SAFETY DATA SHEET



Jotaguard 630 Comp A

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : Jotaguard 630 Comp A

Product code : 15520

Product description: This is a two component polyamine cured epoxy coating. It is a fast drying, surface

tolerant, hard wearing, high solids, high build product. Specially designed for general use in cargo holds. Can be used as primer or finish coat in atmospheric and immersed environments. Suitable for properly prepared carbon steel and shop primed steel substrates. It can be applied at sub zero surface temperatures.

Product type : Liquid.

Other means of identification

: Not available.

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

Identified uses

Uses in Coatings - Industrial use Uses in Coatings - Professional use

See Annex to the Safety data sheet for additional information in the Exposure Scenario(s).

1.3 Details of the supplier of the safety data sheet

Jotun Paints (Europe) Ltd. Stather Road Flixborough, Scunthorpe North Lincolnshire DN15 8RR England

Tel: +44 17 24 40 00 00 Fax: +44 17 24 40 01 00 SDSJotun@jotun.com

1.4 Emergency telephone number

Contact National Poison Centre via Hospital or Registered Medical Practitioner

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : R10

Xn; R20/21 Xi; R36/38 R43 R52/53

Date of issue : 24.07.2014. 1/16

SECTION 2: Hazards identification

Physical/chemical hazards

: Flammable.

Human health hazards

: Harmful by inhalation and in contact with skin. Irritating to eyes and skin. May

cause sensitisation by skin contact.

Environmental hazards

: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic

environment.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms





Signal word : Warning.

Hazard statements : Flammable liquid and vapour.

Causes serious eye irritation.

Causes skin irritation.

May cause an allergic skin reaction.

Harmful to aquatic life with long lasting effects.

Precautionary statements

General: Keep out of reach of children.

Prevention: Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks,

open flames and hot surfaces. - No smoking. Avoid release to the environment.

Response : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

Storage : Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national

and international regulations.

Hazardous ingredients : 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,

3-epoxypropane, reaction products with fatty acids, C18-unsatd., dimers

butan-1-ol

Supplemental label

elements

: Contains epoxy constituents. May produce an allergic reaction.

Additional information: Not applicable.

2.3 Other hazards

Other hazards which do not result in classification

: None known.

SECTION 3: Composition/information on ingredients

Substance/mixture : Mixture

| | | | Class | | | |
|---|----------------------------------|--------------|--------------------------------|---|---------|-------|
| Product/ingredient name | Identifiers | % | 67/548/EEC | Regulation (EC) No. 1272/2008 [CLP] | Туре | Notes |
| Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2, 3-epoxypropane, reaction products with fatty acids, C18-unsatd., dimers | EC: 500-180-5 CAS: 67989-52-0 | >=10, <20 | Xi; R36/38 R43 N; R51/53 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411 | [1] | - |
| xylene | REACH #: | >=5, | R10 | Flam. Liq. 3, H226 | [1] [2] | С |

Date of issue : 24.07.2014. **2/16**

| SECTION 3: Composition/information on ingredients | SECTION 3: | Composition/info | rmation on | ingredients |
|--|-------------------|------------------|------------|-------------|
|--|-------------------|------------------|------------|-------------|

| 0_01101101 | | | · on mgroutonto | | | |
|---|---|-------------|--|--|---------|---|
| | 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9 | <10 | Xn; R20/21 Xi; R38 | Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 | | |
| epoxy resin (MW 700-1200) | CAS: 25036-25-3 | >=5, <10 | Xi; R36/38 R43 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 | [1] | - |
| Cashew, nutshell liq., oligomeric reaction products with 1-chloro-2, 3-epoxypropane | REACH #: 01-2119982994-15 EC: 500-210-7 CAS: 68413-24-1 | >=1, <5 | R43 | Skin Sens. 1, H317 | [1] | - |
| butan-1-ol | REACH #: 01-2119484630-38 EC: 200-751-6 CAS: 71-36-3 Index: 603-004-00-6 | >=1, <3 | R10 Xn; R22 Xi; R41, R37/38 R67 | Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 and H336 | [1] [2] | - |
| benzyl alcohol | REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6 Index: 603-057-00-5 | >=1, <3 | Xn; R20/22 | Acute Tox. 4, H302 Acute Tox. 4, H332 | [1] | - |
| ethylbenzene | REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4 | >=1, <3 | F; R11 Xn; R20 | Flam. Liq. 2, H225 Acute Tox. 4, H332 Asp. Tox. 1, H304 | [1] [2] | - |
| | | | See Section 16 for the full text of the R-phrases declared above. | See Section 16 for the full text of the H statements declared above. | | |

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, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General

: In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.

Inhalation

: Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact

: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

Eye contact

: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Date of issue : 24.07.2014. 3/16

SECTION 4: First aid measures

Ingestion

: If swallowed, seek medical advice immediately and show the container or label.

Keep person warm and at rest. Do NOT induce vomiting.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. 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

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact Causes skin irritation. May cause an allergic skin reaction.

: Irritating to mouth, throat and stomach. Ingestion

Over-exposure signs/symptoms

Eye contact

: Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : No specific data.

Skin contact Adverse symptoms may include the following:

> irritation redness

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

: Treat symptomatically. Contact poison treatment specialist immediately if large

quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing

media

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

Unsuitable extinguishing

media

: Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. 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 halogenated compounds metal oxide/oxides

5.3 Advice for firefighters

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.

: 24.07.2014. **Date of issue** 4/16

SECTION 5: Firefighting measures

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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. Avoid breathing 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".

6.2 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.

6.3 Methods and materials 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 noncombustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections

: See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

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).

7.1 Precautions for safe handling

Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits.

In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.

Mixture may charge electrostatically: always use earthing leads when transferring from one container to another.

Operators should wear antistatic footwear and clothing and floors should be of the conducting type.

Keep away from heat, sparks and flame. No sparking tools should be used.

Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Put on appropriate personal protective equipment (see Section 8).

Never use pressure to empty. Container is not a pressure vessel.

Always keep in containers made from the same material as the original one.

: 24.07.2014. **Date of issue** 5/16

SECTION 7: Handling and storage

Comply with the health and safety at work laws.

Do not allow to enter drains or watercourses.

Information on fire and explosion protection

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

Notes on joint storage

Keep away from: oxidising agents, strong alkalis, strong acids.

Additional information on storage conditions

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Recommendations
Industrial sector specific

Not available.Not available.

solutions

SECTION 8: Exposure controls/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).

8.1 Control parameters

Occupational exposure limits

| Product/ingredient name | Exposure limit values |
|-------------------------|---|
| xylene | EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. |
| | STEL: 441 mg/m³ 15 minutes. |
| | STEL: 100 ppm 15 minutes. |
| | TWA: 220 mg/m³ 8 hours. |
| | TWA: 50 ppm 8 hours. |
| butan-1-ol | EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed |
| | through skin. |
| | STEL: 154 mg/m³ 15 minutes. |
| | STEL: 50 ppm 15 minutes. |
| ethylbenzene | EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed |
| | through skin. |
| | STEL: 552 mg/m³ 15 minutes. |
| | STEL: 125 ppm 15 minutes. |
| | TWA: 100 ppm 8 hours. |
| | TWA: 441 mg/m³ 8 hours. |

Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Date of issue : 24.07.2014. 6/16

SECTION 8: Exposure controls/personal protection

Derived no effect levels

| Product/ingredient name | Type | Exposure | Value | Population | Effects |
|-------------------------|------|--|------------------------|------------|----------|
| xylene | DNEL | Short term | 289 mg/m ³ | Workers | Systemic |
| | DNEL | Inhalation Short term Inhalation | 289 mg/m³ | Workers | Local |
| | DNEL | Long term Dermal | 180 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 77 mg/m³ | Workers | Systemic |
| | DNEL | Long term Dermal | 108 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Inhalation | 14,8 mg/m³ | Consumers | Systemic |
| | DNEL | Long term Oral | 1,6 mg/kg bw/day | Consumers | Systemic |
| butan-1-ol | DNEL | Long term Inhalation | 310 mg/m³ | Workers | Local |
| | DNEL | Long term Oral | 3,125 mg/ kg bw/day | Consumers | Systemic |
| | DNEL | Long term Inhalation | 55 mg/m³ | Consumers | Local |
| benzyl alcohol | DNEL | Short term Inhalation | 450 mg/m ³ | Workers | Systemic |
| | DNEL | Long term Inhalation | 90 mg/m³ | Workers | Systemic |
| | DNEL | Short term Dermal | 47 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Dermal | 9,5 mg/kg bw/day | Workers | Systemic |
| | DNEL | Short term Dermal | 28,5 mg/ kg bw/day | Consumers | Systemic |
| | DNEL | Short term Oral | 25 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Dermal | 5,7 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Oral | 5 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Inhalation | 8,11 mg/m³ | Consumers | Systemic |
| | DNEL | Short term Inhalation | 40,55 mg/ m³ | Consumers | Systemic |
| ethylbenzene | DNEL | Short term Inhalation | 293 mg/m³ | Workers | Local |
| | DNEL | Long term Dermal | 180 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 77 mg/m³ | Workers | Systemic |
| | DNEL | Long term Inhalation | 15 mg/m³ | Consumers | Systemic |
| | DNEL | Long term Oral | 1,6 mg/kg bw/day | Consumers | Systemic |

Predicted no effect concentrations

| Product/ingredient name | Type | Compartment Detail | Value | Method Detail |
|-------------------------|------|-----------------------|-----------------|----------------------|
| xylene | PNEC | Fresh water | 0,327 mg/l | - |
| • | PNEC | Marine | 0,327 mg/l | - |
| | PNEC | Sewage Treatment | 6,58 mg/l | - |
| | | Plant | | |
| | PNEC | Fresh water sediment | 12,46 mg/kg dwt | - |
| | PNEC | Marine water sediment | 12,46 mg/kg dwt | - |
| | PNEC | Soil | 2,31 mg/kg dwt | - |
| butan-1-ol | PNEC | Fresh water | 0,082 mg/l | - |
| | PNEC | Marine | 0,0082 mg/l | - |
| | PNEC | Sewage Treatment | 2476 mg/l | - |

Date of issue : 24.07.2014. **7/16**

SECTION 8: Exposure controls/personal protection

| | | Plant | | |
|----------------|------|-----------------------|------------------|---|
| | PNEC | | 0,178 mg/kg dwt | _ |
| | PNEC | | 0,0178 mg/kg dwt | _ |
| | PNEC | | 0,015 mg/kg dwt | _ |
| benzyl alcohol | PNEC | Fresh water | 1 mg/l | - |
| | PNEC | Marine | 0,1 mg/l | - |
| | PNEC | Sewage Treatment | 39 mg/l | - |
| | | Plant | | |
| | PNEC | Fresh water sediment | 5,27 mg/kg dwt | - |
| | _ | Marine water sediment | 0,527 mg/kg dwt | - |
| | PNEC | Soil | 0,456 mg/kg dwt | - |
| ethylbenzene | PNEC | Fresh water | 0,1 mg/l | - |
| | PNEC | | 0,01 mg/l | - |
| | PNEC | Sewage Treatment | 9,6 mg/l | - |
| | | Plant | | |
| | _ | | 13,7 mg/kg dwt | - |
| | PNEC | | 2,68 mg/kg dwt | - |
| | PNEC | Secondary Poisoning | 20 mg/kg | - |

8.2 Exposure controls

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

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.

Skin protection 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.

Recommended, gloves(breakthrough time) > 8 hours: 4H, Teflon
May be used, gloves(breakthrough time) 4 - 8 hours: neoprene, butyl rubber,
Viton®, Barricade, CPF 3, Responder, nitrile rubber, PVC, polyvinyl alcohol (PVA)
Not recommended, gloves(breakthrough time) < 1 hour: PE

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.

Date of issue : 24.07.2014. **8/16**

SECTION 8: Exposure controls/personal protection

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. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

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

: If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use respiratory mask with charcoal and dust filter when spraying this product (as filter combination A2-P2). In confined spaces, use compressed-air or fresh-air respiratory equipment. When use of roller or brush, consider use of charcoalfilter.

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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

: Liquid. **Physical state**

Colour : Various colours. Odour Characteristic. **Odour threshold** : Not available. pН : Not available. Melting point/freezing point : Not available. Initial boiling point and : Not available.

boiling range

: Closed cup: 30°C Flash point : Not available. **Evaporation rate** Flammability (solid, gas) : Not available. **Burning time** : Not applicable. **Burning rate** : Not applicable.

Upper/lower flammability or

explosive limits

: 1.1 - 13%

: Highest known value: 1.2 kPa (9.3 mm Hg) (at 20°C) (ethylbenzene). Weighted Vapour pressure

average: 0.64 kPa (4.8 mm Hg) (at 20°C)

Vapour density : Highest known value: 3.7 (Air = 1) (xylene). Weighted average: 3.51 (Air = 1)

Relative density : 1.598 g/cm³

Solubility(ies) Very slightly soluble in the following materials: cold water.

Insoluble in the following materials: hot water.

Partition coefficient: n-octanol/: Not available.

water

Auto-ignition temperature : Not available. **Decomposition temperature** : Not available. **Viscosity** Not applicable. : Not available.

Explosive properties : Not available. **Oxidising properties**

9.2 Other information

No additional information.

Date of issue : 24.07.2014. 9/16

SECTION 10: Stability and reactivity

10.1 Reactivity

: No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

: The product is stable.

10.3 Possibility of hazardous reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 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.

10.5 Incompatible materials

: Reactive or incompatible with the following materials:

oxidizing materials

10.6 Hazardous decomposition products

: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See Sections 2 and 15 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Solvents may cause some of the above effects by absorption through the skin. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage. Swallowing may cause nausea, diarrhoea, vomiting, gastro-intestinal irritation and chemical pneumonia.

Based on the properties of the epoxy constituent(s) and considering toxicological data on similar mixtures, this mixture may be a skin sensitiser and an irritant. It contains low molecular weight epoxy constituents which are irritating to eyes, mucous membrane and skin. Repeated skin contact may lead to irritation and to sensitisation, possibly with cross-sensitisation to other epoxies. Skin contact with the mixture and exposure to spray mist and vapour should be avoided.

Contains 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with fatty acids, C18-unsatd., dimers, epoxy resin (MW 700-1200), Cashew, nutshell liq., oligomeric reaction products with 1-chloro-2,3-epoxypropane. May produce an allergic reaction.

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|--|-------------------------|---------------------------------------|-------------------|
| xylene | LC50 Inhalation Gas. LD50 Oral | Rat Rat | 6700 ppm 4300 mg/kg | 4 hours |
| ethylbenzene | LC50 Inhalation Gas. LD50 Dermal LD50 Oral | Rabbit Rabbit Rat | 4000 ppm >5000 mg/kg 3500 mg/kg | 4 hours - - |

Acute toxicity estimates

| Route | ATE value |
|----------------------|---------------|
| Oral | 9633,9 mg/kg |
| Dermal | 11584,8 mg/kg |
| Inhalation (vapours) | 79,71 mg/l |

Specific target organ toxicity (single exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|-------------------------|------------|-------------------|---|
| butan-1-ol | Category 3 | | Respiratory tract irritation and Narcotic effects |

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

| Product/ingredient name | Result |
|-------------------------|--------------------------------|
| e thylbenzene | ASPIRATION HAZARD - Category 1 |

Date of issue : 24.07.2014. **10/16**

SECTION 11: Toxicological information

SECTION 12: Ecological information

12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|----------------------|---------|----------|
| ethylbenzene | Acute EC50 7,2 mg/l | Algae | 48 hours |
| | Acute EC50 2,93 mg/l | Daphnia | 48 hours |
| | Acute LC50 4,2 mg/l | Fish | 96 hours |

Conclusion/Summary: This material is harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

Conclusion/Summary: Not available.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--------------------------|-------------------|------------|--------------------|
| xylene benzyl alcohol | - | - | Readily Readily |
| ethylbenzene | - | - | Readily |

12.3 Bioaccumulative potential

| Product/ingredient name | LogPow | BCF | Potential |
|-------------------------|--------|-------------|-----------|
| xylene | 3,12 | 8.1 to 25.9 | low |
| butan-1-ol | 0,88 | - | low |
| benzyl alcohol | 1,1 | <100 | low |
| ethylbenzene | 3,15 | - | low |

12.4 Mobility in soil

Soil/water partition : Not available.

coefficient (Koc)

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

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).

13.1 Waste treatment methods

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

European waste catalogue

(EWC)

: 08 01 11* Waste paint and varnish containing organic solvents or other dangerous substances If this product is mixed with other wastes, this code may no longer apply. If mixed with other wastes, the appropriate code should be assigned. For further information, contact your local waste authority.

Date of issue : 24.07.2014. **11/16**

SECTION 14: Transport information

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.

International transport regulations

14.1 UN number : 1263 **14.2 UN proper shipping** : Paint

name

14.3 Transport hazard : 3

class(es)

₹

14.4 Packing group : III
14.5 Environmental : No.

hazards

14.6 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.

Additional information

ADR / RID : Tunnel restriction code: (D/E)

ADR/RID: Viscous substance. Not restricted, ref. chapter 2.2.3.1.5 (applicable to

receptacles < 450 litre capacity).

IMDG : Emergency schedules (EmS)

F-E, <u>S-E</u>

IMDG: Viscous substance. Transport in accordance with paragraph 2.3.2.5

(applicable to receptacles < 30 litre capacity).

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the

IBC Code

: Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions : Not applicable.

on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

Europe inventory : At least one component is not listed.

Black List Chemicals : Not listed : Not listed Integrated pollution : Not listed

prevention and control

Integrated pollution

list (IPPC) - Air

: Not listed

prevention and control list (IPPC) - Water

Date of issue : 24.07.2014. **12/16**

SECTION 15: Regulatory information

Chemical Weapons

Convention List Schedule I

Chemicals

Chemical Weapons

Convention List Schedule II

Chemicals

Chemical Weapons

Convention List Schedule III

Chemicals

: Not listed

: Not listed

Not listed

15.2 Chemical Safety

Assessment

: This product contains substances for which Chemical Safety Assessments are still

required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

: ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No.

1272/2008]

DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement PNEC = Predicted No Effect Concentration RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

| Classification | Justification |
|-------------------------|-----------------------|
| Flam. Liq. 3, H226 | On basis of test data |
| Skin Irrit. 2, H315 | Calculation method |
| Eye Irrit. 2, H319 | Calculation method |
| Skin Sens. 1, H317 | Calculation method |
| Aquatic Chronic 3, H412 | Calculation method |

Full text of abbreviated H statements

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation. May cause drowsiness or dizziness.

and

H336

H411 Toxic to aquatic life with long lasting effects.H412 Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 4, H302 ACUTE TOXICITY: ORAL - Category 4
Acute Tox. 4, H312 ACUTE TOXICITY: SKIN - Category 4

Acute Tox. 4, H332 ACUTE TOXICITY: INHALATION - Category 4
Aquatic Chronic 2, H411 LONG-TERM AQUATIC HAZARD - Category 2
Aquatic Chronic 3, H412 LONG-TERM AQUATIC HAZARD - Category 3

Asp. Tox. 1, H304 ASPIRATION HAZARD - Category 1

Eye Dam. 1, H318 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2

Flam. Liq. 2, H225 FLAMMABLE LIQUIDS - Category 2 Flam. Liq. 3, H226 FLAMMABLE LIQUIDS - Category 3

Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2

Skin Sens. 1, H317 SKIN SENSITIZATION - Category 1

STOT SE 3, H335 and SPECIFIC TARGET ORGAN TOXICITY (SINGLE H336 EXPOSURE) [Respiratory tract irritation and Narcotic

effects] - Category 3

Date of issue : 24.07.2014. **13/16**

SECTION 16: Other information

Full text of abbreviated R phrases

: R11- Highly flammable.

R10- Flammable.

R20- Harmful by inhalation. R22- Harmful if swallowed.

R20/21- Harmful by inhalation and in contact with skin. R20/22- Harmful by inhalation and if swallowed.

R41- Risk of serious damage to eyes.

R38- Irritating to skin.

R36/38- Irritating to eyes and skin.

R37/38- Irritating to respiratory system and skin. R43- May cause sensitisation by skin contact. R67- Vapours may cause drowsiness and dizziness.

R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the

aquatic environment.

R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the

aquatic environment.

Full text of classifications

[DSD/DPD]

: F - Highly flammable

Xn - Harmful Xi - Irritant

N - Dangerous for the environment

Date of printing
Date of issue/ Date of

Date of previous issue

revision

: 24.07.2014. : 24.07.2014.

: 14.04.2014.

Version : 3.01

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.

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

Date of issue : 24.07.2014. **14/16**



Exposure Scenario: Uses in Coatings - Industrial use

Sector of Use : Industrial use

Process Category : PROC05 PROC07 PROC08a PROC10

Environmental Release Category(ies) : ERC4

Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

Operational conditions and risk management measures

Control of worker exposure

| Frequency and duration of use | : Covers daily exposures up to 8 hours (unless stated differently). |
|------------------------------------|---|
| General - Operational conditions | : Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented. |
| General - Risk Management Measures | : Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear suitable coveralls to prevent exposure to the skin. Use suitable eye protection. See Section 8 for information on appropriate personal protective equipment |

| Type of activity or process | Risk Management Measures |
|---|---|
| Preparation of material for application | : Provide a good standard of controlled ventilation (10 to 15 air changes per hour). |
| Roller, spreader, flow application | : Provide extract ventilation to points where emissions occur. |
| Spraying - Manual | : Carry out in a vented booth provided with laminar airflow. or Provide a good standard of controlled ventilation (10 to 15 air changes per hour). and Wear a respirator conforming to EN140 with Type A/P2 filter or better. |

Control of environmental exposure

| Organisational measures to prevent/limit release from site | : Prevent environmental discharge consistent with regulatory requirements. |
|---|--|
| Conditions and measures related to external treatment of waste for disposal | : External treatment and disposal of waste should comply with applicable local and/or national regulations. See Section 13 for additional waste treatment information. |
| Conditions and measures related to external recovery of waste | External recovery and recycling of waste should comply with applicable local and/or national regulations. |

Additional information

The exposure scenario for the mixture is based on the following substances:

REACH #: 01-2119488216-32

Page: 15/16



Exposure Scenario: Uses in Coatings - Professional use

Sector of Use : Professional use

Process Category : PROC05 PROC08a PROC10 PROC11

Environmental Release Category(ies) : ERC8a ERC8d

Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

Operational conditions and risk management measures

Control of worker exposure

| Frequency and duration of use | : Covers daily exposures up to 8 hours (unless stated differently). |
|------------------------------------|---|
| General - Operational conditions | : Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented. |
| General - Risk Management Measures | : Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Wear suitable coveralls to prevent exposure to the skin. Use suitable eye protection. See Section 8 for information on appropriate personal protective equipment. |

| | Wear suitable coveralls to prevent exposure to the skin. Use suitable eye protection. See Section 8 for information on appropriate personal protective equipment. |
|--|--|
| Type of activity or process | Risk Management Measures |
| Preparation of material for application - Indoor. | : Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 1 hour. or Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Wear a respirator conforming to EN140 with Type A/P2 filter or better. |
| Preparation of material for application - Outdoor. | Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 1 hour. or Ensure operation is undertaken outdoors. Wear a respirator conforming to EN140 with Type A/P2 filter or better. |
| Roller, spreader, flow application - Indoor. | : Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Wear a respirator conforming to EN140 with Type A/P2 filter or better. |
| Roller, spreader, flow application - Outdoor. | : Ensure operation is undertaken outdoors. Wear a respirator conforming to EN140 with Type A/P2 filter or better. |
| Spraying - Manual - Indoor. | : Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. Wear a respirator conforming to EN140 with Type A/P2 filter or better. |
| Spraying - Manual - Outdoor. | : Ensure operation is undertaken outdoors. Wear a full-face respirator conforming to EN136 with Type A/P2 filter or better. Avoid carrying out activities involving exposure for more than 4 hours. |

Control of environmental exposure

| Control of environmental exposure | |
|---|---|
| Organisational measures to prevent/limit release from site | : Prevent environmental discharge consistent with regulatory requirements. |
| Conditions and measures related to external treatment of waste for disposal | : External treatment and disposal of waste should comply with applicable local and/or national regulations. See Section 13 for additional waste treatment information. |
| Conditions and measures related to external recovery of waste | External recovery and recycling of waste should comply with applicable local and/or national regulations. |

Additional information

The exposure scenario for the mixture is based on the following substances:

REACH #: 01-2119488216-32

Page: 16/16