

SAFETY DATA SHEET



WEICON WR2 Epoxy Hardener

Section 1. Identification

GHS product identifier : WEICON WR2 Epoxy Hardener
Product code : 103502
Product type : Liquid.

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

Identified uses	
Hardener for resins.	
Uses advised against	Reason
Not applicable.	

Supplier's details : WEICON GmbH & Co. KG
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URL: www.weicon.de

e-mail address of person responsible for this SDS : msds@weicon.de

Emergency telephone number : +1 202 464 2554 / TRANSPORT EMERGENCY CONTACT - USA (24h): Tel: +1 202 464 2554

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 4
SKIN CORROSION - Category 1B
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1

Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 54.3%

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.

Precautionary statements

Prevention : P280 - Wear protective gloves, protective clothing and eye or face protection.

Response : P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor.
P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

Section 2. Hazards identification

Storage	: Not applicable.
Disposal	: P501 - Dispose of waste according to applicable legislation.
Hazards not otherwise classified	: None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
1,3-Cyclohexanedimethanamine	≤3.2	2579-20-6
benzyl alcohol	≤5	100-51-6
Phenol, styrenated	≤3	61788-44-1
3-aminomethyl-3,5,5-trimethylcyclohexylamine	≤3	2855-13-2
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine	≤3	186321-96-0
titanium dioxide	≤3	13463-67-7
3-aminopropyldimethylamine	≤3	109-55-7
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	≤3	68410-23-1
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)	≤3	113930-69-1
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	≤1.7	25513-64-8
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	≤3	9046-10-0
m-phenylenebis(methylamine)	≤3	1477-55-0
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	≤3	38294-64-3
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	<1	38294-64-3
polyethylenepolyamines	<1	90640-67-8
Phenol, styrenated	<1	61788-44-1
methanesulphonic acid	<1	75-75-2
decamethylcyclopentasiloxane	≤0.1	541-02-6
octamethylcyclotetrasiloxane	<0.1	556-67-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

Section 4. First aid measures

- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds
metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
1,3-Cyclohexanedimethanamine	None.
benzyl alcohol	OARS WEEL (United States, 1/2021). TWA: 10 ppm 8 hours.
Phenol, styrenated	None.
3-aminomethyl-3,5,5-trimethylcyclohexylamine	None.
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine	None.
titanium dioxide	ACGIH TLV (United States, 1/2021). TWA: 10 mg/m ³ 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 5/2018). TWA: 15 mg/m ³ 8 hours. Form: Total dust
3-aminopropyl dimethylamine	None.
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	None.

Section 8. Exposure controls/personal protection

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)	None.
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	None.
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	None.
m-phenylenebis(methylamine)	ACGIH TLV (United States, 1/2021). Absorbed through skin. C: 0.018 ppm OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. CEIL: 0.1 mg/m³ NIOSH REL (United States, 10/2020). Absorbed through skin. CEIL: 0.1 mg/m³
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	None.
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	None.
polyethylenepolyamines	None.
Phenol, styrenated	None.
methanesulphonic acid	None.
decamethylcyclopentasiloxane	OARS WEEL (United States, 1/2021). TWA: 10 ppm 8 hours.
octamethylcyclotetrasiloxane	OARS WEEL (United States, 1/2021). TWA: 10 ppm 8 hours.

Biological exposure indices

No exposure indices known.

- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/ or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Section 8. Exposure controls/personal protection

Skin protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. Recommended : 1 - 4 hours (breakthrough time): Protective gloves made of nitrile rubber (material thickness of 0,4 mm); EN 374-5 Cat. III ; 4 - 8 hours (breakthrough time): Protective gloves made of Viton®/ butyl rubber (material thickness of 0,7 mm); EN388 Cat.II / EN374 Cat.III / EN374-2
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended : organic vapor (Type AX) and particulate filter

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Beige. Gray.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : Not available.
- Boiling point, initial boiling point, and boiling range** : Not available.
- Flash point** :

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
3-aminopropyl dimethylamine	30.5	86.9				
octamethylcyclotetrasiloxane	56	132.8				
decamethylcyclopentasiloxane				82.7	180.9	ASTM D 3828-87
3-aminopropyltriethoxysilane	93	199.4	DIN 51758			
benzyl alcohol	100.56	213				
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	107	224.6	EU A.9			
3-aminomethyl-3,5,5-trimethylcyclohexylamine				110	230	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	114	237.2				
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	114	237.2				
1,3-Cyclohexanedimethanamine	116	240.8				

Section 9. Physical and chemical properties

Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine	>110	>230			
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)	128	262.4			
Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)-m-phenylenebis(methylamine)	128	262.4	ISO 2719	134	273.2
salicylic acid	157	314.6			
propylidynetrimethanol	172	341.6			
methanesulphonic acid	189	372.2			

Evaporation rate : Not available.

Flammability : Not available.

Lower and upper explosion limit/flammability limit : Not available.

Vapor pressure :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
3-aminopropyldimethylamine	4.42538	0.59				
octamethylcyclotetrasiloxane	0.99	0.13				
Poly[oxy(methyl-1,2-ethanediyl)], α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)-	0.68	0.091	OECD 104	1.58	0.21	OECD 104
decamethylcyclopentasiloxane	0.25	0.033				
2,4,6-tris(dimethylaminomethyl) phenol	0.06	0.008	EU A.4			
benzyl alcohol	0.05	0.0067				
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	0.03	0.004	OECD 104			
3-aminomethyl-3,5,5-trimethylcyclohexylamine	0.01	0.0013	OECD 104			
m-phenylenebis(methylamine)	0.01	0.0013	OECD 104			
polyethylenepolyamines	0.0026	0.00035	OECD 104			
methanesulphonic acid	0.00036	0.000048	OECD 104			
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	0	0				
propylidynetrimethanol	0	0				

Relative vapor density : Not available.

Relative density : Not available.

Density : 1.45 to 1.54 g/cm³ [20°C (68°F)]

Solubility(ies) :
Not available.

Solubility in water : Not available.

Miscible with water : No.

Section 9. Physical and chemical properties

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature :

Ingredient name	°C	°F	Method
3-aminopropyldimethylamine	215	419	
decamethylcyclopentasiloxane	372	701.6	ASTM E 659-78
2,4,6-tris(dimethylaminomethyl)phenol	382	719.6	EU A.15
octamethylcyclotetrasiloxane	384 to 387	723.2 to 728.6	ASTM E 659
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	398	748.4	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	406	762.8	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	406	762.8	
benzyl alcohol	436	816.8	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)	526	978.8	
methanesulphonic acid	535	995	DIN 51794
salicylic acid	540	1004	

Decomposition temperature : Not available.

Viscosity : Not available.

Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

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

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
1,3-Cyclohexanedimethanamine	LD50 Oral	Rat	880 mg/kg	-
benzyl alcohol	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Mouse	1360 mg/kg	-
	LD50 Oral	Mouse	1360 mg/kg	-
	LD50 Oral	Rabbit	1040 mg/kg	-
	LD50 Oral	Rabbit	1040 mg/kg	-
	LD50 Oral	Rat	1.5 mL/kg	-
	LD50 Oral	Rat	1230 mg/kg	-
	LD50 Oral	Rat	1660 mg/kg	-
	methanesulphonic acid	LD50 Oral	Rat	200 mg/kg
octamethylcyclotetrasiloxane	LC50 Inhalation Vapor	Rat	36 g/m ³	4 hours

Acute toxicity estimates

Route	ATE value
Oral	1792.59 mg/kg
Dermal	8749.83 mg/kg
Inhalation (dusts and mists)	15.3 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
benzyl alcohol	Skin - Mild irritant	Man	-	48 hours 16 mg	-
	Skin - Moderate irritant	Pig	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 100 mg	-
titanium dioxide	Skin - Mild irritant	Human	-	72 hours 300 ug l	-
methanesulphonic acid	Eyes - Severe irritant	Rabbit	-	0.1 MI	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-

Reproductive toxicity

Not available.

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Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
methanesulphonic acid	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns. May cause an allergic skin reaction.
Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
 pain
 watering
 redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur

Ingestion : Adverse symptoms may include the following:
 stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects : No known significant effects or critical hazards.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
benzyl alcohol	Acute LC50 10000 µg/l Fresh water	Fish - <i>Lepomis macrochirus</i>	96 hours
	Acute LC50 15000 µg/l Marine water	Fish - <i>Menidia beryllina</i>	96 hours
	Acute LC50 460000 µg/l Fresh water	Fish - <i>Pimephales promelas</i> - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
titanium dioxide	Acute EC50 19.3 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute EC50 27.8 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute EC50 35.306 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 3 mg/l Fresh water	Crustaceans - <i>Ceriodaphnia dubia</i> - Neonate	48 hours
	Acute LC50 13.4 mg/l Fresh water	Crustaceans - <i>Ceriodaphnia dubia</i> - Neonate	48 hours
	Acute LC50 11 mg/l Fresh water	Crustaceans - <i>Ceriodaphnia dubia</i> - Neonate	48 hours
	Acute LC50 3.6 mg/l Fresh water	Crustaceans - <i>Ceriodaphnia dubia</i> - Neonate	48 hours
	Acute LC50 15.9 mg/l Fresh water	Crustaceans - <i>Ceriodaphnia dubia</i> - Neonate	48 hours
	Acute LC50 6.5 mg/l Fresh water	Daphnia - <i>Daphnia pulex</i> - Neonate	48 hours
	Acute LC50 13 mg/l Fresh water	Daphnia - <i>Daphnia pulex</i> - Neonate	48 hours
	Acute LC50 >1000000 µg/l Marine water	Fish - <i>Fundulus heteroclitus</i>	96 hours
Acute LC50 >1000 mg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours	

Persistence and degradability

Not available.

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
1,3-Cyclohexanedimethanamine	0.783	-	Low
benzyl alcohol	0.87	-	Low
3-aminomethyl-3,5,5-trimethylcyclohexylamine	0.99	-	Low
3-aminopropyldimethylamine	-0.352	-	Low
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)	-	4.77	Low
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	-0.3	-	Low
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-m-phenylenebis(methylamine)	1.34	-	Low
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	0.18	2.69	Low
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	-	5.13	Low
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	-	5.13	Low
polyethylenepolyamines	-2.65	-	Low
methanesulphonic acid	-2.38	-	Low
decamethylcyclopentasiloxane	8.023	7060	High
octamethylcyclotetrasiloxane	6.488	13400	High

Mobility in soil








Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN number	Not available.	UN3082	UN3082	UN1760	UN1760
UN proper shipping name	Not available.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, styrenated, Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, styrenated, Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine)	CORROSIVE LIQUID, N.O.S. (1,3-Cyclohexanedimethanamine, 3-aminomethyl-3,5,5-trimethylcyclohexylamine)	CORROSIVE LIQUID, N.O.S. (1,3-Cyclohexanedimethanamine, 3-aminomethyl-3,5,5-trimethylcyclohexylamine)
Transport hazard class(es)	Not available.	9  	9  	8  	8 
Packing group	-	III	III	II	II
Environmental hazards	No.	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

- TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.43-2.45 (Class 9), 2.7 (Marine pollutant mark). Non-bulk packages of this product are not regulated as dangerous goods when transported by road or rail.
- Mexico Classification** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 14. Transport information

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 4(a) final test rules:** octamethylcyclotetrasiloxane
TSCA 8(a) PAIR: Siloxanes and Silicones, di-Me, reaction products with silica; Phenol, styrenated; Phenol, styrenated
TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : ACUTE TOXICITY (oral) - Category 4
 SKIN CORROSION - Category 1B
 SERIOUS EYE DAMAGE - Category 1
 SKIN SENSITIZATION - Category 1

Composition/information on ingredients

Name	%	Classification
1,3-Cyclohexanedimethanamine	≤3.2	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 SKIN CORROSION - Category 1A SERIOUS EYE DAMAGE - Category 1
benzyl alcohol	≤5	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4
Phenol, styrenated	≤3	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1A
3-aminomethyl-3,5,5-trimethylcyclohexylamine	≤3	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine	≤3	SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1
3-aminopropyldimethylamine	≤3	FLAMMABLE LIQUIDS - Category 3

Section 15. Regulatory information

		ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1
Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	≤3	SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)	≤3	SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	≤1.7	ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION - Category 1A SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1A
Poly[oxy(methyl-1,2-ethanediyl)], α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)-	≤3	SKIN CORROSION - Category 1C SERIOUS EYE DAMAGE - Category 1
m-phenylenebis(methylamine)	≤3	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1B
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	≤3	SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	<1	SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1A
polyethylenepolyamines	<1	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1
Phenol, styrenated	<1	SKIN IRRITATION - Category 2 SKIN SENSITIZATION - Category 1A
methanesulphonic acid	<1	CORROSIVE TO METALS - Category 1 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
decamethylcyclopentasiloxane	≤0.1	FLAMMABLE LIQUIDS - Category 4
octamethylcyclotetrasiloxane	<0.1	FLAMMABLE LIQUIDS - Category 3 TOXIC TO REPRODUCTION - Category 2

Section 15. Regulatory information

State regulations

- Massachusetts** : The following components are listed: ALUMINUM OXIDE; SILICA, FUSED, DUST; BENZYL ALCOHOL; TITANIUM DIOXIDE; 3-(DIMETHYLAMINO)-PROPYLAMINE; M-XYLENE-ALPHA,ALPHA'-DIAMINE
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: ALUMINUM OXIDE; SILICA, FUSED; ISOPHORONEDIAMINE; TITANIUM DIOXIDE; 3-(DIMETHYLAMINO)PROPYLAMINE; m-XYLENE alpha, alpha'-DIAMINE
- Pennsylvania** : The following components are listed: ALUMINUM OXIDE; BENZENEMETHANOL; TITANIUM OXIDE; 1,3-PROPANEDIAMINE, N,N-DIMETHYL-; 1,3-BENZENED, IMETHANAMINE

California Prop. 65

- ⚠ WARNING:** This product can expose you to Titanium dioxide, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Titanium dioxide	-	-

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

- Australia** : Not determined.
- Canada** : Not determined.
- China** : Not determined.
- Eurasian Economic Union** : **Russian Federation inventory:** All components are listed or exempted.
- Japan** : **Japan inventory (CSCL):** Not determined.
Japan inventory (ISHL): Not determined.
- New Zealand** : All components are listed or exempted.
- Philippines** : Not determined.
- Republic of Korea** : Not determined.
- Taiwan** : All components are listed or exempted.
- Thailand** : Not determined.
- Turkey** : Not determined.
- United States** : Not determined.
- Viet Nam** : All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	/	3
Flammability		0
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (oral) - Category 4	Calculation method
SKIN CORROSION - Category 1B	Calculation method
SERIOUS EYE DAMAGE - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method

History

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Key to abbreviations

: ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 SGG = Segregation Group
 UN = United Nations

References : Not available.

▣ Indicates information that has changed from previously issued version.

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