

SAFETY DATA SHEET



Penguard Topcoat Comp A

Section 1. Identification

GHS product identifier : Penguard Topcoat Comp A
Product code : 625
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 - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
AQUATIC TOXICITY (CHRONIC) - Category 3

GHS label elements

Section 2. Hazards identification

Hazard pictograms



Signal word

: Danger.

Hazard statements

: H226 - Flammable liquid and vapour.
 H315 - Causes skin irritation.
 H317 - May cause an allergic skin reaction.
 H318 - Causes serious eye damage.
 H335 - May cause respiratory irritation.
 H412 - Harmful 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.
 P261 - Avoid breathing vapour.

Response

: P304 + P312 - IF INHALED: Call a POISON CENTER or doctor 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 + P233 - Store in a well-ventilated place. Keep container tightly closed.
 P403 + P235 - 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 700-1200) | ≥10 - ≤25 | 25036-25-3 | [1] |
| xylene | ≥10 - <22 | 1330-20-7 | [1] [2] |
| hydrocarbons, C9, aromatics | ≤8.3 | 64742-95-6 | [1] |
| butan-1-ol | ≤6.1 | 71-36-3 | [1] [2] |
| 1-methoxy-2-propanol | ≤5 | 107-98-2 | [1] [2] |
| ethylbenzene | ≤5 | 100-41-4 | [1] [2] |
| propylidynetrimethanol | ≤0.3 | 77-99-6 | [1] |
| maleic anhydride | ≤0.1 | 108-31-6 | [1] [2] |

Section 3. Composition/information on ingredients

| 产品名称 | % (w/w) | CAS号码 | 类型 |
|---------------------|-----------|------------|------------|
| 环氧树脂 (MW700 - 1200) | ≥10 - ≤25 | 25036-25-3 | [1] |
| 二甲苯 | ≥10 - <22 | 1330-20-7 | [1] [2] |
| 轻芳烃溶剂石脑油(石油) | ≤8.3 | 64742-95-6 | [1] |
| 1-丁醇 | ≤6.1 | 71-36-3 | [1] [2] |
| 1-甲氧基-2-丙醇 | ≤5 | 107-98-2 | [1] [2] |
| 乙苯 | ≤5 | 100-41-4 | [1] [2] |
| 2-乙基-2-羟甲基-1,3-丙二醇 | ≤0.3 | 77-99-6 | [1] |
| 马来酸酐 | ≤0.1 | 108-31-6 | [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.

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : May cause respiratory irritation.
- 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** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- 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 harmful 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
sulfur oxides
metal oxide/oxides

Section 5. Firefighting measures

- 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 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.
- 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.

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.

Section 7. Handling and storage

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 | TW Ministry of Labor, labor permissible workplace exposure standards, allowable concentration (Taiwan, 3/2018). [xylenes] 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. |
| 1-methoxy-2-propanol | TW Ministry of Labor, labor permissible workplace exposure standards, allowable concentration (Taiwan, 3/2018). STEL: 461.25 mg/m ³ 15 minutes. STEL: 125 ppm 15 minutes. TWA: 369 mg/m ³ 8 hours. TWA: 100 ppm 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. |
| maleic anhydride | TW Ministry of Labor, labor permissible workplace exposure standards, allowable concentration (Taiwan, 3/2018). STEL: 0.75 ppm 15 minutes. TWA: 1 mg/m ³ 8 hours. TWA: 0.25 ppm 8 hours. STEL: 3 mg/m ³ 15 minutes. |

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

Section 8. Exposure controls/personal protection

- 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.
Wear suitable gloves tested to ISO 374-1:2016.
Not recommended, gloves(breakthrough time) < 1 hour: butyl rubber (> 0.4 mm)
May be used, gloves(breakthrough time) 4 - 8 hours: Viton® (> 0.7 mm), neoprene (> 0.35 mm), PVC (> 0.5 mm)
Recommended, gloves(breakthrough time) > 8 hours: 4H/Silver Shield® (> 0.07 mm), Teflon (> 0.35 mm), nitrile rubber (> 0.75 mm), polyvinyl alcohol (PVA) (> 0.3 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** : 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.
- 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 : Aluminium, Black, Blue., Brown., Green., Grey, MCI Base 1, MCI Base 2, MCI Base 3, MCI Base 5, MCI Base 6, Off-white., Orange, 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: 23°C (73.4°F)

Flammability : Not available.

Lower and upper explosion limit/flammability limit : Greatest known range: Lower: 1.48% Upper: 13.74% (1-methoxy-2-propanol)

Vapour pressure :

| 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 | 9.30076 | 1.2 | | | | |
| 1-methoxy-2-propanol | 8.5 | 1.1 | | | | |
| butan-1-ol | <7.50064 | <1 | DIN EN 13016-2 | | | |
| xylene | 6.7 | 0.89 | | | | |
| 2-methoxy-1-methylethyl acetate | 2.7 | 0.36 | OECD 104 | | | |
| hydrocarbons, C9, aromatics | 2.5 | 0.33 | | | | |
| di-isobutyl ketone | 1.72514 | 0.23 | | | | |
| octamethylcyclotetrasiloxane | 0.99008 | 0.13 | | | | |
| fatty acids, C14-18 and C16-18-unsatd., maleated | 0.30003 | 0.04 | | 1.50013 | 0.2 | |
| maleic anhydride | 0.24752 | 0.033 | | | | |
| phosphoric acid | 0.03 | 0.004 | | | | |
| 12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine | 0 | 0 | | | | |
| propylidynetrimethanol | 0 | 0 | | | | |

Relative vapour density : Not available.

Density : 1.148 to 1.422 g/cm³

Solubility(ies) :

| Media | Result |
|------------|-------------|
| cold water | Not soluble |
| hot water | Not soluble |

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

Auto-ignition temperature :

Section 9. Physical and chemical properties and safety characteristics

| Ingredient name | °C | °F | Method |
|---|------------|----------------|------------|
| 1-methoxy-2-propanol | 270 | 518 | |
| 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 | |
| 2-methoxy-1-methylethyl acetate | 333 | 631.4 | DIN 51794 |
| di-isobutyl ketone | 345 | 653 | |
| butan-1-ol | 355 | 671 | EU A.15 |
| fatty acids, C14-18 and C16-18-unsatd., maleated | 360 | 680 | |
| octamethylcyclotetrasiloxane | 384 to 387 | 723.2 to 728.6 | ASTM E 659 |
| xylene | 432 | 809.6 | |
| ethylbenzene | 432.22 | 810 | |
| maleic anhydride | 477 | 890.6 | |

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): >20.5 mm²/s (>20.5 cSt)

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 |
|-------------------------|-------------------------|------------|-------------|----------|
| xylene | LC50 Inhalation Vapour | Rat | 11 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 Dermal | Rabbit | 13 g/kg | - |
| 1-methoxy-2-propanol | LD50 Oral | Rat | 6600 mg/kg | - |
| | LD50 Dermal | Rat - Male | 11 mg/l | 4 hours |
| ethylbenzene | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | 3500 mg/kg | - |
| propylidynetrimethanol | LD50 Oral | Rat | 14000 mg/kg | - |
| maleic anhydride | LD50 Oral | Rat | 400 mg/kg | - |

Irritation/Corrosion

Section 11. Toxicological information

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---------------------------|------------------------|------------------------------|-------|------------------------|-------------|
| epoxy resin (MW 700-1200) | Eyes - Mild irritant | Mammal - species unspecified | - | - | - |
| | Skin - Mild irritant | Mammal - species unspecified | - | - | - |
| xylene | Eyes - Mild irritant | Rabbit | - | 87 milligrams | - |
| | Skin - Mild irritant | Rat | - | 8 hours 60 microliters | - |
| 1-methoxy-2-propanol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Skin - Mild irritant | Rabbit | - | 500 mg | - |
| maleic anhydride | Eyes - Severe irritant | Rabbit | - | 1 Percent | - |

Sensitisation

| Product/ingredient name | Route of exposure | Species | Result |
|---------------------------|-------------------|------------------------------|-------------|
| epoxy resin (MW 700-1200) | skin | Mammal - species unspecified | Sensitising |
| maleic anhydride | skin | Mammal - species unspecified | 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 |
|-----------------------------|--------------------------|-------------------|--|
| xylene | Category 3 | - | Respiratory tract irritation |
| hydrocarbons, C9, aromatics | Category 3 | - | Respiratory tract irritation |
| butan-1-ol | Category 3 Category 3 | - | Narcotic effects Respiratory tract irritation |
| 1-methoxy-2-propanol | Category 3 Category 3 | - | Narcotic effects Narcotic effects |

Specific target organ toxicity (repeated exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|-------------------------|--------------------------|-------------------|--------------------|
| ethylbenzene | Category 2 | - | hearing organs |
| maleic anhydride | Category 1 Category 2 | inhalation | respiratory system |

Aspiration hazard

| Product/ingredient name | Result |
|-----------------------------|--------------------------------|
| xylene | ASPIRATION HAZARD - Category 1 |
| hydrocarbons, C9, aromatics | ASPIRATION HAZARD - Category 1 |
| ethylbenzene | ASPIRATION HAZARD - Category 1 |

Section 11. Toxicological information

Information on likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : Causes serious eye damage.
Inhalation : May cause respiratory irritation.
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** : Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
- 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** : 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) |
|-------------------------|--------------|----------------|--------------------------|-----------------------------|-------------------------------------|
| | | | | | |

Section 11. Toxicological information

| | | | | | |
|-------------------------|--------|--------|-----|------|-----|
| Penguard Topcoat Comp A | 9091.8 | 9285.1 | N/A | 69.6 | N/A |
| xylene | N/A | 1100 | N/A | 11 | N/A |
| butan-1-ol | 500 | N/A | N/A | N/A | N/A |
| 1-methoxy-2-propanol | 6600 | 13000 | N/A | N/A | N/A |
| ethylbenzene | N/A | N/A | N/A | 11 | N/A |
| propylidynetrimethanol | 14000 | N/A | N/A | N/A | N/A |
| maleic anhydride | 400 | N/A | N/A | N/A | N/A |

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-----------------------------|-----------------------------------|----------------------------------|----------|
| xylene | Acute LC50 8500 µg/l Marine water | Crustaceans - Palaemonetes pugio | 48 hours |
| hydrocarbons, C9, aromatics | Acute LC50 13400 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| | Acute EC50 <10 mg/l | Daphnia | 48 hours |
| | Acute IC50 <10 mg/l | Algae | 72 hours |
| | Acute LC50 <10 mg/l | Fish | 96 hours |
| ethylbenzene | Acute EC50 7700 µg/l Marine water | Algae - Skeletonema costatum | 96 hours |
| | Acute EC50 2.93 mg/l | Daphnia | 48 hours |
| | Acute LC50 4.2 mg/l | Fish | 96 hours |
| maleic anhydride | Acute LC50 230 ppm Fresh water | Fish - Gambusia affinis - Adult | 96 hours |

Persistence and degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|-----------------------------|-------------------|------------|------------------|
| xylene | - | - | Readily |
| hydrocarbons, C9, aromatics | - | - | Not readily |
| ethylbenzene | - | - | Readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-----------------------------|--------------------|-------------|-----------|
| xylene | 3.12 | 8.1 to 25.9 | low |
| hydrocarbons, C9, aromatics | - | 10 to 2500 | high |
| butan-1-ol | 1 | - | low |
| 1-methoxy-2-propanol | <1 | - | low |
| ethylbenzene | 3.6 | - | low |
| propylidynetrimethanol | -0.47 | <1 | low |
| maleic anhydride | -2.78 | - | 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

Section 13. Disposal considerations

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 | Paint |
| Transport hazard class(es) | 3  | 3  | 3  |
| Packing group | III | III | III |
| Environmental hazards | No. | No. | No. |

Additional information

- ADR/RID** : ADR/RID: Viscous substance. Not goods of class 3, ref. 2.2.3.1.5 (only applicable to receptacles < 450 litre capacity).
Tunnel restriction code: (D/E)
Hazard identification number: 30
- IMDG** : **Emergency schedules** F-E, S-E
IMDG: Viscous substance. Transport in accordance with 2.3.2.5 of the IMDG Code (only applicable to receptacles < 450 litre capacity).

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.

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))

Section 15. Regulatory information

| Ingredient name | Name on list | Concentration |
|---------------------------------|---|---------------|
| 1-methoxy-2-propanol | propylene glycol monomethyl ether | ≤5 |
| 2-methoxy-1-methylethyl acetate | propylene glycol monomethyl ether acetate | ≤0.3 |

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 - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3 | Calculation method |
| AQUATIC TOXICITY (CHRONIC) - Category 3 | 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

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.

Section 16. Other information

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