SAFETY DATA SHEET



Jotacote UHB Comp B

GHS product identifier	: Jotacote UHB Comp B
Other means of identification	: Not available.
Product code	: 13641
Product description	: Hardener.
Product type	: Liquid.

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

	Identified uses
Use in coatings - Professional us	se la
Manufacturing country :	Jotun Thailand Limited 700/353 Amata Nakorn Industrial Estate (BIP 2) Moo 6, Tumbol Donhualoh, Amphur Muang Chonburi Chonburi 20000 Thailand Phone: + 66 2 022 9888 Fax: + 66 2 022 9888 , + 66 38 214 375 SDSJotun@jotun.com
Emergency telephone number :	Jotun Thailand Limited Phone: + 66 2 022 9888 ext. 2100, 2400, 2402

Section 2. Hazards identification

	P273 - Avoid release to the environment. P261 - Avoid breathing vapour.
TEVENUUT	P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Precautionary statements Prevention	: P280 - Wear protective gloves, protective clothing and eye or face protection.
	H317 - May cause an allergic skin reaction. H400 - Very toxic to aquatic life. H411 - Toxic to aquatic life with long lasting effects.
Hazard statements	 H226 - Flammable liquid and vapour. H314 - Causes severe skin burns and eye damage.
Signal word	: Danger.
Olare al use ad	
Hazard pictograms	
GHS label elements	
	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SKIN SENSITISATION - Category 1A SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Classification of the substance or mixture	: FLAMMABLE LIQUIDS - Category 3 SKIN CORROSION/IRRITATION - Category 1

Date of issue	: 13.12.2022	1/11

Section 2. Hazards identification

: 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.
: P403 + P235 - Store in a well-ventilated place. Keep cool.
: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

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

Section 3. Composition/information on ingredients

Substance/mixture	:	Mixture
Other means of identification	:	Not available.
CAS number/other identifiers		

ORO Humber/outer lucituiters		
CAS number	:	Not applicable.
EC number	:	Mixture.
Product code	:	13641
1		

Ingredient name	%	CAS number
fatty acids, tall-oil, reaction products with tetraethylenepentamine	≥10 - <25	68953-36-6
2,4,6-tris(dimethylaminomethyl)phenol	≥10 - ≤16	90-72-2
ethanol	≤10	64-17-5
3,6,9-triazaundecamethylenediamine	≤5	112-57-2

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 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	<u>st aid measures</u>
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.
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.

Section 4. First aid measures

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 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	:	No known significant effects or critical hazards.
Over-exposure signs/sympton	<u>15</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 medica	l a	ttention 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	:	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.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media	
Suitable extinguishing media	: Use dry chemical, CO ₂ , water spray (fog) or foam.
Unsuitable extinguishing media	: Do not use water jet.

Section 5. Firefighting measures

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Specific hazards arising from the chemical	:	Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life. 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 metal oxide/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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
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, protectiv	re equipment and emergency procedures
For non-emergency personnel	 No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. 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 conta	ainment and cleaning up
Small spill	: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with 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 spill product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling	: Eating, drinking and smoking should be prohibited in areas where this material is handled, 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 information on hygiene measures.
Conditions for safe storage, including any incompatibilities	: Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly 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
ethanol		Ministry of Labor (Thailand, 8/2017). TWA: 1000 ppm 8 hours.
Recommended monitoring procedures	of the ventilation or other control mea protective equipment. Reference sho	nay be required to determine the effectiveness sures and/or the necessity to use respiratory build be made to appropriate monitoring dance documents for methods for the
Appropriate engineering controls	contaminants below any recommende	ols to keep worker exposure to airborne ed or statutory limits. The engineering controls t concentrations below any lower explosive
Environmental exposure controls		
Individual protection measures		
Hygiene measures	eating, smoking and using the lavator Appropriate techniques should be use Contaminated work clothing should ne	bughly after handling chemical products, before y and at the end of the working period. ed to remove potentially contaminated clothing. ot be allowed out of the workplace. Wash . Ensure that eyewash stations and safety location.
Eye/face protection	gases or dusts. If contact is possible unless the assessment indicates a hig	321-1:2022 should be used when a risk ry to avoid exposure to liquid splashes, mists, , the following protection should be worn, gher degree of protection: chemical splash on hazards exist, a full-face respirator may be
Skin protection		

Section 8. Exposure controls/personal protection

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Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
	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 ISO 374-1:2016. Not recommended, gloves(breakthrough time) < 1 hour: PVC May be used, gloves(breakthrough time) 4 - 8 hours: PE, nitrile rubber, polyvinyl alcohol (PVA), neoprene Recommended, gloves(breakthrough time) > 8 hours: 4H, Teflon, butyl rubber, Viton®
Body protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
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	: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
	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	: Liquid.
Colour	: Various
Odour	: Characteristic.
Odour threshold	: Not available.
рН	: Not applicable.
Melting point	: Not applicable.
Boiling point	: Lowest known value: 78.29°C (172.9°F) (ethanol). Weighted average: 145.64°C (294.2°F)
Flash point	: Closed cup: 27°C (80.6°F)
Burning time	: Not applicable.
Burning rate	: Not applicable.
Date of issue	: 13.12.2022 6/11

Section 9. Physical and chemical properties

Evaporation rate	:	1.7 (ethanol) compared with butyl acetate
Flammability (solid, gas)	1	Not applicable.
Lower and upper explosive (flammable) limits	1	3.3 - 19%
Vapour pressure	;	Highest known value: 5.7 kPa (43 mm Hg) (at 20°C) (ethanol). Weighted average: 2.65 kPa (19.88 mm Hg) (at 20°C)
Vapour density	1	Highest known value: 1.6 (Air = 1) (ethanol).
Relative density	1	1.47 to 1.656 g/cm ³
Solubility	1	Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	:	Not available.
Auto-ignition temperature	1	Lowest known value: 321°C (609.8°F) (3,6,9-triazaundecamethylenediamine).
Decomposition temperature	1	Not available.
SADT	1	Not available.
Viscosity	1	Kinematic (40°C): >20.5 mm²/s (>20.5 cSt)
Aerosol product		

Section 10. Stability and reactivity

: No specific test data related to reactivity available for this product or its ingredients.
: The product is stable.
: Under normal conditions of storage and use, hazardous reactions will not occur.
: Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
 Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
 Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2,4,6-tris (dimethylaminomethyl) phenol	LD50 Oral	Rat	1673 mg/kg	-
ethanol	LC50 Inhalation Vapour	Rat	124700 mg/m³	4 hours

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2,4,6-tris (dimethylaminomethyl)	Eyes - Severe irritant	Rabbit	-	24 hours 50 µg	-
phenol				۳9	
•	Skin - Severe irritant	Rat	-	0.25 ml	-
ethanol	Eyes - Moderate irritant	Rabbit	-	100	-
				microliters	
	Skin - Mild irritant	Rabbit	-	400	-
				milligrams	
3,6,9-triazaundecamethylenediamine	Eyes - Moderate irritant	Rabbit	-	24 hours 100	-
				milligrams	
	Eyes - Moderate irritant	Rabbit	-	5 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 5	-
				milligrams	
	Skin - Severe irritant	Rabbit	-	495	-
				milligrams	

Section 11. Toxicological information

Sensitisation

	Route of exposure	Species	Result
3,6,9-triazaundecamethylenediamine	skin	Mammal - species unspecified	Sensitising

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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	: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

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

Potential chronic health effects

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

Numerical measures of toxicity Acute toxicity estimates

J	Jotacote UHB Comp B	
S	Section 11. Toxicological information	
	Route	ATE value
	Oral Dermal	7916.81 mg/kg 34723.63 mg/kg

Section 12. Ecological information

Toxicity			
Product/ingredient name	Result	Species	Exposure
3,6,9-triazaundecamethylenediamine	•	Algae - Selenastrum capricornutum	72 hours
	Acute LC50 310 mg/l	Fish	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
3,6,9-triazaundecamethylenediamine	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
2,4,6-tris (dimethylaminomethyl)phenol	0.219	-	low
	-0.35	-	low

Mobility in soil

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. 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

	UN	IMDG	ΙΑΤΑ
UN number	UN3469	UN3469	UN3469
UN proper shipping name	Paint, flammable, corrosive	Paint, flammable, corrosive. Marine pollutant (fatty acids, tall-oil, reaction products with tetraethylenepentamine)	Paint, flammable, corrosive
Transport hazard class(es)	3 (8)		3 (8)
Packing group	Ш	Ш	111
Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.
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.	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Additional information	-	The marine pollutant mark is not required when transported in sizes of \leq 5 L or \leq 5 kg. Emergency schedules F-E, S-C	The environmentally hazardous substance mark may appear if required by other transportation regulations.

Transport in bulk according to : Not available. IMO instruments ADR / RID : Tunnel restrict

: Tunnel restriction code: (D/E)

Hazard identification number: 38

Special provisions: 163

Section 15. Regulatory information

Hazardous Substance Act B.E. 2535 (1992)

<u>Type</u> Ingredient name

<u>Type</u>

<u>Authority</u>

Conditions

No known specific national and/or regional regulations applicable to this product (including its ingredients).

Section 16. Other information

<u>History</u>		
Date of printing	:	13.12.2022
Date of issue/Date of revision	:	13.12.2022
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Version	:	2.1

Date of issue	• 13 12 2022
Date of 15500	. 13.12.2022

Section 16. Other information

Key to abbreviations	: ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
	ADR = The European Agreement concerning the International Carriage of
	Dangerous Goods by Road
	ATE = Acute Toxicity Estimate
	BCF = Bioconcentration Factor
	GHS = Globally Harmonized System of Classification and Labelling of Chemicals
	IATA = International Air Transport Association
	IBC = Intermediate Bulk Container
	IMDG = International Maritime Dangerous Goods
	MARPOL = International Convention for the Prevention of Pollution From Ships,
	1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
	RID = The Regulations concerning the International Carriage of Dangerous Goods
	by Rail
	UN = United Nations
	LogPow = logarithm of the octanol/water partition coefficient
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.