SAFETY DATA SHEET



Epoxy HR Comp B

Section 1. Identification		
Product name	: Epoxy HR Comp B	
Product code	: 1506	
Product description	: Hardener.	
Product type	: Liquid.	
Other means of identification	: Not available.	
Supplier's details	: Jotun UAE Ltd. L.L.C. P.O.Box 3671, Dubai, U.A.E. Tel: 009714 3395000 Fax:009714 3380666	
	Jotun Abu Dhabi L.L.C. P.O.box-3714 Abu Dhabi U.A.E. Tel: 00971 2 5510300 Fax:00971 2 5510232	
	SDSJotun@jotun.com	
Emergency telephone number	: SHE Dept. Jotun AS, Norway +47 33 45 70 00	

Section 2. Hazards identification

Classification of the substance or mixture	: ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 1B SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SKIN SENSITISATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 2 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
GHS label elements	
Hazard pictograms	
Circuit would	
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	

Section 2. Hazards identification

Prevention	 P280 - Wear protective gloves, protective clothing and eye or face protection. P273 - Avoid release to the environment. P260 - Do not breathe vapour or spray. P270 - Do not eat, drink or smoke when using this product.
Response	 P391 - Collect spillage. P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor. P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. 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 doctor. P363 - Wash contaminated clothing before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
Storage	: Not applicable.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not	1	None known.
result in classification		

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Other means of identification	: Not available.

CAS number/other identifiers

CAS number	: Not applicable.
EC number	: Mixture.
Product code	: 1506

Ingredient name	%	CAS number
formaldehyde, polymer with benzenamine, hydrogenated benzyl alcohol Formaldehyde, oligomeric reaction products with phenol and m- phenylenebis(methylamine) m-xylene-alpha,alpha'-diamine cyclohexanamine, 4,4'-methylenebis- salicylic acid	≥25 - ≤50 ≥25 - ≤48 ≤10 ≤6.8 ≤5 <3	135108-88-2 100-51-6 57214-10-5 1477-55-0 1761-71-3 69-72-7

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Section 4. First aid measures

Inhalation	: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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.
Skin contact	: Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effect	<u>:ts</u>	
Eye contact	1	Causes serious eye damage.
Inhalation	1	No known significant effects or critical hazards.
Skin contact	1	Causes severe burns. May cause an allergic skin reaction.
Ingestion	1	Harmful if swallowed.
Over-exposure signs/symp	tom	<u>s</u>
Eye contact		Adverse symptoms may include the following: pain watering redness
Inhalation	1	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
Indication of immediate med	lical	attention and special treatment needed, if necessary
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	1	No specific treatment.
Protection of first-aiders		No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media	
Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.
Specific hazards arising from the chemical	: In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
Special protective actions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	:	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	:	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
Methods and material for con	ntai	inment and cleaning up
Small spill	•	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	:	Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

	-	-
Precautions for safe handling	L	
Protective measures	h V U V a E	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	r e	Eating, drinking and smoking should be prohibited in areas where this material is nandled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional nformation on hygiene measures.
Conditions for safe storage, including any incompatibilities	f r t r	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container ightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
m-xylene-alpha,alpha'-diamine	ACGIH TLV (United States, 1/2021). Absorbed through skin. C: 0.018 ppm

Appropriate engineering controls Environmental exposure controls	user operations generate dust, fumes, gas, vapour or mist, use process nclosures, local exhaust ventilation or other engineering controls to keep work xposure to airborne contaminants below any recommended or statutory limits missions from ventilation or work process equipment should be checked to e ney comply with the requirements of environmental protection legislation. In s ases, fume scrubbers, filters or engineering modifications to the process quipment will be necessary to reduce emissions to acceptable levels.	s. Insure
Individual protection measured		
Hygiene measures	/ash hands, forearms and face thoroughly after handling chemical products, l ating, smoking and using the lavatory and at the end of the working period. ppropriate techniques should be used to remove potentially contaminated clo contaminated work clothing should not be allowed out of the workplace. Wash pontaminated clothing before reusing. Ensure that eyewash stations and safet howers are close to the workstation location.	othing. h
Eye/face protection	afety eyewear complying to EN 166 should be used when a risk assessment idicates this is necessary to avoid exposure to liquid splashes, mists, gases o usts. If contact is possible, the following protection should be worn, unless th ssessment indicates a higher degree of protection: chemical splash goggles r face shield. If inhalation hazards exist, a full-face respirator may be required istead.	or ie and/
Skin protection		
Hand protection		

Section 8. Exposure controls/personal protection

	There is no one glove material or combination of materials that will give unlimited
	resistance to any individual or combination of chemicals.
	The breakthrough time must be greater than the end use time of the product.
	The instructions and information provided by the glove manufacturer on use,
	storage, maintenance and replacement must be followed.
	Gloves should be replaced regularly and if there is any sign of damage to the glove material.
	Always ensure that gloves are free from defects and that they are stored and used correctly.
	The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.
	Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.
	Wear suitable gloves tested to EN374. Recommended, gloves(breakthrough time) > 8 hours: Viton®, 4H, neoprene
	May be used, gloves(breakthrough time) 4 - 8 hours: butyl rubber, nitrile rubber, PVC
Body protection	 Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
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.

Section 9. Physical and chemical properties

<u>Appearance</u>		
Physical state	iid.	
Colour	ourless.	
Odour	racteristic.	
Odour threshold	applicable.	
рН	applicable.	
Melting point	applicable.	
Boiling point	est known value: 20 .7°C (447.3°F)	05.3°C (401.5°F) (benzyl alcohol). Weighted average:
Flash point	ed cup: 102°C (21	5.6°F)
Evaporation rate)7 (benzyl alcohol) o	compared with butyl acetate
Flammability (solid, gas)	applicable.	
Lower and upper explosive (flammable) limits	- 13%	
Vapour pressure		.007 kPa (0.05 mm Hg) (at 20°C) (benzyl alcohol).)3 kPa (0.02 mm Hg) (at 20°C)
Vapour density	nest known value: 3	.7 (Air = 1) (benzyl alcohol).
Density	′ g/cm³	
Solubility	luble in the followin	g materials: cold water and hot water.
Partition coefficient: n- octanol/water	available.	
Auto-ignition temperature	applicable.	
Decomposition temperature	available.	
Viscosity	ematic (40°C): >20.	5 mm²/s (>20.5 cSt)

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute	e tox	icity	
		_	

Product/ingredient name	Result	Species	Dose	Exposure
formaldehyde, polymer with benzenamine, hydrogenated	LD50 Oral	Rat	300 mg/kg	-
benzyl alcohol	LD50 Oral	Rat	1230 mg/kg	-
m-xylene-alpha,alpha'- diamine	LD50 Oral	Rat	980 mg/kg	-

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-	Eyes - Severe irritant	Rabbit	-	24 hours 10 microliters	-
salicylic acid	Skin - Mild irritant	Mammal - species unspecified	-	-	-
	Eyes - Mild irritant	Mammal - species unspecified	-	-	-

Sensitisation

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

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

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

Teratogenicity

Date of issue/Date of revision

Section 11. Toxicological information

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name		Route of exposure	Target organs
formaldehyde, polymer with benzenamine, hydrogenated cyclohexanamine, 4,4'-methylenebis-	Category 2 Category 2		kidneys liver

Aspiration hazard

Not available.

Information on likely routes : Not available.

of exposure

Potential acute health effects

Eye contact	: Causes serious eye damage.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: Causes severe burns. May cause an allergic skin reaction.
Ingestion	: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

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

Delayed and immediate effect	:ts	as well as chronic effects from short and long-term exposure
Short term exposure		
Potential immediate effects	:	Not available.
Potential delayed effects	1	Not available.
Long term exposure		
Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.
Potential chronic health eff	ect	<u>s</u>
Not available.		
General	:	May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	:	No known significant effects or critical hazards.
Mutagenicity	:	No known significant effects or critical hazards.
Teratogenicity	:	No known significant effects or critical hazards.
Developmental effects	1	No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects

: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value	
	544.51 mg/kg 24.64 mg/l	

Section 12. Ecological information

Toxicity

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
	Acute IC50 140 mg/l	Algae	72 hours
	Acute LC50 46 mg/l	Fish	96 hours
salicylic acid	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

Persistence and degradability

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

Bioaccumulative potential

Product/ingredient name	LogPow	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'-	2.03	-	low
methylenebis- salicylic acid	2.21 to 2.26	-	low

Mobility in soil

Soil/water	partition
coefficient	(Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its 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

	ADR/RID	IMDG	IATA	
UN number	UN2735	UN2735	UN2735	
UN proper shipping name	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-)	
Transport hazard class(es)		8	8	
Packing group	11	11	II	
Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.	
Additional information	-	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. <u>Emergency schedules</u> F-A, S-B	The environmentally hazardous substance mark may appear if required by other transportation regulations.	

Additional information		
ADR/RID	:	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. <u>Hazard identification number</u> 80 <u>Tunnel code</u> (E)
IMDG	:	The marine pollutant mark is not required when transported in sizes of \leq 5 L or \leq 5 kg. Emergency schedules F-A, S-B
		Segregation Group: 18 - Alkalis
ΙΑΤΑ	1	The environmentally hazardous substance mark may appear if required by other transportation regulations.
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.

Section 14. Transport information

Transport in bulk according : Not available. to IMO instruments

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product : No known specific national and/or regional regulations applicable to this product (including its ingredients).

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

<u>History</u>	
Date of printing	: 29.03.2022
Date of issue/Date of revision	: 29.03.2022
Date of previous issue	: 29.03.2022
Version	: 2.01
Key to abbreviations	 ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = International Air Transport Association IBC = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

References

: Not available.

Indicates information that has changed from previously issued version.

Notice to reader

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

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