

# SAFETY DATA SHEET



## Hardtop AS/HB - Comp. B

### 1. Identification of the preparation and of the company

**Product name and/or code** : Hardtop AS/HB - Comp. B

**Label No.** : 448

**Supplier/Manufacturer** : Jotun Paints (Europe) Ltd.  
Stather Road  
Flixborough, Scunthorpe  
North Lincolnshire  
DN15 8RR  
England

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SDSJotun@jotun.no

**Emergency telephone number** : Contact National Poison Centre via Hospital or Registered Medical Practitioner

**Product use** : Coatings: Hardener / Solvent-borne.

### 2. Hazards identification

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Flammable.

Harmful by inhalation. May cause sensitisation by inhalation and skin contact.



Harmful

**Additional warning phrases** : Contains isocyanates. See information supplied by the manufacturer. This information is provided by the present Safety Data Sheet.

### 3. Composition/information on ingredients

**Substances presenting a health or environmental hazard within the meaning of the Dangerous Substances Directive 67/548/EEC.**

Chemical name*	CAS number	EC number	% by weight	Classification
hexane, 1,6-diisocyanato-, homopolymer	28182-81-2	500-060-2	50 - 100	R42/43
n-butyl acetate	123-86-4	204-658-1	10 - 25	R10 R66, R67
2-methoxy-1-methylethyl acetate	108-65-6	203-603-9	10 - 25	R10 Xi; R36
xylene	1330-20-7	215-535-7	2.5 - 10	R10 Xn; R20/21 Xi; R38
ethylbenzene	100-41-4	202-849-4	1 - 2.5	F; R11 Xn; R20
tosyl isocyanate	4083-64-1	223-810-8	0 - 1	R14 Xi; R36/37/38 R42
hexamethylene-di-isocyanate	822-06-0	212-485-8	0 - 1	T; R23 Xi; R36/37/38 R42/43
<b>See section 16 for the full text of the R-phrases declared above</b>				

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

## 4. First-aid measures

### 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.
- 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. Give nothing by mouth. If unconscious, place in recovery position and seek medical advice.
- 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.
- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do not induce vomiting.

## 5. Fire-fighting measures

- Extinguishing media** : Recommended: alcohol-resistant foam, CO<sub>2</sub>, powders, water spray or mist. Not to be used : water jet.
- Recommendations** : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Appropriate breathing apparatus may be required. Cool closed containers exposed to fire with water. Do not release runoff from fire to sewers or waterways.

## 6. Accidental release measures

- Personal precautions** : Exclude sources of ignition and ventilate the area. Avoid breathing vapour or mist. Refer to protective measures listed in sections 7 and 8.
- Spill** : 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). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13). 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.

**Note:** see section 8 for personal protective equipment and section 13 for waste disposal.

## 7. Handling and storage

**Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.**

**Examination of lung function should be carried out on a regular basis on persons spraying this preparation.**

- Handling** : Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. 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.

To dissipate static electricity during transfer, earth drum and connect to receiving container with bonding strap. Operators should wear antistatic footwear and clothing and floors should be of the conducting type.

Keep container tightly closed. Precautions should be taken to minimise exposure to atmospheric humidity or water. CO<sub>2</sub> will be formed, which, in closed containers, could result in pressurisation. Care should be taken when re-opening partly-used containers. 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 preparation. Avoid inhalation of dust from sanding.

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.

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.

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.

**Storage**

: Store in accordance with local regulations. Observe label precautions. Store in a cool, well-ventilated area away from incompatible materials and ignition sources. Keep away from heat and direct sunlight.

Keep away from: oxidising agents, strong alkalis, strong acids, amines, alcohols, water.

No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Do not empty into drains.

**8. Exposure controls/personal protection**

**Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.**

**Examination of lung function should be carried out on a regular basis on persons spraying this preparation.**

**Engineering measures**

: Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. Air-fed protective respiratory equipment must be worn by the spray operator, even when good ventilation is provided. In other operations, if local exhaust ventilation and good general extraction are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn. (See Personal protection.)

<u>Ingredient name</u>	<u>Occupational exposure limits</u>
n-butyl acetate	<b>EH40-WEL (United Kingdom (UK), 8/2007).</b> WEL 15 min limit: 966 mg/m <sup>3</sup> 15 minute(s). WEL 8 hrs limit: 724 mg/m <sup>3</sup> 8 hour(s).
2-methoxy-1-methylethyl acetate	<b>EH40/2005 WELs (United Kingdom (UK), 8/2007). Skin</b> STEL: 548 mg/m <sup>3</sup> 15 minute(s). TWA: 274 mg/m <sup>3</sup> 8 hour(s).
xylene	<b>EH40-WEL (United Kingdom (UK), 9/2006). Skin</b> WEL 15 min limit: 441 mg/m <sup>3</sup> 15 minute(s). WEL 8 hrs limit: 220 mg/m <sup>3</sup> 8 hour(s).
ethylbenzene	<b>EH40/2005 WELs (United Kingdom (UK), 8/2007). Skin</b> STEL: 552 mg/m <sup>3</sup> 15 minute(s). TWA: 100 ppm 8 hour(s).
hexamethylene-di-isocyanate	<b>EH40/2005 WELs (United Kingdom (UK), 8/2007). Skin sensitiser Notes: as NCO</b> STEL: 0,07 mg/m <sup>3</sup> , (as NCO) 15 minute(s). TWA: 0,02 mg/m <sup>3</sup> , (as NCO) 8 hour(s).

**Personal protective equipment**

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- Respiratory system** : Self-contained respiratory equipment must be worn by spray operator, even when good ventilation is provided. By other operations than spraying, in well ventilated areas, air-fed respirators could be replaced by a combination charcoal filter and particulate filter mask.
- Skin and body** : Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres.
- Hands** : For prolonged or repeated handling, use the following type of gloves: gloves: polyvinyl alcohol or neoprene.
- Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.
- 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.
- Eyes** : Use safety eyewear designed to protect against splash of liquids.

## 9. Physical and chemical properties

- Physical state** : Liquid.
- Odour** : Characteristic.
- Colour** : Various colours.
- Flash point** : Closed cup: 34°C (93,2°F)
- Density** : 1.04 g/cm<sup>3</sup>
- Solubility** : Insoluble in the following materials: cold water and hot water.

## 10. Stability and reactivity

Stable under recommended storage and handling conditions (see section 7).

Hazardous decomposition products: smoke, carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen cyanide.

Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids, amines, alcohols, water.

Uncontrolled exothermic reactions occur with amines and alcohols.

The product reacts slowly with water, resulting in the production of carbon dioxide. In closed containers, pressure build-up could result in distortion, expansion and, in extreme cases, bursting of the container.

Thermal decomposition (>200°C) may liberate anhydrides and relatively low concentrations of isocyanates.

## 11. Toxicological information

Based on the properties of the isocyanate components and considering toxicological data on similar preparations, this preparation may cause acute irritation and/or sensitisation of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. Repeated or prolonged contact with irritants may cause dermatitis. If splashed in the eyes, the liquid may cause irritation and reversible damage.

Contains: hexane, 1,6-diisocyanato-, homopolymer, tosyl isocyanate, hexamethylene-di-isocyanate. May produce an allergic reaction.

## 12. Ecological information

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

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and is not classified as dangerous for the environment.

### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
n-butyl acetate	Mortality	Acute LC50 18000 to 19000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
	Mortality	Acute LC50 62000 ug/L	Fish - Zebra danio - Danio rerio	96 hours
xylene	Mortality	Acute LC50 8500 ug/L Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio	48 hours
	Mortality	Acute LC50 3300 to 4093 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
ethylbenzene	Intoxication	Acute EC50 2930 to 4400 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Mortality	Acute LC50 4200 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours

### Ecological information

#### Biodegradability

##### Product/ingredient name

xylene

##### Aquatic half-life

-

##### Photolysis

-

##### Biodegradability

Readily

#### Bioaccumulative potential

##### Product/ingredient name

xylene

##### LogP<sub>ow</sub>

3.12

##### BCF

-

##### Potential

high

## 13. Disposal considerations

Do not allow to enter drains or watercourses. Material and/or container must be disposed of as hazardous waste.

**European waste catalogue (EWC)** : 08 01 11\* waste paint and varnish containing organic solvents or other dangerous substances. If this product is mixed with other wastes, this code may no longer apply. If mixed with other wastes, the appropriate code should be assigned. For further information, contact your local waste authority.

## 14. Transport information

**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

### International transport regulations

**Proper shipping name** : Paint.

**UN number** : 1263

**Class** : 3

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**Packing group** : III  
**Label** :



### Additional information

**ADR / RID** : Hazard identification number: 30  
Special provisions: 640E  
**IMDG** : Emergency schedules (EmS): F-E, S-E  
Marine pollutant: No.  
**IATA** : -

Transport in accordance with ADR/RID, IMDG/IMO and ICAO/IATA and national regulation.

## 15. Regulatory information

**EU regulations** : The product is classified and labelled for supply in accordance with the Directive 1999/45/EC as follows:

**Hazard symbol or symbols** :



Harmful

**Risk phrases** : R10- Flammable.  
R20- Harmful by inhalation.  
R42/43- May cause sensitisation by inhalation and skin contact.

**Safety phrases** : S23- Do not breathe vapour / spray.  
S24- Avoid contact with skin.  
S37- Wear suitable gloves.  
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S51- Use only in well-ventilated areas.

**Contains:** : hexane, 1,6-diisocyanato-, homopolymer

**Additional warning phrases** : Contains isocyanates. See information supplied by the manufacturer. This information is provided by the present Safety Data Sheet.

**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.

Not applicable.

## 16. Other information

**CEPE Classification** : 5

**Full text of R-phrases referred to in sections 2 and 3 - United Kingdom (UK)** : R11- Highly flammable.  
R10- Flammable.  
R14- Reacts violently with water.  
R23- Toxic by inhalation.  
R20- Harmful by inhalation.  
R20/21- Harmful by inhalation and in contact with skin.  
R36- Irritating to eyes.  
R38- Irritating to skin.  
R36/37/38- Irritating to eyes, respiratory system and skin.  
R42- May cause sensitisation by inhalation.  
R42/43- May cause sensitisation by inhalation and skin contact.  
R66- Repeated exposure may cause skin dryness or cracking.  
R67- Vapours may cause drowsiness and dizziness.

The information in this Safety Data Sheet is required pursuant to EU Directive 91/155/EEC and its amendments.

**Date of issue** : 02.06.2008.

**Version** : 1

Indicates information that has changed from previously issued version.

**Date of issue** : 02.06.2008.

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[Notice to reader](#)

*The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.*