SAFETY DATA SHEET

1. Identification

Material name: GEOGARD SEAM SEALER 850mL TUBES 12/CASE
Material: 492R333

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Tremco Incorporated
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 - 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	12.58 %
Acute toxicity, dermal	20.02 %
Acute toxicity, inhalation, vapor	98.64 %
Acute toxicity, inhalation, dust or mist	99.81 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	86.71 %

Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement:
Flammable liquid and vapor.
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. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical 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. [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 (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 CENTER/doctor. Specific treatment (see on this label). Wash contaminated clothing before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

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

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Calcium Carbonate (Limestone)	1317-65-3	10 - <20%
Xylene	1330-20-7	1 - <5%
Aromatic petroleum distillates	64742-95-6	1 - <5%
Titanium dioxide	13463-67-7	1 - <5%
1,2,4-Trimethylbenzene	95-63-6	1 - <5%
Aluminum	7429-90-5	1 - <5%
Hydrotreated heavy naphtha	64742-48-9	1 - <5%
Ethylbenzene	100-41-4	1 - <5%
1,3,5-Trimethylbenzene	108-67-8	0.1 - <1%
4,4'-Methylene bis(phenylisocyanate)	101-68-8	0.1 - <1%
Trimethyl benzene (mixed isomers)	25551-13-7	0.1 - <1%
Aluminum oxide	1344-28-1	0.1 - <1%
Cumene	98-82-8	0.1 - <1%
Polymethylene polyphenyl isocyanate	9016-87-9	0.1 - <1%
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	0.1 - <1%
2,4-Toluene diisocyanate	584-84-9	0.1 - <1%
Dibutyl tin dilaurate	77-58-7	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

Description of necessary first-aid measures

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.

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

Personal Protection for First-aid Responders: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Most important symptoms/effects, acute and delayed

Symptoms:	Respiratory tract irritation.
Hazards:	No data available.

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 fire-fighters

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

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

Handling

Technical measures (e.g. Local and general ventilation): 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.

Safe handling advice: 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 eyes, skin, and clothing. Wash hands thoroughly after handling.Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Contact avoidance measures: No data available.

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.

Storage

Safe storage conditions: Store locked up. Store in a well-ventilated place. Store in a cool place.

Safe packaging materials: No data available.

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), as amended (02 2006)
Calcium Carbonate (Limestone) - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Xylene	PEL	100 ppm 435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	TWA	20 ppm	US. ACGIH Threshold Limit Values, as amended (01 2022)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (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), as amended (03 2016)
Titanium dioxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)

Titanium dioxide - Respirable fraction.	TWA		5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (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), as amended (03 2016)
Titanium dioxide - Respirable finescale particles	TWA		2.5 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2022)
Titanium dioxide - Respirable nanoscale particles	TWA		0.2 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2022)
1,2,4-Trimethylbenzene	REL	25 ppm	125 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	TWA	25 ppm	125 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	10 ppm		US. ACGIH Threshold Limit Values, as amended (01 2022)
Aluminum - Respirable fraction.	TWA		1 mg/m3	US. ACGIH Threshold Limit Values, as amended (2011)
Aluminum - Total dust. - as Al	PEL		15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Aluminum - Respirable fraction. - as Al	PEL		5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
Aluminum - Respirable fraction.	TWA		5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
	TWA		15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Aluminum - Total dust.	TWA		50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
	TWA		15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Ethylbenzene	TWA	20 ppm		US. ACGIH Threshold Limit Values, as amended (2011)
	PEL	100 ppm	435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
1,3,5-Trimethylbenzene	TWA	10 ppm		US. ACGIH Threshold Limit Values, as amended (01 2022)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm		US. ACGIH Threshold Limit Values, as amended (2011)
	Ceiling	0.02 ppm	0.2 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Trimethyl benzene (mixed isomers)	TWA	25 ppm		US. ACGIH Threshold Limit Values, as amended (2011)
Aluminum oxide - Respirable fraction.	TWA		1 mg/m3	US. ACGIH Threshold Limit Values, as amended (2011)
	PEL		5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Aluminum oxide - Total dust.	PEL		15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	TWA		50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (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), as amended (03 2016)
	TWA		5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Aluminum oxide - Total dust.	TWA		15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as

				amended (03 2016)
Aluminum oxide - Inhalable particles.	TWA		10 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2021)
Aluminum oxide - Respirable particles.	TWA		3 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2021)
Cumene	PEL	50 ppm	245 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	TWA	5 ppm		US. ACGIH Threshold Limit Values, as amended (01 2021)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA		0.05 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016)
	OSHA_ACT		0.025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (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), as amended (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), as amended (2000)
	TWA		0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA		0.025 mg/m3	US. ACGIH Threshold Limit Values, as amended (02 2020)
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), as amended (02 2006)
2,4-Toluene diisocyanate - Inhalable fraction and vapor.	STEL	0.005 ppm		US. ACGIH Threshold Limit Values, as amended (03 2016)
	TWA	0.001 ppm		US. ACGIH Threshold Limit Values, as amended (03 2016)
Dibutyl tin dilaurate - as Sn	STEL		0.2 mg/m3	US. ACGIH Threshold Limit Values, as amended (2011)
	TWA		0.1 mg/m3	US. ACGIH Threshold Limit Values, as amended (2011)
	PEL		0.1 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (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 Biological 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 Biological 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 Biological 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 occupational health and safety), as amended (09 2017)
Xylene	STEL	150 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	100 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)

Xylene	STEL	150 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
	TWA	100 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Xylene	TWA	100 ppm	434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
	STEL	150 ppm	651 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)

Titanium dioxide - Total dust.	TWA		10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological 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 Biological 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), as amended (11 2010)
Titanium dioxide - Total dust.	TWA		10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
1,2,4-Trimethylbenzene	TWA	25 ppm	123 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
1,2,4-Trimethylbenzene	TWA	25 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
1,2,4-Trimethylbenzene	TWA	25 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
1,2,4-Trimethylbenzene	TWA	25 ppm		Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (03 2020)
Aluminum - Respirable fraction.	TWA		1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Aluminum	TWA		10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Aluminum - as Al	TWA		5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Aluminum - Welding fume. - as Al	TWA		5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Aluminum - Respirable.	TWA		1.0 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Hydrotreated heavy naphtha	TWA		525 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Ethylbenzene	TWA	20 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological 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), as amended (06 2015)
Ethylbenzene	TWA	20 ppm		Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (03 2020)
1,3,5-Trimethylbenzene	TWA	25 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
1,3,5-Trimethylbenzene	TWA	25 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
1,3,5-Trimethylbenzene	TWA	25 ppm		Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (03 2020)
4,4'-Methylene	CEILING	0.01 ppm		Canada. British Columbia OELs. (Occupational

bis(phenylisocyanate)			Exposure Limits for Chemical Biological 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 Biological 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), as amended (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm 0.051 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Cumene	STEL	75 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	25 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Cumene	TWA	50 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Cumene	TWA	50 ppm 246 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Polymethylene polyphenyl isocyanate	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological 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 Biological 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), as amended (06 2015)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
2,4-Toluene diisocyanate	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological 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 Biological 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), as amended (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
2,4-Toluene diisocyanate	TWA	0.005 ppm 0.036 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
	STEL	0.02 ppm 0.14 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)

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 mandelic acid and phenylglyoxylic acid: Sampling time: End of shift.)	0.15 g/g (Creatinine in urine)	ACGIH BEI (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

Eye/face protection: Wear goggles/face shield.

Skin Protection

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

Skin and Body Protection: 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: 48 °C 119 °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:	1.195
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: 25,717.93 mg/kg

Dermal
Product: ATEmix: 7,982.44 mg/kg

Inhalation
Product: ATEmix: 8.92 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Specified substance(s):

Xylene	in vivo (Rat): Slightly irritating , 24 h
Aromatic petroleum distillates	in vivo (Rabbit): Irritating , 7 d
Titanium dioxide	in vivo (Rabbit): Not irritant , 24 h
1,2,4-Trimethylbenzene	in vivo (Rabbit): Irritating , 24 - 72 h
Hydrotreated heavy naphtha	in vivo (Rabbit): Irritating , 72 h
1,3,5-Trimethylbenzene	in vivo (Rabbit): Irritating
4,4'-Methylene bis(phenylisocyanate)	in vivo (Rabbit): Irritating , 24 - 72 h
Aluminum oxide	in vivo (Rabbit): Not irritant , 24 - 72 h
Cumene	in vivo (Rabbit): Not irritant , 24 h
2,4-Toluene diisocyanate	(Rabbit): Moderately irritating , 4 - 72 h
Dibutyl tin dilaurate	In vitro (Human, in vitro reconstituted epidermis model): Not irritant , 15 min

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Xylene	Rabbit, 72 h: Moderately irritating Rabbit, 1 h: Not irritant
Aromatic petroleum distillates	Rabbit, 24 - 72 h: Minimal irritant
Titanium dioxide	Rabbit, 24 - 72 h: Not irritant
1,2,4-Trimethylbenzene	Rabbit, 30 min: Not irritant
Aluminum	Rabbit, 24 - 72 h: Not irritant
Hydrotreated heavy naphtha	Rabbit, 24 - 72 h: Minimal irritant
1,3,5-Trimethylbenzene	Rabbit, 30 min: Not irritant
Aluminum oxide	Rabbit, 24 - 72 h: Not irritant
Cumene	Rabbit, 24 - 72 h: Not irritant

2,4-Toluene diisocyanate	Rabbit, 0.04 - 14 d: Highly irritating Rabbit, 24 - 72 h: Category 2
Dibutyl tin dilaurate	Rabbit, 24 h: Highly 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.
Ethylbenzene	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 (Quartz)/ Sand	Silica	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), as amended:

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.

Specified substance(s):

Cumene	Inhalation - vapor: Category 3 with respiratory tract irritation.

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 (Pimephales promelas, 96 h): 8.2 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
1,2,4-Trimethylbenzene	LC 50 (Pimephales promelas, 96 h): 7.72 mg/l Experimental result, Key study
Aluminum	LC 50 (Pimephales promelas, 96 h): 20.3 mg/l Experimental result, Weight of Evidence study
Ethylbenzene	LC 50 (Oncorhynchus mykiss, 96 h): 4.2 mg/l Experimental result, Key study
4,4'-Methylene bis(phenylisocyanate)	LC 0 (Oryzias latipes, 96 h): > 3,000 mg/l Experimental result, Key study
Aluminum oxide	LC 50 (Pimephales promelas, 96 h): 1.16 mg/l Experimental result, Weight of Evidence study
Cumene	LC 50 (Cyprinodon variegatus, 96 h): 4.7 mg/l Experimental result, Key study
2,4-Toluene diisocyanate	LC 50 (Oncorhynchus mykiss, 96 h): 133 mg/l Read-across from supporting substance (structural analogue or surrogate), Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Aromatic petroleum distillates	EC 50 (Daphnia magna, 48 h): 4.5 mg/l experimental result Experimental result, Key study
Titanium dioxide	LC 50 (Daphnia magna, 48 h): > 100 mg/l experimental result Experimental result, Weight of Evidence study
1,2,4-Trimethylbenzene	LC 50 (Daphnia magna, 48 h): 3.6 mg/l experimental result Experimental result, Key study
Aluminum	LC 50 (Ceriodaphnia dubia, 48 h): 0.72 mg/l experimental result Experimental result, Weight of Evidence study
Hydrotreated heavy naphtha	EC 50 (Daphnia magna, 48 h): 4.5 mg/l experimental result Experimental result, Key study
Ethylbenzene	EC 50 (Daphnia magna, 48 h): 1.8 - 2.4 mg/l experimental result Experimental result, Key study
1,3,5-Trimethylbenzene	LC 50 (Daphnia magna, 48 h): 6 mg/l experimental result Experimental result, Key study
Aluminum oxide	EC 50 (Ceriodaphnia dubia, 48 h): 1.5 mg/l experimental result Experimental result, Weight of Evidence study
Cumene	EC 50 (Daphnia magna, 48 h): 2.14 mg/l experimental result Experimental result, Key study
2,4-Toluene diisocyanate	EC 50 (Daphnia magna, 48 h): 12.5 mg/l read-across from supporting substance (structural analogue or surrogate) Read-across from supporting substance (structural analogue or surrogate), Key study
Dibutyl tin dilaurate	EC 50 (Water flea (Daphnia magna), 24 h): 0.66 mg/l Intoxication EC 50 (Daphnia magna, 48 h): 1.7 - 3.4 mg/l experimental result Experimental result, Key study

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Hydrotreated heavy naphtha	NOAEL (Daphnia magna): 2.6 mg/l read across Other, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Aromatic petroleum distillates	EC 50 (Daphnia magna): 10 mg/l experimental result Experimental result, Key study
Titanium dioxide	NOAEL (Daphnia magna): 100 mg/l experimental result Experimental result, Supporting study
Aluminum	NOAEL (Ceriodaphnia dubia): 1.1 mg/l experimental result Experimental

	result, Weight of Evidence study
Hydrotreated heavy naphtha	NOAEL (Daphnia magna): 2.6 mg/l experimental result Experimental result, Key study
Ethylbenzene	NOAEL (Ceriodaphnia dubia): 1 mg/l secondary data Other, Key study
1,3,5-Trimethylbenzene	NOAEL (Daphnia magna): 0.4 mg/l experimental result Experimental result, Key study
4,4'-Methylene bis(phenylisocyanate)	NOAEL (Daphnia magna): >= 10 mg/l read-across based on grouping of substances (category approach) Read-across based on grouping of substances (category approach), Key study
Aluminum oxide	NOAEL (Daphnia magna): 1.89 mg/l experimental result Experimental result, Weight of Evidence study
Cumene	NOAEL (Daphnia magna): 0.35 mg/l experimental result Experimental result, Key study
2,4-Toluene diisocyanate	NOAEL (Daphnia magna): 0.5 mg/l read-across from supporting substance (structural analogue or surrogate) Read-across from supporting substance (structural analogue or surrogate), Key study

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s):

Ethylbenzene	70 - 80 % (28 d) Detected in water. Experimental result, Key study
1,3,5-Trimethylbenzene	50 % (4.4 d) Detected in water. QSAR, Key study
Cumene	70 % (20 d) Detected in water. Experimental result, Key study
Dibutyl tin dilaurate	23 % (39 d) Detected in water. Experimental result, Key study

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):

Xylene

Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 8.1 - < 25.9 Aquatic sediment Experimental result, Key study

Aromatic petroleum distillates	Bioconcentration Factor (BCF): 10 - 2,500 Aquatic sediment Estimated by calculation, Key study
1,2,4-Trimethylbenzene	Pimephales promelas, Bioconcentration Factor (BCF): 243 Aquatic sediment QSAR, Key study
Hydrotreated heavy naphtha	Bioconcentration Factor (BCF): 10 - 2,500 Aquatic sediment Estimated by calculation, Key study
Ethylbenzene	Oncorhynchus kisutch, Bioconcentration Factor (BCF): 1 Aquatic sediment Other, Key study
1,3,5-Trimethylbenzene	Pimephales promelas, Bioconcentration Factor (BCF): 161 Aquatic sediment QSAR, Key study
4,4'-Methylene bis(phenylisocyanate)	Cyprinus carpio, Bioconcentration Factor (BCF): 200 Aquatic sediment Experimental result, Key study
Cumene	Bioconcentration Factor (BCF): 94.69 Aquatic sediment Estimated by calculation, Key study

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Xylene	Log Kow: 2.77 - 3.15 No Not specified, Not specified
1,2,4-Trimethylbenzene	Log Kow: 3.78
Ethylbenzene	Log Kow: 3.15 Log Kow: 3.13 - 3.14 No Other, Supporting study
1,3,5-Trimethylbenzene	Log Kow: 3.42
4,4'-Methylene bis(phenylisocyanate)	Log Kow: 5.22
Cumene	Log Kow: 3.66
2,4-Toluene diisocyanate	Log Kow: 3.74
Dibutyl tin dilaurate	Log Kow: 3.12

Mobility in soil: No data available.

Other adverse effects: Harmful to aquatic organisms.

13. Disposal considerations

Disposal methods: 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:

UN1139, COATING SOLUTION, 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	Reportable quantity
2,4-Toluene diisocyanate	De minimis concentration: TSCA 5(a)(2)% One-Time Export Notification only.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

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

Chemical Identity	OSHA hazard(s)
Benzene	Blood respiratory tract irritation Central nervous system Flammability Cancer Skin Aspiration Eye

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
4,4'-Methylene bis(phenylisocyanate)	5000 lbs.
Cumene	5000 lbs.
2,4-Toluene diisocyanate	100 lbs.
Toluene	1000 lbs.
Toluene-2,6-Diisocyanate	100 lbs.
Naphthalene	100 lbs.
Benzene	10 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

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

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting

Chemical Identity	% by weight
Xylene	1.0%
1,2,4-Trimethylbenzene	1.0%
Aluminum	1.0%
Ethylbenzene	0.1%
2,4-Toluene diisocyanate	0.1%

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

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

Chemical Identity	Reportable quantity
Xylene	Reportable quantity: 100 lbs.

US State Regulations

US. California Proposition 65

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

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)	:	189 g/l
VOC Method 310	:	15.78 %

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.
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.
US TSCA Inventory:	All components in this product are 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:	01/12/2023
Version #:	2.3
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.