

## Muki EPS Comp B

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

#### 1.1 Product identifier

**Product name** : Muki EPS Comp B  
**Raw material Code number** : Not available.  
**Product code** : 706  
**Product description** : Hardener.  
**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

Use in coatings - Industrial 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

##### MANUFACTURER/SUPPLIER:

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 NHS Direct; phone 0845 4647 or 111. Open 24/7.

### 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  
Acute Tox. 4, H302  
Skin Irrit. 2, H315  
Eye Dam. 1, H318  
STOT SE 3, H335  
STOT SE 3, H336  
Aquatic Chronic 3, H412

#### 2.2 Label elements

**Date of issue** : 24.01.2018











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**SECTION 8: Exposure controls/personal protection**

| Product/ingredient name                      | Exposure limit values  |
|--|--|
| butan-1-ol                                   | <b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.</b><br>STEL: 154 mg/m <sup>3</sup> 15 minutes.  |
| xylene                                       | <b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.</b><br>STEL: 50 ppm 15 minutes.   |
| hydrocarbons, C9, aromatics, (<0.1% Benzene) | <b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.</b><br>STEL: 441 mg/m <sup>3</sup> 15 minutes.<br>STEL: 100 ppm 15 minutes.<br>TWA: 220 mg/m <sup>3</sup> 8 hours.<br>TWA: 50 ppm 8 hours.  |
| ethylbenzene                                 | <b>EH40-WEL (United Kingdom (UK), 12/2011). Absorbed through skin.</b><br>TWA: 200 mg/m <sup>3</sup> 8 hours. Form: All forms<br>TWA: 40 ppm 8 hours. Form: All forms  |
| 2,2'-iminodi(ethylamine)                     | <b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.</b><br>STEL: 552 mg/m <sup>3</sup> 15 minutes.<br>STEL: 125 ppm 15 minutes.<br>TWA: 100 ppm 8 hours.<br>TWA: 441 mg/m <sup>3</sup> 8 hours. |
|  | <b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.</b><br>TWA: 4.3 mg/m <sup>3</sup> 8 hours.<br>TWA: 1 ppm 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.

**Derived no effect levels**

| Product/ingredient name | Type | Exposure              | Value                  | Population | Effects  |
|-------------------------|------|-----------------------|------------------------|------------|----------|
| butan-1-ol              | DNEL | Long term Inhalation  | 310 mg/m <sup>3</sup>  | Workers    | Local    |
|                         | DNEL | Long term Oral        | 3.125 mg/kg bw/day     | Consumers  | Systemic |
|                         | DNEL | Long term Inhalation  | 55 mg/m <sup>3</sup>   | Consumers  | Local    |
| xylene                  | DNEL | Short term Inhalation | 289 mg/m <sup>3</sup>  | Workers    | Systemic |
|                         | DNEL | Short term Inhalation | 289 mg/m <sup>3</sup>  | Workers    | Local    |
|                         | DNEL | Long term Dermal      | 180 mg/kg bw/day       | Workers    | Systemic |
|                         | DNEL | Long term Inhalation  | 77 mg/m <sup>3</sup>   | Workers    | Systemic |
|                         | DNEL | Long term Dermal      | 108 mg/kg bw/day       | Consumers  | Systemic |
|                         | DNEL | Long term Inhalation  | 14.8 mg/m <sup>3</sup> | Consumers  | Systemic |

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|  |      |                       |                        |           |          |
|--|------|-----------------------|------------------------|-----------|----------|
| hydrocarbons, C9, aromatics, (<0.1% Benzene) | DNEL | Long term Oral        | 1.6 mg/kg bw/day       | Consumers | Systemic |
|  | DNEL | Long term Dermal      | 25 mg/kg bw/day        | Workers   | Systemic |
|  | DNEL | Long term Inhalation  | 150 mg/m <sup>3</sup>  | Workers   | Systemic |
| ethylbenzene                                 | DNEL | Long term Dermal      | 11 mg/kg bw/day        | Consumers | Systemic |
|  | DNEL | Long term Inhalation  | 32 mg/m <sup>3</sup>   | Consumers | Systemic |
|  | DNEL | Long term Oral        | 11 mg/kg bw/day        | Consumers | Systemic |
|  | DNEL | Short term Inhalation | 293 mg/m <sup>3</sup>  | Workers   | Local    |
|  | DNEL | Long term Dermal      | 180 mg/kg bw/day       | Workers   | Systemic |
|  | DNEL | Long term Inhalation  | 77 mg/m <sup>3</sup>   | Workers   | Systemic |
| 2,2'-iminodi(ethylamine)                     | DNEL | Long term Inhalation  | 15 mg/m <sup>3</sup>   | Consumers | Systemic |
|  | DNEL | Long term Oral        | 1.6 mg/kg bw/day       | Consumers | Systemic |
|  | DNEL | Short term Inhalation | 92.1 mg/m <sup>3</sup> | Workers   | Systemic |
|  | DNEL | Short term Inhalation | 2.6 mg/m <sup>3</sup>  | Workers   | Local    |
|  | DNEL | Long term Dermal      | 11.4 mg/kg bw/day      | Workers   | Systemic |
|  | DNEL | Long term Inhalation  | 15.4 mg/m <sup>3</sup> | Workers   | Systemic |
|  | DNEL | Long term Dermal      | 1.1 mg/cm <sup>2</sup> | Workers   | Local    |
|  | DNEL | Long term Inhalation  | 0.87 mg/m <sup>3</sup> | Workers   | Local    |
|  | DNEL | Short term Dermal     | 4.88 mg/kg bw/day      | Consumers | Systemic |
|  | DNEL | Short term Inhalation | 27.5 mg/m <sup>3</sup> | Consumers | Systemic |
|  | DNEL | Long term Dermal      | 4.88 mg/kg bw/day      | Consumers | Systemic |
|  | DNEL | Long term Inhalation  | 4.6 mg/m <sup>3</sup>  | Consumers | Systemic |

**Predicted no effect concentrations**

| Product/ingredient name | Type | Compartment Detail     | Value            | Method Detail |
|-------------------------|------|------------------------|------------------|---------------|
| butan-1-ol              | PNEC | Fresh water            | 0.082 mg/l       | -             |
|                         | PNEC | Marine                 | 0.0082 mg/l      | -             |
|                         | PNEC | Sewage Treatment Plant | 2476 mg/l        | -             |
| xylene                  | PNEC | Fresh water sediment   | 0.178 mg/kg dwt  | -             |
|                         | PNEC | Marine water sediment  | 0.0178 mg/kg dwt | -             |
|                         | PNEC | Soil                   | 0.015 mg/kg dwt  | -             |
|                         | PNEC | Fresh water            | 0.327 mg/l       | -             |
|                         | PNEC | Marine                 | 0.327 mg/l       | -             |
|                         | PNEC | Sewage Treatment Plant | 6.58 mg/l        | -             |
| ethylbenzene            | 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   | -             |
|                         | PNEC | Fresh water            | 0.1 mg/l         | -             |
|                         | PNEC | Marine                 | 0.01 mg/l        | -             |
|                         | PNEC | Sewage Treatment Plant | 9.6 mg/l         | -             |



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|                          |      |                        |                 |   |
|--------------------------|------|------------------------|-----------------|---|
| 2,2'-iminodi(ethylamine) | PNEC | Fresh water sediment   | 13.7 mg/kg dwt  | - |
|                          | PNEC | Soil                   | 2.68 mg/kg dwt  | - |
|                          | PNEC | Secondary Poisoning    | 20 mg/kg        | - |
|                          | PNEC | Fresh water            | 0.56 mg/l       | - |
|                          | PNEC | Marine                 | 0.056 mg/l      | - |
|                          | PNEC | Sewage Treatment Plant | 6 mg/l          | - |
|                          | PNEC | Fresh water sediment   | 1072 mg/kg dwt  | - |
|                          | PNEC | Marine water sediment  | 107.2 mg/kg dwt | - |
|                          | PNEC | Soil                   | 214 mg/kg dwt   | - |

**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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**

: Safety eyewear complying to EN 166 should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**Skin protection**

**Hand protection**

: 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 EN374. May be used, gloves(breakthrough time) 4 - 8 hours: neoprene, butyl rubber, Viton®, Barricade, CPF 3, Responder, PVC. Not recommended, gloves(breakthrough time) < 1 hour: PE. Recommended, gloves(breakthrough time) > 8 hours: 4H, Teflon, nitrile rubber, polyvinyl alcohol (PVA)

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.

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**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 a respirator according to EN 140. Use respiratory mask with charcoal and dust filter when spraying this product, according to EN 14387(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

- Physical state** : Liquid.
- Colour** : Various colours.
- Odour** : Characteristic.
- Odour threshold** : Not applicable.
- pH** : Not applicable.
- Melting point/freezing point** : Not applicable.
- Initial boiling point and boiling range** : Lowest known value: 119°C (246.2°F) (butan-1-ol). Weighted average: 125.3°C (257.5°F)
- Flash point** : Closed cup: 26°C
- Evaporation rate** : Highest known value: 0.84 (ethylbenzene) Weighted average: 0.57compared with butyl acetate
- Flammability (solid, gas)** : Not applicable.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Upper/lower flammability or explosive limits** : 0.8 - 11.3%
- Vapour pressure** : Highest known value: 1.2 kPa (9.3 mm Hg) (at 20°C) (ethylbenzene). Weighted average: 0.5 kPa (3.75 mm Hg) (at 20°C)
- Vapour density** : Highest known value: 3.7 (Air = 1) (xylene). Weighted average: 3 (Air = 1)
- Relative density** : 0.94 g/cm³
- Solubility(ies)** : Insoluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : Lowest known value: 355°C (671°F) (butan-1-ol).
- Decomposition temperature** : Not available.
- Viscosity** : Kinematic (40°C): >0.205 cm²/s (>20.5 mm²/s)
- Explosive properties** : Not available.
- Oxidising properties** : Not available.

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**Muki EPS Comp B****SECTION 9: Physical and chemical properties****9.2 Other information**

No additional information.

**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** : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.  
Under normal conditions of storage and use, hazardous reactions will not occur.
- 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 CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 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. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. 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.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains 2,2'-iminodi(ethylamine). May produce an allergic reaction.

| Product/ingredient name  | Result                  | Species | Dose        | Exposure |
|--------------------------|-------------------------|---------|-------------|----------|
| Butan-1-ol<br>xylene     | LD50 Oral               | Rat     | 790 mg/kg   | -        |
|                          | LC50 Inhalation Vapour  | Rat     | 20 mg/l     | 4 hours  |
|                          | LD50 Oral               | Rat     | 4300 mg/kg  | -        |
| ethylbenzene             | TDL <sub>0</sub> Dermal | Rabbit  | 4300 mg/kg  | -        |
|                          | LC50 Inhalation Gas.    | Rabbit  | 4000 ppm    | 4 hours  |
|                          | LD50 Dermal             | Rabbit  | >5000 mg/kg | -        |
| 2,2'-iminodi(ethylamine) | LD50 Oral               | Rat     | 3500 mg/kg  | -        |
|                          | LC50 Inhalation Vapour  | Rat     | 0.5 mg/l    | 4 hours  |
|                          | LD50 Dermal             | Rabbit  | 1090 mg/kg  | -        |
|                          | LD50 Oral               | Rat     | 1080 mg/kg  | -        |

**Acute toxicity estimates**

| Route                | ATE value    |
|----------------------|--------------|
| Oral                 | 1674.2 mg/kg |
| Dermal               | 8462.2 mg/kg |
| Inhalation (vapours) | 38.83 mg/l   |

**Irritation/Corrosion**

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**SECTION 11: Toxicological information**

| Product/ingredient name  | Result                   | Species | Score | Exposure       | Observation |
|--------------------------|--------------------------|---------|-------|----------------|-------------|
| 2,2'-iminodi(ethylamine) | Skin - Moderate irritant | Rabbit  | -     | 500 milligrams | -           |

**Specific target organ toxicity (single exposure)**

| Product/ingredient name                      | Category   | Route of exposure | Target organs                                     |
|--|------------|-------------------|---|
| Butan-1-ol                                   | Category 3 | Not applicable.   | Respiratory tract irritation and Narcotic effects |
| hydrocarbons, C9, aromatics, (<0.1% Benzene) | Category 3 | Not applicable.   | Respiratory tract irritation and Narcotic effects |
| 2,2'-iminodi(ethylamine)                     | Category 3 | Not applicable.   | Respiratory tract irritation                      |

**Specific target organ toxicity (repeated exposure)**

| Product/ingredient name | Category   | Route of exposure | Target organs  |
|-------------------------|------------|-------------------|----------------|
| ethylbenzene            | Category 2 | Not determined    | hearing organs |

**Aspiration hazard**

| Product/ingredient name                                      | Result   |
|--|--|
| hydrocarbons, C9, aromatics, (<0.1% Benzene)<br>ethylbenzene | ASPIRATION HAZARD - Category 1<br>ASPIRATION HAZARD - Category 1 |

**Potential acute health effects**

- Eye contact** : Causes serious eye damage.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact** : Causes skin irritation.
- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

**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  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

**Potential chronic health effects**

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.

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**SECTION 11: Toxicological information**

- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

**SECTION 12: Ecological information**

**12.1 Toxicity**

| Product/ingredient name                      | Result                             | Species                                 | Exposure |
|--|------------------------------------|---|----------|
| Hydrocarbons, C9, aromatics, (<0.1% Benzene) | Acute EC50 <10 mg/l                | Daphnia                                 | 48 hours |
|  | Acute IC50 <10 mg/l                | Algae                                   | 72 hours |
| ethylbenzene                                 | Acute LC50 <10 mg/l                | Fish                                    | 96 hours |
|  | Acute EC50 7.2 mg/l                | Algae                                   | 48 hours |
| 2,2'-iminodi(ethylamine)                     | Acute EC50 2.93 mg/l               | Daphnia                                 | 48 hours |
|  | Acute LC50 4.2 mg/l                | Fish                                    | 96 hours |
|  | Acute EC50 345600 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 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                                       | -                 | -          | Readily          |
| hydrocarbons, C9, aromatics, (<0.1% Benzene) | -                 | -          | Not readily      |
| ethylbenzene                                 | -                 | -          | Readily          |

**12.3 Bioaccumulative potential**

| Product/ingredient name                      | LogP <sub>ow</sub> | BCF         | Potential |
|--|--------------------|-------------|-----------|
| Butan-1-ol                                   | 1                  | -           | low       |
| xylene                                       | 3.12               | 8.1 to 25.9 | low       |
| hydrocarbons, C9, aromatics, (<0.1% Benzene) | -                  | 10 to 2500  | high      |
| ethylbenzene                                 | 3.6                | -           | low       |
| 2,2'-iminodi(ethylamine)                     | -5.58              | 2.8 to 6.3  | low       |

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**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.

**Muki EPS Comp B****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

**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 name** :  Paint

**14.3 Transport hazard class(es)** : 3




**14.4 Packing group** : III

**14.5 Environmental hazards** : No.

**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)  
Hazard identification number: 30  
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, S-E  
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 and the IBC Code** : Not available.

**IMDG Code Segregation group** :  Not available.

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## 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 on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

##### Other EU regulations

**Europe inventory** :  At least one component is not listed.

**Black List Chemicals** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

**15.2 Chemical safety assessment** : Not applicable.

## 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 |
| Acute Tox. 4, H302      | Calculation method    |
| Skin Irrit. 2, H315     | Calculation method    |
| Eye Dam. 1, H318        | Calculation method    |
| STOT SE 3, H335         | Calculation method    |
| STOT SE 3, H336         | Calculation method    |
| Aquatic Chronic 3, H412 | Calculation method    |

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**Muki EPS Comp B****SECTION 16: Other information**

|   |                         |  |
|---|-------------------------|--|
| <b>Full text of abbreviated H statements</b>  | : 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.  |
|   | H314                    | Causes severe skin burns and eye damage.   |
|   | H315                    | Causes skin irritation.  |
|   | H317                    | May cause an allergic skin reaction.   |
|   | H318                    | Causes serious eye damage.   |
|   | H319                    | Causes serious eye irritation.   |
|   | H330                    | Fatal if inhaled.  |
|   | H332                    | Harmful if inhaled.  |
|   | H335                    | May cause respiratory irritation.  |
|   | H336                    | May cause drowsiness or dizziness.   |
|   | H373                    | May cause damage to organs through prolonged or repeated exposure.                           |
|   | H411                    | Toxic to aquatic life with long lasting effects.   |
|   | H412                    | Harmful to aquatic life with long lasting effects.   |
| <b>Full text of classifications [CLP/GHS]</b> | : Acute Tox. 2, H330    | ACUTE TOXICITY (inhalation) - Category 2   |
|   | Acute Tox. 4, H302      | ACUTE TOXICITY (oral) - Category 4   |
|   | Acute Tox. 4, H312      | ACUTE TOXICITY (dermal) - 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 Corr. 1B, H314     | SKIN CORROSION/IRRITATION - Category 1B  |
|   | Skin Irrit. 2, H315     | SKIN CORROSION/IRRITATION - Category 2   |
|   | Skin Sens. 1, H317      | SKIN SENSITISATION - Category 1  |
|   | STOT RE 2, H373         | SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2                              |
|   | STOT SE 3, H335         | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3 |
|   | STOT SE 3, H336         | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3             |
| <b>Date of printing</b>                       | : 24.01.2018            |  |
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| <b>Version</b>                                | : 6                     |  |

**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** : 24.01.2018**16/17**





## Muki EPS Comp B

### Exposure Scenario: Use 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  |
| 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.<br>or<br>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:

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