

SAFETY DATA SHEET



WEICON WPN Epoxy Hardener

Section 1. Identification

Product identifier : WEICON WPN Epoxy Hardener
Product code : 105402
Color : Black.
Other means of identification : Not available.
Product type : Liquid.

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

Identified uses

Hardener for resins.

Uses advised against

Not applicable.

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

Emergency telephone number (with hours of operation) : EMERGENCY CONTACT – UK, UAE, South Africa (24h): Tel: ++44 1865 407333 (English)
TRANSPORT EMERGENCY CONTACT - UK, UAE, South Africa (24h): Tel: ++44 1865 407333 (English)

Section 2. Hazards identification

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 1C
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 2

GHS label elements, including precautionary statements

Hazard pictograms



Signal word : Danger

Hazard statements : H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : P261 - Avoid breathing vapor.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing and eye or face protection.

Section 2. Hazards identification

- Response** : P391 - Collect spillage.
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, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.
P363 - Wash contaminated clothing before reuse.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
- Storage** : P405 - Store locked up.
- Disposal** : P501 - Dispose of waste according to applicable legislation.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

Ingredient name	%	Identifiers
2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[2-(1-piperazinyl)ethyl]amino]butyl-terminated	≥10 - ≤25	CAS: 68683-29-4
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine	≤10	CAS: 186321-96-0 EC: 606-078-8
benzyl alcohol	≤5	CAS: 100-51-6 EC: 202-859-9
3-aminomethyl-3,5,5-trimethylcyclohexylamine	≤3	CAS: 2855-13-2 EC: 220-666-8
m-phenylenebis(methylamine)	≤1.6	CAS: 1477-55-0 EC: 216-032-5
2,4,6-tris(dimethylaminomethyl)phenol	≤3	CAS: 90-72-2 EC: 202-013-9
Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols	≤3	-
benzyl alcohol	<1	CAS: 100-51-6 EC: 202-859-9
2-piperazin-1-ylethylamine	<1	CAS: 140-31-8 EC: 205-411-0
3-aminopropyltriethoxysilane	<1	CAS: 919-30-2 EC: 213-048-4
3-aminopropyltriethoxysilane	≤0.3	CAS: 919-30-2 EC: 213-048-4

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

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

Chemical formula : Not applicable.

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** : No known significant effects or critical hazards.

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. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Absorb with an inert 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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.

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. Avoid release to the environment. 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
m-phenylenebis(methylamine)	Workplace Safety and Health Act (Singapore, 1/2025) PEL (short term) 15 minutes: 0.1 mg/m ³ .

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

Section 8. Exposure controls/personal protection

- 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.
- 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 and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

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

Section 9. Physical and chemical properties and safety characteristics

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
octamethylcyclotetrasiloxane	56	132.8				
decamethylcyclopentasiloxane				82.7	180.9	ASTM D 3828-87
3-aminopropyltriethoxysilane	93	199.4	DIN 51758			
3-aminopropyltriethoxysilane	93	199.4	DIN 51758			
2-piperazin-1-ylethylamine				99	210.2	ISO 2719
benzyl alcohol	100.56	213				
benzyl alcohol	100.56	213				
3-aminomethyl-3,5,5-trimethylcyclohexylamine				110	230	
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine	>110	>230				
m-phenylenebis(methylamine)				134	273.2	

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
octamethylcyclotetrasiloxane	0.99008	0.13				
decamethylcyclopentasiloxane	0.25	0.033				
2,4,6-tris(dimethylaminomethyl)phenol	0.056	0.0075	EU A.4			
benzyl alcohol	0.05	0.0067				
benzyl alcohol	0.05	0.0067				
2-piperazin-1-ylethylamine	0.039	0.0052				
3-aminomethyl-3,5,5-trimethylcyclohexylamine	0.01178	0.0016	OECD 104			
m-phenylenebis(methylamine)	0.0052	0.00069	OECD 104			

Relative vapor density : Not available.

Relative density : Not available.

Density : 2.2 g/cm³ [20°C (68°F)]

Solubility in water : Not available.

Miscible with water : No.

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

Auto-ignition temperature :

Section 9. Physical and chemical properties and safety characteristics

Ingredient name	°C	°F	Method
2-piperazin-1-ylethylamine	>300	>572	
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
benzyl alcohol	436	816.8	
benzyl alcohol	436	816.8	

Decomposition temperature : Not available.

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): 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.

SADT : Not available.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name

benzyl alcohol

Result

Rat - Oral - LD50

1230 mg/kg

Toxic effects: Behavioral - Somnolence (general depressed activity) Behavioral - Excitement Behavioral - Coma

Rabbit - Dermal - LD50

2000 mg/kg

Rat - Oral - LD50

930 mg/kg

Rabbit - Dermal - LD50

2 g/kg

Rat - Inhalation - LC50 Gas.

700 ppm [1 hours]

Toxic effects: Eye - Lacrimation Lung, Thorax, or Respiration - Respiratory depression

benzyl alcohol

Rat - Oral - LD50

1230 mg/kg

Toxic effects: Behavioral - Somnolence (general depressed

Section 11. Toxicological information

	activity) Behavioral - Excitement Behavioral - Coma
	Mouse - Oral - LD50
	1360 mg/kg
	Rabbit - Oral - LD50
	1040 mg/kg
	<u>Toxic effects:</u> Behavioral - Somnolence (general depressed activity)
	Mouse - Oral - LD50
	1360 mg/kg
	<u>Toxic effects:</u> Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Lung, Thorax, or Respiration - Respiratory depression
	Rat - Oral - LD50
	1660 mg/kg
	<u>Toxic effects:</u> Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Lung, Thorax, or Respiration - Respiratory depression
	Rabbit - Oral - LD50
	1040 mg/kg
	<u>Toxic effects:</u> Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Lung, Thorax, or Respiration - Respiratory depression
	Rabbit - Dermal - LD50
	2000 mg/kg
	Rat - Oral - LD50
	1.5 ml/kg
3-aminopropyltriethoxysilane	Rat - Oral - LD50
	1.57 g/kg
	<u>Toxic effects:</u> Gastrointestinal - Hypermotility, diarrhea Kidney, Ureter, and Bladder - Changes in tubules (including acute renal failure, acute tubular necrosis)
	Rabbit - Dermal - LD50
	4.29 g/kg
	<u>Toxic effects:</u> Gastrointestinal - Ulceration or bleeding from stomach Kidney, Ureter, and Bladder - Other changes Skin After topical exposure - Primary irritation
	Rabbit - Dermal - LD50
	4.29 g/kg
	<u>Toxic effects:</u> Gastrointestinal - Ulceration or bleeding from stomach Kidney, Ureter, and Bladder - Other changes Skin After topical exposure - Primary irritation
	Rat - Oral - LD50
	1.57 g/kg
	<u>Toxic effects:</u> Gastrointestinal - Hypermotility, diarrhea Kidney, Ureter, and Bladder - Changes in tubules (including acute renal failure, acute tubular necrosis)
3-aminopropyltriethoxysilane	

Conclusion/Summary [Product] : Not available.

Skin corrosion/irritation

Product/ingredient name

benzyl alcohol

Result

Man - Skin - Mild irritant

Duration of treatment/exposure: 48 hours

Amount/concentration applied: 16 mg

Pig - Skin - Moderate irritant

Amount/concentration applied: 100 %

Rabbit - Skin - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 100 mg

Rabbit - Skin - Severe irritant

m-phenylenebis(methylamine)

Section 11. Toxicological information

benzyl alcohol	<u>Duration of treatment/exposure:</u> 24 hours <u>Amount/concentration applied:</u> 750 ug Man - Skin - Mild irritant
	<u>Duration of treatment/exposure:</u> 48 hours <u>Amount/concentration applied:</u> 16 mg Pig - Skin - Moderate irritant
	<u>Amount/concentration applied:</u> 100 % Rabbit - Skin - Moderate irritant
2-piperazin-1-ylethylamine	<u>Duration of treatment/exposure:</u> 24 hours <u>Amount/concentration applied:</u> 100 mg Rabbit - Skin - Severe irritant
3-aminopropyltriethoxysilane	<u>Duration of treatment/exposure:</u> 24 hours <u>Amount/concentration applied:</u> 5 mg Rabbit - Skin - Severe irritant
3-aminopropyltriethoxysilane	<u>Duration of treatment/exposure:</u> 24 hours <u>Amount/concentration applied:</u> 5 mg Rabbit - Skin - Severe irritant

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name

m-phenylenebis(methylamine)

Result

Rabbit - Eyes - Severe irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 50 ug

2-piperazin-1-ylethylamine

Rabbit - Eyes - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 20 mg

3-aminopropyltriethoxysilane

Rabbit - Eyes - Mild irritant

Amount/concentration applied: 100 mg

Rabbit - Eyes - Severe irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 750 ug

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Not available.

Section 11. Toxicological information

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Not available.

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** : No known significant effects or critical hazards.

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

Section 11. Toxicological information

Not available.

Conclusion/Summary [Product] : 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.
- Reproductive toxicity** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
WEICON WPN Epoxy Hardener	4695.9	N/A	N/A	N/A	15.6
benzyl alcohol	1620	N/A	N/A	N/A	4.178
m-phenylenebis(methylamine)	930	N/A	N/A	N/A	1.34
2,4,6-tris(dimethylaminomethyl)phenol	500	N/A	N/A	N/A	N/A
benzyl alcohol	1200	N/A	N/A	N/A	N/A
3-aminopropyltriethoxysilane	N/A	4290	N/A	11	N/A
3-aminopropyltriethoxysilane	1491	4290	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name

benzyl alcohol

Result

Acute - LC50 - Fresh water

Fish - Bluegill - *Lepomis macrochirus*
10 ppm [96 hours]
Effect: Mortality

3-aminomethyl-

3,5,5-trimethylcyclohexylamine

Acute - EC50 - Fresh water

Daphnia - Water flea - *Daphnia magna*
Age: <24 hours
17.4 mg/l [48 hours]
Effect: Intoxication

benzyl alcohol

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas* - Juvenile (Fledgling, Hatchling, Weanling)
Age: 4 to 8 weeks; Size: 1.1 to 3.1 cm
460 mg/l [96 hours]
Effect: Mortality

Acute - LC50 - Fresh water

Fish - Bluegill - *Lepomis macrochirus*
10 ppm [96 hours]
Effect: Mortality

2-piperazin-1-ylethylamine

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*
Age: 31 days; Size: 21 mm; Weight: 0.147 g
2190 mg/l [96 hours]
Effect: Mortality

Conclusion/Summary [Product] : Not available.

Section 12. Ecological information

Persistence and degradability

Not available.

Conclusion/Summary [Product] : Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
benzyl alcohol	0.87	-	Low
3-aminomethyl-3,5,5-trimethylcyclohexylamine	0.99	-	Low
m-phenylenebis (methylamine)	0.18	2.69	Low
2,4,6-tris (dimethylaminomethyl) phenol	0.219	-	Low
benzyl alcohol	0.87	-	Low
2-piperazin-1-ylethylamine	-1.48	-	Low
3-aminopropyltriethoxysilane	1.7	3.4 [OECD 305 C]	Low
3-aminopropyltriethoxysilane	1.7	3.4 [OECD 305 C]	Low

Mobility in soil

Soil/Water partition coefficient : Not available.

Other adverse effects

No known significant effects or critical hazards.

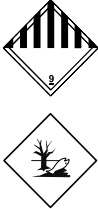





Section 13. Disposal considerations

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

	UN	IMDG	IATA	ADR/RID	ADN
UN number	UN3082	UN1760	UN1760	UN1760	UN1760
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether	CORROSIVE LIQUID, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, m-phenylenebis (methylamine))	CORROSIVE LIQUID, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, m-phenylenebis (methylamine))	CORROSIVE LIQUID, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, m-phenylenebis (methylamine))	CORROSIVE LIQUID, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, m-phenylenebis (methylamine))

Section 14. Transport information

	and triethylenetetramine, Reaction mass of (1-phenylethyl) phenols and bis-(1-phenylethyl) phenols)				
Transport hazard class (es)	9 	8 	8 	8 	8  
Packing group	III	III	III	III	III
Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes.

Additional information

- UN** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
- 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.
- ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Tunnel code (E)
- ADN** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

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.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Singapore - hazardous chemicals under government control

None.

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)

Section 15. Regulatory information

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 : Not determined.
Japan	: Japan inventory (CSCL) : Not determined. Japan inventory (ISHL) : Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: Not determined.

Section 16. Other information

History

Date of printing : 02/02/2026

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Version : 1.6

Key to abbreviations : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
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
IMO = International Maritime Organization
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
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
SGG = Segregation Group
UN = United Nations

Procedure used to derive the classification

Classification	Justification
SKIN CORROSION/IRRITATION - Category 1C	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 2	Calculation method

References : Not available.

📌 Indicates information that has changed from previously issued version.

Section 16. Other information

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.