

# SAFETY DATA SHEET



## Barrier 90 Comp A

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

#### 1.1 Product identifier

**Product name** : Barrier 90 Comp A  
**Product code** : 2528  
**Product description** : Paint.  
**Product type** : Liquid.  
**Other means of identification** : Not available.  
**UFI** : G207-T0FJ-9004-2U9M

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

Use in coatings - Industrial use  
Use 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

Jotun A/S  
P.O.Box 2021  
3202 Sandefjord  
Norway

Tel: + 47 33 45 70 00  
Fax: +47 33 45 72 42

SDSJotun@jotun.no

#### 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  
Skin Irrit. 2, H315  
Eye Irrit. 2, H319  
Skin Sens. 1, H317  
Aquatic Acute 1, H400  
Aquatic Chronic 1, H410

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.  
See Section 11 for more detailed information on health effects and symptoms.

#### 2.2 Label elements

**Hazard pictograms** :



**Barrier 90 Comp A**

## SECTION 2: Hazards identification

|   |  |
|---|--|
| <b>Signal word</b>  | : Warning.   |
| <b>Hazard statements</b>  | : H226 - Flammable liquid and vapour.<br>H315 - Causes skin irritation.<br>H317 - May cause an allergic skin reaction.<br>H319 - Causes serious eye irritation.<br>H410 - Very toxic to aquatic life with long lasting effects.  |
| <b><u>Precautionary statements</u></b>  |  |
| <b>General</b>  | : Not applicable.  |
| <b>Prevention</b>   | : P280 - Wear protective gloves. Wear eye or face protection.<br>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br>P273 - Avoid release to the environment.<br>P261 - Avoid breathing vapour.   |
| <b>Response</b>   | : P391 - Collect spillage.<br>P362 + P364 - Take off contaminated clothing and wash it before reuse.<br>P302 + P352 - IF ON SKIN: Wash with plenty of water.<br>P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.<br>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P337 + P313 - If eye irritation persists: Get medical advice or attention. |
| <b>Storage</b>  | : Not applicable.  |
| <b>Disposal</b>   | : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.   |
| <b>Hazardous ingredients</b>  | : xylene<br>epoxy resin (MW 700-1200)  |
| <b>Supplemental label elements</b>  | : Not applicable.  |
| <b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b> | : Not applicable.  |
| <b><u>Special packaging requirements</u></b>  |  |
| <b>Containers to be fitted with child-resistant fastenings</b>  | : Not applicable.  |
| <b>Tactile warning of danger</b>  | : Not applicable.  |

### 2.3 Other hazards

|  |   |
|--|---|
| <b>Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII</b> | : This mixture does not contain any substances that are assessed to be a PBT or a vPvB. |
| <b>Other hazards which do not result in classification</b>   | : None known.   |

## SECTION 3: Composition/information on ingredients

|                     |           |
|---------------------|-----------|
| <b>3.2 Mixtures</b> | : Mixture |
|---------------------|-----------|

**Barrier 90 Comp A****SECTION 3: Composition/information on ingredients**

| Product/ingredient name   | Identifiers  | Weight %  | Regulation (EC) No. 1272/2008 [CLP]  | Type    |
|---------------------------|--|-----------|--|---------|
| zinc                      | EC: 231-175-3<br>CAS: 7440-66-6  | ≥75 - ≤90 | Aquatic Acute 1, H400 (M=1)<br>Aquatic Chronic 1, H410 (M=1)   | [1]     |
| xylene                    | REACH #:<br>01-2119488216-32<br>EC: 215-535-7<br>CAS: 1330-20-7<br>Index: 601-022-00-9 | ≤10       | Flam. Liq. 3, H226<br>Acute Tox. 4, H312<br>Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335<br>Asp. Tox. 1, H304<br>Aquatic Chronic 3, H412 | [1] [2] |
| epoxy resin (MW 700-1200) | CAS: 25036-25-3  | ≤5        | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317  | [1]     |
| ethylbenzene              | REACH #:<br>01-2119489370-35<br>EC: 202-849-4<br>CAS: 100-41-4<br>Index: 601-023-00-4  | ≤3        | Flam. Liq. 2, H225<br>Acute Tox. 4, H332<br>STOT RE 2, H373 (hearing organs)<br>Asp. Tox. 1, H304<br>Aquatic Chronic 3, H412   | [1] [2] |
| zinc oxide                | REACH #:<br>01-2119463881-32<br>EC: 215-222-5<br>CAS: 1314-13-2<br>Index: 030-013-00-7 | ≤3        | Aquatic Acute 1, H400 (M=1)<br>Aquatic Chronic 1, H410 (M=1)   | [1]     |
| 1-methoxy-2-propanol      | REACH #:<br>01-2119457435-35<br>EC: 203-539-1<br>CAS: 107-98-2<br>Index: 603-064-00-3  | ≤3        | Flam. Liq. 3, H226<br>STOT SE 3, H336<br><br><b>See Section 16 for the full text of the H statements declared above.</b>   | [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, are PBTs, vPvBs or Substances of equivalent concern, 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

[6] Additional disclosure due to company policy

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.

**Eye contact**

: Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate 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.

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## SECTION 4: First aid measures

- 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.
- 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 gloves.

### 4.2 Most important symptoms and effects, both acute and delayed

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. 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. Ingestion may cause nausea, diarrhea and vomiting.

#### 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.

See toxicological information (Section 11)

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Recommended: alcohol-resistant foam, CO<sub>2</sub>, 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** : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.
- Hazardous combustion products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

### 5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

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### SECTION 5: Firefighting measures

**Special protective equipment for fire-fighters** : Appropriate breathing apparatus may be required.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : Exclude sources of ignition and ventilate the area. Avoid breathing vapour or mist. Refer to protective measures listed in sections 7 and 8.

**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** : Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

**6.3 Methods and material for containment and cleaning up** : 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). Preferably clean with a detergent. Avoid using solvents.

**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.  
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.

#### 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)

**Barrier 90 Comp A****SECTION 7: Handling and storage****Recommendations** : Not available.**Industrial sector specific solutions** : Not available.**SECTION 8: Exposure controls/personal protection**

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                  | <b>EH40/2005 WELs (United Kingdom (UK), 1/2020). 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>EH40/2005 WELs (United Kingdom (UK), 1/2020). 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. |
| 1-methoxy-2-propanol    | <b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b><br>STEL: 560 mg/m <sup>3</sup> 15 minutes.<br>STEL: 150 ppm 15 minutes.<br>TWA: 375 mg/m <sup>3</sup> 8 hours.<br>TWA: 100 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.

**DNELs/DMELs**

| Product/ingredient name | Exposure             | Value                  | Population         | Effects  |
|-------------------------|----------------------|------------------------|--------------------|----------|
| zinc                    | Long term Oral       | 0.83 mg/kg bw/day      | General population | Systemic |
|                         | Long term Inhalation | 2.5 mg/m <sup>3</sup>  | General population | Systemic |
|                         | Long term Inhalation | 5 mg/m <sup>3</sup>    | Workers            | Systemic |
|                         | Long term Dermal     | 83 mg/kg bw/day        | General population | Systemic |
|                         | Long term Dermal     | 83 mg/kg bw/day        | Workers            | Systemic |
|                         | Long term Oral       | 1.6 mg/kg bw/day       | General population | Systemic |
| xylene                  | Long term Oral       | 14.8 mg/m <sup>3</sup> | General population | Systemic |
|                         | Long term Inhalation |                        | General population | Systemic |



**Barrier 90 Comp A****SECTION 8: Exposure controls/personal protection**

|                      |                       |                         |                                |          |
|----------------------|-----------------------|-------------------------|--------------------------------|----------|
| ethylbenzene         | Long term Inhalation  | 77 mg/m <sup>3</sup>    | Workers                        | Systemic |
|                      | Long term Dermal      | 108 mg/kg bw/day        | General population             | Systemic |
|                      | Long term Dermal      | 180 mg/kg bw/day        | Workers                        | Systemic |
|                      | Short term Inhalation | 289 mg/m <sup>3</sup>   | Workers                        | Local    |
|                      | Short term Inhalation | 289 mg/m <sup>3</sup>   | Workers                        | Systemic |
|                      | Long term Oral        | 1.6 mg/kg bw/day        | General population             | Systemic |
|                      | Long term Inhalation  | 15 mg/m <sup>3</sup>    | General population             | Systemic |
|                      | Long term Inhalation  | 77 mg/m <sup>3</sup>    | Workers                        | Systemic |
|                      | Long term Dermal      | 180 mg/kg bw/day        | Workers                        | Systemic |
|                      | Short term Inhalation | 293 mg/m <sup>3</sup>   | Workers                        | Local    |
| zinc oxide           | Long term Inhalation  | 442 mg/m <sup>3</sup>   | Workers                        | Local    |
|                      | Short term Inhalation | 884 mg/m <sup>3</sup>   | Workers                        | Systemic |
|                      | Long term Dermal      | 83 mg/kg bw/day         | Workers                        | Systemic |
|                      | Long term Inhalation  | 5 mg/m <sup>3</sup>     | Workers                        | Systemic |
|                      | Long term Dermal      | 83 mg/kg bw/day         | General population [Consumers] | Systemic |
|                      | Long term Inhalation  | 2.5 mg/m <sup>3</sup>   | General population [Consumers] | Systemic |
|                      | Long term Oral        | 0.83 mg/kg bw/day       | General population [Consumers] | Systemic |
|                      | Long term Inhalation  | 0.5 mg/m <sup>3</sup>   | Workers                        | Local    |
|                      | Long term Oral        | 0.83 mg/kg bw/day       | General population             | Systemic |
|                      | Long term Inhalation  | 2.5 mg/m <sup>3</sup>   | General population             | Systemic |
| 1-methoxy-2-propanol | Long term Inhalation  | 5 mg/m <sup>3</sup>     | Workers                        | Systemic |
|                      | Long term Dermal      | 83 mg/kg bw/day         | General population             | Systemic |
|                      | Long term Dermal      | 83 mg/kg bw/day         | Workers                        | Systemic |
|                      | Long term Oral        | 33 mg/kg bw/day         | General population             | Systemic |
|                      | Long term Inhalation  | 43.9 mg/m <sup>3</sup>  | General population             | Systemic |
|                      | Long term Dermal      | 78 mg/kg bw/day         | General population             | Systemic |
|                      | Long term Dermal      | 183 mg/kg bw/day        | Workers                        | Systemic |
|                      | Long term Inhalation  | 369 mg/m <sup>3</sup>   | Workers                        | Systemic |
|                      | Short term Inhalation | 553.5 mg/m <sup>3</sup> | Workers                        | Local    |
|                      | Short term Inhalation | 553.5 mg/m <sup>3</sup> | Workers                        | Systemic |

**Barrier 90 Comp A****SECTION 8: Exposure controls/personal protection**

|  |            |                |  |  |
|--|------------|----------------|--|--|
|  | Inhalation | m <sup>3</sup> |  |  |
|--|------------|----------------|--|--|

**PNECs**

| Product/ingredient name | Compartment Detail     | Value           | Method Detail |
|-------------------------|------------------------|-----------------|---------------|
| xylene                  | Fresh water            | 0.327 mg/l      | -             |
|                         | Marine                 | 0.327 mg/l      | -             |
|                         | Sewage Treatment Plant | 6.58 mg/l       | -             |
|                         | Fresh water sediment   | 12.46 mg/kg dwt | -             |
|                         | Marine water sediment  | 12.46 mg/kg dwt | -             |
|                         | Soil                   | 2.31 mg/kg dwt  | -             |
| ethylbenzene            | Fresh water            | 0.1 mg/l        | -             |
|                         | Marine                 | 0.01 mg/l       | -             |
|                         | Sewage Treatment Plant | 9.6 mg/l        | -             |
|                         | Fresh water sediment   | 13.7 mg/kg dwt  | -             |
|                         | Soil                   | 2.68 mg/kg dwt  | -             |
|                         | Secondary Poisoning    | 20 mg/kg        | -             |
| zinc oxide              | Fresh water            | 20.6 µg/l       | -             |
|                         | Marine                 | 6.1 µg/l        | -             |
|                         | Sewage Treatment Plant | 52 µg/l         | -             |
|                         | Fresh water sediment   | 117.8 mg/kg dwt | -             |
|                         | Marine water sediment  | 56.5 mg/kg dwt  | -             |
|                         | Soil                   | 35.6 mg/kg dwt  | -             |
| 1-methoxy-2-propanol    | Fresh water            | 10 mg/l         | -             |
|                         | Marine                 | 1 mg/l          | -             |
|                         | Sewage Treatment Plant | 100 mg/l        | -             |
|                         | Fresh water sediment   | 52.3 mg/kg dwt  | -             |
|                         | Marine water sediment  | 5.2 mg/kg dwt   | -             |
|                         | Soil                   | 5.49 mg/kg dwt  | -             |

**8.2 Exposure controls**

**Appropriate engineering controls** : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying to EN 166 should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin protection**

**Gloves** : 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.



**Barrier 90 Comp A****SECTION 8: Exposure controls/personal protection**

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.

Not recommended, gloves(breakthrough time) < 1 hour: neoprene, butyl rubber

May be used, gloves(breakthrough time) 4 - 8 hours: PVC

Recommended, gloves(breakthrough time) > 8 hours: nitrile rubber, 4H, Teflon, 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.

- Body protection** : Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres.
- 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 charcoal filter.
- Environmental exposure controls** : Do not allow to enter drains or watercourses.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****Appearance**

- Physical state** : Liquid.
- Colour** : Grey
- Odour** : Characteristic.
- Odour threshold** : Not applicable.
- pH** : Not applicable.
- Melting point/freezing point** : Not applicable.
- Initial boiling point and boiling range** : Lowest known value: 120.17°C (248.3°F) (1-methoxy-2-propanol). Weighted average: 134.09°C (273.4°F)
- Flash point** : Closed cup: 27°C
- Evaporation rate** : Highest known value: 0.84 (ethylbenzene) Weighted average: 0.79 compared with butyl acetate
- Flammability (solid, gas)** : Not applicable.
- Upper/lower flammability or explosive limits** : 0.8 - 13.74%
- Vapour pressure** : Highest known value: 1.2 kPa (9.3 mm Hg) (at 20°C) (ethylbenzene). Weighted average: 0.99 kPa (7.43 mm Hg) (at 20°C)
- Vapour density** : Highest known value: 3.7 (Air = 1) (xylene). Weighted average: 3.62 (Air = 1)
- Density** : 3.194 to 3.222 g/cm<sup>3</sup>
- 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: 270°C (518°F) (1-methoxy-2-propanol).

**Barrier 90 Comp A****SECTION 9: Physical and chemical properties**

|                                  |  |
|----------------------------------|--|
| <b>Decomposition temperature</b> | : Not available.   |
| <b>Viscosity</b>                 | : Kinematic (40°C): >20.5 mm <sup>2</sup> /s (>20.5 cSt) |
| <b>Explosive properties</b>      | : Not available.   |
| <b>Oxidising properties</b>      | : Not available.   |

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

|  |  |
|--|--|
| <b>10.1 Reactivity</b>                         | : No specific test data related to reactivity available for this product or its ingredients.                                     |
| <b>10.2 Chemical stability</b>                 | : Stable under recommended storage and handling conditions (see Section 7).  |
| <b>10.3 Possibility of hazardous reactions</b> | : Under normal conditions of storage and use, hazardous reactions will not occur.  |
| <b>10.4 Conditions to avoid</b>                | : When exposed to high temperatures may produce hazardous decomposition products.  |
| <b>10.5 Incompatible materials</b>             | : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids. |
| <b>10.6 Hazardous decomposition products</b>   | : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.        |

**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. 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. Ingestion may cause nausea, diarrhea and vomiting.

**Acute toxicity**

| Product/ingredient name | Result                 | Species    | Dose        | Exposure |
|-------------------------|------------------------|------------|-------------|----------|
| xylene                  | LC50 Inhalation Vapour | Rat        | 20 mg/l     | 4 hours  |
|                         | LD50 Oral              | Rat        | 4300 mg/kg  | -        |
|                         | TDLo Dermal            | Rabbit     | 4300 mg/kg  | -        |
| ethylbenzene            | LC50 Inhalation Vapour | Rat - Male | 17.8 mg/l   | 4 hours  |
|                         | LD50 Dermal            | Rabbit     | >5000 mg/kg | -        |
|                         | LD50 Oral              | Rat        | 3500 mg/kg  | -        |
| 1-methoxy-2-propanol    | LD50 Dermal            | Rabbit     | 13 g/kg     | -        |
|                         | LD50 Oral              | Rat        | 6600 mg/kg  | -        |

**Acute toxicity estimates**

| Route                | ATE value     |
|----------------------|---------------|
| Dermal               | 14093.9 mg/kg |
| Inhalation (vapours) | 186.43 mg/l   |

**Irritation/Corrosion**

**Barrier 90 Comp A****SECTION 11: Toxicological information**

| Product/ingredient name   | Exposure             | Species                      | Score | Exposure                             | Observation |
|---------------------------|----------------------|------------------------------|-------|--------------------------------------|-------------|
| zinc                      | Skin - Mild irritant | Human                        | -     | 72 hours 300 Micrograms Intermittent | -           |
| xylene                    | Eyes - Mild irritant | Rabbit                       | -     | 87 milligrams                        | -           |
|                           | Skin - Mild irritant | Rat                          | -     | 8 hours 60 microliters               | -           |
| epoxy resin (MW 700-1200) | Skin - Mild irritant | Mammal - species unspecified | -     | -                                    | -           |
|                           | Eyes - Mild irritant | Mammal - species unspecified | -     | -                                    | -           |
| zinc oxide                | Eyes - Mild irritant | Rabbit                       | -     | 24 hours 500 mg                      | -           |
|                           | Skin - Mild irritant | Rabbit                       | -     | 24 hours 500 mg                      | -           |
| 1-methoxy-2-propanol      | Eyes - Mild irritant | Rabbit                       | -     | 24 hours 500 mg                      | -           |
|                           | Skin - Mild irritant | Rabbit                       | -     | 500 mg                               | -           |

**Sensitisation**

| Product/ingredient name   | Route of exposure | Species                      | Result      |
|---------------------------|-------------------|------------------------------|-------------|
| epoxy resin (MW 700-1200) | skin              | Mammal - species unspecified | Sensitising |

**Mutagenicity**

No known significant effects or critical hazards.

**Carcinogenicity**

No known significant effects or critical hazards.

**Reproductive toxicity****Developmental effects** : No known significant effects or critical hazards.**Fertility effects** : No known significant effects or critical hazards.**Specific target organ toxicity (single exposure)**

| Product/ingredient name | Category   | Route of exposure | Target organs                |
|-------------------------|------------|-------------------|------------------------------|
| xylene                  | Category 3 | -                 | Respiratory tract irritation |
| 1-methoxy-2-propanol    | Category 3 | -                 | Narcotic effects             |

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

| Product/ingredient name | Category   | Route of exposure | Target organs  |
|-------------------------|------------|-------------------|----------------|
| ethylbenzene            | Category 2 | -                 | hearing organs |

**Aspiration hazard**

| Product/ingredient name | Result                         |
|-------------------------|--------------------------------|
| xylene                  | ASPIRATION HAZARD - Category 1 |
| ethylbenzene            | ASPIRATION HAZARD - Category 1 |

**Other information** : None identified.

**Barrier 90 Comp A****SECTION 12: Ecological information****12.1 Toxicity**

There are no data available on the mixture itself.  
Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

| Product/ingredient name | Result                             | Species  | Exposure |
|-------------------------|------------------------------------|--|----------|
| zinc                    | Acute LC50 330 µg/l Fresh water    | Daphnia - Daphnia magna  | 48 hours |
|                         | Acute LC50 0.78 mg/l Fresh water   | Fish   | 96 hours |
| xylene                  | Acute LC50 8500 µg/l Marine water  | Crustaceans - Palaemonetes pugio                                   | 48 hours |
|                         | Acute LC50 13400 µg/l Fresh water  | Fish - Pimephales promelas   | 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 |
| zinc oxide              | Acute LC50 1.1 ppm Fresh water     | Fish - Oncorhynchus mykiss   | 96 hours |
|                         | Chronic NOEC 0.02 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |

This material is very toxic to aquatic life with long lasting effects.

**12.2 Persistence and degradability**

Not available.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|-------------------------|-------------------|------------|------------------|
| zinc                    | -                 | -          | Not readily      |
| xylene                  | -                 | -          | Readily          |
| ethylbenzene            | -                 | -          | Readily          |
| zinc oxide              | -                 | -          | Not readily      |

**12.3 Bioaccumulative potential**

| Product/ingredient name | LogP <sub>ow</sub> | BCF         | Potential |
|-------------------------|--------------------|-------------|-----------|
| xylene                  | 3.12               | 8.1 to 25.9 | low       |
| ethylbenzene            | 3.6                | -           | low       |
| zinc oxide              | -                  | 28960       | high      |
| 1-methoxy-2-propanol    | <1                 | -           | 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**

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

**Barrier 90 Comp A****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****Product**

**Methods of disposal** : 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.

**Hazardous waste** : Yes.

**Disposal considerations** : Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

**European waste catalogue (EWC)**

The European Waste Catalogue classification of this product, when disposed of as waste, is:

| Waste code | Waste designation   |
|------------|---|
| 08 01 11*  | Waste paint and varnish containing organic solvents or other dangerous substances |

**Packaging**








**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Disposal considerations** : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.

| Result          | European waste catalogue (EWC)   |
|-----------------|--|
| CEPE Guidelines | 15 01 10* packaging containing residues of or contaminated by hazardous substances |

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

|  | ADR/RID  | ADN  | IMDG  | IATA   |
|--|--|--|---|--|
| <b>14.1 UN number</b>                  | UN1263   | UN1263   | UN1263  | UN1263   |
| <b>14.2 UN proper shipping name</b>    | Paint  | Paint  | Paint. Marine pollutant (zinc)  | Paint  |
| <b>14.3 Transport hazard class(es)</b> | 3<br>  | 3<br>  | 3<br>  | 3<br> |
|  |  |  |   |  |

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## SECTION 14: Transport information

|                            |      |      |      |  |
|----------------------------|------|------|------|--|
| 14.4 Packing group         | III  | III  | III  | III  |
| 14.5 Environmental hazards | Yes. | Yes. | Yes. | Yes. The environmentally hazardous substance mark is not required. |

### Additional information

- ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**Hazard identification number** 30  
**Tunnel code** (D/E)
- ADN** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**Emergency schedules** F-E, S-E
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

- 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.

- 14.7 Transport in bulk according to IMO instruments** : Not applicable.

## 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

##### Annex XIV

None of the components are listed.

##### 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

- VOC** : The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.
- VOC for Ready-for-Use Mixture** : Not available.
- Europe inventory** : At least one component is not listed.
- Industrial emissions (integrated pollution prevention and control) - Air** : Listed



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## SECTION 15: Regulatory information

**Industrial emissions  
(integrated pollution  
prevention and control) -  
Water** : Listed

**Ozone depleting substances (1005/2009/EU)**

Not listed.

**Prior Informed Consent (PIC) (649/2012/EU)**

Not listed.

**Seveso Directive**

This product may add to the calculation for determining whether a site is within the scope of the Seveso Directive on major accident hazards.

**National regulations**

**Industrial use** : The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

**International regulations**

**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

**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]  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = CLP-specific Hazard statement  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number  
vPvB = Very Persistent and Very Bioaccumulative

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

**Barrier 90 Comp A****SECTION 16: Other information**

| Classification  | Justification   |
|---|---|
| Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 | On basis of test data<br>Calculation method<br>Calculation method<br>Calculation method<br>Calculation method<br>Calculation method |

**Full text of abbreviated H statements**

|  |  |
|--|--|
| H225<br>H226<br>H304<br>H312<br>H315<br>H317<br>H319<br>H332<br>H335<br>H336<br>H373<br><br>H400<br>H410<br>H412 | Highly flammable liquid and vapour.<br>Flammable liquid and vapour.<br>May be fatal if swallowed and enters airways.<br>Harmful in contact with skin.<br>Causes skin irritation.<br>May cause an allergic skin reaction.<br>Causes serious eye irritation.<br>Harmful if inhaled.<br>May cause respiratory irritation.<br>May cause drowsiness or dizziness.<br>May cause damage to organs through prolonged or repeated exposure.<br>Very toxic to aquatic life.<br>Very toxic to aquatic life with long lasting effects.<br>Harmful to aquatic life with long lasting effects. |
|--|--|

**Full text of classifications [CLP/GHS]**

|   |  |
|---|--|
| Acute Tox. 4<br>Aquatic Acute 1<br>Aquatic Chronic 1<br>Aquatic Chronic 3<br>Asp. Tox. 1<br>Eye Irrit. 2<br>Flam. Liq. 2<br>Flam. Liq. 3<br>Skin Irrit. 2<br>Skin Sens. 1<br>STOT RE 2<br><br>STOT SE 3 | ACUTE TOXICITY - Category 4<br>SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1<br>LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1<br>LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3<br>ASPIRATION HAZARD - Category 1<br>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2<br>FLAMMABLE LIQUIDS - Category 2<br>FLAMMABLE LIQUIDS - Category 3<br>SKIN CORROSION/IRRITATION - Category 2<br>SKIN SENSITISATION - Category 1<br>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2<br>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3 |
|---|--|

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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.

## Barrier 90 Comp A

### 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. 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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## Barrier 90 Comp A

### Exposure Scenario: Use 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  |
| General - Operational conditions   | : Assumes use at not more than 20°C above ambient temperature. 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 - 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 per day.<br>or<br>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<br>or<br>Ensure operation is undertaken outdoors. Wear a respirator conforming to EN140 with type A/P2 filter or better.  |
| Equipment cleaning and maintenance                | : Drain down system prior to equipment break-in or maintenance. Avoid carrying out activities involving exposure for more than 4 hours per day.  |
| 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.  |

#### 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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