

SAFETY DATA SHEET



Penguard Express CF Aluminium Comp A

Section 1. Identification

GHS product identifier : Penguard Express CF Aluminium Comp A
Product code : 51445
Other means of identification : Not available.
Product type : Liquid.
Product description : Paint.

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

Use in coatings - Industrial use
Use in coatings - Professional use

Supplier's details : 佐敦涂料（张家港）有限公司
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Section 2. Hazards identification

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
SKIN SENSITISATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
AQUATIC TOXICITY (CHRONIC) - Category 2

GHS label elements

Hazard pictograms :



Signal word : Danger.

Section 2. Hazards identification

- Hazard statements** : H226 - Flammable liquid and vapour.
 H315 - Causes skin irritation.
 H317 - May cause an allergic skin reaction.
 H318 - Causes serious eye damage.
 H373 - May cause damage to organs through prolonged or repeated exposure.
 (central nervous system (CNS))
 H411 - Toxic to aquatic life with long lasting effects.
- Precautionary statements**
- Prevention** : P280 - Wear protective gloves. Wear eye or face protection.
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P273 - Avoid release to the environment.
 P260 - Do not breathe vapour.
- Response** : P391 - Collect spillage.
 P314 - Get medical advice/attention if you feel unwell.
 P362 + P364 - Take off contaminated clothing and wash it before reuse.
 P302 + P352 - IF ON SKIN: Wash with plenty of water.
 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** : P403 + P235 - Store in a well-ventilated place. Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

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.

Product name	% (w/w)	CAS number	Type
epoxy resin (MW ≤ 700)	≥10 - ≤25	1675-54-3	[1]
hydrocarbons, C9, aromatics	≤5	64742-95-6	[1]
xylene	≤5	1330-20-7	[1] [2]
butan-1-ol	≤5	71-36-3	[1] [2]
benzyl alcohol	≤3	100-51-6	[1]
hydrocarbons, c9-unsatd., polymd.	≤3	71302-83-5	[1]
hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	≤3	64742-82-1	[1] [2]
ethylbenzene	≤3	100-41-4	[1] [2]
产品名称	% (w/w)	CAS号码	类型
环氧树脂 (MW < 700)	≥10 - ≤25	1675-54-3	[1]
轻芳烃溶剂石脑油 (石油)	≤5	64742-95-6	[1]
二甲苯	≤5	1330-20-7	[1] [2]
1-丁醇	≤5	71-36-3	[1]

Section 3. Composition/information on ingredients

苯甲醇	≤3	100-51-6	[2]
聚C9不饱和烃	≤3	71302-83-5	[1]
加氢的石油磺化重石脑油 小于0.1% 苯	≤3	64742-82-1	[1] [2]
乙苯	≤3	100-41-4	[1] [2]

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.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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.
- 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 skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Section 4. First aid measures

- 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** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- 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. Firefighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. 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
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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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 : 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

Environmental precautions : Avoid dispersal of spilt 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 material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the 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 spilt 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 vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. 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 a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidising materials. 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 unlabelled 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

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
xylene	TW Ministry of Labor, labor permissible workplace exposure standards, allowable concentration (Taiwan, 3/2018). STEL: 542.5 mg/m ³ 15 minutes. STEL: 125 ppm 15 minutes. TWA: 434 mg/m ³ 8 hours. TWA: 100 ppm 8 hours.
butan-1-ol	TW Ministry of Labor, labor permissible workplace exposure standards, allowable concentration (Taiwan, 3/2018). STEL: 378.75 mg/m ³ 15 minutes. STEL: 125 ppm 15 minutes. TWA: 303 mg/m ³ 8 hours. TWA: 100 ppm 8 hours.
hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	TW Ministry of Labor, labor permissible workplace exposure standards, allowable concentration (Taiwan, 6/2014). STEL: 125 ppm 15 minutes. STEL: 656.25 mg/m ³ 15 minutes. TWA: 100 ppm 8 hours. TWA: 525 mg/m ³ 8 hours.
ethylbenzene	TW Ministry of Labor, labor permissible workplace exposure standards, allowable concentration (Taiwan, 3/2018). STEL: 125 ppm 15 minutes. STEL: 542.5 mg/m ³ 15 minutes. TWA: 100 ppm 8 hours. TWA: 434 mg/m ³ 8 hours.

Biological exposure indices

No exposure indices known.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

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.

Hand protection : There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. The breakthrough time must be greater than the end use time of the product. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance. Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Section 8. Exposure controls/personal protection

Wear suitable gloves tested to ISO 374-1:2016.

May be used, gloves(breakthrough time) 4 - 8 hours: neoprene (> 0.35 mm), butyl rubber (> 0.4 mm)

Not recommended, gloves(breakthrough time) < 1 hour: PVC (> 0.5 mm)

Recommended, gloves(breakthrough time) > 8 hours: Teflon (> 0.35 mm), Viton® (> 0.7 mm), 4H/Silver Shield® (> 0.07 mm), polyvinyl alcohol (PVA) (> 0.3 mm), nitrile rubber (> 0.4 mm)

For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves.

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Eye protection

- : Safety eyewear complying to ISO 16321-1:2022 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.

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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

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.

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.

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.

Colour : Black, Blue., Green., Grey, MCI Base 1, MCI Base 3, Off-white., Red, White., Yellow.

Odour : Characteristic.

Odour threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not applicable.

Boiling point, initial boiling point, and boiling range : Not available.

Flash point : Closed cup: 29°C (84.2°F)

Flammability : Not available.

Lower and upper explosion limit/flammability limit : 0.8 - 13%

Vapour pressure :

Section 9. Physical and chemical properties and safety characteristics

Ingredient name	Vapour Pressure at 20 °C			Vapour pressure at 50 °C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	20.25	2.7				
ethylbenzene	9.3	1.2				
butan-1-ol	<7.5	<1	DIN EN 13016-2			
xylene	6.7	0.89				
hydrocarbons, C9, aromatics	2.5	0.33				
benzyl alcohol	0.05	0.0067				
silane, trimethoxy[3-(oxiranyl-methoxy)propyl]-	0.0082	0.0011				
Phenol, methylstyrenated	0.0075	0.001	OECD 104			
hydrocarbons, C9-unsaturated, polymerized	0.0038	0.00051	OECD 104			
Phenol, styrenated	0.00075	0.0001				
2-Propenoic acid, reaction products with pentaerythritol	<0.000000001	<0.0000000013	OECD 104			
epoxy resin (MW ≤ 700)	0	0				
aluminium powder (stabilised)	0	0				
12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine	0	0				
hexane-1,6-diol diacrylate	0	0	EU A.4			

Relative vapour density : Not available.

Density : 1.539 g/cm³

Solubility(ies) :

Media	Result
cold water	Not soluble
hot water	Not soluble

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

Auto-ignition temperature :

Ingredient name	°C	°F	Method
hexane-1,6-diol diacrylate	235	455	DIN 51794
hydrocarbons, C9, aromatics	280 to 470	536 to 878	
hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	280 to 470	536 to 878	
butan-1-ol	355	671	EU A.15
silane, trimethoxy[3-(oxiranyl-methoxy)propyl]-	400	752	DIN 51794
stearic acid	400	752	
hydrocarbons, C9-unsaturated, polymerized	>375	>707	DIN 51794
Phenol, methylstyrenated	>385	>725	DIN 51794
xylene	432	809.6	
ethylbenzene	432.22	810	
benzyl alcohol	436	816.8	

Section 9. Physical and chemical properties and safety characteristics

soybean oil	444.85	832.7	
aluminium powder (stabilised)	590	1094	

Decomposition temperature : Not available.

Viscosity : Not available.

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

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 : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials:
oxidising materials

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

Product/ingredient name	Result	Species	Dose	Exposure
epoxy resin (MW ≤ 700)	LD50 Dermal	Rabbit	20 g/kg	-
	LD50 Oral	Mouse	15600 mg/kg	-
xylene	LC50 Inhalation Vapour	Rat	20 mg/l	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
	TDL ₀ Dermal	Rabbit	4300 mg/kg	-
butan-1-ol	LD50 Oral	Rat	790 mg/kg	-
	LD50 Oral	Rat	1230 mg/kg	-
benzyl alcohol	LD50 Oral	Rat	1230 mg/kg	-
	LD50 Dermal	Rat	>2000 mg/kg	-
hydrocarbons, c9-unsatd., polymd.	LD50 Oral	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	17.8 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
epoxy resin (MW ≤ 700)	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
benzyl alcohol	Eyes - Mild irritant	Mammal - species unspecified	-	-	-

Sensitisation

Section 11. Toxicological information

Product/ingredient name	Route of exposure	Species	Result
epoxy resin (MW ≤ 700)	skin	Mammal - species unspecified	Sensitising
hydrocarbons, c9-unsatd., polymd.	skin	Mouse	Sensitising

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
hydrocarbons, C9, aromatics	Category 3	-	Respiratory tract irritation
xylene	Category 3 Category 3	-	Narcotic effects Respiratory tract irritation
butan-1-ol	Category 3	-	Respiratory tract irritation
hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	Category 3 Category 3	-	Narcotic effects Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	Category 1	-	central nervous system (CNS)
ethylbenzene	Category 2	-	hearing organs

Aspiration hazard

Product/ingredient name	Result
hydrocarbons, C9, aromatics	ASPIRATION HAZARD - Category 1
xylene	ASPIRATION HAZARD - Category 1
hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1

Information on 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 skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

- 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 as well as 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** : May cause damage to organs through prolonged or repeated exposure. 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 (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Penguard Express CF Aluminium Comp A	12387.7	34509.8	N/A	224.0	N/A
xylene	N/A	1100	N/A	20	N/A
butan-1-ol	500	N/A	N/A	N/A	N/A
benzyl alcohol	1230	N/A	N/A	11	N/A
ethylbenzene	N/A	N/A	N/A	17.8	N/A

Section 12. Ecological information

Toxicity

Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
epoxy resin (MW ≤ 700)	Acute EC50 1.4 mg/l Acute LC50 3.1 mg/l Chronic NOEC 0.3 mg/l	Daphnia Fish - pimephales promelas Fish	48 hours 96 hours 21 days
hydrocarbons, C9, aromatics	Acute EC50 <10 mg/l Acute IC50 <10 mg/l Acute LC50 <10 mg/l	Daphnia Algae Fish	48 hours 72 hours 96 hours
xylene	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	Acute LC50 13400 µg/l Fresh water Acute EC50 <10 mg/l	Fish - Pimephales promelas Daphnia	96 hours 48 hours
ethylbenzene	Acute IC50 <10 mg/l Acute LC50 <10 mg/l Acute EC50 7700 µg/l Marine water Acute EC50 2.93 mg/l Acute LC50 4.2 mg/l	Algae Fish Algae - Skeletonema costatum Daphnia Fish	72 hours 96 hours 96 hours 48 hours 96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
epoxy resin (MW ≤ 700)	-	-	Not readily
hydrocarbons, C9, aromatics	-	-	Not readily
xylene	-	-	Readily
benzyl alcohol	-	-	Readily
hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	-	-	Not readily
ethylbenzene	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
epoxy resin (MW ≤ 700)	2.64 to 3.78	31	low
hydrocarbons, C9, aromatics	-	10 to 2500	high
xylene	3.12	8.1 to 25.9	low
butan-1-ol	1	-	low
benzyl alcohol	0.87	<100	low
hydrocarbons, c9-unsatd., polymd.	3.627	-	low
hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	-	10 to 2500	high
ethylbenzene	3.6	-	low

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 minimised 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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	UN	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	Paint	Paint. Marine pollutant (epoxy resin (MW ≤ 700))	Paint
Transport hazard class(es)	3 	3  	3 
Packing group	III	III	III
Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

ADR/RID : Tunnel restriction code: (D/E)
Hazard identification number: 30

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-E, S-E

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.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

TCCSCA List of toxic chemicals

Not applicable.

TCCSCA List of concerned chemicals

Not applicable.

Section 15. Regulatory information

OSHA Enforcement Rules Article 28 : This product contains substances "Specially hazardous to health": xylene, butan-1-ol.

Organic solvent poisoning prevention rule : Type 2

Priority management chemicals, Article 2

CMR chemical substances, category 1 (Article 2.2 (I)) : Applicable

Chemical substances possessing physical hazards or health hazards (Article 2.2 (II))

Ingredient name	Name on list	Concentration
xylene	xylenes	≤5

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.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 3	On basis of test data
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1	Calculation method
SKIN SENSITISATION - Category 1	Calculation method
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2	Calculation method
AQUATIC TOXICITY (CHRONIC) - Category 2	Calculation method

References : Not available.

Organisation that prepared the SDS : Jotun AS, Norway
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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

✔ Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.