

**SAFETY DATA SHEET****Epoxy HR Comp B****SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

<b>Product name</b>	: Epoxy HR Comp B
<b>Product code</b>	: 1506
<b>Product description</b>	: Hardener.
<b>Product type</b>	: Liquid.
<b>Other means of identification</b>	: Not available.

**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  
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]**

Acute Tox. 4, H302  
Skin Corr. 1B, H314  
Eye Dam. 1, H318  
Skin Sens. 1, H317  
STOT RE 2, H373 (kidneys)  
Aquatic Chronic 2, H411

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**

Conforms to Regulation (EC) No. 453/2010 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

**Epoxy HR Comp B****SECTION 2: Hazards identification****Hazard pictograms**

:

**Signal word**

: Danger.

**Hazard statements**

: H302 - Harmful if swallowed.  
 H314 - Causes severe skin burns and eye damage.  
 H317 - May cause an allergic skin reaction.  
 H373 - May cause damage to organs through prolonged or repeated exposure. (kidneys)  
 H411 - Toxic to aquatic life with long lasting effects.

**Precautionary statements****General**

: Not applicable.

**Prevention**

: P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.  
 P273 - Avoid release to the environment.  
 P260 - Do not breathe vapour or spray.

**Response**

: P391 - Collect spillage.  
 P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.  
 P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.  
 P303 + P361 + P353 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or physician.  
 P333 + P313 - If skin irritation or rash occurs: Get medical attention.  
 P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

**Storage**

: P405 - Store locked up.

**Disposal**

: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients**

: formaldehyde, polymer with benzenamine, hydrogenated  
 m-xylene-alpha,alpha'-diamine  
 cyclohexanamine, 4,4'-methylenebis-

**Supplemental label elements**

: Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

: Not applicable.

**Special packaging requirements****Containers to be fitted with child-resistant fastenings**

: Not applicable.

**Tactile warning of danger**

: Not applicable.

**2.3 Other hazards****Other hazards which do not result in classification**

: None known.

Conforms to Regulation (EC) No. 453/2010 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

**Epoxy HR Comp B**

**SECTION 3: Composition/information on ingredients**

**3.2 Mixtures** : Mixture

Product/ingredient name	Identifiers	Weight %	Regulation (EC) No. 1272/2008 [CLP]	Type
formaldehyde, polymer with benzenamine, hydrogenated	EC: 603-894-6 CAS: 135108-88-2	≥25 - ≤50	Acute Tox. 4, H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT RE 2, H373 (kidneys) (oral)	[1]
benzyl alcohol	REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6	≥25 - ≤48	Aquatic Chronic 3, H412 Acute Tox. 4, H302 Acute Tox. 4, H332 Eye Irrit. 2, H319	[1]
Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis(methylamine)	EC: 500-137-0 CAS: 57214-10-5	≤10	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	[1]
m-xylene-alpha,alpha'-diamine	REACH #: 01-2119480150-50 EC: 216-032-5 CAS: 1477-55-0	≤6.8	Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Chronic 3, H412 EUH071	[1]
cyclohexanamine, 4,4'-methylenebis-	REACH #: 01-2119541673-38 EC: 217-168-8 CAS: 1761-71-3	≤5	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 STOT RE 2, H373 (liver)	[1]
salicylic acid	REACH #: 01-2119486984-17 EC: 200-712-3 CAS: 69-72-7	<3	Acute Tox. 4, H302 Eye Dam. 1, H318 Repr. 2, H361d (Unborn child)	[1]
			<b>See Section 16 for the full text of the H statements declared above.</b>	

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** : 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.

Conforms to Regulation (EC) No. 453/2010 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

**Epoxy HR Comp B****SECTION 4: First aid measures**

- 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.
- 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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**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  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

**4.3 Indication of any immediate medical attention and special treatment needed**

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- 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.

Conforms to Regulation (EC) No. 453/2010 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

**Epoxy HR Comp B****SECTION 5: Firefighting measures**

**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.

**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.

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.

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**SECTION 7: Handling and storage**

**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** : 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**

No exposure limit value known.

**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
benzyl alcohol	Short term Inhalation	450 mg/m <sup>3</sup>	Workers	Systemic
	Long term Inhalation	90 mg/m <sup>3</sup>	Workers	Systemic
	Short term Dermal	47 mg/kg bw/day	Workers	Systemic
	Long term Dermal	9.5 mg/kg bw/day	Workers	Systemic
	Short term Dermal	28.5 mg/kg bw/day	Consumers	Systemic
	Short term Oral	25 mg/kg bw/day	Consumers	Systemic
	Long term Dermal	5.7 mg/kg bw/day	Consumers	Systemic
	Long term Oral	5 mg/kg bw/day	Consumers	Systemic
	Long term Inhalation	8.11 mg/m <sup>3</sup>	Consumers	Systemic
	Short term Inhalation	40.55 mg/m <sup>3</sup>	Consumers	Systemic
	cyclohexanamine, 4,4'-methylenebis-	Short term Dermal	0.63 mg/kg bw/day	Workers

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

	Short term Inhalation	1.5 mg/m <sup>3</sup>	Workers	Systemic
	Long term Dermal	0.21 mg/kg bw/day	Workers	Systemic
	Long term Inhalation	0.5 mg/m <sup>3</sup>	Workers	Systemic
	Long term Dermal	0.125 mg/kg bw/day	Workers	Systemic
	Long term Oral	0.125 mg/kg bw/day	Consumers	Systemic

**PNECs**

Product/ingredient name	Compartment Detail	Value	Method Detail
benzyl alcohol	Fresh water	1 mg/l	-
	Marine	0.1 mg/l	-
	Sewage Treatment Plant	39 mg/l	-
	Fresh water sediment	5.27 mg/kg dwt	-
	Marine water sediment	0.527 mg/kg dwt	-
	Soil	0.456 mg/kg dwt	-
cyclohexanamine, 4,4'-methylenebis-	Fresh water	0.008 mg/l	-
	Marine	0.0008 mg/l	-
	Sewage Treatment Plant	80 mg/l	-
	Fresh water sediment	0.39 mg/kg dwt	-
	Marine water sediment	0.039 mg/kg dwt	-
	Soil	0.072 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**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. 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.

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**Epoxy HR Comp B****SECTION 8: Exposure controls/personal protection**

Wear suitable gloves tested to EN374.  
 Recommended, gloves(breakthrough time) > 8 hours: Viton®, 4H, neoprene  
 May be used, gloves(breakthrough time) 4 - 8 hours: butyl rubber, nitrile rubber, PVC

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 charcoalfilter.
- 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** : 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: 205.3°C (401.5°F) (benzyl alcohol). Weighted average: 230.7°C (447.3°F)
- Flash point** : Closed cup: 102°C
- Evaporation rate** : 0.007 (benzyl alcohol) compared with butyl acetate
- Flammability (solid, gas)** : Not applicable.
- Upper/lower flammability or explosive limits** : 1.3 - 13%
- Vapour pressure** : Highest known value: 0.007 kPa (0.05 mm Hg) (at 20°C) (benzyl alcohol). Weighted average: 0.003 kPa (0.02 mm Hg) (at 20°C)
- Vapour density** : Highest known value: 3.7 (Air = 1) (benzyl alcohol).
- Density** : 1.07 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** : Not applicable.
- Decomposition temperature** : Not available.
- Viscosity** : Kinematic (40°C): >0.205 cm<sup>2</sup>/s (>20.5 mm<sup>2</sup>/s)
- Explosive properties** : Not available.
- Oxidising properties** : Not available.

**9.2 Other information**

**Date of issue/Date of revision** : 16.04.2020 **Date of previous issue** : No previous validation **Version** : 1 8/17



Conforms to Regulation (EC) No. 453/2010 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

**Epoxy HR Comp B**

**SECTION 9: Physical and chemical properties**

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** : Stable under recommended storage and handling conditions (see Section 7).
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products.
- 10.5 Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
- 10.6 Hazardous decomposition products** : 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
benzyl alcohol	LD50 Oral	Rat	1230 mg/kg	-
m-xylene-alpha,alpha'-diamine	LD50 Oral	Rat	980 mg/kg	-

**Acute toxicity estimates**

Route	ATE value
Oral Inhalation (vapours)	773.7 mg/kg 24.64 mg/l

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
benzyl alcohol	Eyes - Mild irritant	Mammal - species unspecified	-	-	-
m-xylene-alpha,alpha'-diamine	Eyes - Severe irritant	Rabbit	-	24 hours 50 µg	-
	Skin - Severe irritant	Rabbit	-	24 hours 750 µg	-
cyclohexanamine, 4,4'-methylenebis-salicylic acid	Eyes - Severe irritant	Rabbit	-	24 hours 10 microliters	-
	Skin - Mild irritant	Mammal - species unspecified	-	-	-
	Eyes - Mild irritant	Mammal - species unspecified	-	-	-

**Sensitisation**

Conforms to Regulation (EC) No. 453/2010 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

**Epoxy HR Comp B**

**SECTION 11: Toxicological information**

Product/ingredient name	Route of exposure	Species	Result
m-xylene-alpha,alpha'-diamine	skin	Mammal - species unspecified	Sensitising
cyclohexanamine, 4,4'-methylenebis-	skin	Mammal - species unspecified	Sensitising

**Mutagenicity**

No known significant effects or critical hazards.

**Carcinogenicity**

No known significant effects or critical hazards.

**Reproductive toxicity**

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxicity	Species	Dose	Exposure
salicylic acid	-	-	Positive	Rat	Oral: 150 mg/kg	-

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

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

Based on available data, the classification criteria are not met.

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

Product/ingredient name	Category	Route of exposure	Target organs
formaldehyde, polymer with benzenamine, hydrogenated cyclohexanamine, 4,4'-methylenebis-	Category 2 Category 2	Oral Not determined	kidneys liver

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Other information** : None identified.

**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
Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis (methylamine)	Acute LC50 25.9 mg/l	Fish	96 hours
m-xylene-alpha,alpha'-diamine	Acute EC50 12 mg/l	Algae	72 hours
cyclohexanamine, 4,4'-methylenebis-	Acute EC50 6.84 mg/l	Daphnia	48 hours
salicylic acid	Acute IC50 140 mg/l	Algae	72 hours
	Acute LC50 46 mg/l	Fish	96 hours
	Acute LC50 32 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Chronic NOEC 1 mg/l Fresh water	Daphnia - Daphnia longispina - Neonate	21 days

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

Conforms to Regulation (EC) No. 453/2010 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

**Epoxy HR Comp B****SECTION 12: Ecological information****12.2 Persistence and degradability**

Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
benzyl alcohol	-	-	Readily
cyclohexanamine, 4,4'-methylenebis-	-	-	Not readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
formaldehyde, polymer with benzenamine, hydrogenated	-	209 to 219	low
benzyl alcohol	0.87	<100	low
m-xylene-alpha,alpha'-diamine	0.18	2.69	low
cyclohexanamine, 4,4'-methylenebis-	2.03	-	low
salicylic acid	2.21 to 2.26	-	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.**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)** : 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.

Conforms to Regulation (EC) No. 453/2010 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

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**SECTION 13: Disposal considerations**

**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.

<b>Type of packaging</b> CEPE Paint Guidelines	15 01 10*	<b>European waste catalogue (EWC)</b> packaging containing residues of or contaminated by hazardous substances
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**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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

	<b>ADR/RID</b>	<b>ADN</b>	<b>IMDG</b>	<b>IATA</b>
<b>14.1 UN number</b>	UN2735	UN2735	UN2735	UN2735
<b>14.2 UN proper shipping name</b>	Polyamines, liquid, corrosive, n.o.s. (m-xylene-alpha,alpha'-diamine, cyclohexanamine, 4,4'-methylenebis-)	Polyamines, liquid, corrosive, n.o.s. (m-xylene-alpha,alpha'-diamine, cyclohexanamine, 4,4'-methylenebis-)	Polyamines, liquid, corrosive, n.o.s. (m-xylene-alpha,alpha'-diamine, cyclohexanamine, 4,4'-methylenebis-). Marine pollutant (Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis (methylamine))	Polyamines, liquid, corrosive, n.o.s. (m-xylene-alpha,alpha'-diamine, cyclohexanamine, 4,4'-methylenebis-)
<b>14.3 Transport hazard class(es)</b>	8 	8 	8 	8 
<b>14.4 Packing group</b>	III	III	III	III
<b>14.5 Environmental hazards</b>	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 80**  
**Tunnel code (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-A, S-B  
18 - Alkalis
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Conforms to Regulation (EC) No. 453/2010 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

**Epoxy HR Comp B****SECTION 14: Transport information**

**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 Annex II of Marpol and the IBC Code** : 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** : Not available.

**VOC for Ready-for-Use Mixture** : Not applicable.

**Europe inventory** : At least one component is not 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 (Annexes A, B, C, E)**

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**

Conforms to Regulation (EC) No. 453/2010 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830

**Epoxy HR Comp B**

**SECTION 15: Regulatory information**

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]**

Classification	Justification
Acute Tox. 4, H302	Calculation method
Skin Corr. 1B, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
STOT RE 2, H373 (kidneys)	Calculation method
Aquatic Chronic 2, H411	Calculation method

**Full text of abbreviated H statements**

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H361d	Suspected of damaging the unborn child.
H373 (oral)	May cause damage to organs through prolonged or repeated exposure if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
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, H332	ACUTE TOXICITY (inhalation) - Category 4
Aquatic Acute 1, H400	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1, H410	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2, H411	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3, H412	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
EUH071	Corrosive to the respiratory tract.
Eye Dam. 1, H318	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Repr. 2, H361d	REPRODUCTIVE TOXICITY (Unborn child) - Category 2
Skin Corr. 1B, H314	SKIN CORROSION/IRRITATION - Category 1B
Skin Corr. 1C, H314	SKIN CORROSION/IRRITATION - Category 1C
Skin Sens. 1, H317	SKIN SENSITISATION - Category 1
Skin Sens. 1B, H317	SKIN SENSITISATION - Category 1B
STOT RE 2, H373 (oral)	SPECIFIC TARGET ORGAN TOXICITY - REPEATED

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**Epoxy HR Comp B****SECTION 16: Other information**

STOT RE 2, H373

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

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**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.



## Epoxy HR 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 extract ventilation to points where emissions occur.
Roller, spreader, flow application	: Provide extract ventilation to points where emissions occur.
Spraying - Manual	: 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.

#### 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 #:	01-2119492630-38
REACH #:	01-2119456619-26 (from Comp A)





## Epoxy HR Comp B

### 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, 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 - Indoor	: Provide extract ventilation to points where emissions occur. Avoid carrying out activities involving exposure for more than 1 hour. or Provide extract ventilation to points where emissions occur. 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.
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.
Roller, spreader, flow application - Indoor	: Provide extract ventilation to points where emissions occur. 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 full-face respirator conforming to EN136 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 full-face respirator conforming to EN136 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:	
REACH #:	01-2119492630-38
REACH #:	01-2119456619-26 (from Comp A)