, SKIN SENSITIZATION) AS PER THE CONTROLLED PRODUCT REGULATIONS.

CHINESE REGULATIONS:

CHINESE INVENTORY OF EXISTING CHEMICAL SUBSTANCES STATUS:
COMPONENTS LISTED BY CAS# ARE LISTED ON THE CHINESE INVENTORY OF EXISTING CHEMICAL SUBSTANCES (IECSC), OR ARE NOT LISTED, PER INFORMATION IN SECTION 2.

JAPANESE REGULATIONS:

JAPANESE ENCS:
COMPONENTS LISTED BY CAS# ARE ON THE ENCS INVENTORY, ARE EXCEPTED, OR ARE NOT LISTED, PER INFORMATION IN SECTION 2.

JAPANESE MINISTRY OF ECONOMY, TRADE, AND INDUSTRY (METI) STATUS:
COMPONENTS ARE NOT LISTED AS CLASS I SPECIFIED CHEMICAL SUBSTANCES, CLASS II SPECIFIED CHEMICAL SUBSTANCES, OR DESIGNATED CHEMICAL SUBSTANCES BY THE JAPANESE METI.

POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW:
COMPONENTS ARE NOT LISTED AS A SPECIFIED POISONOUS SUBSTANCE UNDER THE POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW.

KOREAN REGULATIONS:

KOREAN EXISTING CHEMICALS LIST (ECL) STATUS:
COMPONENTS LISTED BY CAS# ARE LISTED ON THE KOREAN ECL INVENTORY, OR ARE NOT LISTED, PER INFORMATION IN SECTION 2.

MEXICAN REGULATIONS:
MEXICAN WORKPLACE REGULATIONS (NOM-018-STPS-2000):
THIS PRODUCT IS CLASSIFIED AS HAZARDOUS.

SINGAPORE REGULATIONS:

LIST OF CONTROLLED HAZARDOUS SUBSTANCES:
COMPONENTS LISTED BY CAS# ARE NOT LISTED ON THE SINGAPORE LIST OF CONTROLLED SUBSTANCES.

CODE OF PRACTICE ON POLLUTION CONTROL REQUIREMENTS:
THE COMPONENTS IDENTIFIED BY CAS# IN SECTION 2 (COMPOSITION AND INFORMATION ON INGREDIENTS) NOT ARE SUBJECT TO THE REQUIREMENTS UNDER THE SINGAPORE CODE OF PRACTICE ON POLLUTION CONTROL.

TAIWANESE REGULATIONS:

TAIWAN EXISTING CHEMICAL SUBSTANCES INVENTORY STATUS:
COMPONENTS LISTED BY CAS# ARE LISTED ON THE TAIWAN EXISTING CHEMICALS LIST.

16. OTHER INFORMATION

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LABELING (PRECAUTIONARY STATEMENTS) ANSI LABELING (Z129.1):

CAUTION!

MAY BE HARMFUL BY INGESTION AND SKIN CONTACT. MAY CAUSE MILD IRRITATION BY INHALATION AND EYE CONTACT. PROLONGED SKIN CONTACT MAY CAUSE IRRITATION. MAY CAUSE SKIN SENSITIZATION IN PERSONS SUSCEPTIBLE TO FORMALDEHYDE. CONTAINS TRACE AMOUNT OF CRYSTALLINE SILICA AND FORMALDEHYDE, KNOWN HUMAN CARCINOGENS. AVOID BREATHING FUMES OR VAPORS. DO NOT TASTE OR SWALLOW. KEEP CONTAINER CLOSED. USE ONLY WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. WEAR APPROPRIATE EYE, HAND, AND BODY PROTECTION. AVOID EXPOSURE TO ELEVATED TEMPERATURES.

FIRST-AID:
IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN OR EYES WITH PLENTY OF WATER FOR AT LEAST 20 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS OR PERSISTS. IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. IF SWALLOWED, DO NOT INDUCE VOMITING. GET MEDICAL ATTENTION.

IN CASE OF FIRE: USE WATER FOG, FOAM, DRY CHEMICAL, OR CO2.

IN CASE OF SPILL:
SWEEP OR VACUUM SPILLED MATERIAL, AVOIDING GENERATION OF DUSTS AND PLACE IN SUITABLE CONTAINER. PLACE RESIDUAL IN APPROPRIATE CONTAINER AND SEAL. DISPOSE OF IN ACCORDANCE WITH U.S. FEDERAL, STATE, AND LOCAL HAZARDOUS WASTE DISPOSAL REGULATIONS. CONSULT SAFETY DATA SHEET FOR ADDITIONAL INFORMATION.

GLOBAL HARMONIZATION AND JAPANESE JIS Z7253 LABELING AND CLASSIFICATION:
THIS PRODUCT HAS BEEN CLASSIFIED PER UN GHS STANDARDS UNDER U.S., JAPANESE AND OTHER APPLICABLE REGULATIONS THAT REQUIRE GLOBAL HARMONIZATION COMPLIANCE.

CLASSIFICATION:
CARCINOGENIC CATEGORY 2, GERM CELL MUTAGEN CATEGORY 2, ACUTE DERMAL TOXICITY CATEGORY 5, EYE IRRITATION CATEGORY 2A, SKIN IRRITATION CATEGORY 2, SKIN SENSITIZATION CATEGORY 1, SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE CATEGORY 2

SIGNAL WORD: WARNING

HAZARD STATEMENTS:
H351: SUSPECTED OF CAUSING CANCER.
H341: SUSPECTED OF CAUSING GENETIC EFFECTS.
H313: MAY BE HARMFUL IN CONTACT WITH SKIN.
H315: CAUSES SKIN IRRITATION.
H317: MAY CAUSE AN ALLERGIC SKIN REACTION.
H319: CAUSES SERIOUS EYE IRRITATION.
H373: MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.

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 VAPORS/FUME.

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, CLOTHING, EYE PROTECTION AND FACE PROTECTION.

RESPONSE:

P308 + P313:
IF EXPOSED OR CONCERNED: 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.

P337 + P313:
IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ATTENTION.

P302 + P352:
IF ON SKIN: WASH WITH PLENTY OF SOAP AND WATER.

P333 + P313:
IF SKIN IRRITATION OR RASH OCCURS: GET MEDICAL ADVICE/ATTENTION.

P312: CALL A POISON CENTER OR DOCTOR IF YOU FEEL UNWELL.

P362 + P364: TAKE OFF CONTAMINATED CLOTHING AND WASH IT BEFORE REUSE.

P321: SPECIFIC TREATMENT (REMOVE FROM EXPOSURE AND TREAT SYMPTOMS).

STORAGE:
P403 + P233 + P405:
STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED. STORE
LOCKED UP.

DISPOSAL:

P501:
DISPOSE OF CONTENTS/CONTAINERS IN ACCORDANCE WITH ALL LOCAL, REGIONAL,
NATIONAL AND INTERNATIONAL REGULATIONS.

HAZARD SYMBOLS: GHS07, GHS08

KOREAN ISHA (NOTICE 2009-68) LABELING AND CLASSIFICATION:
CLASSIFIED IN ACCORDANCE WITH ISHA NOTICE 2009-68. UNDER ISHA, NO
DIFFERENCES IN CLASSIFICATION ARE APPLICABLE.

COMPONENT CLASSIFICATION:

LABELING AND CLASSIFICATION FULL TEXT UNDER GHS:
ALUMINUM TRIHYDRATE: THIS IS A SELF-CLASSIFICATION.
CLASSIFICATION: EYE IRRITATION CATEGORY 2A

HAZARD STATEMENTS:
H319: CAUSES SERIOUS EYE IRRITATION.

CRYSTALLINE SILICA: THIS IS A SELF-CLASSIFICATION.

CLASSIFICATION:
CARCINOGENIC CATEGORY 1, SPECIFIC TARGET ORGAN TOXICITY (INHALATION-LUNGS)
REPEATED EXPOSURE CATEGORY 2

HAZARD STATEMENTS:

H350: MAY CAUSE CANCER.

H373:
MAY CAUSE DAMAGE TO LUNGS THROUGH PROLONGED OR REPEATED EXPOSURE BY INHALATION.

FORMALDEHYDE: THIS IS A PUBLISHED CLASSIFICATION.

CLASSIFICATION:
CARCINOGENIC CATEGORY 2, ACUTE ORAL TOXICITY CATEGORY 3, ACUTE DERMAL TOXICITY CATEGORY 3, ACUTE INHALATION TOXICITY CATEGORY 3, SKIN CORROSION CATEGORY 1B, SKIN SENSITIZATION CATEGORY 1

HAZARD STATEMENTS:

H351: SUSPECTED OF CAUSING CANCER.

H301 + H311 + H331: TOXIC IF SWALLOWED, IN CONTACT WITH SKIN OR IF INHALED.

H314: CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

H317: MAY CAUSE AN ALLERGIC SKIN REACTION.

PHENOL: THIS IS A SELF-CLASSIFICATION.

CLASSIFICATION:
MUTAGENIC CATEGORY 2, ACUTE ORAL TOXICITY CATEGORY 3, ACUTE DERMAL TOXICITY CATEGORY 3, ACUTE INHALATION TOXICITY CATEGORY 3, SKIN CORROSION CATEGORY 1B, SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE CATEGORY 2

HAZARD STATEMENTS:

H341: SUSPECTED OF CAUSING GENETIC EFFECTS.

H301 + H311 + H331: TOXIC IF SWALLOWED, IN CONTACT WITH SKIN OR IF INHALED.

H314: CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

H373:
MAY CAUSE DAMAGE TO LUNGS THROUGH PROLONGED OR REPEATED EXPOSURE BY INHALATION.

REVISION DETAILS: NEW.

REFERENCES AND DATA SOURCES: CONTACT THE SUPPLIER FOR INFORMATION.

METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION:
CRITERIA OF THE GHS WERE USED FOR CLASSIFICATION.

PREPARED BY:
CHEMICAL SAFETY ASSOCIATES, INC.
PO BOX 1961
HILO, HI 96721-1961
(800) 441-3365

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SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS, the Korean ISHA (Notice 2009-68), the Japanese Industrial Standard JIS Z 7250: 2000, Mexican NOM018-STPS 2000, SPRING Singapore, and the Global Harmonization Standard

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

IDENTIFICATION OF THE MIXTURE

TRADE/MATERIAL NAME: **SpecSeal® LCI Sealant**
CHEMICAL NAMES: Acrylate Polymer Mixture
SYNONYMS: None
RELEVANT USE of the SUBSTANCE: Sealant
USES ADVISED AGAINST: Other than Relevant Use

SUPPLIER/MANUFACTURER'S NAME: **Specified Technologies Inc.**
Address: 210 Evans Way,
Somerville, New Jersey 08876
Business Phone: (908) 526-8000 (8:00am to 5:00pm Eastern Standard Time)
Emergency Phone: U.S., Canada: 1-800-255-3924 (24 hrs)
International: +1-813-248-0585 (collect-24 hrs)

EMAIL of Competent Person for Information on SDS: techserv@stifirestop.com

NOTE: ALL United States Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, Canadian WHMIS [Controlled Products Regulations], Mexican NOM018-STPS 2000, SPRING Singapore, and Japanese JIS Z7250 required information is included in appropriate sections based on the U.S. ANSI Z400.1-2010 format. This product has been classified in accordance with the hazard criteria of the countries listed above.

2. HAZARD IDENTIFICATION

GLOBAL HARMONIZATION AND JAPANESE JIS Z7253 LABELING AND CLASSIFICATION: This product has been classified per UN GHS Standards under U.S., Japanese and other applicable regulations that require Global Harmonization compliance.

Classification: Carcinogenic Category 2, Eye Irritation Category 2A, Specific Target Organ Toxicity (Inhalation-Respiratory Irritation) Single Exposure Category 3
Signal Word: Warning
Hazard Statements: Suspected of causing cancer. Causes serious eye irritation. May cause respiratory irritation.
Precautionary Statements:
Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing vapors, fume. Use only outdoors or in a well-ventilated area. Wear protective gloves, clothing, eye protection and face protection. Wear respiratory protection.
Response: IF exposed or concerned: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses. If eye irritation persists: Get medical advice/attention. If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Storage: Store in a well-ventilated place. Disposal: Dispose of contents/containers in accordance with all local, regional, national and international regulations.

Hazard Symbols: GHS07, GHS08 

KOREAN ISHA (Notice 2009-68) LABELING AND CLASSIFICATION: Classified in accordance with ISHA Notice 2009-68. Under ISHA, no differences in classification are applicable.

3. COMPOSITION and INFORMATION ON INGREDIENTS

Hazardous Components:

Chemical Name	CAS #	Chinese IECSC Inventory	Japanese ENCS #	Korean ECL #	Taiwan NESCI ECS	WT%	LABEL ELEMENTS GHS & Japanese JIS Z7253 Classification Korean ISHA Classification GHS Hazard Codes
Aluminum Trihydrate	21645-51-2	Listed	1-17	KE-00980		15-25%	SELF CLASSIFICATION GHS & JAPANESE JIS Z7253, KOREAN ISHA: Classification: Eye Irritation Cat. 2A Hazard Codes: H319
Sulfuric Acid Compound with Graphite	12777-87-6	Not Listed	Not Listed	KE-32585		2-5%	SELF CLASSIFICATION GHS & JAPANESE JIS Z7253, KOREAN ISHA: Classification: Carcinogenic Cat. 2 Hazard Codes: H351i
Crystalline Silica	14808-60-7	Listed	1-548	KE-29983		0.1-0.2%	SELF CLASSIFICATION GHS & JAPANESE JIS Z7253, KOREAN ISHA: Classification: Carcinogenic Cat. 1, STOT (Inhalation-Lungs) RE Cat. 2 Hazard Statement Codes: H350, H373
Water and Other Trace Ingredients						Balance	Classification Not Applicable

4. FIRST-AID MEASURES

Skin Exposure: If adverse skin effects occur, discontinue use and flush contaminated area. Seek medical attention if adverse effect occurs after flushing.

Inhalation: If fumes or vapors are inhaled, remove victim to fresh air.

Eye Exposure: If this product contaminates the eyes, rinse eyes under gently running water.

Ingestion: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, DO NOT INDUCE VOMITING.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing respiratory disorders may be aggravated by overexposures to this product.

5. FIRE-FIGHTING MEASURES

FLASH POINT: 338 °C (640 °F)

AUTOIGNITION TEMPERATURE: Not available.

FLAMMABLE LIMITS (in air by volume, %): Not applicable.

FIRE EXTINGUISHING MEDIA: Use extinguishing materials suitable for the surrounding area.

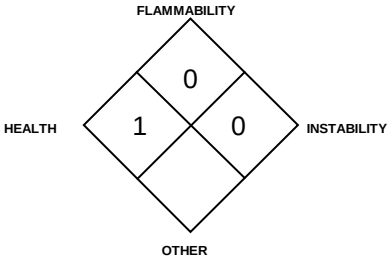
UNSUITABLE FIRE EXTINGUISHING MEDIA: None known.

UNUSUAL FIRE AND EXPLOSION HAZARDS: This product is formulated to be non-flammable and non-combustible. When involved in a fire, this material may decompose and produce irritating vapors and toxic gases.

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: Not sensitive.

NFPA RATING



Hazard Scale: **0** = Minimal **1** = Slight **2** = Moderate **3** = Serious **4** = Severe

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: No special protective actions for fire-fighters are anticipated.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: Proper protective equipment should be used.

Small Spills: Wear rubber gloves, safety glasses.

Large Spills: Minimum Personal Protection Equipment should be rubber gloves.

METHODS FOR CLEAN-UP AND CONTAINMENT: Spills of this product present minimal hazard.

Small Spills: Small releases can be carefully swept up or cleaned up using a damp sponge or polypads.

Large Spills: Access to the spill area should be restricted. For large spills, dike or otherwise contain spill and sweep-up or vacuum with non-sparking vacuum.

All Spills: Place all spill residue in a double plastic bag or other containment and seal. Close off sewers and take other measures to protect human health and the environment as necessary. Rinse area with soap and water solution and follow with a water rinse. Decontaminate the area thoroughly. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). For spills on water, contain, minimize dispersion and collect. Dispose of recovered material and report spill per regulatory requirements.

ENVIRONMENTAL PRECAUTIONS: Avoid release to the environment. Run-off water may be contaminated by other materials and should be contained to prevent possible environmental damage.

7. HANDLING and USE

PRECAUTIONS FOR SAFE HANDLING: As with all chemicals, avoid getting this material ON YOU or IN YOU. Do not eat, drink, smoke, or apply cosmetics while handling this product. Wash hands thoroughly after handling this product or containers of this product. Avoid breathing fumes or vapors generated by this product. Use in a well-ventilated location.

CONDITIONS FOR SAFE STORAGE: Store containers in a cool, dry location, away from direct sunlight, sources of intense heat. Do not store above 55°C (131°F)

SPECIFIC END USE(S): This product is for use as a sealant. Follow all industry standards for use of this product.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS:

Ventilation and Engineering Controls: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below (if applicable). Exhaust directly to the outside, taking necessary precautions for environmental protection.

Workplace Exposure Limits/Control Parameters:

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR							
		ACGIH-TLVs		OSHA-PELs		NIOSH-RELs		NIOSH	OTHER
		TWA mg/m^3	STEL mg/m^3	TWA mg/m^3	STEL mg/m^3	TWA mg/m^3	STEL mg/m^3	IDLH mg/m^3	mg/m^3
Aluminum Trihydrate	21645-51-2	NE	NE	NE	NE	NE	NE	NE	DFG MAKs: TWA = 4 mg/m^3 (inhalable fraction); 1.5 mg/m^3 (respirable fraction) DFG MAK Pregnancy Risk Classification: D
Crystalline Silica (Quartz)	14808-60-7	0.025 (resp. fract.)	NE	0.05 mg/m^3 (resp. dust)	NE	0.05 (resp. dust)	NE	50	Carcinogen: IARC-1, MAK-1 (respirable fraction), NOSH-Ca, NTP-K (respirable fraction), TLV-A2
Sulfuric Acid Compound with Graphite	12777-87-6	NE	NE	NE	NE	NE	NE	NE	NE

NE = Not Established. See Section 16 for Definitions of Other Terms Used

PROTECTIVE EQUIPMENT: *The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132, including* U.S. Federal OSHA Respiratory Protection (29 CFR 1910.134), OSHA Eye Protection 29 CFR 1910.133, OSHA Hard Protection 29 CFR 1910.138, OSHA Foot Protection 29 CFR 1910.136 and OSHA Body Protection 29 CFR1910.132)*, equivalent standards of Canada (including CSA Respiratory Standard Z94.4-02,* Z94.3-M1982, *Industrial Eye and Face Protectors and* CSA Standard Z195-02, *Protective Footwear),* or standards of Japan (including JIS T 8116:2005 for glove selection, JIS T 8150:2006 for respiratory PPE, JIS T 8147:2003 for eye protectors, and JIS T 8030:2005 for protective clothing). Please reference applicable regulations and standards for relevant details.

Respiratory Protection: Maintain airborne contaminant concentrations below exposure limits listed above. For materials without listed exposure limits, minimize respiratory exposure. If necessary, use only respiratory protection authorized under appropriate regulations.

Eye Protection: Wear splash goggles or safety glasses as appropriate for the task.

Hand Protection: Wash hands and wrists before putting on and after removing gloves. During manufacture or other similar operations, wear the appropriate hand protection for the process.

Skin Protection: Use appropriate protective clothing for the task (e.g., lab coat, etc.). If necessary, refer to the U.S. OSHA Technical Manual (Section VII: Personal Protective Equipment) or other appropriate regulations.

9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Paste.
COLOR: Red
MOLECULAR FORMULA: Mixture.
MOLECULAR WEIGHT: Mixture.
ODOR: Mild acrylic.
ODOR THRESHOLD: Not available.
FLAMMABLE LIMITS (in air by volume, %): Not applicable.
OXIDIZING PROPERTIES: Not applicable.
DECOMPOSITION TEMPERATURE: Not available.
PERCENT VOLATILE: 22
AUTOIGNITION TEMPERATURE: Not available.
FLASH POINT: Not available.
FREEZING/MELTING POINT: Not available.
BOILING POINT: > 100°C (> 212°F)
VAPOR PRESSURE: Not available.
SPECIFIC GRAVITY (water = 1): 1.38
VAPOR DENSITY (air = 1): Not available.
CARB VOC: 0.2.29 wt % (calc.)
EVAPORATION RATE (*n*-BuAc = 1): > 1
SCAQMD (U.S. EPA Method 24): 26 gm/L
SOLUBILITY IN WATER: Insoluble.
SOLUBILITY IN SOLVENTS: Not available.
COEFFICIENT WATER/OIL DISTRIBUTION: Not established.
pH: Not available.

HOW TO DETECT THIS SUBSTANCE (warning properties in event of accidental release): The appearance may be characteristics to distinguish a release of this product.

10. STABILITY and REACTIVITY

CHEMICAL STABILITY: This product is stable when properly stored at normal temperature and pressures (see Section 7, Handling and Storage).

DECOMPOSITION PRODUCTS: Combustion: If exposed to extremely high temperatures, thermal decomposition may generate irritating fumes and toxic gases (e.g., aluminum, calcium, carbon, and sulfur oxides, and acrylic monomers). Hydrolysis: None known.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: This product is incompatible with strong oxidizers.

POSSIBILITY OF HAZARDOUS POLYMERIZATION OR REACTION: Will not occur.

CONDITIONS TO AVOID: Avoid exposure to or contact with extreme temperatures and incompatible chemicals.

11. TOXICOLOGICAL INFORMATION

Inhalation: Inhalation of fumes or vapors may cause irritation of the nose, throat, and lungs and cause coughing. Removal to fresh air should relieve symptoms. The trace Crystalline Silica component is a known human carcinogen. Due to the form of this product, this hazard is not as significant as a powdered or solid products, however, all inhalation exposure must be avoided in order to mitigate carcinogenic potential.

Contact with Skin or Eyes: Direct eye contact may cause irritation, redness, and tearing from mechanical irritation. Prolonged or repeated skin exposures may cause dermatitis (dry red skin).

Skin Absorption: Components are not known to be absorbed through intact skin.

Ingestion: Ingestion is not a significant route of occupational exposure and is unlikely to occur.

Injection: Accidental injection of this product, via laceration or puncture by a contaminated object can cause redness at the site of injection.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: Exposure to this product may cause the following health effects:

Acute: Inhalation of fumes or vapors may cause irritation of respiratory system. Eye contact may cause mechanical irritation.

Chronic: Prolonged or repeated skin exposure may cause dermatitis (dry red skin). This product contains trace amounts of a suspected human carcinogen by inhalation: however, this hazard is not expected to be significant due to the viscosity and consistency of the mixture.

TARGET ORGANS: Acute: Skin, eyes, respiratory system. Chronic: Skin.
not otherwise specified

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

HEALTH HAZARD	(BLUE)	1*
FLAMMABILITY HAZARD	(RED)	0
PHYSICAL HAZARD	(YELLOW)	0

PROTECTIVE EQUIPMENT

EYES	RESPIRATORY	HANDS	BODY
	SEE SECTION 8		SEE SECTION 8

For Routine Industrial Use and Handling Applications

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

IRRITANCY OF PRODUCT: Inhalation of fumes or vapors may cause respiratory irritation. Eye contact may cause irritation. Prolonged skin contact may cause irritation.

SENSITIZATION OF PRODUCT: This product is not currently known to cause allergic skin or respiratory reaction.

CARCINOGENIC POTENTIAL OF COMPONENTS: Components of this product are listed by agencies tracking the carcinogenic potential of chemical compounds, as follows:

CRYSTALLINE SILICA: ACGIH-TLV-A2 (Suspected Human Carcinogen); IARC-1 (Carcinogenic to Humans); MAK-1 (Substances that Cause Cancer in Man and Can Be Assumed to Make a Significant Contribution to Cancer Risk); NIOSH-Ca (Potential Occupational Carcinogen with No Further Categorization); NTP-K (Known to Be a Human Carcinogen)

The remaining components are not found on the following lists: U.S. EPA, U.S. NTP, U.S. OSHA, U.S. NIOSH, GERMAN MAK, IARC, or ACGIH and therefore is neither considered to be nor suspected to be a cancer-causing agent by these agencies.

REPRODUCTIVE TOXICITY INFORMATION: Components of this product have no reported mutagenic, embryotoxic, teratogenic or reproductive toxicity.

ACGIH BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, there are no ACGIH Biological Exposure Indices (BEIs) determined for this material.

DEGREE OF EFFECT TO THE HEALTH OF THE POLLUTING AGENT OF ENVIRONMENT OF WORK (per Mexican NOM-010 STPS-1999): 0

12. ECOLOGICAL INFORMATION

MOBILITY: This product has not been tested for mobility in soil.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability. The mineral components are not expected to biodegrade to great extent.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential.

ECOTOXICITY: This product has not been tested for aquatic or animal toxicity. All releases to terrestrial, atmospheric and aquatic environments should be avoided.

OTHER ADVERSE EFFECTS: This material is not listed as having ozone depletion potential.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: It is the responsibility of the generator to determine at the time of disposal whether the product meets the criteria of a hazardous waste per regulations of the area in which the waste is generated and/or disposed of. Waste disposal must be in accordance with appropriate Federal, State, and local regulations. DISPOSAL CONTAINERS: Waste materials must be placed in and shipped in appropriate 5-gallon or 55-gallon poly or metal waste pails or drums. PRECAUTIONS TO BE FOLLOWED DURING WASTE HANDLING: Wear proper protective equipment when handling waste materials.

U.S. EPA WASTE NUMBER: Not applicable.

14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS: This product is not classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is not classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA): This product is not classified as dangerous goods under rules of IATA.

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION: This product is not classified as Dangerous Goods by the International Maritime Organization.

OFFICIAL MEXICAN STANDARD; REGULATION FOR THE TRANSPORT OF DANGEROUS GOODS AND RESIDUES: This product is not classified as Dangerous Goods, per transport regulations of Mexico.

SINGAPORE STANDARD 286: PART A: This product has no requirements under the Specification for Caution Labeling for Hazardous Substances, Part 4: Marking of Packages, Containers and Vehicles, as it does not meet the criteria for any hazard class under this regulation.

TRANSPORT IN BULK ACCORDING TO THE IBC CODE: See the information under the individual jurisdiction listings for IBC information.

ENVIRONMENTAL HAZARDS: This material does not meet the criteria of environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID, and ADN) and is not listed in Annex III under MARPOL 73/78.

15. REGULATORY INFORMATION

UNITED STATES REGULATIONS:

U.S. SARA Reporting Requirements: This product is not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA Hazard Categories (Section 311/312, 40 CFR 370-21): ACUTE: Yes; CHRONIC: Yes; FIRE: No; REACTIVE: No; SUDDEN RELEASE: No

U.S. SARA Threshold Planning Quantity (TPQ): There are no specific Threshold Planning Quantities for components. The default Federal SDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

U.S. CERCLA Reportable Quantity (RQ): Not applicable.

U.S. TSCA Inventory Status: Components of this product are listed on the TSCA Inventory.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): The trace Crystalline Silica component (airborne, unbound particles of respirable size) is found on the Proposition 65 List of chemicals known to the state to cause cancer. Due to the form of the product, the Proposition 65 warning for this component is not applicable.

CANADIAN REGULATIONS:

Canadian DSL/NDSL Inventory Status: Components are on the DSL or NDSL Inventories.

Canadian Environmental Protection Act (CEPA) Priorities Substances Lists: Components are not on the CEPA Priorities Substances Lists.

Canadian WHMIS Classification and Symbols: This product would be categorized as a Controlled Product, D2B (Other Toxic Effects-Potential Carcinogenic Effect, Irritation) as per the Controlled Product Regulations.

CHINESE REGULATIONS:

Chinese Inventory of Existing Chemical Substances Status: Components listed by CAS# are listed on the Chinese Inventory of Existing Chemical Substances (IECSC), or are not listed, per information in Section 2.

JAPANESE REGULATIONS:

Japanese ENCS: Components listed by CAS# are on the ENCS Inventory, are excepted, or are not listed, per information in Section 2.

Japanese Ministry of Economy, Trade, and Industry (METI) Status: Components are not listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese METI.

Poisonous and Deleterious Substances Control Law: Components are not listed as a Specified Poisonous Substance under the Poisonous and Deleterious Substances Control Law.

KOREAN REGULATIONS:

Korean Existing Chemicals List (ECL) Status: Components listed by CAS# are listed on the Korean ECL Inventory, or are not listed, per information in Section 2.

MEXICAN REGULATIONS:

Mexican Workplace Regulations (NOM-018-STPS-2000): This product is classified as hazardous.

SINGAPORE REGULATIONS:

List of Controlled Hazardous Substances: Components listed by CAS# are not listed on the Singapore List of Controlled Substances.

Code of Practice On Pollution Control Requirements: The components identified by CAS# in Section 2 (Composition and Information on Ingredients) NOT are subject to the requirements under the Singapore Code of Practice on Pollution Control.

TAIWANESE REGULATIONS:

Taiwan Existing Chemical Substances Inventory Status: Components listed by CAS# are listed on the Taiwan Existing Chemicals List.

16. OTHER INFORMATION

REFERENCES AND DATA SOURCES: Contact the supplier for information.
METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION: Criteria of the GHS were used for classification.
PREPARED BY: CHEMICAL SAFETY ASSOCIATES, Inc. • PO Box 1961, Hilo, HI 96721-1961 • (800) 441-3365
DATE OF PRINTING: July 5, 2018
REVISED: June 5, 2018
REVISION DETAILS: Revised Proposition 65 statement.

Common Name: SPECSEAL SERIES SSS SEALANT
Manufacturer: SPECIFIED TECHNOLOGIES
SDS Revision Date: 1/5/2015
SDS Format: GHS-US

Grainger Item Number(s): 3BE56, 3BE57, 4MM47, 4WR98
Manufacturer Model Number(s):

SDS Table of Contents

Click the desired link below to jump directly to that section in the SDS.

STI(R*)

SAFETY DATA SHEET

PREPARED TO U.S. OSHA, CMA, ANSI, CANADIAN WHMIS, THE KOREAN ISHA (NOTICE 2009-68), THE JAPANESE INDUSTRIAL STANDARD JIS Z 7250:2000, MEXICAN NOM018-STPS 2000, SPRING SINGAPORE, AND THE GLOBAL HARMONIZATION STANDARD

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE

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AND OF THE COMPANY UNDERTAKING

IDENTIFICATION OF THE MIXTURE:

TRADE/MATERIAL NAME: SPECSEAL(R*) SERIES SSS SEALANT

CHEMICAL NAMES: ACRYLIC POLYMER MIXTURE

SYNONYMS: NONE

RELEVANT USE OF THE SUBSTANCE: SEALANT

USES ADVISED AGAINST: OTHER THAN RELEVANT USE

SUPPLIER/MANUFACTURER'S NAME (USA/CANADA): SPECIFIED TECHNOLOGIES, INC.

ADDRESS:
210 EVANS WAY
SOMERVILLE, NEW JERSEY 08876

BUSINESS PHONE: (908) 526-8000 (8:00AM TO 5:00PM EASTERN STANDARD TIME)

EMERGENCY PHONE:
U.S., CANADA: 1-800-255-3924 (24 HRS)
INTERNATIONAL: +1-813-248-0585 (COLLECT-24 HRS)

SUPPLIER/IMPORTER'S NAME (ASIA):

ADDRESS:

BUSINESS PHONE:

EMAIL OF COMPETENT PERSON FOR INFORMATION ON SDS: TECHSERV@STIFIRESTOP.COM

NOTE:
ALL UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION STANDARD (29 CFR 1910.1200), U.S. STATE EQUIVALENT STANDARDS, CANADIAN WHMIS [CONTROLLED PRODUCTS REGULATIONS], MEXICAN NOM018-STPS 2000, SPRING SINGAPORE, AND JAPANESE JIS Z7250 REQUIRED INFORMATION IS INCLUDED IN APPROPRIATE SECTIONS BASED ON THE U.S. ANSI Z400.1-2010 FORMAT. THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE COUNTRIES LISTED ABOVE.

2. HAZARD IDENTIFICATION

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GLOBAL HARMONIZATION AND JAPANESE JIS Z7253 LABELING AND CLASSIFICATION:
THIS PRODUCT HAS BEEN CLASSIFIED PER UN GHS STANDARDS UNDER U.S., JAPANESE AND OTHER APPLICABLE REGULATIONS THAT REQUIRE GLOBAL HARMONIZATION COMPLIANCE.

CLASSIFICATION:
CARCINOGENIC CAT. 2, EYE IRRITATION CAT. 2A, STOT (INHALATION-RESPIRATORY IRRITATION) SE CAT. 3

SIGNAL WORD: WARNING

HAZARD STATEMENT CODES: H351, H319, H335

PRECAUTIONARY STATEMENT CODES:
P201, P202, P261, P271, P280, P308 + P313, P305 + P351 + P338, P337 + P313, P304 + P340, P312, P321, P403 + P233 + P405, P501

HAZARD SYMBOLS:
GHS07: EXCLAMATION MARK
GHS08: HEALTH HAZARD

KOREAN ISHA (NOTICE 2009-68) LABELING AND CLASSIFICATION:
CLASSIFIED IN ACCORDANCE WITH ISHA NOTICE 2009-68. UNDER ISHA, NO DIFFERENCES IN CLASSIFICATION ARE APPLICABLE.

EMERGENCY OVERVIEW:

PRODUCT DESCRIPTION: THIS PRODUCT IS A RED PASTE WITH A MILD ACRYLIC ODOR.

HEALTH HAZARDS:
MAY BE HARMFUL IF ACCIDENTALLY INGESTED. INHALATION OF VAPORS OR FUME IF PRODUCT IS HEATED MAY CAUSE HEADACHE, NAUSEA AND RESPIRATORY IRRITATION. EYE CONTACT WITH VAPORS OR FUME MAY ALSO CAUSE IRRITATION. BRIEF SKIN CONTACT IS NOT EXPECTED TO CAUSE ADVERSE EFFECT. PROLONGED SKIN CONTACT MAY CAUSE IRRITATION. THIS PRODUCT CONTAINS A KNOWN HUMAN CARCINOGEN IN TRACE AMOUNT; HOWEVER, THIS HAZARD IS NOT EXPECTED TO BE SIGNIFICANT DUE TO VISCOSITY OF THE PRODUCT.

FLAMMABILITY HAZARDS:
THIS PRODUCT IS FORMULATED TO BE NON-FLAMMABLE AND NON-COMBUSTIBLE. IF INVOLVED IN A FIRE, THIS PRODUCT WILL RELEASE SMOKE, ACRID VAPORS AND TOXIC GASES (E.G., ALUMINUM, CALCIUM, CARBON, AND SULFUR OXIDES, AND ACRYLIC MONOMERS).

REACTIVITY HAZARDS: THIS PRODUCT IS NOT REACTIVE.

ENVIRONMENTAL HAZARDS:
THIS PRODUCT HAS NOT BEEN TESTED FOR POTENTIAL HAZARDS IF RELEASED TO THE ENVIRONMENT. ALL RELEASE SHOULD BE AVOIDED.

EMERGENCY CONSIDERATIONS:
EMERGENCY RESPONDERS SHOULD WEAR APPROPRIATE PROTECTION FOR THE SITUATION TO WHICH THEY RESPOND.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

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CHEMICAL NAME	CAS #	WT%
PROPRIETARY ACRYLIC POLYMER		20-30%
ALUMINUM TRIHYDRATE	21645-51-2	15-20%
GROUND LIMESTONE	1317-65-3	10-18%
GLASS OXIDE	65997-17-3	8-12%
2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER, POLYMER WITH 2-PROPENENITRILE	30396-85-1	1-3%
SULFURIC ACID COMPOUND WITH GRAPHITE	12777-87-6	1-3%
PROPRIETARY ACRYLIC COPOLYMER IN AQUEOUS DISPERSION		1-2%
CRYSTALLINE SILICA	14808-60-7	0.1-0.15%
WATER AND OTHER TRACE INGREDIENTS		BALANCE

CHEMICAL NAME	CHINESE IECSC INVENTORY	JAPANESE ENCS #	KOREAN ECL #	TAIWAN NESCI ECS
PROPRIETARY ACRYLIC POLYMER	NOT DETERMINED	NOT DETERMINED	NOT DETERMINED	NOT DETERMINED
ALUMINUM TRIHYDRATE	LISTED	1-17	KE-00980	LISTED
GROUND LIMESTONE	LISTED	EXCEPTED	KE-21996	LISTED

		AS MINERAL		
GLASS OXIDE	LISTED	NOT LISTED	KE-17630	LISTED
2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER, POLYMER WITH 2-PROPENENITRILE	LISTED	6-419	KE-25121	LISTED
SULFURIC ACID COMPOUND WITH GRAPHITE	NOT LISTED	NOT LISTED	KE-32585	LISTED
PROPRIETARY ACRYLIC COPOLYMER IN AQUEOUS DISPERSION	NOT DETERMINED	NOT DETERMINED	NOT DETERMINED	NOT DETERMINED
CRYSTALLINE SILICA	LISTED	1-548	KE-29983	LISTED
WATER AND OTHER TRACE INGREDIENTS				

CHEMICAL NAME	LABEL ELEMENTS GHS & JAPANESE JIS Z7253 CLASSIFICATION KOREAN ISHA CLASSIFICATION GHS HAZARD CODES
PROPRIETARY ACRYLIC POLYMER	CLASSIFICATION: NOT APPLICABLE
ALUMINUM TRIHYDRATE	SELF CLASSIFICATION GHS & JAPANESE JIS Z7253, KOREAN ISHA: CLASSIFICATION: EYE IRRITATION CAT. 2A HAZARD CODES: H319
GROUND LIMESTONE	CLASSIFICATION: NOT APPLICABLE
GLASS OXIDE	CLASSIFICATION: NOT APPLICABLE
2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER, POLYMER WITH 2-PROPENENITRILE	CLASSIFICATION: NOT APPLICABLE
SULFURIC ACID COMPOUND WITH GRAPHITE	SELF CLASSIFICATION GHS & JAPANESE JIS Z7253, KOREAN ISHA: CLASSIFICATION: CARCINOGENIC CAT. 2 HAZARD CODES: H351I
PROPRIETARY ACRYLIC COPOLYMER IN AQUEOUS DISPERSION	SELF CLASSIFICATION GHS & JAPANESE JIS Z7253, KOREAN ISHA: CLASSIFICATION: ACUTE ORAL TOXICITY CAT. 5 HAZARD CODES: H3303
CRYSTALLINE SILICA	SELF CLASSIFICATION GHS & JAPANESE JIS Z7253, KOREAN ISHA: CLASSIFICATION: CARCINOGENIC CAT. 1, STOT (INHALATION-LUNGS) RE CAT. 2 HAZARD STATEMENT CODES: H350, H373
WATER AND OTHER TRACE INGREDIENTS	CLASSIFICATION NOT APPLICABLE

SEE SECTION 16 FOR FULL TEXT OF CLASSIFICATION

4. FIRST-AID MEASURES

top

DESCRIPTION OF FIRST AID MEASURES:
CONTAMINATED INDIVIDUALS MUST BE TAKEN FOR MEDICAL ATTENTION IF ANY ADVERSE EFFECTS OCCUR. REMOVE CONTAMINATED CLOTHING AND SHOES. TAKE A COPY OF THIS SDS TO HEALTH PROFESSIONAL WITH VICTIM. WASH CLOTHING AND THOROUGHLY CLEAN SHOES BEFORE REUSE. IF BREATHING IS DIFFICULT, GIVE OXYGEN. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. TAKE A COPY OF LABEL AND SDS TO PHYSICIAN OR HEALTH PROFESSIONAL WITH THE CONTAMINATED INDIVIDUAL.

SKIN EXPOSURE:
IF ADVERSE SKIN EFFECTS OCCUR, DISCONTINUE USE AND FLUSH CONTAMINATED AREA. SEEK MEDICAL ATTENTION IF ADVERSE EFFECT OCCURS AFTER FLUSHING.

INHALATION:
IF FUMES OR VAPORS ARE INHALED, REMOVE VICTIM TO FRESH AIR. IF NECESSARY, USE ARTIFICIAL RESPIRATION TO SUPPORT VITAL FUNCTIONS.
SEEK MEDICAL ATTENTION IF ADVERSE EFFECT CONTINUES AFTER REMOVAL TO FRESH AIR.

EYE EXPOSURE:
IF THIS PRODUCT CONTAMINATES THE EYES, RINSE EYES UNDER GENTLY RUNNING WATER. USE SUFFICIENT FORCE TO OPEN EYELIDS AND THEN "ROLL" EYES WHILE FLUSHING. MINIMUM FLUSHING IS FOR 20 MINUTES. THE CONTAMINATED INDIVIDUAL MUST SEEK MEDICAL ATTENTION IF ANY ADVERSE EFFECT CONTINUES AFTER RINSING.

INGESTION:
IF THIS PRODUCT IS SWALLOWED, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. IF PROFESSIONAL ADVICE IS NOT AVAILABLE, DO NOT INDUCE VOMITING. NEVER INDUCE VOMITING OR GIVE DILUENTS (MILK OR WATER) TO SOMEONE WHO IS UNCONSCIOUS, HAVING CONVULSIONS, OR UNABLE TO SWALLOW. IF VICTIM IS CONVULSING, MAINTAIN AN OPEN AIRWAY AND OBTAIN IMMEDIATE MEDICAL ATTENTION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
PRE-EXISTING RESPIRATORY DISORDERS MAY BE AGGRAVATED BY OVEREXPOSURES TO THIS PRODUCT.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED:
TREAT SYMPTOMS AND ELIMINATE EXPOSURE.

5. FIRE-FIGHTING MEASURES

top

FLASH POINT: 320C - 608F.

AUTOIGNITION TEMPERATURE: NOT AVAILABLE.

FLAMMABLE LIMITS (IN AIR BY VOLUME, %): NOT APPLICABLE.

FIRE EXTINGUISHING MEDIA:
USE EXTINGUISHING MATERIALS SUITABLE FOR THE SURROUNDING AREA.

UNSUITABLE FIRE EXTINGUISHING MEDIA: NONE KNOWN.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
THIS PRODUCT IS FORMULATED TO BE NON-FLAMMABLE AND NON-COMBUSTIBLE.
WHEN INVOLVED IN A FIRE, THIS MATERIAL MAY DECOMPOSE AND PRODUCE IRRITATING VAPORS AND TOXIC GASES (E.G., ALUMINUM, CALCIUM, CARBON, AND SULFUR OXIDES, AND ACRYLIC MONOMERS).

EXPLOSION SENSITIVITY TO MECHANICAL IMPACT: NOT SENSITIVE.

EXPLOSION SENSITIVITY TO STATIC DISCHARGE: NOT SENSITIVE.

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS:
INCIPIENT FIRE RESPONDERS SHOULD WEAR EYE PROTECTION. STRUCTURAL FIREFIGHTERS MUST WEAR SELF-CONTAINED BREATHING APPARATUS (SCBA) AND FULL PROTECTIVE EQUIPMENT. CHEMICAL RESISTANT CLOTHING MAY BE NECESSARY. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK TO PERSONNEL. WATER SPRAY CAN BE USED TO COOL FIRE-EXPOSED CONTAINERS. WATER FOG OR SPRAY CAN ALSO BE USED BY TRAINED FIREFIGHTERS TO DISPERSE THIS PRODUCT'S VAPORS AND TO PROTECT PERSONNEL. IF POSSIBLE, PREVENT RUNOFF WATER FROM ENTERING STORM DRAINS, BODIES OF WATER, OR OTHER ENVIRONMENTALLY SENSITIVE AREAS.

NFPA RATING:
HEALTH 1
FLAMMABILITY 0
INSTABILITY 0
OTHER

HAZARD SCALE:
0 = MINIMAL
1 = SLIGHT
2 = MODERATE
3 = SERIOUS
4 = SEVERE

6. ACCIDENTAL RELEASE MEASURES

top

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES:
UNCONTROLLED RELEASES SHOULD BE RESPONDED TO BY TRAINED PERSONNEL USING PRE-PLANNED PROCEDURES. PROPER PROTECTIVE EQUIPMENT SHOULD BE USED. CALL CHEMTREC (1-800-424-9300) FOR EMERGENCY ASSISTANCE. OR IF IN CANADA, CALL CANUTEC (613-996-6666). THE ATMOSPHERE MUST AT LEAST 19.5 PERCENT OXYGEN BEFORE NON-EMERGENCY PERSONNEL CAN BE ALLOWED IN THE AREA WITHOUT SELF-CONTAINED BREATHING APPARATUS AND FIRE PROTECTION.

PERSONAL PROTECTIVE EQUIPMENT:
PROPER PROTECTIVE EQUIPMENT SHOULD BE USED. USE ONLY NON-SPARKING TOOLS AND EQUIPMENT.

SMALL SPILLS:
WEAR RUBBER GLOVES, SPLASH GOGGLES, AND APPROPRIATE BODY PROTECTION.

LARGE SPILLS:
MINIMUM PERSONAL PROTECTIVE EQUIPMENT SHOULD BE RUBBER GLOVES, RUBBER BOOTS, FACE SHIELD, AND TYVEK SUIT. MINIMUM LEVEL OF PERSONAL PROTECTIVE EQUIPMENT FOR RELEASES IN WHICH THE LEVEL OF OXYGEN IS LESS THAN 19.5% OR IS UNKNOWN MUST BE LEVEL B:
TRIPLE-GLOVES (RUBBER GLOVES AND NITRILE GLOVES OVER LATEX GLOVES), BOOTS, TYVEK OR SIMILAR PROTECTIVE CLOTHING, HARD HAT, AND SELF-CONTAINED BREATHING APPARATUS.

METHODS FOR CLEAN-UP AND CONTAINMENT:
SPILLS OF THIS PRODUCT PRESENT MINIMAL HAZARD.

SMALL SPILLS:
SMALL RELEASES CAN BE CAREFULLY SWEPT UP OR CLEANED UP USING A DAMP SPONGE OR POLYPADS.

LARGE SPILLS:

ACCESS TO THE SPILL AREA SHOULD BE RESTRICTED. FOR LARGE SPILLS, DIKE OR OTHERWISE CONTAIN SPILL AND SWEEP-UP OR VACUUM WITH NON-SPARKING VACUUM.

ALL SPILLS:
PLACE ALL SPILL RESIDUE IN A DOUBLE PLASTIC BAG OR OTHER CONTAINMENT AND SEAL. CLOSE OFF SEWERS AND TAKE OTHER MEASURES TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT AS NECESSARY. RINSE AREA WITH SOAP AND WATER SOLUTION AND FOLLOW WITH A WATER RINSE. DECONTAMINATE THE AREA THOROUGHLY. DO NOT MIX WITH WASTES FROM OTHER MATERIALS. DISPOSE OF IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL PROCEDURES (SEE SECTION 13, DISPOSAL CONSIDERATIONS). FOR SPILLS ON WATER, CONTAIN, MINIMIZE DISPERSION AND COLLECT. DISPOSE OF RECOVERED MATERIAL AND REPORT SPILL PER REGULATORY REQUIREMENTS.

ENVIRONMENTAL PRECAUTIONS:
AVOID RELEASE TO THE ENVIRONMENT. RUN-OFF WATER MAY BE CONTAMINATED BY OTHER MATERIALS AND SHOULD BE CONTAINED TO PREVENT POSSIBLE ENVIRONMENTAL DAMAGE.

REFERENCE TO OTHER SECTIONS:
SEE INFORMATION IN SECTION 8 (EXPOSURE CONTROLS - PERSONAL PROTECTION) AND SECTION 13 (DISPOSAL CONSIDERATIONS) FOR ADDITIONAL INFORMATION.

7. HANDLING AND USE

top

PRECAUTIONS FOR SAFE HANDLING:
AS WITH ALL CHEMICALS, AVOID GETTING THIS MATERIAL ON YOU OR IN YOU. DO NOT EAT, DRINK, SMOKE, OR APPLY COSMETICS WHILE HANDLING THIS PRODUCT. WASH HANDS THOROUGHLY AFTER HANDLING THIS PRODUCT OR CONTAINERS OF THIS PRODUCT. AVOID BREATHING FUMES OR VAPORS GENERATED BY THIS PRODUCT. USE IN A WELL-VENTILATED LOCATION.

CONDITIONS FOR SAFE STORAGE:
STORE CONTAINERS IN A COOL, DRY LOCATION, AWAY FROM DIRECT SUNLIGHT, SOURCES OF INTENSE HEAT. CONTAINERS SHOULD BE GROUNDED AND SEPARATED FROM OXIDIZING MATERIALS BY A MINIMUM DISTANCE OF 20 FT. OR BY A BARRIER OF NON-COMBUSTIBLE MATERIAL AT LEAST 5 FT. HIGH HAVING A FIRE-RESISTANCE RATING OF AT LEAST 0.5 HOURS. STORAGE AREAS SHOULD BE MADE OF FIRE RESISTANT MATERIALS. POST WARNING AND "NO SMOKING" SIGNS IN STORAGE AND USE AREAS AS APPROPRIATE. HAVE APPROPRIATE EXTINGUISHING EQUIPMENT IN THE STORAGE AREA (E.G., SPRINKLER SYSTEM, PORTABLE FIRE EXTINGUISHERS).
DO NOT STORE ABOVE 55 DEG. C (131 DEG. F)

SPECIFIC END USE(S):
THIS PRODUCT IS FOR USE AS A SEALANT. FOLLOW ALL INDUSTRY STANDARDS FOR USE OF THIS PRODUCT.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:
FOLLOW PRACTICES INDICATED IN SECTION 6 (ACCIDENTAL RELEASE MEASURES). MAKE CERTAIN THAT APPLICATION EQUIPMENT IS LOCKED AND TAGGED-OUT SAFELY, IF NECESSARY. COLLECT ALL RINSATES AND DISPOSE OF ACCORDING TO APPLICABLE FEDERAL, STATE, AND LOCAL PROCEDURES.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

top

EXPOSURE LIMITS/CONTROL PARAMETERS:

VENTILATION AND ENGINEERING CONTROLS:
USE WITH ADEQUATE VENTILATION TO ENSURE EXPOSURE LEVELS ARE MAINTAINED

BELOW THE LIMITS PROVIDED BELOW (IF APPLICABLE). EXHAUST DIRECTLY TO THE OUTSIDE, TAKING NECESSARY PRECAUTIONS FOR ENVIRONMENTAL PROTECTION.

WORKPLACE EXPOSURE LIMITS/CONTROL PARAMETERS:

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR			
		ACGIH-TLVS		OSHA-PELS	
		TWA MG/M3	STEL MG/M3	TWA MG/M3	STEL MG/M3
ALUMINUM TRIHYDRATE	21645-51-2	NE	NE	NE	NE
CRYSTALLINE SILICA (QUARTZ)	14808-60-7	0.025 (RESP. FRACT.)	NE	30 MG/M3 (TOTAL DUST) / % SO2 + 2 0.1 (VACATED 1989 PEL) 250 MPPCF (RESP. DUST) / % SiO2 + 5 OR 10 MG/M3 (RESP. DUST) / % SO2 + 2	
GLASS OXIDE	65997-17-3	NE	NE	NE	NE
GROUND LIMESTONE	1317-65-3	NE	NE	15 (TOTAL DUST); 1 (RESP. FRACT.)	NE
2-METHYL-2-PROPENOIC ACID METHYL ESTER POLYMER WITH 1,1-DICHLOROETHENE AND 2-PROPENENITRILE	25214-39-5	NE	NE	NE	NE
PROPRIETARY ACRYLIC POLYMER		NE	NE	NE	NE
PROPRIETARY ACRYLIC COPOLYMER IN AQUEOUS DISPERSION		NE	NE	NE	NE
SULFURIC ACID COMPOUND WITH GRAPHITE	12777-87-6	NE	NE	NE	NE

CHEMICAL NAME	EXPOSURE LIMITS IN AIR			
	NIOSH-RELS		NIOSH	OTHER
	TWA MG/M3	STEL MG/M3	IDLH MG/M3	MG/M3
ALUMINUM TRIHYDRATE	NE	NE	NE	DFG MAKS: TWA: 4 MG/M3 (INHALABLE FRACTION) 1.5 MG/M3 (RESPIRABLE FRACTION) DFG MAK PREGNANCY RISK CLASSIFICATION: D

CRYSTALLINE SILICA (QUARTZ)	0.05 (RESP. DUST)	NE	50	CARCINOGEN: IARC-1, MAK-1 (RESPIRABLE FRACTION), NOSH-CA, NTP-K (RESPIRABLE FRACTION), TLV-A2
GLASS OXIDE	NE	NE	NE	NE
GROUND LIMESTONE	10 (TOTAL DUST) 1 (RESP. FRACT.)	NE	NE	NE
2-METHYL-2-PROPENOIC ACID METHYL ESTER POLYMER WITH 1,1-DICHLOROETHENE AND 2-PROPENENITRILE	NE	NE	NE	NE
PROPRIETARY ACRYLIC POLYMER	NE	NE	NE	NE
PROPRIETARY ACRYLIC COPOLYMER IN AQUEOUS DISPERSION	NE	NE	NE	NE
SULFURIC ACID COMPOUND WITH GRAPHITE	NE	NE	NE	NE

NE = NOT ESTABLISHED.

SEE SECTION 16 FOR DEFINITIONS OF OTHER TERMS USED

INTERNATIONAL OCCUPATIONAL EXPOSURE LIMITS:
CURRENTLY, THE FOLLOWING ADDITIONAL EXPOSURE LIMIT VALUES HAVE BEEN ESTABLISHED BY VARIOUS COUNTRIES FOR THE COMPONENTS OF THIS MIXTURE. MORE CURRENT LIMITS MAY BE AVAILABLE; INDIVIDUAL COUNTRIES SHOULD BE CONSULTED TO DETERMINE IF NEWER LIMITS ARE AVAILABLE.

ALUMINUM HYDROXIDE:

AUSTRALIA:
TWA: 2 MG(Al)/M3, JUL 2008

BELGIUM:
TWA: 2 MG(Al)/M3, MAR 2002

FINLAND:
TWA: 2 MG(Al)/M3, NOV 2011

FRANCE:
VME: 2 MG(Al)/M3, FEB 2006

KOREA:
TWA: 2 MG(Al)/M3, 2006

NEW ZEALAND:
TWA: 2 MG(Al)/M3, JAN 2002

RUSSIA:
TWA: 6 MG/M3, JUN 2003

SWEDEN:
TWA: 1 MG(AL)/M3, JUN 2005

SWITZERLAND:
MAK-W: 3 MG/M3, RESP, JAN 2011

UNITED KINGDOM:
TWA: 2 MG(AL)/M3, OCT 2007

IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, SINGAPORE, VIETNAM CHECK ACGIH TLV

CRYSTALLINE SILICA:

AUSTRALIA:
TWA: 0.1 MG/M3, JUL 2008

BELGIUM:
TWA: 0.1 MG/M3 (RESP. DUST), MAR 2002

DENMARK:
TWA: 0.1 MG/M3 (RESPIRABLE), CARC, MAY 2011

DENMARK:
TWA: 0.1 MG/M3 (RESP.), CARC, MAY2011

DENMARK:
TWA: 0.3 MG/M3 (TOTAL), MAY 2011

FINLAND:
TWA: 0.05 MG/M3, RESP. DUST, SEP 2009

FRANCE:
VME: 0.1 MG/M3, (RESP), FEB 2006

ICELAND:
TWA: 0.1 MG/M3 (RESP. DUST), NOV 2011

JAPAN:
OEL-C: 0.03 MG/M3 (RESPIRABLE), APR 2007

KOREA:
TWA: 0.1 MG/M3, 2006

MEXICO:
TWA: 0.1 MG/M3 (RESPIRABLE), 2004

THE NETHERLANDS:
MAC-TGG: 0.075 MG/M3, 2003

NEW ZEALAND:
TWA: 0.2 MG/M3 (RESPIRABLE DUST), JAN 2002

NORWAY:
TWA: 0.1 MG/M3 (RESP. DUST), JAN 1999

NORWAY:
TWA: 0.3 MG/M3 (TOTAL DUST), JAN 1999

PERU:

TWA: 0.05 MG/M3, JUL 2005

RUSSIA:
TWA: 1 MG/M3
STEL: 3 MG/M3, JUN 2003

SWEDEN:
TWA: 0.1 MG/M3 (RESP. DUST), JUN 2005

SWITZERLAND:
MAK-W: 0.15 MG/M3, DEC 2006

THAILAND:
TWA: 10 MG/M3 (RESP. DUST), JAN 1993

THAILAND:
TWA: 30 MG/M3 (TOTAL DUST), JAN 1993

UNITED KINGDOM:
TWA: 0.1 MG/M3 (RESP. DUST), OCT 2007

IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, SINGAPORE, VIETNAM CHECK ACGIH
TLV

GROUND LIMESTONE:

BELGIUM:
TWA: 10 MG/M3, MAR 2002

HUNGARY:
TWA: 10 MG/M3, SEP 2000

JAPAN:
OEL: 2 MG/M3 (RESP. DUST), 84 MG/M3 (TOTAL DUST), MAY 2012

KOREA:
TWA: 10 MG/M3, 2006

MEXICO:
TWA: 10 MG/M3
STEL: 20 MG/M3 (INHALABLE), 2004

THE NETHERLANDS:
MAC-TGG: 10 MG/M3, 2003

NEW ZEALAND:
TWA: 10 MG/M3 (INSPIRABLE DUST), JAN 2002

POLAND:
MAC(TWA) DUST: 10 MG/M3, JAN 1999

RUSSIA:
STEL: 6 MG/M3, JUN 2003

SWITZERLAND:
MAK-W: 3 MG/M3, RESP, JAN 2011

UNITED KINGDOM:
TWA: 10 MG/M3 (INHAL. DUST), OCT 2007

UNITED KINGDOM:
TWA: 4 MG/M3 (RESPIRABLE DUST), OCT 2007

IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, SINGAPORE, VIETNAM CHECK ACGIH

TLV

PROTECTIVE EQUIPMENT:
THE FOLLOWING INFORMATION ON APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT IS PROVIDED TO ASSIST EMPLOYERS IN COMPLYING WITH OSHA REGULATIONS FOUND IN 29 CFR SUBPART I (BEGINNING AT 1910.132, INCLUDING U.S. FEDERAL OSHA RESPIRATORY PROTECTION (29 CFR 1910.134), OSHA EYE PROTECTION 29 CFR 1910.133, OSHA HARD PROTECTION 29 CFR 1910.138, OSHA FOOT PROTECTION 29 CFR 1910.136 AND OSHA BODY PROTECTION 29 CFR 1910.132), EQUIVALENT STANDARDS OF CANADA (INCLUDING CSA RESPIRATORY STANDARD Z94.4-02, Z94.3-M1982, INDUSTRIAL EYE AND FACE PROTECTORS AND CSA STANDARD Z195-02, PROTECTIVE FOOTWEAR), OR STANDARDS OF JAPAN (INCLUDING JIS T 8116:2005 FOR GLOVE SELECTION, JIS T 8150:2006 FOR RESPIRATORY PPE, JIS T 8147:2003 FOR EYE PROTECTORS, AND JIS T 8030:2005 FOR PROTECTIVE CLOTHING). PLEASE REFERENCE APPLICABLE REGULATIONS AND STANDARDS FOR RELEVANT DETAILS.

RESPIRATORY PROTECTION:
MAINTAIN AIRBORNE CONTAMINANT CONCENTRATIONS BELOW EXPOSURE LIMITS LISTED ABOVE. FOR MATERIALS WITHOUT LISTED EXPOSURE LIMITS, MINIMIZE RESPIRATORY EXPOSURE. IF NECESSARY, USE ONLY RESPIRATORY PROTECTION AUTHORIZED UNDER APPROPRIATE REGULATIONS. OXYGEN LEVELS BELOW 19.5% ARE CONSIDERED IDLH BY U.S. OSHA. IN SUCH ATMOSPHERES, USE OF A FULL-FACEPIECE PRESSURE/DEMAND SCBA OR A FULL FACEPIECE, SUPPLIED AIR RESPIRATOR WITH AUXILIARY SELF-CONTAINED AIR SUPPLY IS REQUIRED UNDER U.S. OSHA'S RESPIRATORY PROTECTION STANDARD (1910.134-1998).

EYE PROTECTION:
WEAR SPLASH GOGGLES OR SAFETY GLASSES AS APPROPRIATE FOR THE TASK.

HAND PROTECTION:
WASH HANDS AND WRISTS BEFORE PUTTING ON AND AFTER REMOVING GLOVES. DURING MANUFACTURE OR OTHER SIMILAR OPERATIONS, WEAR THE APPROPRIATE HAND PROTECTION FOR THE PROCESS. USE DOUBLE GLOVES FOR SPILL RESPONSE, AS STATED IN SECTION 6 (ACCIDENTAL RELEASE MEASURES) OF THIS SDS. BECAUSE ALL GLOVES ARE TO SOME EXTENT PERMEABLE AND THEIR PERMEABILITY INCREASES WITH TIME, THEY SHOULD BE CHANGED REGULARLY (HOURLY IS PREFERABLE) OR IMMEDIATELY IF TORN OR PUNCTURED. IF NECESSARY REFER TO APPROPRIATE REGULATIONS.

SKIN PROTECTION:
USE APPROPRIATE PROTECTIVE CLOTHING FOR THE TASK (E.G., LAB COAT, ETC.). IF NECESSARY, REFER TO THE U.S. OSHA TECHNICAL MANUAL (SECTION VII: PERSONAL PROTECTIVE EQUIPMENT) OR OTHER APPROPRIATE REGULATIONS. FULL-BODY CHEMICAL PROTECTIVE CLOTHING IS RECOMMENDED FOR EMERGENCY RESPONSE PROCEDURES. IF A HAZARD OF INJURY TO THE FEET EXISTS DUE TO FALLING OBJECTS, ROLLING OBJECTS, WHERE OBJECTS MAY PIERCE THE SOLES OF THE FEET OR WHERE EMPLOYEE'S FEET MAY BE EXPOSED TO ELECTRICAL HAZARDS, USE FOOT PROTECTION, AS DESCRIBED IN U.S. OSHA AND CANADIAN STANDARDS.

9. PHYSICAL AND CHEMICAL PROPERTIES

top

FORM: PASTE.

COLOR: RED.

MOLECULAR FORMULA: MIXTURE.

MOLECULAR WEIGHT: MIXTURE.

ODOR: MILD ACRYLIC.

ODOR THRESHOLD: NOT AVAILABLE.

FLAMMABLE LIMITS (IN AIR BY VOLUME, %): NOT APPLICABLE.

OXIDIZING PROPERTIES: NOT APPLICABLE.

DECOMPOSITION TEMPERATURE: NOT AVAILABLE.

PERCENT VOLATILE: 20

AUTOIGNITION TEMPERATURE: NOT AVAILABLE.

FLASH POINT: NOT AVAILABLE.

FREEZING/MELTING POINT: NOT AVAILABLE.

BOILING POINT: >100 DEG. C (>212 DEG. F)

VAPOR PRESSURE: NOT AVAILABLE.

SPECIFIC GRAVITY (WATER = 1): 1.24

VAPOR DENSITY (AIR = 1): NOT AVAILABLE.

CARB VOC: 0.4 WT % (CALC.)

EVAPORATION RATE (N-BUAC = 1): >1

SCAQMD (U.S. EPA METHOD 24): 2.92 GM/L

SOLUBILITY IN WATER: INSOLUBLE.

SOLUBILITY IN SOLVENTS: NOT AVAILABLE.

COEFFICIENT WATER/OIL DISTRIBUTION: NOT ESTABLISHED.

PH: NOT AVAILABLE.

HOW TO DETECT THIS SUBSTANCE (WARNING PROPERTIES IN EVENT OF ACCIDENTAL RELEASE):
THE APPEARANCE MAY BE CHARACTERISTICS TO DISTINGUISH A RELEASE OF THIS PRODUCT.

10. STABILITY AND REACTIVITY

top

CHEMICAL STABILITY:
THIS PRODUCT IS STABLE WHEN PROPERLY STORED AT NORMAL TEMPERATURE AND PRESSURES (SEE SECTION 7, HANDLING AND STORAGE).

DECOMPOSITION PRODUCTS:

COMBUSTION:
IF EXPOSED TO EXTREMELY HIGH TEMPERATURES, THERMAL DECOMPOSITION MAY GENERATE IRRITATING FUMES AND TOXIC GASES (E.G., ALUMINUM, CALCIUM, CARBON, AND SULFUR OXIDES, AND ACRYLIC MONOMERS).

HYDROLYSIS: NONE KNOWN.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE:
THIS PRODUCT IS INCOMPATIBLE WITH STRONG OXIDIZERS.

POSSIBILITY OF HAZARDOUS POLYMERIZATION OR REACTION: WILL NOT OCCUR.

CONDITIONS TO AVOID:
AVOID EXPOSURE TO OR CONTACT WITH EXTREME TEMPERATURES AND INCOMPATIBLE CHEMICALS.

11. TOXICOLOGICAL INFORMATION

top

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM:
HEALTH HAZARD (BLUE) 1*
FLAMMABILITY HAZARD (RED) 0
PHYSICAL HAZARD (YELLOW) 0

PROTECTIVE EQUIPMENT:
EYES: CHEMICAL GOGGLES
RESPIRATORY: SEE SECTION 8
HANDS: GLOVES
BODY: SEE SECTION 8

FOR ROUTINE INDUSTRIAL USE AND HANDLING APPLICATIONS

HAZARD SCALE:
0 = MINIMAL
1 = SLIGHT
2 = MODERATE
3 = SERIOUS
4 = SEVERE
* = CHRONIC HAZARD

SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE:
THE HEALTH HAZARD INFORMATION PROVIDED BELOW IS PERTINENT TO EMPLOYEES USING THIS PRODUCT IN AN OCCUPATIONAL SETTING. THE FOLLOWING PARAGRAPHS DESCRIBE THE SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE.

INHALATION:
INHALATION OF FUMES OR VAPORS MAY CAUSE IRRITATION OF THE NOSE, THROAT, AND LUNGS AND CAUSE COUGHING. REMOVAL TO FRESH AIR SHOULD RELIEVE SYMPTOMS. THE TRACE CRYSTALLINE SILICA COMPONENT IS A KNOWN HUMAN CARCINOGEN. DUE TO THE FORM OF THIS PRODUCT, THIS HAZARD IS NOT AS SIGNIFICANT AS A POWDERED OR SOLID PRODUCTS, HOWEVER, ALL INHALATION EXPOSURE MUST BE AVOIDED IN ORDER TO MITIGATE CARCINOGENIC POTENTIAL.

CONTACT WITH SKIN OR EYES:
DIRECT EYE CONTACT MAY CAUSE IRRITATION, REDNESS, AND TEARING FROM MECHANICAL IRRITATION. PROLONGED OR REPEATED SKIN EXPOSURES MAY CAUSE DERMATITIS (DRY RED SKIN).

SKIN ABSORPTION:
COMPONENTS ARE NOT KNOWN TO BE ABSORBED THROUGH INTACT SKIN.

INGESTION:
INGESTION IS NOT A SIGNIFICANT ROUTE OF OCCUPATIONAL EXPOSURE AND IS UNLIKELY TO OCCUR. IF THIS PRODUCT IS SWALLOWED, IRRITATION OF THE MOUTH, THROAT, ESOPHAGUS AND OTHER TISSUES OF THE DIGESTIVE SYSTEM MAY OCCUR. SYMPTOMS OF INGESTION MAY INCLUDE NAUSEA, VOMITING, AND DIARRHEA.

INJECTION:
ACCIDENTAL INJECTION OF THIS PRODUCT, VIA LACERATION OR PUNCTURE BY A CONTAMINATED OBJECT CAN CAUSE REDNESS AT THE SITE OF INJECTION. ANIMAL DATA FOR THE CRYSTALLINE SILICA COMPONENT INDICATE THAT IT MAY CAUSE CARCINOGENIC EFFECTS BY THIS ROUTE OF EXPOSURE.

HEALTH EFFECTS OR RISKS FROM EXPOSURE:
AN EXPLANATION IN LAY TERMS.

EXPOSURE TO THIS PRODUCT MAY CAUSE THE FOLLOWING HEALTH EFFECTS:

ACUTE:
INHALATION OF FUMES OR VAPORS MAY CAUSE IRRITATION OF RESPIRATORY SYSTEM.
EYE CONTACT MAY CAUSE MECHANICAL IRRITATION.

CHRONIC:
PROLONGED OR REPEATED SKIN EXPOSURE MAY CAUSE DERMATITIS (DRY RED SKIN).
THIS PRODUCT CONTAINS CRYSTALLINE SILICA, A KNOWN HUMAN CARCINOGEN.

TARGET ORGANS:
ACUTE: SKIN, EYES, RESPIRATORY SYSTEM.
CHRONIC: SKIN.

TOXICITY DATA:
CURRENTLY, THE FOLLOWING TOXICOLOGICAL DATA ARE AVAILABLE FOR COMPONENTS
OF 1% OR MORE CONCENTRATION.

ALUMINUM TRIHYDRATE:

TDLO (ORAL-CHILD):
79 GM/KG/2 YEARS-INTERMITTENT:
BEHAVIORAL:
CHANGES IN MOTOR ACTIVITY (SPECIFIC ASSAY), MUSCLE CONTRACTION OR
SPASTICITY

MUSCULOSKELETAL: OSTEOMALACIA

TDLO (ORAL-CHILD):
122 GM/KG/4 DAYS:
GASTROINTESTINAL: OTHER CHANGES
NUTRITIONAL AND GROSS METABOLIC: BODY TEMPERATURE INCREASE

TDLO (ORAL-WOMAN):
84 GM/KG:
FEMALE 1-40 WEEK(S) AFTER CONCEPTION:
REPRODUCTIVE:
EFFECTS ON NEWBORN: PHYSICAL

TDLO (ORAL-INFANT):
68040 MG/KG/24 WEEKS-INTERMITTENT:
MUSCULOSKELETAL: OSTEOPOROSIS

NUTRITIONAL AND GROSS METABOLIC:
WEIGHT LOSS OR DECREASED WEIGHT GAIN, CHANGES IN PHOSPHORUS

TDLO (ORAL-WOMAN):
73912.5 MG/KG/26 WEEKS-INTERMITTENT:
BLOOD: CHANGES IN SERUM COMPOSITION (E.G. TP, BILIRUBIN, CHOLESTEROL)
MUSCULOSKELETAL: OSTEOPOROSIS

NUTRITIONAL AND GROSS:
METABOLIC: CHANGES IN PHOSPHORUS

TDLO (UNREPORTED-INFANT):
39 GM/KG/24 DAYS-INTERMITTENT:
MUSCULOSKELETAL: OSTEOMALACIA

TDLO (ORAL-RAT):
15 MG/KG:

GASTROINTESTINAL: OTHER CHANGES

TDLO (ORAL-RAT):
8040 MG/KG/67 DAYS-CONTINUOUS:
BLOOD: CHANGES IN SERUM COMPOSITION (E.G. TP, BILIRUBIN, CHOLESTEROL)
NUTRITIONAL AND GROSS METABOLIC: CHANGES IN PHOSPHORUS

TDLO (ORAL-MOUSE):
80,880 MG/KG/23 WEEKS-CONTINUOUS:
LIVER: OTHER CHANGES
MUSCULOSKELETAL: OTHER CHANGES
NUTRITIONAL AND GROSS METABOLIC: CHANGES IN METALS, NOT OTHERWISE SPECIFIED

TDLO (INTRAPERITONEAL-RAT): 150 MG/KG

TDLO (INTRAPERITONEAL-RAT):
6240 MG/KG/26 WEEKS-INTERMITTENT:
BLOOD: PIGMENTED OR NUCLEATED RED BLOOD CELLS

NUTRITIONAL AND GROSS METABOLIC:
WEIGHT LOSS OR DECREASED WEIGHT GAIN, CHANGES IN IRON

TDLO (INTRAPERITONEAL-RAT):
1920 MG/KG/8 WEEKS-INTERMITTENT:
BLOOD: MICROCYTOSIS WITH OR WITHOUT ANEMIA

TDLO (INTRAPERITONEAL-RAT):
960 MG/KG/4 WEEKS-INTERMITTENT:
BLOOD: CHANGES IN ERYTHROCYTE (RBC) COUNT

GROUND LIMESTONE:

TDLO (INTRAVENOUS-RAT):
30 MG/KG:
VASCULAR: BP LOWERING NOT CHARACTERIZED IN AUTONOMIC SECTION

LUNGS, THORAX, OR RESPIRATION: CHANGES IN LUNG WEIGHT

BLOOD: OTHER CHANGES

TCLO (INHALATION-RAT):
84 MG/M3/4 HOURS/40 WEEKS-INTERMITTENT:
LUNGS, THORAX, OR RESPIRATION: FIBROSIS (INTERSTITIAL)
LIVER: OTHER CHANGES
KIDNEY/URETER/BLADDER: OTHER CHANGES

TCLO (INHALATION-RAT):
250 MG/M3/2 HOURS/24 WEEKS-INTERMITTENT:
LUNGS, THORAX, OR RESPIRATION: FIBROSIS, FOCAL (PNEUMOCONIOSIS)

PROPRIETARY ACRYLIC COPOLYMER IN AQUEOUS DISPERSION:
LD50 (ORAL-RAT): >2000 MG/KG
SLIGHT EYE IRRITANT-RABBIT
SLIGHT SKIN IRRITANT-RABBIT

IRRITANCY OF PRODUCT:
INHALATION OF FUMES OR VAPORS MAY CAUSE RESPIRATORY IRRITATION.
EYE CONTACT MAY CAUSE IRRITATION. PROLONGED SKIN CONTACT MAY CAUSE
IRRITATION.

SENSITIZATION OF PRODUCT:
THIS PRODUCT IS NOT CURRENTLY KNOWN TO CAUSE ALLERGIC SKIN OR RESPIRATORY
REACTION.

CARCINOGENIC POTENTIAL OF COMPONENTS:
COMPONENTS OF THIS PRODUCT ARE LISTED BY AGENCIES TRACKING THE CARCINOGENIC POTENTIAL OF CHEMICAL COMPOUNDS, AS FOLLOWS:

CRYSTALLINE SILICA:
ACGIH-TLV-A2 (SUSPECTED HUMAN CARCINOGEN)

IARC-1 (CARCINOGENIC TO HUMANS)

MAK-1 (SUBSTANCES THAT CAUSE CANCER IN MAN AND CAN BE ASSUMED TO MAKE A SIGNIFICANT CONTRIBUTION TO CANCER RISK)

NIOSH-CA (POTENTIAL OCCUPATIONAL CARCINOGEN WITH NO FURTHER CATEGORIZATION)

NTP-K (KNOWN TO BE A HUMAN CARCINOGEN)

THE REMAINING COMPONENTS ARE NOT FOUND ON THE FOLLOWING LISTS:
U.S. EPA, U.S. NTP, U.S. OSHA, U.S. NIOSH, GERMAN MAK, IARC, OR ACGIH AND THEREFORE IS NEITHER CONSIDERED TO BE NOR SUSPECTED TO BE A CANCER-CAUSING AGENT BY THESE AGENCIES.

REPRODUCTIVE TOXICITY INFORMATION:
COMPONENTS OF THIS PRODUCT HAVE NO REPORTED MUTAGENIC, EMBRYOTOXIC, TERATOGENIC OR REPRODUCTIVE TOXICITY.

ACGIH BIOLOGICAL EXPOSURE INDICES (BEIS):
CURRENTLY, THERE ARE NO ACGIH BIOLOGICAL EXPOSURE INDICES (BEIS) DETERMINED FOR THIS MATERIAL.

DEGREE OF EFFECT TO THE HEALTH OF THE POLLUTING AGENT OF ENVIRONMENT OF WORK (PER MEXICAN NOM-010 STPS-1999): 0

12. ECOLOGICAL INFORMATION

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ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: THIS PRODUCT HAS NOT BEEN TESTED FOR MOBILITY IN SOIL.

PERSISTENCE AND BIODEGRADABILITY:
THIS PRODUCT HAS NOT BEEN TESTED FOR PERSISTENCE OR BIODEGRADABILITY.
THE MINERAL COMPONENTS ARE NOT EXPECTED TO BIODEGRADE TO GREAT EXTENT.

BIO-ACCUMULATION POTENTIAL:
THIS PRODUCT HAS NOT BEEN TESTED FOR BIO-ACCUMULATION POTENTIAL.

ECOTOXICITY:
THIS PRODUCT HAS NOT BEEN TESTED FOR AQUATIC OR ANIMAL TOXICITY.
ALL RELEASES TO TERRESTRIAL, ATMOSPHERIC AND AQUATIC ENVIRONMENTS SHOULD BE AVOIDED. THE FOLLOWING AQUATIC TOXICITY DATA ARE AVAILABLE FOR ONE COMPONENT.

PROPRIETARY ACRYLIC COPOLYMER IN AQUEOUS DISPERSION:
LC50 (BRACHYDANO RERIO) 96 HOURS: >100 MG/L
EC50 (DAPHNIA MAGNA) 48 HOURS: >100 MG/L
IC50 (ALGAE) 92 HOURS: >100 MG/L

OTHER ADVERSE EFFECTS:
THIS MATERIAL IS NOT LISTED AS HAVING OZONE DEPLETION POTENTIAL.

ENVIRONMENTAL EXPOSURE CONTROLS:

CONTROLS SHOULD BE ENGINEERED TO PREVENT RELEASE TO THE ENVIRONMENT, INCLUDING PROCEDURES TO PREVENT SPILLS, ATMOSPHERIC RELEASE AND RELEASE TO WATERWAYS.

13. DISPOSAL CONSIDERATIONS

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DISPOSAL METHODS:
IT IS THE RESPONSIBILITY OF THE GENERATOR TO DETERMINE AT THE TIME OF DISPOSAL WHETHER THE PRODUCT MEETS THE CRITERIA OF A HAZARDOUS WASTE PER REGULATIONS OF THE AREA IN WHICH THE WASTE IS GENERATED AND/OR DISPOSED OF. WASTE DISPOSAL MUST BE IN ACCORDANCE WITH APPROPRIATE FEDERAL, STATE, AND LOCAL REGULATIONS. THIS PRODUCT, IF UNALTERED BY USE, MAY BE DISPOSED OF BY TREATMENT AT A PERMITTED FACILITY OR AS ADVISED BY YOUR LOCAL HAZARDOUS WASTE REGULATORY AUTHORITY. SHIPMENT OF WASTES MUST BE DONE WITH APPROPRIATELY PERMITTED AND REGISTERED TRANSPORTERS.

DISPOSAL CONTAINERS:
WASTE MATERIALS MUST BE PLACED IN AND SHIPPED IN APPROPRIATE 5-GALLON OR 55-GALLON POLY OR METAL WASTE PAILS OR DRUMS. PERMEABLE CARDBOARD CONTAINERS ARE NOT APPROPRIATE AND SHOULD NOT BE USED. ENSURE THAT ANY REQUIRED MARKING OR LABELING OF THE CONTAINERS BE DONE TO ALL APPLICABLE REGULATIONS.

PRECAUTIONS TO BE FOLLOWED DURING WASTE HANDLING:
WEAR PROPER PROTECTIVE EQUIPMENT WHEN HANDLING WASTE MATERIALS.

U.S. EPA WASTE NUMBER: NOT APPLICABLE.

14. TRANSPORTATION INFORMATION

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U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS:
THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS, PER U.S. DOT REGULATIONS, UNDER 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS:
THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS, PER REGULATIONS OF TRANSPORT CANADA.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):
THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS UNDER RULES OF IATA.

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION:
THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS BY THE INTERNATIONAL MARITIME ORGANIZATION.

OFFICIAL MEXICAN STANDARD; REGULATION FOR THE TRANSPORT OF DANGEROUS GOODS AND RESIDUES:
THIS PRODUCT IS NOT CLASSIFIED AS DANGEROUS GOODS, PER TRANSPORT REGULATIONS OF MEXICO.

SINGAPORE STANDARD 286:
PART A:
THIS PRODUCT HAS NO REQUIREMENTS UNDER THE SPECIFICATION FOR CAUTION LABELING FOR HAZARDOUS SUBSTANCES, PART 4: MARKING OF PACKAGES, CONTAINERS AND VEHICLES, AS IT DOES NOT MEET THE CRITERIA FOR ANY HAZARD CLASS UNDER THIS REGULATION.

TRANSPORT IN BULK ACCORDING TO THE IBC CODE:
SEE THE INFORMATION UNDER THE INDIVIDUAL JURISDICTION LISTINGS FOR IBC

INFORMATION.

ENVIRONMENTAL HAZARDS:
THIS MATERIAL DOES NOT MEET THE CRITERIA OF ENVIRONMENTALLY HAZARDOUS ACCORDING TO THE CRITERIA OF THE UN MODEL REGULATIONS (AS REFLECTED IN THE IMDG CODE, ADR, RID, AND ADN) AND IS NOT LISTED IN ANNEX III UNDER MARPOL 73/78.

15. REGULATORY INFORMATION

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UNITED STATES REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS:
THIS PRODUCT IS NOT SUBJECT TO THE REPORTING REQUIREMENTS OF SECTIONS 302, 304, AND 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT.

U.S. SARA HAZARD CATEGORIES (SECTION 311/312, 40 CFR 370-21):
ACUTE: YES
CHRONIC: YES
FIRE: NO
REACTIVE: NO
SUDDEN RELEASE: NO

U.S. SARA THRESHOLD PLANNING QUANTITY (TPQ):
THERE ARE NO SPECIFIC THRESHOLD PLANNING QUANTITIES FOR COMPONENTS. THE DEFAULT FEDERAL SDS SUBMISSION AND INVENTORY REQUIREMENT FILING THRESHOLD OF 10,000 LB (4,540 KG) MAY APPLY, PER 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): NOT APPLICABLE.

U.S. TSCA INVENTORY STATUS:
COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):
THE CRYSTALLINE SILICA COMPONENT IS ON THE CALIFORNIA PROPOSITION 65 LISTS.

WARNING!

THIS PRODUCT CONTAINS A COMPOUND KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS:
COMPONENTS ARE ON THE DSL OR NDSL INVENTORIES.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:
COMPONENTS ARE NOT ON THE CEPA PRIORITIES SUBSTANCES LISTS.

CANADIAN WHMIS CLASSIFICATION AND SYMBOLS:
THIS PRODUCT WOULD BE CATEGORIZED AS A CONTROLLED PRODUCT, D2B (OTHER TOXIC EFFECTS-POTENTIAL CARCINOGENIC EFFECT, IRRITATION) AS PER THE CONTROLLED PRODUCT REGULATIONS.

CHINESE REGULATIONS:

CHINESE INVENTORY OF EXISTING CHEMICAL SUBSTANCES STATUS:
COMPONENTS LISTED BY CAS# ARE LISTED ON THE CHINESE INVENTORY OF EXISTING CHEMICAL SUBSTANCES (IECSC), OR ARE NOT LISTED, PER INFORMATION IN SECTION 2.

JAPANESE REGULATIONS:

JAPANESE ENCS:
COMPONENTS LISTED BY CAS# ARE ON THE ENCS INVENTORY, ARE EXCEPTED, OR ARE NOT LISTED, PER INFORMATION IN SECTION 2.

JAPANESE MINISTRY OF ECONOMY, TRADE, AND INDUSTRY (METI) STATUS:
COMPONENTS ARE NOT LISTED AS CLASS I SPECIFIED CHEMICAL SUBSTANCES, CLASS II SPECIFIED CHEMICAL SUBSTANCES, OR DESIGNATED CHEMICAL SUBSTANCES BY THE JAPANESE METI.

POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW:
COMPONENTS ARE NOT LISTED AS A SPECIFIED POISONOUS SUBSTANCE UNDER THE POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW.

KOREAN REGULATIONS:

KOREAN EXISTING CHEMICALS LIST (ECL) STATUS:
COMPONENTS LISTED BY CAS# ARE LISTED ON THE KOREAN ECL INVENTORY, OR ARE NOT LISTED, PER INFORMATION IN SECTION 2.

MEXICAN REGULATIONS:

MEXICAN WORKPLACE REGULATIONS (NOM-018-STPS-2000):
THIS PRODUCT IS CLASSIFIED AS HAZARDOUS.

SINGAPORE REGULATIONS:

LIST OF CONTROLLED HAZARDOUS SUBSTANCES:
COMPONENTS LISTED BY CAS# ARE NOT LISTED ON THE SINGAPORE LIST OF CONTROLLED SUBSTANCES.

CODE OF PRACTICE ON POLLUTION CONTROL REQUIREMENTS:
THE COMPONENTS IDENTIFIED BY CAS# IN SECTION 2 (COMPOSITION AND INFORMATION ON INGREDIENTS) NOT ARE SUBJECT TO THE REQUIREMENTS UNDER THE SINGAPORE CODE OF PRACTICE ON POLLUTION CONTROL.

TAIWANESE REGULATIONS:

TAIWAN EXISTING CHEMICAL SUBSTANCES INVENTORY STATUS:
COMPONENTS LISTED BY CAS# ARE LISTED ON THE TAIWAN EXISTING CHEMICALS LIST.

16. OTHER INFORMATION

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LABELING (PRECAUTIONARY STATEMENTS) ANSI LABELING (Z129.1):
CAUTION!

MAY CAUSE MILD IRRITATION BY INHALATION AND EYE CONTACT. PROLONGED SKIN CONTACT MAY CAUSE IRRITATION. CONTAINS TRACE AMOUNT OF CRYSTALLINE SILICA, A KNOWN HUMAN CARCINOGEN. AVOID BREATHING FUMES OR VAPORS. DO NOT TASTE OR SWALLOW. KEEP CONTAINER CLOSED. USE ONLY WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. WEAR APPROPRIATE EYE, HAND, AND BODY PROTECTION. AVOID EXPOSURE TO ELEVATED TEMPERATURES.

FIRST-AID:
IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN OR EYES WITH PLENTY OF WATER FOR AT LEAST 20 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS OR PERSISTS. IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. IF SWALLOWED, DO NOT INDUCE

VOMITING. GET MEDICAL ATTENTION.

IN CASE OF FIRE: USE WATER FOG, FOAM, DRY CHEMICAL, OR CO2.

IN CASE OF SPILL:
SWEEP OR VACUUM SPILLED MATERIAL, AVOIDING GENERATION OF DUSTS AND PLACE IN SUITABLE CONTAINER. PLACE RESIDUAL IN APPROPRIATE CONTAINER AND SEAL. DISPOSE OF IN ACCORDANCE WITH U.S. FEDERAL, STATE, AND LOCAL HAZARDOUS WASTE DISPOSAL REGULATIONS. CONSULT SAFETY DATA SHEET FOR ADDITIONAL INFORMATION.

GLOBAL HARMONIZATION AND JAPANESE JIS Z7253 LABELING AND CLASSIFICATION:
THIS PRODUCT HAS BEEN CLASSIFIED PER UN GHS STANDARDS UNDER U.S., JAPANESE AND OTHER APPLICABLE REGULATIONS THAT REQUIRE GLOBAL HARMONIZATION COMPLIANCE.

CLASSIFICATION:
CARCINOGENIC CATEGORY 2, EYE IRRITATION CATEGORY 2A, SPECIFIC TARGET ORGAN TOXICITY (INHALATION-RESPIRATORY IRRITATION) SINGLE EXPOSURE CATEGORY 3

SIGNAL WORD: WARNING

HAZARD STATEMENTS:
H351: SUSPECTED OF CAUSING CANCER.
H319: CAUSES SERIOUS EYE IRRITATION.
H335: MAY CAUSE RESPIRATORY IRRITATION.

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 VAPORS, FUME.

P271: USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA.

P280: WEAR PROTECTIVE GLOVES, CLOTHING, EYE PROTECTION AND FACE PROTECTION.

P284: WEAR RESPIRATORY PROTECTION.

RESPONSE:
P308 + P313:
IF EXPOSED OR CONCERNED: 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.

P337 + P313:
IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ATTENTION.

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 IF YOU FEEL UNWELL.

P321: SPECIFIC TREATMENT (REMOVE FROM EXPOSURE AND TREAT SYMPTOMS).

STORAGE:

P403 + P233 + P405:
STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED.
STORE LOCKED UP.

DISPOSAL:
P501:
DISPOSE OF CONTENTS/CONTAINERS IN ACCORDANCE WITH ALL LOCAL, REGIONAL, NATIONAL AND INTERNATIONAL REGULATIONS.

HAZARD SYMBOLS: GHS07, GHS08

KOREAN ISHA (NOTICE 2009-68) LABELING AND CLASSIFICATION:
CLASSIFIED IN ACCORDANCE WITH ISHA NOTICE 2009-68. UNDER ISHA, NO DIFFERENCES IN CLASSIFICATION ARE APPLICABLE.

COMPONENT CLASSIFICATION:

LABELING AND CLASSIFICATION FULL TEXT UNDER GHS:
ALUMINUM TRIHYDRATE: THIS IS A SELF-CLASSIFICATION.

CLASSIFICATION: EYE IRRITATION CATEGORY 2A

HAZARD STATEMENTS:
H319: CAUSES SERIOUS EYE IRRITATION.

CRYSTALLINE SILICA: THIS IS A SELF-CLASSIFICATION.

CLASSIFICATION:
CARCINOGENIC CATEGORY 1, SPECIFIC TARGET ORGAN TOXICITY (INHALATION-LUNGS) REPEATED EXPOSURE CATEGORY 2

HAZARD STATEMENTS:

H350: MAY CAUSE CANCER.

H373:
MAY CAUSE DAMAGE TO LUNGS THROUGH PROLONGED OR REPEATED EXPOSURE BY INHALATION.

PROPRIETARY ACRYLIC POLYMER IN AQUEOUS DISPERSION:
THIS IS A SELF-CLASSIFICATION.

CLASSIFICATION: ACUTE ORAL TOXICITY CATEGORY 5

HAZARD STATEMENTS:
H303: MAY BE HARMFUL IF SWALLOWED.

REVISION DETAILS: NEW.

REFERENCES AND DATA SOURCES: CONTACT THE SUPPLIER FOR INFORMATION.

METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION:
CRITERIA OF THE GHS WERE USED FOR CLASSIFICATION.

PREPARED BY:
CHEMICAL SAFETY ASSOCIATES, INC.
PO BOX 1961
HILO, HI 96721-1961
(800) 441-3365

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