Vulkem 350NF/351

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SAFETY DATA SHEET

1. Identification

Material name: Vulkem® 350NF R
Material: 450712R802

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
Tremco U.S Sealants
3735 Green Road
Beachwood OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 4

Health Hazards

Acute toxicity (Inhalation - vapor)	Category 4
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1A

Unknown toxicity - Health

Acute toxicity, oral	25.73 %
Acute toxicity, dermal	27.95 %
Acute toxicity, inhalation, vapor	93.77 %
Acute toxicity, inhalation, dust or mist	96.92 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	95.53 %

Chronic hazards to the aquatic environment	97.61 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement:
Combustible liquid.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause genetic defects.
May cause cancer.
Harmful to aquatic life.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor/… IF ON SKIN: Wash with plenty of water/… If skin irritation or rash occurs: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see on this label). Wash contaminated clothing before reuse. In case of fire: Use… to extinguish.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Calcium Carbonate (Limestone)	1317-65-3	20 - <50%
Calcium carbonate	471-34-1	10 - <20%
Hydrotreated heavy naphtha	64742-48-9	1 - <5%
Calcium oxide	1305-78-8	1 - <5%
Titanium dioxide	13463-67-7	1 - <5%
Isophorone Diisocyanate	4098-71-9	0.1 - <1%
Stearic acid	57-11-4	0.1 - <1%
Tosyl isocyanate	4083-64-1	0.1 - <1%
Hydrotreated heavy naphthenic distillate	64742-52-5	0.1 - <1%
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	0.1 - <1%
Diisodecyl phthalate	26761-40-0	0.01 - <1%
2,4-Toluene diisocyanate	584-84-9	0.1 - <1%
Amorphous silica	7631-86-9	0.1 - <1%
4,4'-Methylene bis(phenylisocyanate)	101-68-8	0.1 - <1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Inhalation: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards:	Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.
Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Ventilate closed spaces before entering them. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep upwind. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Methods and material for containment and cleaning up:	Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
Notification Procedures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
Environmental Precautions:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling:	Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Calcium Carbonate (Limestone) - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium Carbonate (Limestone) - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium carbonate - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium carbonate - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium oxide	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Titanium dioxide	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Titanium dioxide - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Isophorone Diisocyanate	TWA	0.005 ppm	US. ACGIH Threshold Limit Values (2011)
Stearic acid - Respirable fraction.	TWA	3 mg/m3	US. ACGIH Threshold Limit Values (03 2017)
Stearic acid - Inhalable fraction.	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (03 2017)
Hydrotreated heavy naphthenic distillate - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (03 2014)
Hydrotreated heavy naphthenic distillate	PEL	500 ppm 2,000 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Hydrotreated heavy naphthenic distillate - Mist.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values (2011)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.05 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (03 2016)
	OSHA_ACT	0.025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	PEL	0.05 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
2,4-Toluene diisocyanate -	STEL	0.005 ppm	US. ACGIH Threshold Limit Values (03 2016)

Inhalable fraction and vapor.				
	TWA	0.001 ppm		US. ACGIH Threshold Limit Values (03 2016)
2,4-Toluene diisocyanate	Ceiling	0.02 ppm	0.14 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Amorphous silica	TWA		20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA		0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm		US. ACGIH Threshold Limit Values (2011)
	Ceiling	0.02 ppm	0.2 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Chemical name	**Type**	**Exposure Limit Values**	**Source**
Calcium Carbonate (Limestone) - Total dust.	STEL	20 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)

Calcium Carbonate (Limestone) - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium Carbonate (Limestone) - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Calcium carbonate - Total dust.	STEL	20 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium carbonate - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium carbonate - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium carbonate - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Hydrotreated heavy naphtha	TWA	525 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Calcium oxide	TWA	2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium oxide	TWA	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Calcium oxide	TWA	2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Isophorone Diisocyanate	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Isophorone Diisocyanate	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Isophorone Diisocyanate	TWA	0.005 ppm 0.045 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Hydrotreated heavy naphthenic distillate - Mist.	TWA	0.2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational

			Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
Hydrotreated heavy naphthenic distillate - Inhalable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Hydrotreated heavy naphthenic distillate - Mist.	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
2,4-Toluene diisocyanate	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
2,4-Toluene diisocyanate	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
2,4-Toluene diisocyanate	TWA	0.005 ppm 0.036 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	STEL	0.02 ppm 0.14 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
4,4'-Methylene bis(phenylisocyanate)	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm 0.051 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
2,4-Toluene diisocyanate (Toluene diamine (sum of 2,4- and 2,6-isomers), with hydrolysis: Sampling time:	5 µg/g (Creatinine in urine)	ACGIH BEI (03 2016)

End of shift.)		

Appropriate Engineering Controls Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required.

Eye/face protection: Wear goggles/face shield.

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state: liquid
Form: liquid
Color: Gray
Odor: Mild petroleum/solvent
Odor threshold: No data available.
pH: No data available.
Melting point/freezing point: No data available.
Initial boiling point and boiling range: No data available.
Flash Point: 75 °C 167 °F(San Francisco Closed Cup)
Evaporation rate: Slower than Ether
Flammability (solid, gas): No
Upper/lower limit on flammability or explosive limits
Flammability limit - upper (%): No data available.
Flammability limit - lower (%): No data available.
Explosive limit - upper (%): No data available.
Explosive limit - lower (%): No data available.

Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.37
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Heat, sparks, flames.
Incompatible Materials:	Alcohols. Amines. Strong acids. Strong bases. Water, moisture.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact:	Eye contact is possible and should be avoided.
Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 13,882.68 mg/kg

Dermal
Product: ATEmix: 9,911.7 mg/kg

Inhalation
Product: ATEmix: 13.85 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause sensitization by inhalation.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.
Hydrotreated heavy naphthenic distillate	Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Carcinogenic to humans.
Crystalline Silica (Quartz)/ Silica Sand	Overall evaluation: Carcinogenic to humans.
2,4-Toluene diisocyanate	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Hydrotreated heavy naphthenic distillate	Known To Be Human Carcinogen.
Crystalline Silica (Quartz)/ Silica Sand	Known To Be Human Carcinogen.
2,4-Toluene diisocyanate	Reasonably Anticipated to be a Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

Crystalline Silica (Quartz)/ Silica Sand	Cancer

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.

Other adverse effects: Harmful to aquatic organisms.

13. Disposal considerations

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

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	De minimis concentration: TSCA 5(a)(2)% One-Time Export Notification only.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Chemical Identity	OSHA hazard(s)
Crystalline Silica (Quartz)/ Silica Sand	kidney effects lung effects immune system effects Cancer

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	100 lbs.
4,4'-Methylene bis(phenylisocyanate)	5000 lbs.
Toluene-2,6-Diisocyanate	100 lbs.
Methanol	5000 lbs.
Propylene oxide	100 lbs.
Chlorobenzene	100 lbs.
Ethylbenzene	1000 lbs.
Naphthalene	100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard
Flammable liquids
Acute toxicity

Respiratory sensitizer
Skin sensitizer
Germ Cell Mutagenicity
Carcinogenicity
Static-accumulating flammable liquid

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
Isophorone Diisocyanate	500 lbs.	500 lbs.
2,4-Toluene diisocyanate	100 lbs.	500 lbs.
Toluene-2,6-Diisocyanate	100 lbs.	100 lbs.
Propylene oxide	100 lbs.	10000 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Isophorone Diisocyanate	
Diisodecyl phthalate	
2,4-Toluene diisocyanate	100 lbs.
4,4'-Methylene bis(phenylisocyanate)	5000 lbs.
Toluene-2,6-Diisocyanate	100 lbs.
Methanol	5000 lbs.
Propylene oxide	100 lbs.
Diisodecyl phthalate (mixed Is)	
Chlorobenzene	100 lbs.
Ethylbenzene	1000 lbs.
Naphthalene	100 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Isophorone Diisocyanate	500lbs
2,4-Toluene diisocyanate	500lbs
Toluene-2,6-Diisocyanate	100lbs
Propylene oxide	500lbs
Calcium Carbonate (Limestone)	10000 lbs
Calcium carbonate	10000 lbs
Hydrotreated heavy naphtha	10000 lbs
Calcium oxide	10000 lbs
Titanium dioxide	10000 lbs
Stearic acid	10000 lbs
Tosyl isocyanate	10000 lbs
Hydrotreated heavy naphthenic distillate	10000 lbs
Crystalline Silica (Quartz)/ Silica Sand	10000 lbs
Diisodecyl phthalate	10000 lbs
Amorphous silica	10000 lbs
4,4'-Methylene bis(phenylisocyanate)	10000 lbs

SARA 313 (TRI Reporting)

Chemical Identity
2,4-Toluene diisocyanate

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	lbs
Toluene-2,6-Diisocyanate	lbs
Propylene oxide	lbs

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65



WARNING
Cancer and Reproductive Harm - www.P65Warnings.ca.gov

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Calcium Carbonate (Limestone)
Calcium carbonate
Calcium oxide
Titanium dioxide
Hydrotreated heavy naphthenic distillate
Crystalline Silica (Quartz)/ Silica Sand
2,4-Toluene diisocyanate

US. Massachusetts RTK - Substance List

Chemical Identity
Calcium Carbonate (Limestone)
Calcium carbonate
Titanium dioxide
Isophorone Diisocyanate
Crystalline Silica (Quartz)/ Silica Sand
2,4-Toluene diisocyanate
Toluene-2,6-Diisocyanate
Propylene oxide

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Calcium Carbonate (Limestone)
Calcium carbonate
Hydrotreated heavy naphtha
Calcium oxide
Titanium dioxide
2,4-Toluene diisocyanate

US. Rhode Island RTK

Chemical Identity
Calcium Carbonate (Limestone)
Calcium carbonate
Titanium dioxide

International regulations

Montreal protocol
Not applicable

Stockholm convention
Not applicable

Rotterdam convention
Not applicable

Kyoto protocol
Not applicable

VOC:

Regulatory VOC (less water and exempt solvent)	:	86 g/l
VOC Method 310	:	6.24 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Mexico INSQ:	One or more components in this product are not listed on or exempt from the Inventory.
Ontario Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Taiwan Chemical Substance Inventory:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	07/21/2018
Version #:	1.2
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

SAFETY DATA SHEET

1. Identification

Material name: Vulkem® 350NF R
Material: 450712R805

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
Tremco U.S Sealants
3735 Green Road
Beachwood OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 4

Health Hazards

Acute toxicity (Inhalation - vapor)	Category 4
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1A

Unknown toxicity - Health

Acute toxicity, oral	25.73 %
Acute toxicity, dermal	27.95 %
Acute toxicity, inhalation, vapor	93.77 %
Acute toxicity, inhalation, dust or mist	96.92 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	95.53 %

Chronic hazards to the aquatic environment	97.61 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement:
Combustible liquid.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause genetic defects.
May cause cancer.
Harmful to aquatic life.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor/… IF ON SKIN: Wash with plenty of water/… If skin irritation or rash occurs: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see on this label). Wash contaminated clothing before reuse. In case of fire: Use… to extinguish.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Calcium Carbonate (Limestone)	1317-65-3	20 - <50%
Calcium carbonate	471-34-1	10 - <20%
Hydrotreated heavy naphtha	64742-48-9	1 - <5%
Calcium oxide	1305-78-8	1 - <5%
Titanium dioxide	13463-67-7	1 - <5%
Isophorone Diisocyanate	4098-71-9	0.1 - <1%
Stearic acid	57-11-4	0.1 - <1%
Tosyl isocyanate	4083-64-1	0.1 - <1%
Hydrotreated heavy naphthenic distillate	64742-52-5	0.1 - <1%
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	0.1 - <1%
Diisodecyl phthalate	26761-40-0	0.01 - <1%
2,4-Toluene diisocyanate	584-84-9	0.1 - <1%
Amorphous silica	7631-86-9	0.1 - <1%
4,4'-Methylene bis(phenylisocyanate)	101-68-8	0.1 - <1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Inhalation: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards:	Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.
Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Ventilate closed spaces before entering them. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep upwind. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Methods and material for containment and cleaning up:	Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
Notification Procedures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
Environmental Precautions:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling:	Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Calcium Carbonate (Limestone) - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium Carbonate (Limestone) - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium carbonate - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium carbonate - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium oxide	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Titanium dioxide	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Titanium dioxide - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Isophorone Diisocyanate	TWA	0.005 ppm	US. ACGIH Threshold Limit Values (2011)
Stearic acid - Respirable fraction.	TWA	3 mg/m3	US. ACGIH Threshold Limit Values (03 2017)
Stearic acid - Inhalable fraction.	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (03 2017)
Hydrotreated heavy naphthenic distillate - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (03 2014)
Hydrotreated heavy naphthenic distillate	PEL	500 ppm 2,000 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Hydrotreated heavy naphthenic distillate - Mist.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values (2011)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.05 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (03 2016)
	OSHA_ACT	0.025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	PEL	0.05 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
2,4-Toluene diisocyanate -	STEL	0.005 ppm	US. ACGIH Threshold Limit Values (03 2016)

Inhalable fraction and vapor.				
	TWA	0.001 ppm		US. ACGIH Threshold Limit Values (03 2016)
2,4-Toluene diisocyanate	Ceiling	0.02 ppm	0.14 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Amorphous silica	TWA		20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA		0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm		US. ACGIH Threshold Limit Values (2011)
	Ceiling	0.02 ppm	0.2 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Chemical name	**Type**	**Exposure Limit Values**	**Source**
Calcium Carbonate (Limestone) - Total dust.	STEL	20 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)

Calcium Carbonate (Limestone) - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium Carbonate (Limestone) - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Calcium carbonate - Total dust.	STEL	20 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium carbonate - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium carbonate - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium carbonate - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Hydrotreated heavy naphtha	TWA	525 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Calcium oxide	TWA	2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium oxide	TWA	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Calcium oxide	TWA	2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Isophorone Diisocyanate	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Isophorone Diisocyanate	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Isophorone Diisocyanate	TWA	0.005 ppm 0.045 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Hydrotreated heavy naphthenic distillate - Mist.	TWA	0.2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational

			Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
Hydrotreated heavy naphthenic distillate - Inhalable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Hydrotreated heavy naphthenic distillate - Mist.	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
2,4-Toluene diisocyanate	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
2,4-Toluene diisocyanate	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
2,4-Toluene diisocyanate	TWA	0.005 ppm 0.036 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	STEL	0.02 ppm 0.14 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
4,4'-Methylene bis(phenylisocyanate)	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm 0.051 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
2,4-Toluene diisocyanate (Toluene diamine (sum of 2,4- and 2,6-isomers), with hydrolysis: Sampling time:	5 µg/g (Creatinine in urine)	ACGIH BEI (03 2016)

End of shift.)		

Appropriate Engineering Controls Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required.

Eye/face protection: Wear goggles/face shield.

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state: liquid
Form: liquid
Color: Gray
Odor: Mild petroleum/solvent
Odor threshold: No data available.
pH: No data available.
Melting point/freezing point: No data available.
Initial boiling point and boiling range: No data available.
Flash Point: 75 °C 167 °F(San Francisco Closed Cup)
Evaporation rate: Slower than Ether
Flammability (solid, gas): No
Upper/lower limit on flammability or explosive limits
Flammability limit - upper (%): No data available.
Flammability limit - lower (%): No data available.
Explosive limit - upper (%): No data available.
Explosive limit - lower (%): No data available.

Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.37
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Heat, sparks, flames.
Incompatible Materials:	Alcohols. Amines. Strong acids. Strong bases. Water, moisture.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact:	Eye contact is possible and should be avoided.
Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 13,882.68 mg/kg

Dermal
Product: ATEmix: 9,911.7 mg/kg

Inhalation
Product: ATEmix: 13.85 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause sensitization by inhalation.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.
Hydrotreated heavy naphthenic distillate	Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Carcinogenic to humans.
Crystalline Silica (Quartz)/ Silica Sand	Overall evaluation: Carcinogenic to humans.
2,4-Toluene diisocyanate	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Hydrotreated heavy naphthenic distillate	Known To Be Human Carcinogen.
Crystalline Silica (Quartz)/ Silica Sand	Known To Be Human Carcinogen.
2,4-Toluene diisocyanate	Reasonably Anticipated to be a Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

Crystalline Silica (Quartz)/ Silica Sand	Cancer

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.

Other adverse effects: Harmful to aquatic organisms.

13. Disposal considerations

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

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	De minimis concentration: TSCA 5(a)(2)% One-Time Export Notification only.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Chemical Identity	OSHA hazard(s)
Crystalline Silica (Quartz)/ Silica Sand	kidney effects lung effects immune system effects Cancer

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	100 lbs.
4,4'-Methylene bis(phenylisocyanate)	5000 lbs.
Toluene-2,6-Diisocyanate	100 lbs.
Methanol	5000 lbs.
Propylene oxide	100 lbs.
Chlorobenzene	100 lbs.
Ethylbenzene	1000 lbs.
Naphthalene	100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard
Flammable liquids
Acute toxicity

Respiratory sensitizer
Skin sensitizer
Germ Cell Mutagenicity
Carcinogenicity
Static-accumulating flammable liquid

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
Isophorone Diisocyanate	500 lbs.	500 lbs.
2,4-Toluene diisocyanate	100 lbs.	500 lbs.
Toluene-2,6-Diisocyanate	100 lbs.	100 lbs.
Propylene oxide	100 lbs.	10000 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Isophorone Diisocyanate	
Diisodecyl phthalate	
2,4-Toluene diisocyanate	100 lbs.
4,4'-Methylene bis(phenylisocyanate)	5000 lbs.
Toluene-2,6-Diisocyanate	100 lbs.
Methanol	5000 lbs.
Propylene oxide	100 lbs.
Diisodecyl phthalate (mixed Is)	
Chlorobenzene	100 lbs.
Ethylbenzene	1000 lbs.
Naphthalene	100 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Isophorone Diisocyanate	500lbs
2,4-Toluene diisocyanate	500lbs
Toluene-2,6-Diisocyanate	100lbs
Propylene oxide	500lbs
Calcium Carbonate (Limestone)	10000 lbs
Calcium carbonate	10000 lbs
Hydrotreated heavy naphtha	10000 lbs
Calcium oxide	10000 lbs
Titanium dioxide	10000 lbs
Stearic acid	10000 lbs
Tosyl isocyanate	10000 lbs
Hydrotreated heavy naphthenic distillate	10000 lbs
Crystalline Silica (Quartz)/ Silica Sand	10000 lbs
Diisodecyl phthalate	10000 lbs
Amorphous silica	10000 lbs
4,4'-Methylene bis(phenylisocyanate)	10000 lbs

SARA 313 (TRI Reporting)

Chemical Identity
2,4-Toluene diisocyanate

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	lbs
Toluene-2,6-Diisocyanate	lbs
Propylene oxide	lbs

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65



WARNING
Cancer and Reproductive Harm - www.P65Warnings.ca.gov

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Calcium Carbonate (Limestone)
Calcium carbonate
Calcium oxide
Titanium dioxide
Hydrotreated heavy naphthenic distillate
Crystalline Silica (Quartz)/ Silica Sand
2,4-Toluene diisocyanate

US. Massachusetts RTK - Substance List

Chemical Identity
Calcium Carbonate (Limestone)
Calcium carbonate
Titanium dioxide
Isophorone Diisocyanate
Crystalline Silica (Quartz)/ Silica Sand
2,4-Toluene diisocyanate
Toluene-2,6-Diisocyanate
Propylene oxide

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Calcium Carbonate (Limestone)
Calcium carbonate
Hydrotreated heavy naphtha
Calcium oxide
Titanium dioxide
2,4-Toluene diisocyanate

US. Rhode Island RTK

Chemical Identity
Calcium Carbonate (Limestone)
Calcium carbonate
Titanium dioxide

International regulations

Montreal protocol
Not applicable

Stockholm convention
Not applicable

Rotterdam convention
Not applicable

Kyoto protocol
Not applicable

VOC:

Regulatory VOC (less water and exempt solvent)	:	86 g/l
VOC Method 310	:	6.24 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Mexico INSQ:	One or more components in this product are not listed on or exempt from the Inventory.
Ontario Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Taiwan Chemical Substance Inventory:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	07/21/2018
Version #:	1.2
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

SAFETY DATA SHEET

1. Identification

Material name: Vulkem® 350NF R
Material: 450712R855

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
Tremco U.S Sealants
3735 Green Road
Beachwood OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 4

Health Hazards

Acute toxicity (Inhalation - vapor)	Category 4
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1A

Unknown toxicity - Health

Acute toxicity, oral	25.73 %
Acute toxicity, dermal	27.95 %
Acute toxicity, inhalation, vapor	93.77 %
Acute toxicity, inhalation, dust or mist	96.92 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	95.53 %

Chronic hazards to the aquatic environment	97.61 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement:
Combustible liquid.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause genetic defects.
May cause cancer.
Harmful to aquatic life.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor/… IF ON SKIN: Wash with plenty of water/… If skin irritation or rash occurs: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see on this label). Wash contaminated clothing before reuse. In case of fire: Use… to extinguish.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Calcium Carbonate (Limestone)	1317-65-3	20 - <50%
Calcium carbonate	471-34-1	10 - <20%
Hydrotreated heavy naphtha	64742-48-9	1 - <5%
Calcium oxide	1305-78-8	1 - <5%
Titanium dioxide	13463-67-7	1 - <5%
Isophorone Diisocyanate	4098-71-9	0.1 - <1%
Stearic acid	57-11-4	0.1 - <1%
Tosyl isocyanate	4083-64-1	0.1 - <1%
Hydrotreated heavy naphthenic distillate	64742-52-5	0.1 - <1%
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	0.1 - <1%
Diisodecyl phthalate	26761-40-0	0.01 - <1%
2,4-Toluene diisocyanate	584-84-9	0.1 - <1%
Amorphous silica	7631-86-9	0.1 - <1%
4,4'-Methylene bis(phenylisocyanate)	101-68-8	0.1 - <1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Inhalation: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards:	Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.
Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Ventilate closed spaces before entering them. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep upwind. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Methods and material for containment and cleaning up:	Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
Notification Procedures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
Environmental Precautions:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling:	Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Calcium Carbonate (Limestone) - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium Carbonate (Limestone) - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium carbonate - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium carbonate - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium oxide	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Titanium dioxide	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Titanium dioxide - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Isophorone Diisocyanate	TWA	0.005 ppm	US. ACGIH Threshold Limit Values (2011)
Stearic acid - Respirable fraction.	TWA	3 mg/m3	US. ACGIH Threshold Limit Values (03 2017)
Stearic acid - Inhalable fraction.	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (03 2017)
Hydrotreated heavy naphthenic distillate - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (03 2014)
Hydrotreated heavy naphthenic distillate	PEL	500 ppm 2,000 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Hydrotreated heavy naphthenic distillate - Mist.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values (2011)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.05 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (03 2016)
	OSHA_ACT	0.025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	PEL	0.05 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
2,4-Toluene diisocyanate -	STEL	0.005 ppm	US. ACGIH Threshold Limit Values (03 2016)

Inhalable fraction and vapor.				
	TWA	0.001 ppm		US. ACGIH Threshold Limit Values (03 2016)
2,4-Toluene diisocyanate	Ceiling	0.02 ppm	0.14 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Amorphous silica	TWA		20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA		0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm		US. ACGIH Threshold Limit Values (2011)
	Ceiling	0.02 ppm	0.2 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Chemical name	**Type**	**Exposure Limit Values**	**Source**
Calcium Carbonate (Limestone) - Total dust.	STEL	20 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)

Calcium Carbonate (Limestone) - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium Carbonate (Limestone) - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Calcium carbonate - Total dust.	STEL	20 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium carbonate - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium carbonate - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium carbonate - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Hydrotreated heavy naphtha	TWA	525 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Calcium oxide	TWA	2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium oxide	TWA	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Calcium oxide	TWA	2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Isophorone Diisocyanate	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Isophorone Diisocyanate	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Isophorone Diisocyanate	TWA	0.005 ppm 0.045 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Hydrotreated heavy naphthenic distillate - Mist.	TWA	0.2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational

			Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
Hydrotreated heavy naphthenic distillate - Inhalable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Hydrotreated heavy naphthenic distillate - Mist.	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
2,4-Toluene diisocyanate	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
2,4-Toluene diisocyanate	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
2,4-Toluene diisocyanate	TWA	0.005 ppm 0.036 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	STEL	0.02 ppm 0.14 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
4,4'-Methylene bis(phenylisocyanate)	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm 0.051 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
2,4-Toluene diisocyanate (Toluene diamine (sum of 2,4- and 2,6-isomers), with hydrolysis: Sampling time:	5 µg/g (Creatinine in urine)	ACGIH BEI (03 2016)

End of shift.)		

Appropriate Engineering Controls Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required.

Eye/face protection: Wear goggles/face shield.

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state: liquid
Form: liquid
Color: Gray
Odor: Mild petroleum/solvent
Odor threshold: No data available.
pH: No data available.
Melting point/freezing point: No data available.
Initial boiling point and boiling range: No data available.
Flash Point: 75 °C 167 °F(San Francisco Closed Cup)
Evaporation rate: Slower than Ether
Flammability (solid, gas): No
Upper/lower limit on flammability or explosive limits
Flammability limit - upper (%): No data available.
Flammability limit - lower (%): No data available.
Explosive limit - upper (%): No data available.
Explosive limit - lower (%): No data available.

Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.37
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Heat, sparks, flames.
Incompatible Materials:	Alcohols. Amines. Strong acids. Strong bases. Water, moisture.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact:	Eye contact is possible and should be avoided.
Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 13,882.68 mg/kg

Dermal
Product: ATEmix: 9,911.7 mg/kg

Inhalation
Product: ATEmix: 13.85 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause sensitization by inhalation.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.
Hydrotreated heavy naphthenic distillate	Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Carcinogenic to humans.
Crystalline Silica (Quartz)/ Silica Sand	Overall evaluation: Carcinogenic to humans.
2,4-Toluene diisocyanate	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Hydrotreated heavy naphthenic distillate	Known To Be Human Carcinogen.
Crystalline Silica (Quartz)/ Silica Sand	Known To Be Human Carcinogen.
2,4-Toluene diisocyanate	Reasonably Anticipated to be a Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

Crystalline Silica (Quartz)/ Silica Sand	Cancer

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.

Other adverse effects: Harmful to aquatic organisms.

13. Disposal considerations

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

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	De minimis concentration: TSCA 5(a)(2)% One-Time Export Notification only.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Chemical Identity	OSHA hazard(s)
Crystalline Silica (Quartz)/ Silica Sand	kidney effects lung effects immune system effects Cancer

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	100 lbs.
4,4'-Methylene bis(phenylisocyanate)	5000 lbs.
Toluene-2,6-Diisocyanate	100 lbs.
Methanol	5000 lbs.
Propylene oxide	100 lbs.
Chlorobenzene	100 lbs.
Ethylbenzene	1000 lbs.
Naphthalene	100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard
Flammable liquids
Acute toxicity

Respiratory sensitizer
Skin sensitizer
Germ Cell Mutagenicity
Carcinogenicity
Static-accumulating flammable liquid

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
Isophorone Diisocyanate	500 lbs.	500 lbs.
2,4-Toluene diisocyanate	100 lbs.	500 lbs.
Toluene-2,6-Diisocyanate	100 lbs.	100 lbs.
Propylene oxide	100 lbs.	10000 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Isophorone Diisocyanate	
Diisodecyl phthalate	
2,4-Toluene diisocyanate	100 lbs.
4,4'-Methylene bis(phenylisocyanate)	5000 lbs.
Toluene-2,6-Diisocyanate	100 lbs.
Methanol	5000 lbs.
Propylene oxide	100 lbs.
Diisodecyl phthalate (mixed Is)	
Chlorobenzene	100 lbs.
Ethylbenzene	1000 lbs.
Naphthalene	100 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Isophorone Diisocyanate	500lbs
2,4-Toluene diisocyanate	500lbs
Toluene-2,6-Diisocyanate	100lbs
Propylene oxide	500lbs
Calcium Carbonate (Limestone)	10000 lbs
Calcium carbonate	10000 lbs
Hydrotreated heavy naphtha	10000 lbs
Calcium oxide	10000 lbs
Titanium dioxide	10000 lbs
Stearic acid	10000 lbs
Tosyl isocyanate	10000 lbs
Hydrotreated heavy naphthenic distillate	10000 lbs
Crystalline Silica (Quartz)/ Silica Sand	10000 lbs
Diisodecyl phthalate	10000 lbs
Amorphous silica	10000 lbs
4,4'-Methylene bis(phenylisocyanate)	10000 lbs

SARA 313 (TRI Reporting)

Chemical Identity
2,4-Toluene diisocyanate

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	lbs
Toluene-2,6-Diisocyanate	lbs
Propylene oxide	lbs

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65



WARNING
Cancer and Reproductive Harm - www.P65Warnings.ca.gov

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Calcium Carbonate (Limestone)
Calcium carbonate
Calcium oxide
Titanium dioxide
Hydrotreated heavy naphthenic distillate
Crystalline Silica (Quartz)/ Silica Sand
2,4-Toluene diisocyanate

US. Massachusetts RTK - Substance List

Chemical Identity
Calcium Carbonate (Limestone)
Calcium carbonate
Titanium dioxide
Isophorone Diisocyanate
Crystalline Silica (Quartz)/ Silica Sand
2,4-Toluene diisocyanate
Toluene-2,6-Diisocyanate
Propylene oxide

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Calcium Carbonate (Limestone)
Calcium carbonate
Hydrotreated heavy naphtha
Calcium oxide
Titanium dioxide
2,4-Toluene diisocyanate

US. Rhode Island RTK

Chemical Identity
Calcium Carbonate (Limestone)
Calcium carbonate
Titanium dioxide

International regulations

Montreal protocol
Not applicable

Stockholm convention
Not applicable

Rotterdam convention
Not applicable

Kyoto protocol
Not applicable

VOC:

Regulatory VOC (less water and exempt solvent)	:	86 g/l
VOC Method 310	:	6.24 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Mexico INSQ:	One or more components in this product are not listed on or exempt from the Inventory.
Ontario Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Taiwan Chemical Substance Inventory:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	07/21/2018
Version #:	1.2
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

SAFETY DATA SHEET

1. Identification

Material name: Vulkem® 350NF-SL
Material: 850712LV805

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
Tremco U.S Sealants
3735 Green Road
Beachwood OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 4

Health Hazards

Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1A

Unknown toxicity - Health

Acute toxicity, oral	36.43 %
Acute toxicity, dermal	38.6 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	99.65 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 2

Unknown toxicity - Environment

Acute hazards to the aquatic environment	97.21 %

Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement:
Combustible liquid.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause genetic defects.
May cause cancer.
Toxic to aquatic life.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention. Specific treatment (see on this label). Wash contaminated clothing before reuse. In case of fire: Use… to extinguish.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Calcium Carbonate (Limestone)	1317-65-3	30 - 60%
Hydrotreated heavy naphtha	64742-48-9	3 - 7%
Calcium oxide	1305-78-8	1 - 5%
Titanium dioxide	13463-67-7	1 - 5%
Isophorone Diisocyanate	4098-71-9	0.5 - 1.5%
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	0.1 - 1%
Hydrotreated heavy naphthenic distillate	64742-52-5	0.1 - 1%
Tosyl isocyanate	4083-64-1	0.1 - 1%
2,4-Toluene diisocyanate	584-84-9	0.1 - 1%
4,4'-Methylene bis(phenylisocyanate)	101-68-8	0.1 - 1%
Amorphous silica	7631-86-9	0.1 - 1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Inhalation: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.
Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Ventilate closed spaces before entering them. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep upwind. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Methods and material for containment and cleaning up:	Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
Notification Procedures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
Environmental Precautions:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling:	Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values		Source
Calcium Carbonate (Limestone) - Total dust.	PEL	15 mg/m3		US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium Carbonate (Limestone) - Respirable fraction.	PEL	5 mg/m3		US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium oxide	TWA	2 mg/m3		US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m3		US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Titanium dioxide	TWA	10 mg/m3		US. ACGIH Threshold Limit Values (2011)
Titanium dioxide - Total dust.	PEL	15 mg/m3		US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Titanium dioxide - Respirable fraction.	TWA	15 millions of particles per cubic foot of air		US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Total dust.	TWA	15 mg/m3		US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Respirable fraction.	TWA	5 mg/m3		US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Total dust.	TWA	50 millions of particles per cubic foot of air		US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Isophorone Diisocyanate	TWA	0.005 ppm		US. ACGIH Threshold Limit Values (2011)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3		US. ACGIH Threshold Limit Values (2011)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.05 mg/m3		US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (03 2016)
	OSHA_ACT	0.025 mg/m3		US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	PEL	0.05 mg/m3		US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWA	2.4 millions of particles per cubic foot of air		US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m3		US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Hydrotreated heavy naphthenic distillate - Inhalable fraction.	TWA	5 mg/m3		US. ACGIH Threshold Limit Values (03 2014)
Hydrotreated heavy naphthenic distillate	PEL	500 ppm	2,000 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Hydrotreated heavy naphthenic distillate - Mist.	PEL	5 mg/m3		US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
2,4-Toluene diisocyanate - Inhalable fraction and vapor.	STEL	0.005 ppm		US. ACGIH Threshold Limit Values (03 2016)
	TWA	0.001 ppm		US. ACGIH Threshold Limit Values (03 2016)
2,4-Toluene diisocyanate	Ceiling	0.02 ppm	0.14 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm		US. ACGIH Threshold Limit Values (2011)
	Ceiling	0.02 ppm	0.2 mg/m3	US. OSHA Table Z-1 Limits for Air

			Contaminants (29 CFR 1910.1000) (02 2006)
Amorphous silica	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)

Chemical name	Type	Exposure Limit Values	Source
Calcium Carbonate (Limestone) - Total dust.	STEL	20 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium Carbonate (Limestone) - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium Carbonate (Limestone) - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Hydrotreated heavy naphtha	TWA	525 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Calcium oxide	TWA	2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium oxide	TWA	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Calcium oxide	TWA	2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Isophorone Diisocyanate	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Isophorone Diisocyanate	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)

Isophorone Diisocyanate	TWA	0.005 ppm	0.045 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA		0.025 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA		0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA		0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Hydrotreated heavy naphthenic distillate - Mist.	TWA		0.2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
	TWA		1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
Hydrotreated heavy naphthenic distillate - Inhalable fraction.	TWA		5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	TWA		5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Hydrotreated heavy naphthenic distillate - Mist.	STEL		10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	TWA		5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
2,4-Toluene diisocyanate	CEILING	0.01 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	0.005 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
2,4-Toluene diisocyanate	TWA	0.005 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
2,4-Toluene diisocyanate	TWA	0.005 ppm	0.036 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	STEL	0.02 ppm	0.14 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
4,4'-Methylene bis(phenylisocyanate)	CEILING	0.01 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	0.005 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm	0.051 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
2,4-Toluene diisocyanate (Toluene diamine (sum of 2,4- and 2,6-isomers), with hydrolysis: Sampling time: End of shift.)	5 µg/g (Creatinine in urine)	ACGIH BEI (03 2016)

Appropriate Engineering Controls Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required.

Eye/face protection: Wear goggles/face shield.

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state: liquid
Form: liquid
Color: Gray
Odor: Mild petroleum/solvent
Odor threshold: No data available.
pH: No data available.
Melting point/freezing point: No data available.
Initial boiling point and boiling range: No data available.
Flash Point: 75 °C 167 °F(Setaflash Closed Cup)
Evaporation rate: Slower than Ether
Flammability (solid, gas): No

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.38
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Heat, sparks, flames.
Incompatible Materials:	Alcohols. Amines. Strong acids. Strong bases. Water, moisture.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact:	Eye contact is possible and should be avoided.
Ingestion:	May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 4,624.37 mg/kg

Dermal
Product: ATEmix: 61,025.51 mg/kg

Inhalation
Product: Not classified for acute toxicity based on available data.

Specified substance(s):

Hydrotreated heavy naphtha	LC 50 (Rat): > 8,530 mg/m3
Calcium oxide	LC 50 (Rat): 40 mg/m3
Titanium dioxide	LC 50 (Rat): 3.43 mg/l
Isophorone Diisocyanate	LC 50 (Rat): 135 - 160 mg/m3
Hydrotreated heavy naphthenic distillate	LC 50 (Rat): 9.6 mg/l
2,4-Toluene diisocyanate	LC 50 (Rat): 14 mg/l
Amorphous silica	LC 50 (Rat): > 2.08 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Specified substance(s):

Hydrotreated heavy naphtha	in vivo (Rabbit): Study design not appropriate to classify skin irritation. Experimental result, Supporting study
Calcium oxide	in vivo (Rabbit): Irritating Read-across from supporting substance (structural analogue or surrogate), Key study
Titanium dioxide	in vivo (Rabbit): Not irritant Experimental result, Supporting study
Hydrotreated heavy naphthenic distillate	in vivo (Rabbit): Not irritant Experimental result, Key study
2,4-Toluene diisocyanate	in vivo (Rabbit): Moderately irritating Experimental result, Supporting study
4,4'-Methylene bis(phenylisocyanate)	in vivo (Rabbit): Irritating Read-across based on grouping of substances (category approach), Key study
Amorphous silica	in vivo (Rabbit): Not irritant Experimental result, Key study

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Hydrotreated heavy naphtha	Rabbit, 24 - 72 hrs: Not irritating
Titanium dioxide	Rabbit, 24 hrs: Not irritating
Hydrotreated heavy naphthenic distillate	Rabbit, 24 hrs: Not irritating
2,4-Toluene diisocyanate	Rabbit, 24 - 72 hrs: Category 2
Amorphous silica	Rabbit, 24 hrs: Not irritating

Respiratory or Skin Sensitization

Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitization by inhalation.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.
Crystalline Silica (Quartz)/ Silica Sand	Overall evaluation: Carcinogenic to humans.
Hydrotreated heavy naphthenic distillate	Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Carcinogenic to humans.
2,4-Toluene diisocyanate	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Crystalline Silica (Quartz)/ Silica Sand	Known To Be Human Carcinogen.
Hydrotreated heavy naphthenic distillate	Known To Be Human Carcinogen.
2,4-Toluene diisocyanate	Reasonably Anticipated to be a Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product:	No data available.

Specified substance(s):

2,4-Toluene diisocyanate	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 108.8 - 240.4 mg/l Mortality

Aquatic Invertebrates

Product:	No data available.

Specified substance(s):

Titanium dioxide	EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication

Chronic hazards to the aquatic environment:

Fish

Product:	No data available.

Specified substance(s):

Hydrotreated heavy naphtha	LL 50 (Pimephales promelas, 14 d): 5.2 mg/l Experimental result, Supporting study NOAEL (Pimephales promelas, 14 d): 2.6 mg/l Experimental result, Supporting study NOAEL (Daphnia magna, 21 d): 2.6 mg/l Other, Key study EC 50 (Daphnia magna, 21 d): 10 mg/l Other, Key study
Hydrotreated heavy naphthenic distillate	NOAEL (Oncorhynchus mykiss, 14 d): >= 1,000 mg/l QSAR QSAR, Supporting study

Aquatic Invertebrates

Product:	No data available.

Toxicity to Aquatic Plants

Product:	No data available.

Persistence and Degradability

Biodegradation

Product:	No data available.

BOD/COD Ratio

Product:	No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.

Other adverse effects: Toxic to aquatic organisms.

13. Disposal considerations

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

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	De minimis concentration: TSCA 5(a)(2)% One-Time Export Notification only.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	100 lbs.
4,4'-Methylene bis(phenylisocyanate)	5000 lbs.
Toluene-2,6-Diisocyanate	100 lbs.
Chlorobenzene	100 lbs.
Propylene oxide	100 lbs.
Methanol	5000 lbs.
Ethylbenzene	1000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard
Delayed (Chronic) Health Hazard
Immediate (Acute) Health Hazards

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
Isophorone Diisocyanate	500 lbs.	500 lbs.
2,4-Toluene diisocyanate	100 lbs.	500 lbs.
Toluene-2,6-Diisocyanate	100 lbs.	100 lbs.
Propylene oxide	100 lbs.	10000 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Isophorone Diisocyanate	
Diisodecyl phthalate	
2,4-Toluene diisocyanate	100 lbs.
4,4'-Methylene bis(phenylisocyanate)	5000 lbs.
Polymethylene polyphenyl isocyanate	
Toluene-2,6-Diisocyanate	100 lbs.
Diisodecyl phthalate (mixed Is)	
Chlorobenzene	100 lbs.
Propylene oxide	100 lbs.
Methanol	5000 lbs.
Ethylbenzene	1000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Isophorone Diisocyanate	500lbs
2,4-Toluene diisocyanate	500lbs
Toluene-2,6-Diisocyanate	100lbs
Propylene oxide	500lbs
Calcium Carbonate (Limestone)	10000 lbs
Hydrotreated heavy naphtha	10000 lbs
Calcium oxide	10000 lbs
Titanium dioxide	10000 lbs
Crystalline Silica (Quartz)/ Silica Sand	10000 lbs
Hydrotreated heavy naphthenic distillate	10000 lbs
Tosyl isocyanate	10000 lbs
4,4'-Methylene bis(phenylisocyanate)	10000 lbs
Amorphous silica	10000 lbs

SARA 313 (TRI Reporting)

Chemical Identity
2,4-Toluene diisocyanate

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	lbs
Toluene-2,6-Diisocyanate	lbs
Propylene oxide	lbs

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65



WARNING
Cancer and Reproductive Harm - www.P65Warnings.ca.gov

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Calcium Carbonate (Limestone)
Calcium oxide
Titanium dioxide
Crystalline Silica (Quartz)/ Silica Sand
Hydrotreated heavy naphthenic distillate
2,4-Toluene diisocyanate

US. Massachusetts RTK - Substance List

Chemical Identity
Calcium Carbonate (Limestone)
Calcium oxide
Titanium dioxide
Isophorone Diisocyanate
Crystalline Silica (Quartz)/ Silica Sand
2,4-Toluene diisocyanate
Toluene-2,6-Diisocyanate
Propylene oxide

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Calcium Carbonate (Limestone)
Hydrotreated heavy naphtha
Calcium oxide
Titanium dioxide
2,4-Toluene diisocyanate

US. Rhode Island RTK

Chemical Identity
Calcium Carbonate (Limestone)
Calcium oxide
Titanium dioxide

International regulations

Montreal protocol
Not applicable

Stockholm convention
Not applicable

Rotterdam convention
Not applicable

Kyoto protocol
Not applicable

VOC:

Regulatory VOC (less water and exempt solvent)	:	85 g/l
VOC Method 310	:	6.15 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	07/21/2018
Version #:	1.1
Further Information:	No data available.

Disclaimer:

For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

SAFETY DATA SHEET

1. Identification

Material name: VULKEM 351 BEIGE
Material: 875714 805

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Tremco U.S Sealants
3735 Green Road
Cleveland OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 3

Health Hazards

Serious Eye Damage/Eye Irritation	Category 2B
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Carcinogenicity	Category 2

Unknown toxicity - Health

Acute toxicity, oral	16.09 %
Acute toxicity, dermal	30.43 %
Acute toxicity, inhalation, vapor	99.9 %
Acute toxicity, inhalation, dust or mist	99.55 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	62.86 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Flammable liquid and vapor.
Causes eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.
Harmful to aquatic life.

Precautionary Statement:

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. Specific treatment (see this label). Wash contaminated clothing before reuse. In case of fire: Use … to extinguish.

Storage: Store in well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*

Xylene	1330-20-7	15 - 40%
Talc	14807-96-6	10 - 30%
Titanium dioxide	13463-67-7	7 - 13%
Ethylbenzene	100-41-4	5 - 10%
Amorphous silica	7631-86-9	0.5 - 1.5%
Iron oxide	1309-37-1	0.1 - 1%
Dibutyl tin dilaurate	77-58-7	0.1 - 1%
Aluminum hydroxide	21645-51-2	0.1 - 1%
Aluminum oxide	1344-28-1	0.1 - 1%
Magnesite	546-93-0	0.1 - 1%
Isophorone Diisocyanate	4098-71-9	0.1 - 1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause a flash fire or ignite explosively. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Take precautionary measures against static discharges. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Xylene	TWA	100 ppm	US. ACGIH Threshold Limit Values

			(2011)
	STEL	150 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm 435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Talc - Respirable fraction.	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
Talc	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Talc - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Talc - Total dust.	TWA	0.3 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Titanium dioxide	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Ethylbenzene	TWA	20 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm 435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Amorphous silica	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Iron oxide - Respirable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (2011)
Iron oxide - Fume.	PEL	10 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Dibutyl tin dilaurate - as Sn	STEL	0.2 mg/m3	US. ACGIH Threshold Limit Values (2011)
	TWA	0.1 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	0.1 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Aluminum hydroxide - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
Aluminum oxide - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Aluminum oxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Magnesite - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Magnesite - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Isophorone Diisocyanate	TWA	0.005 ppm	US. ACGIH Threshold Limit Values (2011)

Chemical name	**type**	**Exposure Limit Values**	**Source**
Xylene	TWA	100 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	STEL	150 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Xylene	TWAEV	100 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	STEL	150 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Xylene	TWA	100 ppm 434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	150 ppm 651 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Talc - Respirable.	TWA	2 mg/m3		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Talc - Respirable particles.	TWAEV	2 mg/m3		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Talc	TWAEV	2 fibers/mL		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Talc - Respirable dust.	TWA	3 mg/m3		Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Titanium dioxide - Total dust.	TWA	10 mg/m3		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWAEV	10 mg/m3		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3		Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Ethylbenzene	TWA	20 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011)
Ethylbenzene	STEL	125 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	TWAEV	100 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Ethylbenzene	TWA	100 ppm	434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	125 ppm	543 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Isophorone Diisocyanate	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Isophorone Diisocyanate	TWAEV	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Isophorone Diisocyanate	TWA	0.005 ppm 0.045 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Xylene (Methylhippuric acids: Sampling time: End of shift.)	1.5 g/g (Creatinine in urine)	ACGIH BEL (03 2013)
Ethylbenzene (Sum of mandelic acid and phenylglyoxylic acid: Sampling time: End of shift.)	0.15 g/g (Creatinine in urine)	ACGIH BEL (02 2014)

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information:

Use explosion-proof ventilation equipment. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection:

Wear goggles/face shield.

Skin Protection

Hand Protection:

Use suitable protective gloves if risk of skin contact.

Other:

Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection:	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.
Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Beige
Odor:	Mild petroleum/solvent
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	> 121 °C > 250 °F
Flash Point:	27 °C 80 °F(Setaflash Closed Cup)
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	7.0 %(V)
Flammability limit - lower (%):	1.0 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.2845
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity: No data available.

Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Heat, sparks, flames.
Incompatible Materials:	Alcohols. Amines. Strong acids. Strong bases. Water, moisture.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 12,791.2 mg/kg

Dermal
Product: No data available.

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):

Xylene	in vivo (Rabbit, 24 hrs): Moderately irritating
Titanium dioxide	in vivo (Rabbit, 24 - 72 hrs): Not irritating
Ethylbenzene	Irritating
Amorphous silica	in vivo (Rabbit, 24 hrs): Not irritating
Iron oxide	in vivo (Rabbit, 1 - 72 hrs): Not irritating
Dibutyl tin dilaurate	in vivo (Rabbit, 24 hrs): Highly irritating
Aluminum hydroxide	in vivo (Rabbit, 24 hrs): Not irritating
Aluminum oxide	in vivo (Rabbit, 24 hrs): Not irritating
Magnesite	In vitro (Reconstituted Corneal Epithelium model, 10 min): Not irritating
Isophorone Diisocyanate	in vivo (Rabbit, 24 - 72 hrs): Category 1

Respiratory or Skin Sensitization

Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitization by inhalation.

Carcinogenicity

Product: Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Talc	Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Possibly carcinogenic to humans.
Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.
Ethylbenzene	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):

Xylene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 13.41 mg/l Mortality
Titanium dioxide	LC 50 (Mummichog (Fundulus heteroclitus), 96 h): > 1,000 mg/l Mortality
Ethylbenzene	LC 50 (Bluegill (Lepomis macrochirus), 24 h): 70 - 149 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 112 - 170 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 113 - 162 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 66 - 276 mg/l Mortality LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 24 h): 11 - 18 mg/l Mortality
Dibutyl tin dilaurate	LC 50 (Ide, silver or golden orfe (Leuciscus idus), 48 h): 2 mg/l Mortality

Aquatic Invertebrates
Product: No data available.

Specified substance(s):

Xylene	LC 50 (Water flea (Daphnia magna), 24 h): > 100 - 1,000 mg/l Mortality
Titanium dioxide	EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication
Ethylbenzene	EC 50 (Water flea (Daphnia magna), 24 h): 1.47 - 2.18 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.51 - 2.14 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.63 - 2.28 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 2.2 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.53 - 3.17 mg/l Intoxication
Dibutyl tin dilaurate	EC 50 (Water flea (Daphnia magna), 24 h): 0.66 mg/l Intoxication

Chronic hazards to the aquatic environment:

Fish

Product:	No data available.
Specified substance(s):	
Xylene	NOAEL (Oncorhynchus mykiss, 56 d): > 1.3 mg/l experimental result
Titanium dioxide	LC 0 (Coregonus autumnalis migratorius G., 30 d): 3 mg/l experimental result
Iron oxide	LOAEL (Pimephales promelas, 33 d): 1.6 mg/l experimental result
Aluminum hydroxide	LOAEL (Pimephales promelas, 28 d): 53.8 mg/l experimental result
Aluminum oxide	NOAEL (Pimephales promelas, 28 d): 4.7 mg/l experimental result

Aquatic Invertebrates

Product:	No data available.

Toxicity to Aquatic Plants

Product:	No data available.

Persistence and Degradability

Biodegradation

Product:	No data available.

BOD/COD Ratio

Product:	No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product:	No data available.

Partition Coefficient n-octanol / water (log Kow)

Product:	No data available.
Specified substance(s):	
Xylene	Log Kow: 3.12 - 3.20
Ethylbenzene	Log Kow: 3.15
Dibutyl tin dilaurate	Log Kow: 3.12

Mobility in Soil:	No data available.
Other Adverse Effects:	Harmful to aquatic organisms.

13. Disposal considerations

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

Contaminated Packaging: No data available.

14. Transport information

TDG:

UN1263, PAINT, 3, PG III

CFR / DOT:

UN1263, Paint, 3, PG III

IMDG:

UN1263, PAINT, 3, PG III

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Toluene	1000 lbs.
Barium sulfate	1000 lbs.
Chromium	5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
Isophorone Diisocyanate	500 lbs.	500 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Isophorone Diisocyanate	
Toluene	1000 lbs.
Barium sulfate	1000 lbs.
Chromium	5000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Isophorone Diisocyanate	500lbs
Xylene	500 lbs
Talc	500 lbs
Titanium dioxide	500 lbs
Ethylbenzene	500 lbs
Amorphous silica	500 lbs
Iron oxide	500 lbs
Dibutyl tin dilaurate	500 lbs
Aluminum hydroxide	500 lbs
Aluminum oxide	500 lbs
Magnesite	500 lbs

SARA 313 (TRI Reporting)

Chemical Identity
Xylene
Ethylbenzene

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Xylene
Talc
Titanium dioxide
Ethylbenzene

US. Massachusetts RTK - Substance List

Chemical Identity
Xylene
Talc
Titanium dioxide
Ethylbenzene
Isophorone Diisocyanate
Crystalline Silica (Quartz)/ Silica Sand
Chromium

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Xylene
Talc
Titanium dioxide
Ethylbenzene

US. Rhode Island RTK

Chemical Identity
Xylene
Ethylbenzene

Other Regulations:

Regulatory VOC (less water and exempt solvent):	353 g/l
VOC Method 310:	27.41 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	One or more components in this product are not listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.

Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	07/28/2015
Version #:	1.0
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

SAFETY DATA SHEET

1. Identification

Material name: Vulkem® 351
Material: 875712 805

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
Tremco U.S Sealants
3735 Green Road
Beachwood OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 3

Health Hazards

Serious Eye Damage/Eye Irritation	Category 2B
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Carcinogenicity	Category 2

Unknown toxicity - Health

Acute toxicity, oral	15.97 %
Acute toxicity, dermal	31.39 %
Acute toxicity, inhalation, vapor	99.9 %
Acute toxicity, inhalation, dust or mist	99.49 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	61.81 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Flammable liquid and vapor.
Causes eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.
Harmful to aquatic life.

Precautionary Statement:

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. Specific treatment (see this label). Wash contaminated clothing before reuse. In case of fire: Use … to extinguish.

Storage: Store in well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*

Xylene	1330-20-7	15 - 40%
Talc	14807-96-6	10 - 30%
Titanium dioxide	13463-67-7	10 - 30%
Ethylbenzene	100-41-4	5 - 10%
Amorphous silica	7631-86-9	1 - 5%
Aluminum hydroxide	21645-51-2	0.1 - 1%
Dibutyl tin dilaurate	77-58-7	0.1 - 1%
Aluminum oxide	1344-28-1	0.1 - 1%
Magnesite	546-93-0	0.1 - 1%
Isophorone Diisocyanate	4098-71-9	0.1 - 1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause a flash fire or ignite explosively. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Take precautionary measures against static discharges. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Xylene	TWA	100 ppm	US. ACGIH Threshold Limit Values

			(2011)
	STEL	150 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm 435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Talc - Respirable fraction.	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
Talc	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Talc - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Talc - Total dust.	TWA	0.3 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Titanium dioxide	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Ethylbenzene	TWA	20 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm 435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Amorphous silica	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Aluminum hydroxide - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
Dibutyl tin dilaurate - as Sn	STEL	0.2 mg/m3	US. ACGIH Threshold Limit Values (2011)
	TWA	0.1 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	0.1 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Aluminum oxide - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Aluminum oxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Magnesite - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Magnesite - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Isophorone Diisocyanate	TWA	0.005 ppm	US. ACGIH Threshold Limit Values (2011)

Chemical name	**type**	**Exposure Limit Values**	**Source**
Xylene	TWA	100 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	STEL	150 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Xylene	TWAEV	100 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	STEL	150 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Xylene	TWA	100 ppm 434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	150 ppm 651 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Talc - Respirable.	TWA	2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Talc - Respirable particles.	TWAEV	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Talc	TWAEV	2 fibers/mL	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Talc - Respirable dust.	TWA	3 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWAEV	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Ethylbenzene	TWA	20 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011)
Ethylbenzene	STEL	125 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	TWAEV	100 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Ethylbenzene	TWA	100 ppm 434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	125 ppm 543 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Amorphous silica - Total	TWA	4 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Amorphous silica - Respirable.	TWA	1.5 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Amorphous silica	TWAEV	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Amorphous silica - Respirable dust.	TWA	6 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Isophorone Diisocyanate	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Isophorone Diisocyanate	TWAEV	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Isophorone Diisocyanate	TWA	0.005 ppm 0.045 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Xylene (Methylhippuric acids: Sampling time: End of shift.)	1.5 g/g (Creatinine in urine)	ACGIH BEL (03 2013)
Ethylbenzene (Sum of mandelic acid and phenylglyoxylic acid: Sampling time: End of shift.)	0.15 g/g (Creatinine in urine)	ACGIH BEL (02 2014)

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information:	Use explosion-proof ventilation equipment. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Eye/face protection:	Wear goggles/face shield.
Skin Protection	
Hand Protection:	Use suitable protective gloves if risk of skin contact.
Other:	Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
Respiratory Protection:	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.
Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Gray
Odor:	Mild petroleum/solvent
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	121 °C 250 °F
Flash Point:	27 °C 80 °F(Setaflash Closed Cup)
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and

	in the bottom of containers.
Relative density:	1.17
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Heat, sparks, flames.
Incompatible Materials:	Alcohols. Amines. Strong acids. Strong bases. Water, moisture.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 12,994.31 mg/kg

Dermal
Product: No data available.

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):

Xylene	in vivo (Rabbit, 24 hrs): Moderately irritating
Titanium dioxide	in vivo (Rabbit, 24 - 72 hrs): Not irritating
Ethylbenzene	Irritating
Amorphous silica	in vivo (Rabbit, 24 hrs): Not irritating
Aluminum hydroxide	in vivo (Rabbit, 24 hrs): Not irritating
Dibutyl tin dilaurate	in vivo (Rabbit, 24 hrs): Highly irritating
Aluminum oxide	in vivo (Rabbit, 24 hrs): Not irritating
Magnesite	In vitro (Reconstituted Corneal Epithelium model, 10 min): Not irritating
Isophorone Diisocyanate	in vivo (Rabbit, 24 - 72 hrs): Category 1

Respiratory or Skin Sensitization
Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitization by inhalation.

Carcinogenicity
Product: Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Talc	Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Possibly carcinogenic to humans.
Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.
Ethylbenzene	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):

Xylene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 13.41 mg/l Mortality
Titanium dioxide	LC 50 (Mummichog (Fundulus heteroclitus), 96 h): > 1,000 mg/l Mortality
Ethylbenzene	LC 50 (Bluegill (Lepomis macrochirus), 24 h): 70 - 149 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 112 - 170 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 113 - 162 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 66 - 276 mg/l Mortality LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 24 h): 11 - 18 mg/l Mortality
Dibutyl tin dilaurate	LC 50 (Ide, silver or golden orfe (Leuciscus idus), 48 h): 2 mg/l Mortality

Aquatic Invertebrates
Product: No data available.

Specified substance(s):

Xylene	LC 50 (Water flea (Daphnia magna), 24 h): > 100 - 1,000 mg/l Mortality

Titanium dioxide	EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication
Ethylbenzene	EC 50 (Water flea (Daphnia magna), 24 h): 1.47 - 2.18 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.51 - 2.14 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.63 - 2.28 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 2.2 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.53 - 3.17 mg/l Intoxication
Dibutyl tin dilaurate	EC 50 (Water flea (Daphnia magna), 24 h): 0.66 mg/l Intoxication

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Xylene	NOAEL (Oncorhynchus mykiss, 56 d): > 1.3 mg/l experimental result
Titanium dioxide	LC 0 (Coregonus autumnalis migratorius G., 30 d): 3 mg/l experimental result
Aluminum hydroxide	LOAEL (Pimephales promelas, 28 d): 53.8 mg/l experimental result
Aluminum oxide	NOAEL (Pimephales promelas, 28 d): 4.7 mg/l experimental result

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Xylene	Log Kow: 3.12 - 3.20
Ethylbenzene	Log Kow: 3.15
Dibutyl tin dilaurate	Log Kow: 3.12

Mobility in Soil: No data available.

Other Adverse Effects: Harmful to aquatic organisms.

13. Disposal considerations

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

Contaminated Packaging: No data available.

14. Transport information

TDG:

UN1263, PAINT, 3, PG III

CFR / DOT:

UN1263, Paint, 3, PG III

IMDG:

UN1263, PAINT, 3, PG III

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Toluene	1000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
Isophorone Diisocyanate	500 lbs.	500 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Isophorone Diisocyanate	
Toluene	1000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Isophorone Diisocyanate	500lbs
Xylene	500 lbs
Talc	500 lbs
Titanium dioxide	500 lbs
Ethylbenzene	500 lbs
Amorphous silica	500 lbs
Aluminum hydroxide	500 lbs
Dibutyl tin dilaurate	500 lbs
Aluminum oxide	500 lbs
Magnesite	500 lbs

SARA 313 (TRI Reporting)

Chemical Identity
Xylene
Ethylbenzene

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Xylene
Talc
Titanium dioxide
Ethylbenzene
Amorphous silica

US. Massachusetts RTK - Substance List

Chemical Identity
Xylene
Talc
Titanium dioxide
Ethylbenzene
Amorphous silica
Isophorone Diisocyanate

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Xylene
Talc
Titanium dioxide
Ethylbenzene
Amorphous silica

US. Rhode Island RTK

Chemical Identity
Xylene
Ethylbenzene

Other Regulations:

Regulatory VOC (less water and exempt solvent):	317 g/l
VOC Method 310:	27.02 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	One or more components in this product are not listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.

US TSCA Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	07/28/2015
Version #:	1.0
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

SAFETY DATA SHEET

1. Identification

Material name: VULKEM 351 LIMESTONE
Material: 875805 805

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Tremco U.S Sealants
3735 Green Road
Cleveland OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 3

Health Hazards

Serious Eye Damage/Eye Irritation	Category 2B
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Carcinogenicity	Category 2

Unknown toxicity - Health

Acute toxicity, oral	15.29 %
Acute toxicity, dermal	29.84 %
Acute toxicity, inhalation, vapor	99.9 %
Acute toxicity, inhalation, dust or mist	99.52 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	62.08 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Flammable liquid and vapor.
Causes eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.
Harmful to aquatic life.

Precautionary Statement:

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. Specific treatment (see this label). Wash contaminated clothing before reuse. In case of fire: Use … to extinguish.

Storage: Store in well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*

Xylene	1330-20-7	15 - 40%
Talc	14807-96-6	10 - 30%
Titanium dioxide	13463-67-7	10 - 30%
Ethylbenzene	100-41-4	5 - 10%
Amorphous silica	7631-86-9	1 - 5%
Dibutyl tin dilaurate	77-58-7	0.1 - 1%
Aluminum hydroxide	21645-51-2	0.1 - 1%
Aluminum oxide	1344-28-1	0.1 - 1%
Magnesite	546-93-0	0.1 - 1%
Isophorone Diisocyanate	4098-71-9	0.1 - 1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause a flash fire or ignite explosively. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Take precautionary measures against static discharges. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Xylene	TWA	100 ppm	US. ACGIH Threshold Limit Values

			(2011)
	STEL	150 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm 435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Talc - Respirable fraction.	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
Talc	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Talc - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Talc - Total dust.	TWA	0.3 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Titanium dioxide	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Ethylbenzene	TWA	20 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm 435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Amorphous silica	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Dibutyl tin dilaurate - as Sn	STEL	0.2 mg/m3	US. ACGIH Threshold Limit Values (2011)
	TWA	0.1 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	0.1 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Aluminum hydroxide - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
Aluminum oxide - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Aluminum oxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Magnesite - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Magnesite - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Isophorone Diisocyanate	TWA	0.005 ppm	US. ACGIH Threshold Limit Values (2011)

Chemical name	**type**	**Exposure Limit Values**	**Source**
Xylene	TWA	100 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	STEL	150 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Xylene	TWAEV	100 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	STEL	150 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Xylene	TWA	100 ppm 434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	150 ppm 651 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Talc - Respirable.	TWA	2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Talc - Respirable particles.	TWAEV	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Talc	TWAEV	2 fibers/mL	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Talc - Respirable dust.	TWA	3 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWAEV	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Ethylbenzene	TWA	20 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011)
Ethylbenzene	STEL	125 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	TWAEV	100 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Ethylbenzene	TWA	100 ppm 434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	125 ppm 543 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Amorphous silica - Total	TWA	4 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Amorphous silica - Respirable.	TWA	1.5 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Amorphous silica	TWAEV	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Amorphous silica - Respirable dust.	TWA	6 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Isophorone Diisocyanate	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Isophorone Diisocyanate	TWAEV	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Isophorone Diisocyanate	TWA	0.005 ppm 0.045 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Xylene (Methylhippuric acids: Sampling time: End of shift.)	1.5 g/g (Creatinine in urine)	ACGIH BEL (03 2013)
Ethylbenzene (Sum of mandelic acid and phenylglyoxylic acid: Sampling time: End of shift.)	0.15 g/g (Creatinine in urine)	ACGIH BEL (02 2014)

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Use explosion-proof ventilation equipment. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear goggles/face shield.

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Gray
Odor:	Mild petroleum/solvent
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	121 °C 250 °F
Flash Point:	27 °C 80 °F(Setaflash Closed Cup)
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	7.0 %(V)
Flammability limit - lower (%):	1.0 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and

	in the bottom of containers.
Relative density:	1.17
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Heat, sparks, flames.
Incompatible Materials:	Alcohols. Amines. Strong acids. Strong bases. Water, moisture.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 12,820.96 mg/kg

Dermal
Product: No data available.

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):

Xylene	in vivo (Rabbit, 24 hrs): Moderately irritating
Titanium dioxide	in vivo (Rabbit, 24 - 72 hrs): Not irritating
Ethylbenzene	Irritating
Amorphous silica	in vivo (Rabbit, 24 hrs): Not irritating
Dibutyl tin dilaurate	in vivo (Rabbit, 24 hrs): Highly irritating
Aluminum hydroxide	in vivo (Rabbit, 24 hrs): Not irritating
Aluminum oxide	in vivo (Rabbit, 24 hrs): Not irritating
Magnesite	In vitro (Reconstituted Corneal Epithelium model, 10 min): Not irritating
Isophorone Diisocyanate	in vivo (Rabbit, 24 - 72 hrs): Category 1

Respiratory or Skin Sensitization
Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitization by inhalation.

Carcinogenicity
Product: Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Talc	Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Possibly carcinogenic to humans.
Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.
Ethylbenzene	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):

Xylene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 13.41 mg/l Mortality
Titanium dioxide	LC 50 (Mummichog (Fundulus heteroclitus), 96 h): > 1,000 mg/l Mortality
Ethylbenzene	LC 50 (Bluegill (Lepomis macrochirus), 24 h): 70 - 149 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 112 - 170 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 113 - 162 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 66 - 276 mg/l Mortality LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 24 h): 11 - 18 mg/l Mortality
Dibutyl tin dilaurate	LC 50 (Ide, silver or golden orfe (Leuciscus idus), 48 h): 2 mg/l Mortality

Aquatic Invertebrates
Product: No data available.

Specified substance(s):

Xylene	LC 50 (Water flea (Daphnia magna), 24 h): > 100 - 1,000 mg/l Mortality

Titanium dioxide	EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication
Ethylbenzene	EC 50 (Water flea (Daphnia magna), 24 h): 1.47 - 2.18 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.51 - 2.14 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.63 - 2.28 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 2.2 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.53 - 3.17 mg/l Intoxication
Dibutyl tin dilaurate	EC 50 (Water flea (Daphnia magna), 24 h): 0.66 mg/l Intoxication

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Xylene	NOAEL (Oncorhynchus mykiss, 56 d): > 1.3 mg/l experimental result
Titanium dioxide	LC 0 (Coregonus autumnalis migratorius G., 30 d): 3 mg/l experimental result
Aluminum hydroxide	LOAEL (Pimephales promelas, 28 d): 53.8 mg/l experimental result
Aluminum oxide	NOAEL (Pimephales promelas, 28 d): 4.7 mg/l experimental result

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Xylene	Log Kow: 3.12 - 3.20
Ethylbenzene	Log Kow: 3.15
Dibutyl tin dilaurate	Log Kow: 3.12

Mobility in Soil: No data available.

Other Adverse Effects: Harmful to aquatic organisms.

13. Disposal considerations

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

Contaminated Packaging: No data available.

14. Transport information

TDG:

UN1263, PAINT, 3, PG III

CFR / DOT:

UN1263, Paint, 3, PG III

IMDG:

UN1263, PAINT, 3, PG III

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Toluene	1000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
Isophorone Diisocyanate	500 lbs.	500 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Isophorone Diisocyanate	
Toluene	1000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Isophorone Diisocyanate	500lbs
Xylene	500 lbs
Talc	500 lbs
Titanium dioxide	500 lbs
Ethylbenzene	500 lbs
Amorphous silica	500 lbs
Dibutyl tin dilaurate	500 lbs
Aluminum hydroxide	500 lbs
Aluminum oxide	500 lbs
Magnesite	500 lbs

SARA 313 (TRI Reporting)

Chemical Identity
Xylene
Ethylbenzene

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Xylene
Talc
Titanium dioxide
Ethylbenzene
Amorphous silica

US. Massachusetts RTK - Substance List

Chemical Identity
Xylene
Talc
Titanium dioxide
Ethylbenzene
Amorphous silica
Isophorone Diisocyanate

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Xylene
Talc
Titanium dioxide
Ethylbenzene
Amorphous silica

US. Rhode Island RTK

Chemical Identity
Xylene
Ethylbenzene

Other Regulations:

Regulatory VOC (less water and exempt solvent):	324 g/l
VOC Method 310:	27.61 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	One or more components in this product are not listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.

US TSCA Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	07/28/2015
Version #:	1.0
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

SAFETY DATA SHEET

1. Identification

Material name: VULKEM 351 MAPLE
Material: 875717 805

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Tremco U.S Sealants
3735 Green Road
Cleveland OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 3

Health Hazards

Serious Eye Damage/Eye Irritation	Category 2B
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Carcinogenicity	Category 2

Unknown toxicity - Health

Acute toxicity, oral	15.86 %
Acute toxicity, dermal	30.25 %
Acute toxicity, inhalation, vapor	99.9 %
Acute toxicity, inhalation, dust or mist	99.55 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	62.8 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Flammable liquid and vapor.
Causes eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.
Harmful to aquatic life.

Precautionary Statement:

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. Specific treatment (see this label). Wash contaminated clothing before reuse. In case of fire: Use … to extinguish.

Storage: Store in well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*

Xylene	1330-20-7	15 - 40%
Talc	14807-96-6	10 - 30%
Titanium dioxide	13463-67-7	7 - 13%
Ethylbenzene	100-41-4	5 - 10%
Amorphous silica	7631-86-9	0.5 - 1.5%
Iron oxide	1309-37-1	0.1 - 1%
Dibutyl tin dilaurate	77-58-7	0.1 - 1%
Aluminum hydroxide	21645-51-2	0.1 - 1%
Aluminum oxide	1344-28-1	0.1 - 1%
Magnesite	546-93-0	0.1 - 1%
Isophorone Diisocyanate	4098-71-9	0.1 - 1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause a flash fire or ignite explosively. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Take precautionary measures against static discharges. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Xylene	TWA	100 ppm	US. ACGIH Threshold Limit Values

			(2011)
	STEL	150 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm 435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Talc - Respirable fraction.	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
Talc	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Talc - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Talc - Total dust.	TWA	0.3 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Titanium dioxide	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Ethylbenzene	TWA	20 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm 435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Amorphous silica	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Iron oxide - Respirable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (2011)
Iron oxide - Fume.	PEL	10 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Dibutyl tin dilaurate - as Sn	STEL	0.2 mg/m3	US. ACGIH Threshold Limit Values (2011)
	TWA	0.1 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	0.1 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Aluminum hydroxide - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
Aluminum oxide - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Aluminum oxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Magnesite - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Magnesite - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Isophorone Diisocyanate	TWA	0.005 ppm	US. ACGIH Threshold Limit Values (2011)

Chemical name	**type**	**Exposure Limit Values**	**Source**
Xylene	TWA	100 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	STEL	150 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Xylene	TWAEV	100 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	STEL	150 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Xylene	TWA	100 ppm 434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	150 ppm 651 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Talc - Respirable.	TWA	2 mg/m3		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Talc - Respirable particles.	TWAEV	2 mg/m3		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Talc	TWAEV	2 fibers/mL		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Talc - Respirable dust.	TWA	3 mg/m3		Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Titanium dioxide - Total dust.	TWA	10 mg/m3		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWAEV	10 mg/m3		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3		Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Ethylbenzene	TWA	20 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011)
Ethylbenzene	STEL	125 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	TWAEV	100 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Ethylbenzene	TWA	100 ppm	434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	125 ppm	543 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Isophorone Diisocyanate	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Isophorone Diisocyanate	TWAEV	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Isophorone Diisocyanate	TWA	0.005 ppm 0.045 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Xylene (Methylhippuric acids: Sampling time: End of shift.)	1.5 g/g (Creatinine in urine)	ACGIH BEL (03 2013)
Ethylbenzene (Sum of mandelic acid and phenylglyoxylic acid: Sampling time: End of shift.)	0.15 g/g (Creatinine in urine)	ACGIH BEL (02 2014)

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information:

Use explosion-proof ventilation equipment. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection:

Wear goggles/face shield.

Skin Protection

Hand Protection:

Use suitable protective gloves if risk of skin contact.

Other:

Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection:	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.
Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Brown
Odor:	Mild petroleum/solvent
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	121 °C 250 °F
Flash Point:	27 °C 80 °F(Setaflash Closed Cup)
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.17
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity: No data available.

Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Heat, sparks, flames.
Incompatible Materials:	Alcohols. Amines. Strong acids. Strong bases. Water, moisture.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 12,804.83 mg/kg

Dermal
Product: No data available.

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):

Xylene	in vivo (Rabbit, 24 hrs): Moderately irritating
Titanium dioxide	in vivo (Rabbit, 24 - 72 hrs): Not irritating
Ethylbenzene	Irritating
Amorphous silica	in vivo (Rabbit, 24 hrs): Not irritating
Iron oxide	in vivo (Rabbit, 1 - 72 hrs): Not irritating
Dibutyl tin dilaurate	in vivo (Rabbit, 24 hrs): Highly irritating
Aluminum hydroxide	in vivo (Rabbit, 24 hrs): Not irritating
Aluminum oxide	in vivo (Rabbit, 24 hrs): Not irritating
Magnesite	In vitro (Reconstituted Corneal Epithelium model, 10 min): Not irritating
Isophorone Diisocyanate	in vivo (Rabbit, 24 - 72 hrs): Category 1

Respiratory or Skin Sensitization

Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitization by inhalation.

Carcinogenicity

Product: Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Talc	Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Possibly carcinogenic to humans.
Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.
Ethylbenzene	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):

Xylene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 13.41 mg/l Mortality
Titanium dioxide	LC 50 (Mummichog (Fundulus heteroclitus), 96 h): > 1,000 mg/l Mortality
Ethylbenzene	LC 50 (Bluegill (Lepomis macrochirus), 24 h): 70 - 149 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 112 - 170 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 113 - 162 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 66 - 276 mg/l Mortality LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 24 h): 11 - 18 mg/l Mortality
Dibutyl tin dilaurate	LC 50 (Ide, silver or golden orfe (Leuciscus idus), 48 h): 2 mg/l Mortality

Aquatic Invertebrates
Product: No data available.

Specified substance(s):

Xylene	LC 50 (Water flea (Daphnia magna), 24 h): > 100 - 1,000 mg/l Mortality
Titanium dioxide	EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication
Ethylbenzene	EC 50 (Water flea (Daphnia magna), 24 h): 1.47 - 2.18 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.51 - 2.14 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.63 - 2.28 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 2.2 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.53 - 3.17 mg/l Intoxication
Dibutyl tin dilaurate	EC 50 (Water flea (Daphnia magna), 24 h): 0.66 mg/l Intoxication

Chronic hazards to the aquatic environment:

Fish

Product:	No data available.

Specified substance(s):

Xylene	NOAEL (Oncorhynchus mykiss, 56 d): > 1.3 mg/l experimental result
Titanium dioxide	LC 0 (Coregonus autumnalis migratorius G., 30 d): 3 mg/l experimental result
Iron oxide	LOAEL (Pimephales promelas, 33 d): 1.6 mg/l experimental result
Aluminum hydroxide	LOAEL (Pimephales promelas, 28 d): 53.8 mg/l experimental result
Aluminum oxide	NOAEL (Pimephales promelas, 28 d): 4.7 mg/l experimental result

Aquatic Invertebrates

Product:	No data available.

Toxicity to Aquatic Plants

Product:	No data available.

Persistence and Degradability

Biodegradation

Product:	No data available.

BOD/COD Ratio

Product:	No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product:	No data available.

Partition Coefficient n-octanol / water (log Kow)

Product:	No data available.

Specified substance(s):

Xylene	Log Kow: 3.12 - 3.20
Ethylbenzene	Log Kow: 3.15
Dibutyl tin dilaurate	Log Kow: 3.12

Mobility in Soil:	No data available.
Other Adverse Effects:	Harmful to aquatic organisms.

13. Disposal considerations

Disposal instructions:	Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Contaminated Packaging:	No data available.

14. Transport information

TDG:

UN1263, PAINT, 3, PG III

CFR / DOT:

UN1263, Paint, 3, PG III

IMDG:

UN1263, PAINT, 3, PG III

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Toluene	1000 lbs.
Barium sulfate	1000 lbs.
Chromium	5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
Isophorone Diisocyanate	500 lbs.	500 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Isophorone Diisocyanate	
Toluene	1000 lbs.
Barium sulfate	1000 lbs.
Chromium	5000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Isophorone Diisocyanate	500lbs
Xylene	500 lbs
Talc	500 lbs
Titanium dioxide	500 lbs
Ethylbenzene	500 lbs
Amorphous silica	500 lbs
Iron oxide	500 lbs
Dibutyl tin dilaurate	500 lbs
Aluminum hydroxide	500 lbs
Aluminum oxide	500 lbs
Magnesite	500 lbs

SARA 313 (TRI Reporting)

Chemical Identity
Xylene
Ethylbenzene

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Xylene
Talc
Titanium dioxide
Ethylbenzene

US. Massachusetts RTK - Substance List

Chemical Identity
Xylene
Talc
Titanium dioxide
Ethylbenzene
Isophorone Diisocyanate
Crystalline Silica (Quartz)/ Silica Sand
Chromium

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Xylene
Talc
Titanium dioxide
Ethylbenzene

US. Rhode Island RTK

Chemical Identity
Xylene
Ethylbenzene

Other Regulations:

Regulatory VOC (less water and exempt solvent):	322 g/l
VOC Method 310:	27.46 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	One or more components in this product are not listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.

Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	07/29/2015
Version #:	1.0
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

SAFETY DATA SHEET

1. Identification

Material name: VULKEM 351 SLATE GRAY
Material: 875713 805

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Tremco U.S Sealants
3735 Green Road
Cleveland OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 3

Health Hazards

Serious Eye Damage/Eye Irritation	Category 2B
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Carcinogenicity	Category 2
Toxic to reproduction	Category 2

Unknown toxicity - Health

Acute toxicity, oral	17.81 %
Acute toxicity, dermal	24.62 %
Acute toxicity, inhalation, vapor	99.89 %
Acute toxicity, inhalation, dust or mist	99.82 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	67.48 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word:	Danger
Hazard Statement:	Flammable liquid and vapor. Causes eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. Harmful to aquatic life.
Precautionary Statement: **Prevention:**	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.
Response:	If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. Specific treatment (see this label). Wash contaminated clothing before reuse. In case of fire: Use … to extinguish.
Storage:	Store in well-ventilated place. Keep cool. Store locked up.
Disposal:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other hazards which do not result in GHS classification:	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Xylene	1330-20-7	15 - 40%
Talc	14807-96-6	15 - 40%
Ethylbenzene	100-41-4	5 - 10%
Titanium dioxide	13463-67-7	1 - 5%
Amorphous silica	7631-86-9	0.5 - 1.5%
Dibutyl tin dilaurate	77-58-7	0.1 - 1%
Magnesite	546-93-0	0.1 - 1%
Isophorone Diisocyanate	4098-71-9	0.1 - 1%
Toluene	108-88-3	0.1 - 1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause a flash fire or ignite explosively. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Take precautionary measures against static discharges. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source

Xylene	TWA	100 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	150 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm 435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Talc - Respirable fraction.	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
Talc	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Talc - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Talc - Total dust.	TWA	0.3 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Ethylbenzene	TWA	20 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm 435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Titanium dioxide	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Amorphous silica	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Dibutyl tin dilaurate - as Sn	STEL	0.2 mg/m3	US. ACGIH Threshold Limit Values (2011)
	TWA	0.1 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	0.1 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Magnesite - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Magnesite - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Isophorone Diisocyanate	TWA	0.005 ppm	US. ACGIH Threshold Limit Values (2011)
Toluene	TWA	20 ppm	US. ACGIH Threshold Limit Values (2011)
	TWA	200 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)

	Ceiling	300 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	MAX. CONC	500 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)

Chemical name	type	Exposure Limit Values	Source
Xylene	TWA	100 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	STEL	150 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Xylene	TWAEV	100 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	STEL	150 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Xylene	TWA	100 ppm 434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	150 ppm 651 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Talc - Respirable.	TWA	2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Talc - Respirable particles.	TWAEV	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Talc	TWAEV	2 fibers/mL	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Talc - Respirable dust.	TWA	3 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Ethylbenzene	TWA	20 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011)
Ethylbenzene	STEL	125 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	TWAEV	100 ppm	Canada. Ontario OELs. (Control of

				Exposure to Biological or Chemical Agents) (11 2010)
Ethylbenzene	TWA	100 ppm	434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	125 ppm	543 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Titanium dioxide - Total dust.	TWA		10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA		3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWAEV		10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Titanium dioxide - Total dust.	TWA		10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Isophorone Diisocyanate	TWA	0.005 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Isophorone Diisocyanate	TWAEV	0.005 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	CEV	0.02 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)

Isophorone Diisocyanate	TWA	0.005 ppm	0.045 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Toluene	TWA	20 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Toluene	TWAEV	20 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Toluene	TWA	50 ppm	188 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Xylene (Methylhippuric acids: Sampling time: End of shift.)	1.5 g/g (Creatinine in urine)	ACGIH BEL (03 2013)
Ethylbenzene (Sum of mandelic acid and phenylglyoxylic acid: Sampling time: End of shift.)	0.15 g/g (Creatinine in urine)	ACGIH BEL (02 2014)
Toluene (o-Cresol, with hydrolysis: Sampling time: End of shift.)	0.3 mg/g (Creatinine in urine)	ACGIH BEL (03 2013)
Toluene (toluene: Sampling time: Prior to last shift of work week.)	0.02 mg/l (Blood)	ACGIH BEL (03 2013)
Toluene (toluene: Sampling time: End of shift.)	0.03 mg/l (Urine)	ACGIH BEL (03 2013)

Appropriate Engineering Controls Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Use explosion-proof ventilation equipment. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear goggles/face shield.

Skin Protection
Hand Protection: Use suitable protective gloves if risk of skin contact.

Other:	Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
Respiratory Protection:	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.
Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Gray
Odor:	Mild petroleum/solvent
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	> 121 °C > 250 °F
Flash Point:	27 °C 80 °F(Setaflash Closed Cup)
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	7.0 %(V)
Flammability limit - lower (%):	1.0 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.17
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Heat, sparks, flames.
Incompatible Materials:	Alcohols. Amines. Strong acids. Strong bases. Water, moisture.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 11,503.76 mg/kg

Dermal
Product: No data available.

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):

Xylene	in vivo (Rabbit, 24 hrs): Moderately irritating
Ethylbenzene	Irritating
Titanium dioxide	in vivo (Rabbit, 24 - 72 hrs): Not irritating
Amorphous silica	in vivo (Rabbit, 24 hrs): Not irritating
Dibutyl tin dilaurate	in vivo (Rabbit, 24 hrs): Highly irritating
Magnesite	In vitro (Reconstituted Corneal Epithelium model, 10 min): Not irritating
Isophorone Diisocyanate	in vivo (Rabbit, 24 - 72 hrs): Category 1
Toluene	in vivo (Rabbit, 24 - 72 hrs): Not irritating

Respiratory or Skin Sensitization

Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitization by inhalation.

Carcinogenicity

Product: Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Talc	Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Possibly carcinogenic to humans.
Ethylbenzene	Overall evaluation: Possibly carcinogenic to humans.
Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):

Xylene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 13.41 mg/l Mortality
Ethylbenzene	LC 50 (Bluegill (Lepomis macrochirus), 24 h): 70 - 149 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 112 - 170 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 113 - 162 mg/l Mortality LC 50 (Bluegill (Lepomis macrochirus), 24 h): 66 - 276 mg/l Mortality LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 24 h): 11 - 18 mg/l Mortality
Titanium dioxide	LC 50 (Mummichog (Fundulus heteroclitus), 96 h): > 1,000 mg/l Mortality
Dibutyl tin dilaurate	LC 50 (Ide, silver or golden orfe (Leuciscus idus), 48 h): 2 mg/l Mortality
Toluene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 71.7 - 82.8 mg/l Mortality

Aquatic Invertebrates
Product: No data available.

Specified substance(s):

Xylene	LC 50 (Water flea (Daphnia magna), 24 h): > 100 - 1,000 mg/l Mortality
Ethylbenzene	EC 50 (Water flea (Daphnia magna), 24 h): 1.47 - 2.18 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.51 - 2.14 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.63 - 2.28 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 2.2 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 24 h): 1.53 - 3.17 mg/l Intoxication
Titanium dioxide	EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication
Dibutyl tin dilaurate	EC 50 (Water flea (Daphnia magna), 24 h): 0.66 mg/l Intoxication
Toluene	LC 50 (Water flea (Daphnia magna), 24 h): 240 - 420 mg/l Mortality EC 50 (Water flea (Daphnia magna), 48 h): < 9.83 mg/l Intoxication

Chronic hazards to the aquatic environment:

Fish

Product:	No data available.

Specified substance(s):

Xylene	NOAEL (Oncorhynchus mykiss, 56 d): > 1.3 mg/l experimental result
Titanium dioxide	LC 0 (Coregonus autumnalis migratorius G., 30 d): 3 mg/l experimental result
Toluene	NOAEL (Pimephales promelas, 32 d): 4 mg/l experimental result

Aquatic Invertebrates

Product:	No data available.

Toxicity to Aquatic Plants

Product:	No data available.

Persistence and Degradability

Biodegradation

Product:	No data available.

BOD/COD Ratio

Product:	No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product:	No data available.

Specified substance(s):

Toluene	Green algae (Selenastrum capricornutum), Bioconcentration Factor (BCF): 3,016 (Static)

Partition Coefficient n-octanol / water (log Kow)

Product:	No data available.

Specified substance(s):

Xylene	Log Kow: 3.12 - 3.20
Ethylbenzene	Log Kow: 3.15
Dibutyl tin dilaurate	Log Kow: 3.12
Toluene	Log Kow: 2.73

Mobility in Soil:	No data available.
Other Adverse Effects:	Harmful to aquatic organisms.

13. Disposal considerations

Disposal instructions:	Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Contaminated Packaging:	No data available.

14. Transport information

TDG:

UN1263, PAINT, 3, PG III

CFR / DOT:

UN1263, Paint, 3, PG III

IMDG:

UN1263, PAINT, 3, PG III

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Toluene	1000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
Isophorone Diisocyanate	500 lbs.	500 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Isophorone Diisocyanate	
Toluene	1000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Isophorone Diisocyanate	500lbs
Xylene	500 lbs
Talc	500 lbs
Ethylbenzene	500 lbs
Titanium dioxide	500 lbs
Amorphous silica	500 lbs
Dibutyl tin dilaurate	500 lbs
Magnesite	500 lbs
Toluene	500 lbs

SARA 313 (TRI Reporting)

Chemical Identity
Xylene
Ethylbenzene

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Xylene
Talc
Ethylbenzene
Titanium dioxide

US. Massachusetts RTK - Substance List

Chemical Identity
Xylene
Talc
Ethylbenzene
Titanium dioxide
Isophorone Diisocyanate

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Xylene
Talc
Ethylbenzene
Titanium dioxide

US. Rhode Island RTK

Chemical Identity
Xylene
Ethylbenzene

Other Regulations:

Regulatory VOC (less water and exempt solvent):	350 g/l
VOC Method 310:	29.86 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	One or more components in this product are not listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.

Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	07/28/2015
Version #:	1.0
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

SAFETY DATA SHEET

1. Identification

Material name: Vulkem® 351
Material: 875806 805

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Tremco U.S Sealants
3735 Green Road
Beachwood OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 3

Health Hazards

Acute toxicity (Inhalation - dust and mist)	Category 4
Serious Eye Damage/Eye Irritation	Category 2B
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Carcinogenicity	Category 2

Unknown toxicity - Health

Acute toxicity, oral	8.84 %
Acute toxicity, dermal	32.69 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	98.93 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	61.45 %

Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement:
Flammable liquid and vapor.
Harmful if inhaled.
Causes eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.
Harmful to aquatic life.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting/] equipment. Use non-sparking tools. Take action to prevent static discharges. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor/… IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. If skin irritation or rash occurs: Get medical advice/attention. Call a POISON CENTRE/doctor/ if you feel unwell. Specific treatment (see this label). Wash contaminated clothing before reuse. In case of fire: Use … for extinction.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Titanium dioxide	13463-67-7	10 - <20%
Xylene	1330-20-7	10 - <20%
Talc	14807-96-6	5 - <10%
Ethylbenzene	100-41-4	1 - <5%
Aluminum oxide	1344-28-1	1 - <5%
Amorphous silica	7631-86-9	0.1 - <1%
Dibutyl tin dilaurate	77-58-7	0.1 - <1%
Isophorone Diisocyanate	4098-71-9	0.1 - <1%
Zirconium dioxide	1314-23-4	0.1 - <1%
Dolomite	16389-88-1	0.1 - <1%
Magnesite	546-93-0	0.1 - <1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTRE/doctor/ if you feel unwell. Rinse mouth.

Inhalation: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards:	Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.
Specific hazards arising from the chemical:	Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause a flash fire or ignite explosively. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Methods and material for containment and cleaning up:	Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
Notification Procedures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
Environmental Precautions:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Take precautionary measures against static discharges. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Titanium dioxide	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Titanium dioxide - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Xylene	STEL	150 ppm 655 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	100 ppm 435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	150 ppm 655 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	100 ppm 435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	150 ppm 655 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	100 ppm 435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	150 ppm 655 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	100 ppm 435 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	100 ppm 435 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	STEL	150 ppm 655 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	ST ESL	350 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	ST ESL	80 ppb	US. Texas. Effects Screening Levels (Texas

				Commission on Environmental Quality) (07 2011)
	AN ESL		42 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	AN ESL		180 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	STEL	150 ppm	655 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	Ceiling	300 ppm		US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	TWA PEL	100 ppm	435 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	TWA	100 ppm		US. ACGIH Threshold Limit Values (2011)
	STEL	150 ppm		US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm	435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Talc - Respirable fraction.	TWA		2 mg/m3	US. ACGIH Threshold Limit Values (2011)
Talc	TWA		20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Talc - Respirable.	TWA		2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA		0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Ethylbenzene	TWA	20 ppm		US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm	435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Aluminum oxide - Respirable fraction.	TWA		1 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL		5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Aluminum oxide - Total dust.	PEL		15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Aluminum oxide - Respirable fraction.	TWA		5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Aluminum oxide - Total dust.	TWA		15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
	TWA		50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Aluminum oxide - Respirable fraction.	TWA		15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Amorphous silica	TWA		20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA		0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Dibutyl tin dilaurate - as Sn	STEL		0.2 mg/m3	US. ACGIH Threshold Limit Values (2011)
	TWA		0.1 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL		0.1 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Isophorone Diisocyanate	TWA	0.005 ppm		US. ACGIH Threshold Limit Values (2011)
Zirconium dioxide - as Zr	STEL		10 mg/m3	US. ACGIH Threshold Limit Values (2011)
	TWA		5 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL		5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Dolomite - Inhalable particles.	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (03 2016)
Dolomite - Respirable particles.	TWA	3 mg/m3	US. ACGIH Threshold Limit Values (03 2016)
Dolomite - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Dolomite - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Magnesite - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Magnesite - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Chemical name	**Type**	**Exposure Limit Values**	**Source**
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Xylene	TWA	100 ppm 434 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
	STEL	150 ppm 651 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
Xylene	TWA	100 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	STEL	150 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Xylene	TWA	100 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	STEL	150 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Xylene	TWA	100 ppm 434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	150 ppm 651 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Talc - Respirable.	TWA		2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Talc	TWA		2 fibers/mL	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Talc - Respirable fraction.	TWA		2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Talc - Respirable dust.	TWA		3 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Ethylbenzene	TWA	20 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011)
Ethylbenzene	TWA	20 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Ethylbenzene	TWA	100 ppm	434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	125 ppm	543 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Aluminum oxide - Respirable fraction.	TWA		3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
Aluminum oxide - Total dust.	TWA		10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
Aluminum oxide - Respirable.	TWA		1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Aluminum oxide - Respirable fraction.	TWA		3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Aluminum oxide - Inhalable fraction.	TWA		10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Aluminum oxide - Respirable fraction.	TWA		1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Aluminum oxide - Total dust. - as Al	TWA		10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Isophorone Diisocyanate	TWA	0.005 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Isophorone Diisocyanate	TWA	0.005 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Isophorone Diisocyanate	TWA	0.005 ppm	0.045 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Xylene (Methylhippuric acids: Sampling time: End of shift.)	1.5 g/g (Creatinine in urine)	ACGIH BEI (03 2013)
Ethylbenzene (Sum of	0.15 g/g (Creatinine in urine)	ACGIH BEI (02 2014)

mandelic acid and phenylglyoxylic acid: Sampling time: End of shift.)		

Appropriate Engineering Controls Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Use explosion-proof ventilation equipment. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear goggles/face shield.

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	White
Odor:	Mild petroleum/solvent
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	27 °C 80 °F(Setaflash Closed Cup)
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%):	7.0 %(V)
Flammability limit - lower (%):	1.0 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.17
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Heat, sparks, flames.
Incompatible Materials:	Alcohols. Amines. Strong acids. Strong bases. Water, moisture.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes eye irritation.
Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 17,804.87 mg/kg

Dermal
Product: Not classified for acute toxicity based on available data.

Specified substance(s):

Xylene	LD 50 (Rabbit): 12,126 mg/kg
Ethylbenzene	LD 50 (Rabbit): 17,800 mg/kg
Amorphous silica	LD 50 (Rabbit): > 2,000 mg/kg
Isophorone Diisocyanate	LD 50 (Rat): > 7,000 mg/kg

Inhalation
Product: ATEmix: 2.03 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Specified substance(s):

Titanium dioxide	in vivo (Rabbit): Not irritant Experimental result, Supporting study
Xylene	in vivo (Rabbit): Moderate irritant Experimental result, Weight of Evidence study
Aluminum oxide	in vivo (Rabbit): Not irritant Experimental result, Key study
Amorphous silica	in vivo (Rabbit): Not irritant Experimental result, Key study
Dibutyl tin dilaurate	In vitro (Human, in vitro reconstituted epidermis model): Not irritant Experimental result, Supporting study
Magnesite	In vitro (Human, in vitro reconstituted epidermis model): Not irritant Experimental result, Key study

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Titanium dioxide	Rabbit, 24 hrs: Not irritating
Xylene	Rabbit, 24 hrs: Moderately irritating
Ethylbenzene	Rabbit, 7 d: Slightly irritating
Aluminum oxide	Rabbit, 24 hrs: Not irritating
Amorphous silica	Rabbit, 24 hrs: Not irritating
Dibutyl tin dilaurate	Rabbit, 24 hrs: Highly irritating
Zirconium dioxide	Rabbit, 24 hrs: Not irritating
Magnesite	Reconstituted Corneal Epithelium model, 10 min: Not irritating

Respiratory or Skin Sensitization

Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitization by inhalation.

Carcinogenicity

Product: Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.
Talc	Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Possibly carcinogenic to humans.
Ethylbenzene	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product:	No data available.

Specified substance(s):

Xylene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 13.41 mg/l Mortality
Ethylbenzene	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 96 h): 4.2 mg/l Mortality
Dibutyl tin dilaurate	LC 50 (Ide, silver or golden orfe (Leuciscus idus), 48 h): 2 mg/l Mortality

Aquatic Invertebrates

Product:	No data available.

Specified substance(s):

Titanium dioxide	EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication
Ethylbenzene	EC 50 (Water flea (Daphnia magna), 48 h): 1.37 - 4.4 mg/l Intoxication
Dibutyl tin dilaurate	EC 50 (Water flea (Daphnia magna), 24 h): 0.66 mg/l Intoxication

Chronic hazards to the aquatic environment:

Fish

Product:	No data available.

Aquatic Invertebrates

Product:	No data available.

Toxicity to Aquatic Plants

Product:	No data available.

Persistence and Degradability

Biodegradation

Product:	No data available.

BOD/COD Ratio

Product:	No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product:	No data available.

Partition Coefficient n-octanol / water (log Kow)

Product:	No data available.

Specified substance(s):

Xylene	Log Kow: 3.12 - 3.20

Ethylbenzene	Log Kow: 3.15
Dibutyl tin dilaurate	Log Kow: 3.12

Mobility in soil: No data available.

Other adverse effects: Harmful to aquatic organisms.

13. Disposal considerations

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

Contaminated Packaging: No data available.

14. Transport information

TDG:

UN1263, PAINT, 3, PG III

CFR / DOT:

UN1263, Paint, 3, PG III

IMDG:

UN1263, PAINT, 3, PG III

Further Information:
The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Naphthalene	100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Fire Hazard
Immediate (Acute) Health Hazards

Delayed (Chronic) Health Hazard
Flammable liquids
Acute toxicity
Serious Eye Damage/Eye Irritation
Respiratory sensitizer
Skin sensitizer
Carcinogenicity
Static-accumulating flammable liquid

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
Isophorone Diisocyanate	500 lbs.	500 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Isophorone Diisocyanate	
Naphthalene	100 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Isophorone Diisocyanate	500lbs
Titanium dioxide	10000 lbs
Xylene	10000 lbs
Talc	10000 lbs
Ethylbenzene	10000 lbs
Aluminum oxide	10000 lbs
Amorphous silica	10000 lbs
Dibutyl tin dilaurate	10000 lbs
Zirconium dioxide	10000 lbs
Dolomite	10000 lbs
Magnesite	10000 lbs

SARA 313 (TRI Reporting)

Chemical Identity
Xylene
Ethylbenzene
Aluminum oxide

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

Chemical Identity	Reportable quantity
Xylene	Reportable quantity: lbs.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Titanium dioxide	Carcinogenic. 09 2011
Naphthalene	Carcinogenic. 09 2011

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Titanium dioxide
Xylene
Talc
Ethylbenzene
Aluminum oxide

US. Massachusetts RTK - Substance List

Chemical Identity
Titanium dioxide
Xylene
Talc
Ethylbenzene
Aluminum oxide
Isophorone Diisocyanate

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Titanium dioxide
Xylene
Talc
Ethylbenzene
Aluminum oxide

US. Rhode Island RTK

Chemical Identity
Titanium dioxide
Xylene
Talc
Ethylbenzene
Aluminum oxide

International regulations

Montreal protocol
not applicable

Stockholm convention
not applicable

Rotterdam convention
not applicable

Kyoto protocol
not applicable

VOC:

Regulatory VOC (less water and exempt solvent)	:	232 g/l
VOC Method 310	:	19.83 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Mexico INSQ:	One or more components in this product are not listed on or exempt from the Inventory.
Ontario Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Taiwan Chemical Substance Inventory:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	06/26/2017
Version #:	2.0
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.