

Revision Date: 09/28/2016

SAFETY DATA SHEET

1. Identification

Material name: GEOGARD SEAM SEALER 850ML TUBES 12/CS

Material: 492R333

Recommended use and restriction on use

Recommended use: Coatings Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

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

Contact person:EH&S DepartmentTelephone: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 3
Acute toxicity (Inhalation - dust and Category 4

mist)

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 19.91 %
Acute toxicity, inhalation, vapor 94.43 %
Acute toxicity, inhalation, dust or mist 97.06 %

Environmental Hazards

Acute hazards to the aquatic Category 3 environment

Unknown toxicity - Environment

Acute hazards to the aquatic 90.16 %

environment

Chronic hazards to the aquatic 100 %

environment

Label Elements



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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/ventilating/lighting/equipment. Use only non-sparking tools. Take

precautionary measures against static discharge. 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 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. 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/shower. If skin irritation or rash occurs: Get medical advice/attention. Call a POISON CENTER/doctor. 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. 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.

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



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Mixtures

Chemical Identity	CAS number	Content in percent (%)*
one mean racinary	OAO Humber	Gontent in percent (70)
Calcium Carbonate (Limestone)	1317-65-3	10 - 30%
Xylene	1330-20-7	3 - 7%
Aromatic petroleum distillates	64742-95-6	3 - 7%
Titanium dioxide	13463-67-7	3 - 7%
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	0.5 - 1.5%
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

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.



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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.



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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 eyes, skin, and clothing. Wash hands thoroughly after handling. 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		Evnocuro Lie	mit Values	Source
Chemical identity	type	Exposure Lir	iiit values	Source
Calcium Carbonate	PEL		15 mg/m3	US. OSHA Table Z-1 Limits for Air
(Limestone) - Total				Contaminants (29 CFR 1910.1000)
dust.				(02 2006)
Calcium Carbonate	PEL		5 mg/m3	US. OSHA Table Z-1 Limits for Air
(Limestone) -				Contaminants (29 CFR 1910.1000)
Respirable fraction.				(02 2006)
Xylene	STEL	150 ppm	655	US. NIOSH: Pocket Guide to
			mg/m3	Chemical Hazards (2010)
	REL	100 ppm	435	US. NIOSH: Pocket Guide to
			mg/m3	Chemical Hazards (2010)
	STEL	150 ppm	655	US. NIOSH: Pocket Guide to
			mg/m3	Chemical Hazards (2010)
	REL	100 ppm	435	US. NIOSH: Pocket Guide to
			mg/m3	Chemical Hazards (2010)
	STEL	150 ppm	655	US. NIOSH: Pocket Guide to
			mg/m3	Chemical Hazards (2010)
	REL	100 ppm	435	US. NIOSH: Pocket Guide to
			mg/m3	Chemical Hazards (2010)
	STEL	150 ppm	655	US. OSHA Table Z-1-A (29 CFR
			mg/m3	1910.1000) (1989)
	TWA	100 ppm	435	US. OSHA Table Z-1-A (29 CFR
			mg/m3	1910.1000) (1989)
	TWA	100 ppm	435	US. Tennessee. OELs. Occupational
			mg/m3	Exposure Limits, Table Z1A (06 2008)
	STEL	150 ppm	655	US. Tennessee. OELs. Occupational
			mg/m3	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)



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Ceiling 300 ppm		STEL	150 ppm		
Ceiling				mg/m3	
Title 8, Section 5155. Airborne Contaminants (08 2010)					
Title 8, Section 5155. Airborne Contaminants (08 2010)		Ceiling	300 ppm		
TWA PEL 100 ppm 435 US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)					
PEL					
PEL		TWA	100 ppm	435	US. California Code of Regulations,
TWA				mg/m3	Title 8, Section 5155. Airborne
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(02 2006)	dust as Al			-	Contaminants (29 CFR 1910.1000)
Aluminum - Total dust. PEL 15 mg/m3 US, OSHA Table Z-1 Limits for Air					
· · · · · · · · · · · · · · · · · · ·	Aluminum - Total dust.	PEL		15 mg/m3	US. OSHA Table Z-1 Limits for Air



- as Al				Contaminants (29 CFR 1910.1000)
				(02 2006)
Hydrotreated heavy	PEL	100 ppm	400	US. OSHA Table Z-1 Limits for Air
naphtha			mg/m3	Contaminants (29 CFR 1910.1000)
				(02 2006)
Ethylbenzene	TWA	20 ppm		US. ACGIH Threshold Limit Values
				(2011)
	PEL	100 ppm	435	US. OSHA Table Z-1 Limits for Air
			mg/m3	Contaminants (29 CFR 1910.1000)
1.2.5 Trimethylberger	TWA	OF nom		(02 2006) US. ACGIH Threshold Limit Values
1,3,5-Trimethylbenzene	IVVA	25 ppm		(2011)
4,4'-Methylene	TWA	0.005 ppm		US. ACGIH Threshold Limit Values
bis(phenylisocyanate)	IVVA	0.005 ppm		(2011)
bis(prierrylisocyanate)	0 '''	0.02 nnm	0.2 mg/m3	US. OSHA Table Z-1 Limits for Air
	Ceiling	0.02 ppiii	0.2 mg/m3	Contaminants (29 CFR 1910.1000)
				(02 2006)
Trimethyl benzene	TWA	25 ppm		US. ACGIH Threshold Limit Values
(mixed isomers)	,	20 ρριτί		(2011)
Aluminum oxide -	TWA		1 mg/m3	US. ACGIH Threshold Limit Values
Respirable fraction.	,		· ····g/····c	(2011)
	PEL		5 mg/m3	US. OSHA Table Z-1 Limits for Air
	FLL		5 mg	Contaminants (29 CFR 1910.1000)
				(02 2006)
Aluminum oxide - Total	PEL		15 mg/m3	US. OSHA Table Z-1 Limits for Air
dust.			o o	Contaminants (29 CFR 1910.1000)
				(02 2006)
Cumene	TWA	50 ppm		US. ACGIH Threshold Limit Values
				(2011)
	PEL	50 ppm	245	US. OSHA Table Z-1 Limits for Air
			mg/m3	Contaminants (29 CFR 1910.1000)
				(02 2006)
Polymethylene	TWA	0.005 ppm		US. ACGIH Threshold Limit Values
polyphenyl isocyanate		0.00	0.0	(2011)
	Ceiling	0.02 ppm	0.2 mg/m3	US. OSHA Table Z-1 Limits for Air
				Contaminants (29 CFR 1910.1000) (02 2006)
Crystalline Silica	TWA		0.025	US. ACGIH Threshold Limit Values
(Quartz)/ Silica Sand -	IVVA		mg/m3	(2011)
Respirable fraction.			mg/ms	(2011)
Crystalline Silica	TWA		2.4	US. OSHA Table Z-3 (29 CFR
(Quartz)/ Silica Sand -	,		millions of	1910.1000) (2000)
Respirable.			particles	
			per cubic	
			foot of air	
	TWA		0.1 mg/m3	US. OSHA Table Z-3 (29 CFR
	1447		9	1910.1000) (2000)
Crystalline Silica	TWA		0.3 mg/m3	US. OSHA Table Z-3 (29 CFR
(Quartz)/ Silica Sand -			•	1910.1000) (2000)
Total dust.				
2,4-Toluene	TWA	0.005 ppm		US. ACGIH Threshold Limit Values
diisocyanate				(2011)
	STEL	0.02 ppm		US. ACGIH Threshold Limit Values
				(2011)
	Ceiling	0.02 ppm	0.14	US. OSHA Table Z-1 Limits for Air
			mg/m3	Contaminants (29 CFR 1910.1000)





			(02 2006)
Dibutyl tin dilaurate - as	STEL	0.2 mg/m3	US. ACGIH Threshold Limit Values
Sn		_	(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)

Chemical name	type	Exposure Lin	nit 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) (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)



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)
1,2,4-Trimethylbenzene	TWA	25 ppm	123 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
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	TWA	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)
Aluminum - 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 - Respirable fraction.	TWA		1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Aluminum	TWA		10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Aluminum - Welding fume as Al	TWA		5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Aluminum - as Al	TWA		5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Hydrotreated heavy naphtha	TWA		525 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)



Hydrotreated heavy naphtha	TWA	400 ppm	1,590 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (11 2011)
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)
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	TWA	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)
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) (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)
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	TWA	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	TWA	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)



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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 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) (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	TWA	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)

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)



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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:liquidForm:liquidColor: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.



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Explosive limit - upper (%):

Explosive limit - lower (%):

Vapor pressure:

No data available.

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:
Solubility (other):
Partition coefficient (n-octanol/water):
No data available.
No data available.
No data available.
No data available.
Viscosity:
No data available.
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: Eye contact is possible and should be avoided.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix: 17,055.48 mg/kg

Dermal

Product: ATEmix: 7,993.4 mg/kg



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Inhalation

Product: ATEmix: 8.62 mg/l

ATEmix: 2.06 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

Xylene in vivo (Rabbit): Experimental result, Weight of Evidence study

Aromatic petroleum

distillates

in vivo (Rabbit): Experimental result, Key study

Titanium dioxide in vivo (Rabbit): Experimental result, Supporting study

1,2,4-Trimethylbenzene in vivo (Rabbit): Read-across from supporting substance (structural

analogue or surrogate), Key study

Aluminum in vivo (Rabbit): Read-across from supporting substance (structural

analogue or surrogate), Supporting study

Hydrotreated heavy

naphtha

in vivo (Rabbit): Experimental result, Supporting study

1,3,5-Trimethylbenzene in vivo (Rabbit): Experimental result, Key study

4,4'-Methylene

bis(phenylisocyanate)

in vivo (Rabbit): Read-across based on grouping of substances (category

approach), Key study

Aluminum oxide in vivo (Rabbit): Experimental result, Key study

Cumene in vivo (Rabbit): Experimental result, Key study

2,4-Toluene diisocyanate

Toluene in vivo (Rabbit): Experimental result, Supporting study



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Dibutyl tin dilaurate In vitro (Human, in vitro reconstituted epidermis model): Experimental result,

Supporting study

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Xylene in vivo (Rabbit, 24 hrs): Moderately irritating

Aromatic petroleum

distillates

in vivo (Rabbit, 24 - 72 hrs): Not irritating

Titanium dioxide in vivo (Rabbit, 24 hrs): Not irritating

1,2,4-Trimethylbenzene in vivo (Rabbit, 30 min): Not irritating

in vivo (Rabbit, 24 hrs): Not irritating Aluminum

Hydrotreated heavy

naphtha

in vivo (Rabbit, 24 - 72 hrs): Not irritating

Ethylbenzene in vivo (Rabbit, 7 d): Slightly irritating

1,3,5-Trimethylbenzene in vivo (Rabbit, 30 min): Not irritating

4,4'-Methylene

bis(phenylisocyanate)

in vivo (Rabbit, 24 - 72 hrs): Not irritating

Trimethyl benzene

(mixed isomers)

Irritating

Aluminum oxide in vivo (Rabbit, 24 hrs): Not irritating

Cumene in vivo (Rabbit, 24 hrs): Not irritating

2,4-Toluene

diisocyanate

in vivo (Rabbit, 24 - 72 hrs): Category 2

Dibutyl tin dilaurate in vivo (Rabbit, 24 hrs): 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.



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IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Ethylbenzene Overall evaluation: Possibly carcinogenic to humans.

Cumene Overall evaluation: Possibly carcinogenic to humans.

Crystalline Silica

(Quartz)/ Silica

Sand

Overall evaluation: Possibly carcinogenic to humans.

Overall evaluation: Carcinogenic to humans.

2,4-Toluene diisocyanate

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

Cumene Reasonably Anticipated to be a Human Carcinogen.

Crystalline Silica Known To Be Human Carcinogen.

(Quartz)/ Silica

Sand

2,4-Toluene Reasonably Anticipated to be a Human Carcinogen.

diisocyanate

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.



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12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Xylene LC 50 (Bryconamericus iheringii, 96 h): 9.94 mg/l Read-across from

supporting substance (structural analogue or surrogate), Supporting study LC 50 (Oncorhynchus mykiss, 96 h): 8.05 mg/l Read-across from supporting

substance (structural analogue or surrogate), Supporting study LC 50 (Bryconamericus iheringii, 96 h): 6.9 mg/l Read-across from

supporting substance (structural analogue or surrogate), Supporting study LC 50 (Oncorhynchus mykiss, 96 h): 7.6 mg/l Read-across from supporting

substance (structural analogue or surrogate), Supporting study

LC 50 (Oncorhynchus mykiss, 96 h): 2.6 mg/l Read-across from supporting

substance (structural analogue or surrogate), Key study

1,2,4-Trimethylbenzene LC 50 (Various, 96 h): 3.41 mg/l QSAR QSAR, Supporting study

LC 50 (Oryzias latipes, 48 h): 18 mg/l Experimental result, Supporting study LC 50 (Oncorhynchus mykiss): 9.22 mg/l Not specified, Not specified LC 50 (Pimephales promelas, 96 h): 7.72 mg/l Experimental result, Key

study

LC 50 (Pimephales promelas, 96 h): 7.72 mg/l

Ethylbenzene LC 50 (Fathead minnow (Pimephales promelas), 96 h): 7.5 - 11 mg/l

Mortality

1,3,5-Trimethylbenzene LC 50 (Goldfish (Carassius auratus), 96 h): 9.89 - 15.05 mg/l Mortality

Cumene LC 50 (Fathead minnow (Pimephales promelas), 96 h): 6.04 - 6.61 mg/l

Mortality

2,4-Toluene diisocyanate LC 50 (Fathead minnow (Pimephales promelas), 96 h): 108.8 - 240.4 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 EC 50 (Daphnia magna, 48 h): 3.82 mg/l Read-across from supporting

substance (structural analogue or surrogate), Supporting study

EC 50 (Ceriodaphnia dubia, 48 h): > 3.4 mg/l Read-across from supporting

substance (structural analogue or surrogate), Supporting study IC 50 (Daphnia magna, 24 h): 4.7 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study IC 50 (Daphnia magna, 24 h): 3.6 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study IC 50 (Daphnia magna, 24 h): 2.2 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study

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

1,2,4-Trimethylbenzene LC 50 (Artemia sp., 24 h): 12 mg/l Experimental result, Supporting study

LC 50 (Artemia sp., 48 h): 3.6 mg/l Experimental result, Supporting study LC 50 (Americamysis bahia, 96 h): +/- +/- 2 mg/l Not specified, Not specified LC 50 (Daphnia sp., 48 h): 2.446 mg/l QSAR QSAR, Supporting study EC 50 (Daphnia magna, 48 h): +/- +/- 6.14 mg/l Not specified, Not specified

Ethylbenzene EC 50 (Water flea (Daphnia magna), 48 h): 1.37 - 4.4 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

Cumene LC 50 (Water flea (Daphnia magna), 24 h): 95 mg/l Mortality

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):

Aromatic petroleum

distillates

EC 50 (Daphnia magna, 21 d): 10 mg/l Other, Key study

Titanium dioxide LC 50 (Oncorhynchus mykiss, 28 d): 7.31 mg/l Read-across from supporting

substance (structural analogue or surrogate), Supporting study

Aluminum EC 10 (Pimephales promelas, 7 d): 0.481 mg/l Experimental result, Weight

of Evidence study

EC 10 (Pimephales promelas, 7 d): 0.726 mg/l Experimental result, Weight

of Evidence study

EC 10 (Pimephales promelas, 7 d): 0.457 mg/l Experimental result, Weight

of Evidence study

NOAEL (Salvelinus fontinalis, 60 d): > 0.35 mg/l Experimental result, Weight

of Evidence study

LOAEL (Pimephales promelas, 7 d): >= 0.831 mg/l Experimental result,

Weight of Evidence study

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

Cumene NOAEL (Danio rerio; Pimephales promelas, 28 d): 0.38 mg/l QSAR QSAR,

Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):



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Xylene NOAEL (Ceriodaphnia dubia, 7 d): 1.17 mg/l Read-across from supporting

substance (structural analogue or surrogate), Key study

NOAEL (Daphnia magna, 21 d): 1.57 mg/l Read-across from supporting

substance (structural analogue or surrogate), Supporting study

LOAEL (Daphnia magna, 21 d): 3.16 mg/l Read-across from supporting

substance (structural analogue or surrogate), Supporting study

EC 10 (Daphnia magna, 21 d): 1.91 mg/l Read-across from supporting

substance (structural analogue or surrogate), Supporting study EC 50 (Daphnia magna, 21 d): 2.9 mg/l Read-across from supporting

substance (structural analogue or surrogate), Supporting study

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):

Xylene Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 5.5 - < 12.2 Aquatic

sediment Experimental result, Key study

Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 8.1 - < 25.9 Aquatic

sediment Experimental result, Key study

Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 7.2 - < 24.2 Aquatic

sediment Experimental result, Key study

Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 7.4 - < 18.5 Aquatic

sediment Experimental result, Key study

Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 7.7 - < 21.2 Aquatic

sediment Experimental result, Key study

1,2,4-Trimethylbenzene Pimephales promelas, Bioconcentration Factor (BCF): 243 Aquatic sediment

QSAR, Key study

Cyprinus carpio, Bioconcentration Factor (BCF): 31 - 207 Aquatic sediment

Experimental result, Supporting study

Cyprinus carpio, Bioconcentration Factor (BCF): 33 - < 275 Aquatic

sediment Experimental result, Supporting study

Aluminum Brook trout (Salvelinus fontinalis), Bioconcentration Factor (BCF): 36 (Flow

through)

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

Specified substance(s):

Xylene Log Kow: 3.12 - 3.20



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Ethylbenzene Log Kow: 3.15

Cumene Log Kow: 3.66

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:

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)

<u>Chemical Identity</u> <u>Reportable quantity</u>

2,4-Toluene diisocyanate De minimis concentration: 0.1% One-Time Export Notification only.



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

<u>Chemical Identity</u> <u>OSHA hazard(s)</u>

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	5000 lbs.
bis(phenylisocyanate)	
Cumene	5000 lbs.
Polymethylene	5000 lbs.
polyphenyl isocyanate	
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

SARA 302 Extremely Hazardous Substance

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

SARA 304 Emergency Release Notification

SARA 304 Emergency Release Notification		
Chemical Identity	Reportable quantity	
Xylene	100 lbs.	
Ethylbenzene	1000 lbs.	
4,4'-Methylene	5000 lbs.	
bis(phenylisocyanate)		
Cumene	5000 lbs.	
Polymethylene	5000 lbs.	
polyphenyl isocyanate		
2,4-Toluene diisocyanate	100 lbs.	
Toluene	1000 lbs.	
Toluene-2,6-Diisocyanate	100 lbs.	
Naphthalene	100 lbs.	
Benzene	10 lbs.	



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SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
2,4-Toluene diisocyanate	500lbs
Toluene-2,6-Diisocyanate	100lbs
Calcium Carbonate	500 lbs
(Limestone)	
Xylene	500 lbs
Aromatic petroleum	500 lbs
distillates	
Titanium dioxide	500 lbs
1,2,4-Trimethylbenzene	500 lbs
Aluminum	500 lbs
Hydrotreated heavy	500 lbs
naphtha	
Ethylbenzene	500 lbs
1,3,5-Trimethylbenzene	500 lbs
4,4'-Methylene	500 lbs
bis(phenylisocyanate)	
Trimethyl benzene (mixed	500 lbs
isomers)	
Aluminum oxide	500 lbs
Cumene	500 lbs
Polymethylene polyphenyl	500 lbs
isocyanate	
Crystalline Silica (Quartz)/	500 lbs
Silica Sand	
Dibutyl tin dilaurate	500 lbs

SARA 313 (TRI Reporting)

Chemical Identity

Xylene

1,2,4-Trimethylbenzene

Aluminum

Ethylbenzene

2,4-Toluene diisocyanate

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

Chemical Identity Reportable quantity

Xylene 100 lbs.

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

Chemical Identity Reportable quantity

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.



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

Chemical Identity

Calcium Carbonate (Limestone)

Xylene

Titanium dioxide

1,2,4-Trimethylbenzene

Aluminum

Hydrotreated heavy naphtha

Ethylbenzene

Crystalline Silica (Quartz)/ Silica Sand

2,4-Toluene diisocyanate

US. Massachusetts RTK - Substance List

Chemical Identity

Calcium Carbonate (Limestone)

Xylene

Titanium dioxide

1,2,4-Trimethylbenzene

Aluminum

Hydrotreated heavy naphtha

Ethylbenzene

Crystalline Silica (Quartz)/ Silica Sand

2,4-Toluene diisocyanate

Toluene-2,6-Diisocyanate

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Calcium Carbonate (Limestone)

Xylene

Titanium dioxide

1,2,4-Trimethylbenzene

Aluminum

Hydrotreated heavy naphtha

Ethylbenzene

2,4-Toluene diisocyanate

US. Rhode Island RTK

Chemical Identity

Xylene

1,2,4-Trimethylbenzene

Aluminum

Ethylbenzene

Other Regulations:

Regulatory VOC (less water

189 q/l

and exempt solvent):

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



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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.

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

Revision Date: 09/28/2016

Version #: 2.1

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.