

SAFETY DATA SHEET



Jotun Protects Property

Penguard Universal Comp A

Section 1. Identification

Product name : Penguard Universal Comp A
Product code : 27800
Product description : Paint.
Product type : Liquid.
Other means of identification : Not available.

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

Identified uses

Use in coatings - Industrial use
Use in coatings - Professional use
Oil paint

Supplier : Jotun Australia Pty. Ltd.
59 Calarco Drive,
Derrimut, VIC 3026,
Australia

Phone: + 61 39314 0722
E-mail: SDSJotun@jotun.com

Emergency telephone number : Medical Emergencies 24 hours: Poisons Information Centre (Australia) 131 126

Section 2. Hazard(s) identification

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 2

GHS label elements

Hazard pictograms



Signal word : DANGER

Hazard statements : H226 - Flammable liquid and vapor.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Section 2. Hazard(s) identification

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. P261 - Avoid breathing vapor.
Response	: P391 - Collect spillage. P302 + P352 - IF ON SKIN: Wash with plenty of water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. P362 + P364 - Take off contaminated clothing and wash it before reuse. 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.
Supplemental label elements	: Contains engineered/manufactured nanomaterials. Caution: Hazards unknown.
Other hazards which do not result in classification	: None known.

Section 3. Composition and ingredient information

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

Ingredient name	% (w/w)	CAS number
Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-	≥10 - ≤30	CAS: 1675-54-3
talc (non-asbestos form)	≥10 - ≤30	CAS: 14807-96-6
xylene	≤10	CAS: 1330-20-7
titanium dioxide	≤5	CAS: 13463-67-7
glycidyl ether of 3-alkyl phenol	≤5	CAS: 68413-24-1
butan-1-ol	≤5	CAS: 71-36-3
ethylbenzene	≤3	CAS: 100-41-4
Aluminium powder (stabilized)	≤3	CAS: 7429-90-5
Oleic acid, compound	<0.025	CAS: 34140-91-5

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 |

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. |

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** : 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 vapor. 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
halogenated compounds
metal oxide/oxides

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

- Hazchem code** : •3Y

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. Shut off all ignition sources. No flares, smoking or flames in hazard area. 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

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 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

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

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. 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 oxidizing 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

See Technical Data Sheet / packaging for further information.

Section 8. Exposure controls and personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

Control parameters

Occupational exposure limits

Section 8. Exposure controls and personal protection

Ingredient name	Exposure limits
Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)] bis-talc (non-asbestos form)	DFG MAC-values list (Germany, 7/2025) Skin sensitizer. Safe Work Australia (Australia, 11/2025) TWA 8 hours: 2.5 mg/m ³ .
xylene	Safe Work Australia (Australia, 11/2025) [Xylene (o-, m-, p- isomers)] STEL 15 minutes: 655 mg/m ³ . STEL 15 minutes: 150 ppm. TWA 8 hours: 350 mg/m ³ . TWA 8 hours: 80 ppm.
titanium dioxide	Safe Work Australia (Australia, 11/2025) TWA 8 hours: 10 mg/m ³ .
butan-1-ol	Safe Work Australia (Australia, 11/2025) Absorbed through skin. PEAK: 50 ppm. PEAK: 152 mg/m ³ .
benzene, ethyl-	Safe Work Australia (Australia, 11/2025) STEL 15 minutes: 543 mg/m ³ . STEL 15 minutes: 125 ppm. TWA 8 hours: 434 mg/m ³ . TWA 8 hours: 100 ppm.
aluminium powder (stabilised)	Safe Work Australia (Australia, 11/2025) TWA 8 hours: 10 mg/m ³ . Form: Dust. TWA 8 hours: 1 mg/m ³ (as Al). Form: Welding fume.

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, vapor 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 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

Section 8. Exposure controls and personal 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.
- 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.
- Wear suitable gloves tested to ISO 374-1:2016.
- May be used, gloves(breakthrough time) 4 - 8 hours: Viton® (> 0.7 mm), 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: nitrile rubber (> 0.75 mm), 4H/ Silver Shield® (> 0.07 mm), Teflon (> 0.35 mm), polyvinyl alcohol (PVA) (> 0.3 mm)
- Body protection** : Use chemical-resistant protective suit / disposable overall.
- 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

Appearance

- Physical state** : Liquid.
- Color** : aluminum, Grey
- Odor** : Characteristic.
- Odor threshold** : Not applicable.
- pH** : Not applicable.
- Melting point** : Not applicable.
- Boiling point** : >100°C
- Flash point** : Closed cup: 35°C (95°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.

Section 9. Physical and chemical properties

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.473 to 1.605 g/
cm³

Solubility(ies) :

Media	Result
cold water	Not soluble
hot water	Not soluble

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

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): >20.5 mm²/s (>20.5 cSt)

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 pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

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

Oxirane, 2,2'-[(1-methylethylidene)bis
(4,1-phenyleneoxymethylene)]bis-

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

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 Vapor

11 mg/l [4 hours]

Rat - Oral - LD50

xylene

butan-1-ol

Section 11. Toxicological information

benzene, ethyl-

790 mg/kg

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

11 mg/l [4 hours]

Conclusion/Summary [Product] : Not available.Skin corrosion/irritation**Product/ingredient name**Oxirane, 2,2'-[(1-methylethylidene)bis
(4,1-phenyleneoxymethylene)]bis-
xylene

titanium dioxide

Result**Rabbit - Skin - Mild irritant**Amount/concentration applied: 500 milligrams**Rat - Skin - Mild irritant**Duration of treatment/exposure: 8 hoursAmount/concentration applied: 60 microliters**Human - Skin - Mild irritant**Duration of treatment/exposure: 72 hours**Conclusion/Summary [Product]** : Not available.Serious eye damage/eye irritation**Product/ingredient name**Oxirane, 2,2'-[(1-methylethylidene)bis
(4,1-phenyleneoxymethylene)]bis-

xylene

Result**Rabbit - Eyes - Severe irritant**Duration of treatment/exposure: 24 hoursAmount/concentration applied: 2 milligrams**Rabbit - Eyes - Mild irritant**Amount/concentration applied: 87 milligrams**Conclusion/Summary [Product]** : Not available.Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.Respiratory or skin sensitization**Product/ingredient name**Oxirane, 2,2'-[(1-methylethylidene)bis
(4,1-phenyleneoxymethylene)]bis-
glycidyl ether of 3-alkyl phenol**Result****Mammal - species unspecified - skin**Result: Sensitizing**Mammal - species unspecified - skin**Result: Sensitizing**Skin****Conclusion/Summary [Product]** : Not available.**Ingredient name**Oxirane, 2,2'-[(1-methylethylidene)bis
(4,1-phenyleneoxymethylene)]bis-
glycidyl ether of 3-alkyl phenol**Conclusion/Summary**

May cause an allergic skin reaction.

May cause an allergic skin reaction.

Section 11. Toxicological information

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.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name

xylene

butan-1-ol

Result

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 (repeated exposure)

Product/ingredient name

benzene, ethyl-

Oleic acid, compound

Result

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Aspiration hazard

Product/ingredient name

xylene

benzene, ethyl-

Result

ASPIRATION HAZARD - Category 1
ASPIRATION HAZARD - Category 1

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 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 and also chronic effects from short and long term exposure

Short term exposure

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

Long term exposure

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

Potential chronic health effects

Not available.

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)
Penguard Universal Comp A	16933.3	13828.1	N/A	103.7	N/A
xylene	4300	1100	N/A	11	N/A
butan-1-ol	500	N/A	N/A	N/A	N/A
ethylbenzene	3500	N/A	N/A	11	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name

Oxirane, 2,2'-[(1-methylethylidene)bis
(4,1-phenyleneoxymethylene)]bis-

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]

xylene

Acute - LC50 - Marine water

Crustaceans - Daggerblade grass shrimp - *Palaemonetes pugio*
8500 µg/l [48 hours]
Effect: Mortality

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*
Age: 31 days; Size: 18.4 mm; Weight: 0.077 g
13400 µg/l [96 hours]
Effect: Mortality

titanium dioxide

Acute - LC50 - Marine water

Fish - Mummichog - *Fundulus heteroclitus*
>1000000 µg/l [96 hours]
Effect: Mortality

Acute - LC50 - Fresh water

Crustaceans - Water flea - *Ceriodaphnia dubia* - Neonate
Age: <24 hours
3 mg/l [48 hours]
Effect: Mortality

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia pulex* - Neonate
Age: <24 hours
6.5 mg/l [48 hours]
Effect: Mortality

benzene, ethyl-

Acute - EC50

Daphnia
2.93 mg/l [48 hours]
Effect: Intoxication

Acute - LC50

Fish
4.2 mg/l [96 hours]
Effect: Mortality

Acute - EC50 - Marine water

Algae - Diatom - *Skeletonema costatum*
7700 µg/l [96 hours]
Effect: Population

aluminium powder (stabilised)

Acute - LC50 - Fresh water

Fish - Loach Family - *Cobitidae* - Fry
1130 µg/l [96 hours]
Effect: Mortality

Chronic - NOEC - Fresh water

Aquatic plants - Coontail - *Ceratophyllum demersum*
Weight: 3.5 g
9 mg/l [3 days]
Effect: Enzymes

Acute - LC50

Daphnia - Water flea - *Daphnia magna*
38000 µg/l [48 hours]
Effect: Mortality

Section 12. Ecological information

Conclusion/Summary [Product] : Not available.

Persistence and degradability

Not available.

Conclusion/Summary [Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Oxirane, 2,2'-[(1-methylethylidene)bis (4,1-phenyleneoxymethylene)]	-	-	Not readily
bis- xylene	-	-	Readily
benzene, ethyl-	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Oxirane, 2,2'-[(1-methylethylidene)bis (4,1-phenyleneoxymethylene)]	2.64 to 3.78	31	Low
bis- xylene	3.12	8.1 to 25.9	Low
butan-1-ol	1	-	Low
benzene, ethyl-	3.6	-	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. Vapor 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

Do not allow to enter drains or watercourses. Material and/or container must be disposed of as hazardous waste.

Section 14. Transport information

	ADG	ADR/RID	IMDG	IATA
UN number	UN1263	UN1263	UN1263	UN1263
UN proper shipping name	Paint	Paint	Paint	Paint
Transport hazard class(es)	3 	3  	3  	3 
Packing group	III	III	III	III
Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Additional information	Hazchem code •3Y	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Hazard identification number 30 Tunnel code (D/E)	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency schedules F-E, S-E	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.

Marine pollutant substances : Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-

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 accordance with ADR/RID, IMDG/IMO and ICAO/IATA and national regulation.

Marking : The environmental hazardous / marine pollutant mark is only applicable for packages containing more than 5 litres for liquids and 5 kg for solids.

Section 15. Regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons

5

Model Work Health and Safety Regulations - Scheduled Substances

<u>Ingredient name</u>	<u>Schedule</u>
quartz, alveolar (>10 µm)	Restricted hazardous chemical [For abrasive blasting at a concentration of greater than 1%]
quartz, alveolar (<10 µm)	Restricted hazardous chemical [For abrasive blasting at a concentration of greater than 1%]

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Section 15. Regulatory information

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. Any other relevant information

History

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Key to abbreviations :

- ADG = Australian Dangerous Goods
- 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)
- NOHSC = National Occupational Health and Safety Commission
- SUSMP = Standard for the Uniform Scheduling of Medicines and Poisons
- 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 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.

Disclaimer

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 data given 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.