

# SAFETY DATA SHEET

## 1. Identification

**Material name:** VULKEM 350-R GRAY  
**Material:** 450712 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

Skin Corrosion/Irritation Category 2  
Respiratory sensitizer Category 1  
Skin sensitizer Category 1  
Germ Cell Mutagenicity Category 1B  
Carcinogenicity Category 1A  
Toxic to reproduction Category 1B

#### Unknown toxicity - Health

Acute toxicity, oral 12.57 %  
Acute toxicity, dermal 22.68 %  
Acute toxicity, inhalation, vapor 99.99 %  
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 83.78 %  
Chronic hazards to the aquatic environment 100 %

### Label Elements

**Hazard Symbol:**



**Signal Word:** Danger

**Hazard Statement:** Flammable liquid and vapor.  
Causes skin irritation.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.  
May cause genetic defects.  
May cause cancer.  
May damage 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 and 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 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 (%)*
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Aromatic petroleum distillates	64742-95-6	10 - 30%
Clay	1332-58-7	10 - 30%
Calcium Carbonate (Limestone)	1317-65-3	10 - 30%
1,2,4-Trimethylbenzene	95-63-6	7 - 13%
Titanium dioxide	13463-67-7	3 - 7%
1,3,5-Trimethylbenzene	108-67-8	1 - 5%
Trimethyl benzene (mixed isomers)	25551-13-7	1 - 5%
1,2,3-Trimethylbenzene	526-73-8	0.5 - 1.5%
Xylene	1330-20-7	0.5 - 1.5%
Cumene	98-82-8	0.1 - 1%
Magnesite	546-93-0	0.1 - 1%
Amorphous silica	7631-86-9	0.1 - 1%
Polymethylene polyphenyl isocyanate	9016-87-9	0.1 - 1%
Butyl benzyl phthalate	85-68-7	0.1 - 1%
Aluminum hydroxide	21645-51-2	0.1 - 1%
Aluminum oxide	1344-28-1	0.1 - 1%
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	0.1 - 1%
2,4-Toluene diisocyanate	584-84-9	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:** Take off immediately all contaminated clothing. Get medical 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:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

#### Most important symptoms/effects, acute and delayed

- Symptoms:** Respiratory tract irritation. Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping.

#### 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. 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 skin. Wash hands thoroughly after handling. 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
Clay - Respirable fraction.	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)
Clay - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
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)
1,2,4-Trimethylbenzene	TWA	25 ppm	US. ACGIH Threshold Limit Values (2011)
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)
1,3,5-Trimethylbenzene	TWA	25 ppm	US. ACGIH Threshold Limit Values (2011)
Trimethyl benzene (mixed isomers)	TWA	25 ppm	US. ACGIH Threshold Limit Values (2011)
1,2,3-Trimethylbenzene	TWA	25 ppm	US. ACGIH Threshold Limit Values (2011)
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)
Cumene	TWA	50 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	50 ppm 245 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)
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)
Polymethylene polyphenyl isocyanate	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)
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)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values (2011)
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)
Crystalline Silica (Quartz)/ Silica Sand - Total dust.	TWA	0.3 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
2,4-Toluene diisocyanate	TWA	0.005 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	0.02 ppm	US. ACGIH Threshold Limit Values (2011)
	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)
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Chemical name	type	Exposure Limit Values	Source
Clay - Respirable.	TWA	2 mg/m <sup>3</sup>	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Clay - Respirable fraction.	TWAEV	2 mg/m <sup>3</sup>	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Clay - Respirable dust.	TWA	5 mg/m <sup>3</sup>	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Calcium Carbonate (Limestone) - Total dust.	STEL	20 mg/m <sup>3</sup>	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	10 mg/m <sup>3</sup>	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) (12 2008)
1,2,4-Trimethylbenzene	TWA	25 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
1,2,4-Trimethylbenzene	TWAEV	25 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
1,2,4-Trimethylbenzene	TWA	25 ppm 123 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)
1,3,5-Trimethylbenzene	TWA	25 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
1,3,5-Trimethylbenzene	TWAEV	25 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
1,3,5-Trimethylbenzene	TWA	25 ppm 123 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Trimethyl benzene (mixed isomers)	TWA	25 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Trimethyl benzene	TWAEV	25 ppm	Canada. Ontario OELs. (Control of



(mixed isomers)				Exposure to Biological or Chemical Agents) (11 2010)
Trimethyl benzene (mixed isomers)	TWA	25 ppm	123 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
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)
Cumene	STEL	75 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	25 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Cumene	TWAEV	50 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Cumene	TWA	50 ppm	246 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Polymethylene polyphenyl isocyanate	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)
	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)
Polymethylene polyphenyl isocyanate	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)
Polymethylene polyphenyl isocyanate	TWA	0.005 ppm	0.051 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
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.	TWAEV		0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
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) (12 2008)
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	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)
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) (12 2008)
	STEL	0.02 ppm	0.14 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12

			2008)
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)	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)
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) (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)

**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. Provide easy access to water supply and eye wash facilities.

**Eye/face protection:**

Wear safety glasses with side shields (or goggles).

**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. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace.

## 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:** 48 °C 118 °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:** 1.177

### 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.

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

**11. Toxicological information****Information on likely routes of exposure**

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

**Information on toxicological effects****Acute toxicity (list all possible routes of exposure)**

<b>Oral Product:</b>	ATEmix: 31,803.36 mg/kg
<b>Dermal Product:</b>	ATEmix: 25,314.61 mg/kg
<b>Inhalation Product:</b>	No data available.

<b>Repeated dose toxicity Product:</b>	No data available.
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<b>Skin Corrosion/Irritation Product:</b>	No data available.
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<b>Serious Eye Damage/Eye Irritation Product:</b>	No data available.
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**Specified substance(s):**

Aromatic petroleum distillates	in vivo (Rabbit, 24 - 72 hrs): Not irritating
1,2,4-Trimethylbenzene	in vivo (Rabbit, 30 min): Not irritating
Titanium dioxide	in vivo (Rabbit, 24 - 72 hrs): Not irritating
1,3,5-Trimethylbenzene	in vivo (Rabbit, 30 min): Not irritating
Trimethyl benzene (mixed isomers)	Irritating
Xylene	in vivo (Rabbit, 24 hrs): Moderately irritating
Cumene	in vivo (Rabbit, 24 hrs): Not irritating
Magnesite	In vitro (Reconstituted Corneal Epithelium model, 10 min): Not irritating
Amorphous silica	in vivo (Rabbit, 24 hrs): Not irritating
Butyl benzyl phthalate	in vivo (Rabbit, 24 - 72 hrs): Not irritating
Aluminum hydroxide	in vivo (Rabbit, 24 hrs): Not irritating
Aluminum oxide	in vivo (Rabbit, 24 hrs): Not irritating
2,4-Toluene diisocyanate	in vivo (Rabbit, 24 - 72 hrs): Category 2
4,4'-Methylene bis(phenylisocyanate)	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:** No data available.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.
Cumene	Overall evaluation: Possibly 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:**

Cumene	Reasonably Anticipated to be a 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):**

No carcinogenic components identified

**Germ Cell Mutagenicity**

**In vitro**  
**Product:** No data available.

**In vivo**  
**Product:** No data available.

**Reproductive toxicity**  
**Product:** May damage 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

<b>Product:</b>	No data available.
<b>Specified substance(s):</b>	
1,2,4-Trimethylbenzene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 7.19 - 8.28 mg/l Mortality
Titanium dioxide	LC 50 (Mummichog (Fundulus heteroclitus), 96 h): > 1,000 mg/l Mortality
1,3,5-Trimethylbenzene	LC 50 (Goldfish (Carassius auratus), 96 h): 9.89 - 15.05 mg/l Mortality
Xylene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 13.41 mg/l Mortality
Cumene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 6.04 - 6.61 mg/l Mortality
Butyl benzyl phthalate	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 1.39 - 3.88 mg/l Mortality
2,4-Toluene diisocyanate	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 108.8 - 240.4 mg/l Mortality

##### Aquatic Invertebrates

<b>Product:</b>	No data available.
<b>Specified substance(s):</b>	
1,2,4-Trimethylbenzene	LC 50 (Scud (Elasmopus pectinicus), 24 h): 4.89 - 5.62 mg/l Mortality
Titanium dioxide	EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication
1,3,5-Trimethylbenzene	EC 50 (Water flea (Daphnia magna), 24 h): 50 mg/l Intoxication
Trimethyl benzene (mixed isomers)	LC 50 (Daggerblade grass shrimp (Palaemonetes pugio), 24 h): 7 mg/l Mortality
Xylene	LC 50 (Water flea (Daphnia magna), 24 h): > 100 - 1,000 mg/l Mortality
Cumene	LC 50 (Water flea (Daphnia magna), 24 h): 95 mg/l Mortality
Butyl benzyl phthalate	EC 50 (Water flea (Daphnia magna), 48 h): > 10 mg/l Intoxication EC 50 (Opossum shrimp (Americamysis bahia), 48 h): > 0.9 mg/l Mortality EC 50 (Water flea (Daphnia magna), 24 h): > 10 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 21 d): > 0.76 mg/l Intoxication EC 50 (Water flea (Daphnia magna), 14 d): > 0.76 mg/l Intoxication

#### Chronic hazards to the aquatic environment:

##### Fish

<b>Product:</b>	No data available.
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**Specified substance(s):**

Aromatic petroleum distillates	NOAEL (Daphnia magna, 21 d): 2.6 mg/l read across
Titanium dioxide	LC 0 (Coregonus autumnalis migratorius G., 30 d): 3 mg/l experimental result
Xylene	NOAEL (Oncorhynchus mykiss, 56 d): > 1.3 mg/l experimental result
Cumene	NOAEL (Danio rerio and Pimephales promelas, 28 d): 0.38 mg/l QSAR
Butyl benzyl phthalate	NOAEL (Pimephales promelas, 126 d): 64.6 - 67.5 µg/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.

**Specified substance(s):**

Butyl benzyl phthalate Bluegill (Lepomis macrochirus), Bioconcentration Factor (BCF): 772 (Flow through)

**Partition Coefficient n-octanol / water (log Kow)**

**Product:** No data available.

**Specified substance(s):**

Xylene Log Kow: 3.12 - 3.20  
Cumene Log Kow: 3.66  
Butyl benzyl phthalate Log Kow: 4.91

**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:**

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)**

**Chemical Identity**

2,4-Toluene diisocyanate

**Reportable quantity**

De minimis concentration: 0.1% One-Time Export Notification only.

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

**Chemical Identity**

Benzene

**OSHA hazard(s)**

Blood  
respiratory tract irritation  
Central nervous system  
Flammability  
Cancer  
Skin  
Aspiration  
Eye

**CERCLA Hazardous Substance List (40 CFR 302.4):**

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Xylene	100 lbs.
Cumene	5000 lbs.
Polymethylene	5000 lbs.
polyphenyl isocyanate	
Butyl benzyl phthalate	100 lbs.
2,4-Toluene diisocyanate	100 lbs.
4,4'-Methylene	5000 lbs.
bis(phenylisocyanate)	
Toluene-2,6-Diisocyanate	100 lbs.
Toluene	1000 lbs.
Benzene	10 lbs.
Naphthalene	100 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**

<u>Chemical Identity</u>	<u>Reportable quantity</u>	<u>Threshold Planning Quantity</u>
2,4-Toluene diisocyanate	100 lbs.	500 lbs.
Toluene-2,6-Diisocyanate	100 lbs.	100 lbs.

**SARA 304 Emergency Release Notification**

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Xylene	100 lbs.
Cumene	5000 lbs.
Polymethylene	5000 lbs.
polyphenyl isocyanate	
Butyl benzyl phthalate	100 lbs.
2,4-Toluene diisocyanate	100 lbs.
4,4'-Methylene	5000 lbs.
bis(phenylisocyanate)	
Toluene-2,6-Diisocyanate	100 lbs.
Toluene	1000 lbs.
Benzene	10 lbs.
Naphthalene	100 lbs.

**SARA 311/312 Hazardous Chemical**

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
2,4-Toluene diisocyanate	500lbs
Toluene-2,6-Diisocyanate	100lbs
Aromatic petroleum distillates	500 lbs
Clay	500 lbs
Calcium Carbonate (Limestone)	500 lbs
1,2,4-Trimethylbenzene	500 lbs
Titanium dioxide	500 lbs
1,3,5-Trimethylbenzene	500 lbs
Trimethyl benzene (mixed isomers)	500 lbs
1,2,3-Trimethylbenzene	500 lbs
Xylene	500 lbs
Cumene	500 lbs
Magnesite	500 lbs
Amorphous silica	500 lbs
Polymethylene polyphenyl isocyanate	500 lbs
Butyl benzyl phthalate	500 lbs
Aluminum hydroxide	500 lbs
Aluminum oxide	500 lbs
Crystalline Silica (Quartz)/ Silica Sand	500 lbs
4,4'-Methylene bis(phenylisocyanate)	500 lbs

**SARA 313 (TRI Reporting)**

<u>Chemical Identity</u>
1,2,4-Trimethylbenzene
2,4-Toluene diisocyanate

**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):**

<u>Chemical Identity</u>	<u>Reportable quantity</u>
2,4-Toluene diisocyanate	10000 lbs
Toluene-2,6-Diisocyanate	10000 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.

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

Clay  
Calcium Carbonate (Limestone)  
1,2,4-Trimethylbenzene  
Titanium dioxide  
1,3,5-Trimethylbenzene  
Trimethyl benzene (mixed isomers)  
Butyl benzyl phthalate  
Crystalline Silica (Quartz)/ Silica Sand  
2,4-Toluene diisocyanate

**US. Massachusetts RTK - Substance List****Chemical Identity**

Clay  
Calcium Carbonate (Limestone)  
1,2,4-Trimethylbenzene  
Titanium dioxide  
1,3,5-Trimethylbenzene  
Trimethyl benzene (mixed isomers)  
Crystalline Silica (Quartz)/ Silica Sand  
2,4-Toluene diisocyanate  
Toluene-2,6-Diisocyanate  
Benzene

**US. Pennsylvania RTK - Hazardous Substances****Chemical Identity**

Clay  
Calcium Carbonate (Limestone)  
1,2,4-Trimethylbenzene  
Titanium dioxide  
1,3,5-Trimethylbenzene  
Trimethyl benzene (mixed isomers)  
2,4-Toluene diisocyanate

**US. Rhode Island RTK****Chemical Identity**

1,2,4-Trimethylbenzene

**Other Regulations:**

<b>Regulatory VOC (less water and exempt solvent):</b>	334 g/l
<b>VOC Method 310:</b>	28.33 %

**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.

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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**

<b>Revision Date:</b>	09/29/2015
<b>Version #:</b>	1.0
<b>Further Information:</b>	No data available.
<b>Disclaimer:</b>	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.