

SAFETY DATA SHEET



Penguard Express CF Aluminium Comp A

Section 1. Identification

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

Recommended use of the chemical and restrictions on use

Identified uses

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

Restrictions on use

Not applicable.

Supplier's details : Jotun (Philippines) Inc.
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Section 2. Hazard 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 1
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

GHS label elements

Hazard pictograms



Signal word : Danger.

Section 2. Hazard identification

- Hazard statements** :
- H226 - Flammable liquid and vapour.
 - H315 - Causes skin irritation.
 - H317 - May cause an allergic skin reaction.
 - H318 - Causes serious eye damage.
 - H372 - Causes damage to organs through prolonged or repeated exposure. (central nervous system (CNS), hearing organs)
 - H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

- General** : Not applicable.
- Prevention** :
- P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing 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.
 - P270 - Do not eat, drink or smoke when using this product.
 - P264 + P265 - Wash hands thoroughly after handling. Do not touch eyes.
 - P272 - Contaminated work clothing should not be allowed out of the workplace.

- Response** :
- P391 - Collect spillage.
 - P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water.
 - P302 + P352 - IF ON SKIN: Wash with plenty of water.
 - P333 + P317 - If skin irritation or rash occurs: Get medical help.
 - P332 + P317 - If skin irritation occurs: Get medical help.
 - P362 + P364 - Take off contaminated clothing and wash it before reuse.
 - P305 + P354 + P338, P317 - IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.
 - P319 - Get medical help if you feel unwell.

- 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.

Ingredient name	%	Identifiers
epoxy resin (MW ≤ 700)	≥10 - ≤25	CAS: 1675-54-3
hydrocarbons, C9, aromatics	≤5	CAS: 64742-95-6
Phenol, methylstyrenated	≤5	CAS: 68512-30-1
xylene	≤5	CAS: 1330-20-7
butan-1-ol	≤5	CAS: 71-36-3
benzyl alcohol	≤3	CAS: 100-51-6
hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	≤3	CAS: 64742-82-1
ethylbenzene	≤3	CAS: 100-41-4
2-Propenoic acid, reaction products with pentaerythritol	<1	CAS: 1245638-61-2

Section 3. Composition/information on ingredients

hexane-1,6-diol diacrylate	≤0.3	CAS: 13048-33-4
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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.

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

- 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

Section 4. First aid measures

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** : Recommended: alcohol-resistant foam, CO₂, powders, water spray.
- 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

- 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 spilt 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.
- For emergency responders** : If specialised 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 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

Section 6. Accidental release measures

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb with an inert 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt 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 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

Ingredient name	Exposure limits
xylene	TLV (Philippines, 4/2016) [Xylene] TLV 8 hours: 0.1 mg/m ³ .
butan-1-ol	TLV (Philippines, 4/2016) TLV 8 hours: 300 mg/m ³ . TLV 8 hours: 100 ppm.
ethylbenzene	TLV (Philippines, 4/2016) TLV-Ceiling: 435 mg/m ³ . TLV-Ceiling: 100 ppm.

Biological exposure indices

No exposure indices known.

Section 8. Exposure controls/personal protection

- 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.
- 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 to EN 166 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. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- 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.
- 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.

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 available.

Section 9. Physical and chemical properties and safety characteristics

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

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

Evaporation rate : Not available.

Flammability : Not available.

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

Vapour pressure :

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Aluminium powder (stabilized)	0	0				

Relative vapour density : Not available.

Relative density : Not available.

Density : 1.539 g/cm³

Solubility(ies) :

Media	Result
cold water	Not soluble
hot water	Not soluble

Solubility in water : Not available.

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

Auto-ignition temperature :

Ingredient name	°C	°F	Method
Aluminium powder (stabilized)	590	1094	

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 : 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

epoxy resin (MW ≤ 700)

Result

Mouse - Oral - LD50

15600 mg/kg

Toxic effects: Behavioral - Somnolence (general depressed activity) Gastrointestinal - Hypermotility, diarrhea Gross Metabolite Changes - Weight loss or decreased weight gain

Rabbit - Dermal - LD50

20 g/kg

Toxic effects: Behavioral - Somnolence (general depressed activity) Gastrointestinal - Hypermotility, diarrhea Gross Metabolite Changes - Weight loss or decreased weight gain

xylene

Rat - Oral - LD50

4300 mg/kg

Toxic effects: Liver - Other changes Kidney, Ureter, and Bladder - Other changes

Rabbit - Dermal - TDLo

4300 mg/kg

Toxic effects: Skin After topical exposure - Corrosive

Rat - Inhalation - LC50 Vapour

11 mg/l [4 hours]

butan-1-ol

Rat - Oral - LD50

790 mg/kg

Toxic effects: Liver - Fatty liver degeneration Kidney, Ureter, and Bladder - Other changes Blood - Other changes

benzyl alcohol

Rat - Oral - LD50

1230 mg/kg

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

ethylbenzene

Rat - Oral - LD50

3500 mg/kg

Toxic effects: Liver - Other changes Kidney, Ureter, and Bladder - Other changes

Rabbit - Dermal - LD50

>5000 mg/kg

Rat - Male - Inhalation - LC50 Vapour

11 mg/l [4 hours]

hexane-1,6-diol diacrylate

Rat - Oral - LD50

5 g/kg

Conclusion/Summary[Product] : Not available.

Skin corrosion/irritation

Product/ingredient name

epoxy resin (MW ≤ 700)

Result

Rabbit - Skin - Mild irritant

Amount/concentration applied: 500 milligrams

Mammal - species unspecified - Skin - Mild irritant

Rat - Skin - Mild irritant

Duration of treatment/exposure: 8 hours

Amount/concentration applied: 60 microliters

Mammal - species unspecified - Skin - Mild irritant

Phenol, methylstyrenated xylene

Mammal - species unspecified - Skin - Mild irritant

2-Propenoic acid, reaction products with pentaerythritol hexane-1,6-diol diacrylate

Conclusion/Summary[Product] : Not available.

Serious eye damage/eye irritation

Section 11. Toxicological information

Product/ingredient name

epoxy resin (MW ≤ 700)

xylene

benzyl alcohol
2-Propenoic acid, reaction products with
pentaerythritol
hexane-1,6-diol diacrylate

Result

Rabbit - Eyes - Severe irritantDuration of treatment/exposure: 24 hoursAmount/concentration applied: 2 milligrams**Rabbit - Eyes - Mild irritant**Amount/concentration applied: 87 milligrams**Mammal - species unspecified - Eyes - Mild irritant****Mammal - species unspecified - Eyes - Irritant****Mammal - species unspecified - Eyes - Mild irritant**

Conclusion/Summary[Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary[Product] : Not available.

Respiratory or skin sensitization

Product/ingredient name

epoxy resin (MW ≤ 700)

Phenol, methylstyrenated

2-Propenoic acid, reaction products with
pentaerythritol
hexane-1,6-diol diacrylate

Result

Mammal - species unspecified - skinResult: Sensitising**Mammal - species unspecified - skin**Result: Sensitising**Mammal - species unspecified - skin**Result: Sensitising**Mammal - species unspecified - skin**Result: Sensitising

Skin

Conclusion/Summary[Product] : Not available.

Ingredient name

epoxy resin (MW ≤ 700)

Phenol, methylstyrenated

2-Propenoic acid, reaction products with
pentaerythritol

hexane-1,6-diol diacrylate

Conclusion/Summary

May cause an allergic skin reaction.

May cause an allergic skin reaction.

May cause an allergic skin reaction.

May cause an allergic skin reaction.

Respiratory

Conclusion/Summary[Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary[Product] : Not available.

Carcinogenicity

Not available.

Conclusion/Summary[Product] : Not available.

Reproductive toxicity

Not available.

Section 11. Toxicological information

Conclusion/Summary[Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name

hydrocarbons, C9, aromatics

xylene

butan-1-ol

hydrocarbons, C9-C12, n-alkanes,
isoalkanes, cyclics, aromatics (2-25%)

Result

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3
 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3
 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3

Specific target organ toxicity (repeated exposure)

Product/ingredient name

hydrocarbons, C9-C12, n-alkanes,
isoalkanes, cyclics, aromatics (2-25%)
ethylbenzene

Result

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (central nervous system (CNS)) - Category 1
 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (hearing organs) - Category 2

Aspiration hazard

Product/ingredient name

hydrocarbons, C9, aromatics
xylene
hydrocarbons, C9-C12, n-alkanes,
isoalkanes, cyclics, aromatics (2-25%)
ethylbenzene

Result

ASPIRATION HAZARD - Category 1
 ASPIRATION HAZARD - Category 1
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 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

- 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

Section 11. Toxicological information

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.

Conclusion/Summary[Product] : Not available.

General : Causes 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	12310.2	34509.8	N/A	258.8	N/A
xylene	4300	1100	N/A	11	N/A
butan-1-ol	500	N/A	N/A	N/A	N/A
benzyl alcohol	1200	N/A	N/A	N/A	N/A
ethylbenzene	3500	N/A	N/A	11	N/A
2-Propenoic acid, reaction products with pentaerythritol	500	N/A	N/A	N/A	N/A
hexane-1,6-diol diacrylate	5000	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name

epoxy resin (MW ≤ 700)

Result

Acute - LC50

Fish - *pimephales promelas*
3.1 mg/l [96 hours]

Acute - EC50

Daphnia
1.4 mg/l [48 hours]

Chronic - NOEC

Fish
0.3 mg/l [21 days]

hydrocarbons, C9, aromatics

Acute - LC50

Fish
<10 mg/l [96 hours]

Acute - EC50

Daphnia
<10 mg/l [48 hours]

Section 12. Ecological information

xylene	<p>Acute - IC50 Algae <10 mg/l [72 hours]</p> <p>Acute - LC50 - Marine water Crustaceans - Daggerblade grass shrimp - <i>Palaemonetes pugio</i> 8500 µg/l [48 hours] Effect: Mortality</p> <p>Acute - LC50 - Fresh water Fish - Fathead minnow - <i>Pimephales promelas</i> Age: 31 days; Size: 18.4 mm; Weight: 0.077 g 13400 µg/l [96 hours] Effect: Mortality</p>
hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	<p>Acute - LC50 Fish <10 mg/l [96 hours]</p> <p>Acute - EC50 Daphnia <10 mg/l [48 hours]</p> <p>Acute - IC50 Algae <10 mg/l [72 hours]</p>
ethylbenzene	<p>Acute - EC50 Daphnia 2.93 mg/l [48 hours] Effect: Intoxication</p> <p>Acute - LC50 Fish 4.2 mg/l [96 hours] Effect: Mortality</p> <p>Acute - EC50 - Marine water Algae - Diatom - <i>Skeletonema costatum</i> 7700 µg/l [96 hours] Effect: Population</p>

Conclusion/Summary[Product] : Not available.

Persistence and degradability

Not available.

Conclusion/Summary[Product] : Not available.

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

Section 12. Ecological information

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
Phenol, methylstyrenated	3.627	-	Low
xylene	3.12	8.1 to 25.9	Low
butan-1-ol	1	-	Low
benzyl alcohol	0.87	<100	Low
hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	-	10 to 2500	High
ethylbenzene	3.6	-	Low
2-Propenoic acid, reaction products with pentaerythritol	1.45	-	Low
hexane-1,6-diol diacrylate	2.81	-	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 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

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

Section 14. Transport information

Additional information

- ADR/RID** : **Hazard identification number** 30
Viscous liquid exception This class 3 viscous liquid that is also environmentally hazardous is not subject to regulation in packagings up to 5 L, 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 according to 2.2.3.1.5.2.
Tunnel code (D/E)
- ADN** : **Viscous liquid exception** This class 3 viscous liquid that is also environmentally hazardous is not subject to regulation in packagings up to 5 L, 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 according to 2.2.3.1.5.2.
- IMDG** : **Emergency schedules** F-E, S-E
Viscous liquid exception This class 3 viscous liquid that is also environmentally hazardous is not subject to regulation in packagings up to 5 L, 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 according to 2.3.2.5.
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.
- UN** : **Viscous liquid exception** This class 3 viscous liquid that is also environmentally hazardous is not subject to regulation in packagings up to 5 L, 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 according to 2.3.2.5.2.
- 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

Philippines - Priority Chemical List (PCL)

Not applicable.

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.

Section 16. Other information

SDS based on UN GHS : 9
Revision

History

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Abbreviations and acronyms : 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
 SGG = Segregation Group
 UN = United Nations

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 1	Calculation method
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2	Calculation method

Key literature references and sources for data : Not available.

✔ Indicates information that has changed from previously issued version.

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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.