

SAFETY DATA SHEET



Hardtop AS/HB - Comp. B

1. Identification of the substance/preparation and of the company/undertaking

Product name and/or code : Hardtop AS/HB - Comp. B
Label No. : 3184
Supplier/Manufacturer : 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

Emergency telephone number : Contact National Poison Centre via Hospital or Registered Medical Practitioner
Product use : Coatings: Hardener / Solvent-borne.

2. Composition/information on ingredients

Chemical name*	CAS no.	EC Number	%	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, 67
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
Hexamethylene-di-isocyanate	822-06-0	212-485-8	0 - 1	R42 T; R23 Xi; R36/37/38 R42/43
See section 16 for the full text of the R Phrases declared above				

* Occupational Exposure Limit(s), if available, are listed in Section 8

3. Hazards identification

The preparation 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

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, CO₂, powders, water spray/mist.
Not to be used : waterjet.
- 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 materials, e.g. sand, earth, vermiculite, 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 up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume) : water (45 parts), ethanol or isopropyl alcohol (50 parts), concentrated (d : 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts), water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in non-sealed container. Once this stage is reached, close container and dispose according to local regulations (see section 13). Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers or sewage, inform 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, chronic or recurrent respiratory disease should not be employed in any process in which this preparation 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 vapour in air and avoid vapour concentration 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 anti-static 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 : CO₂ will be formed which in closed containers can 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 and spray mist arising from the application of this preparation. Avoid inhalation of dust from sanding.

Eating, drinking and smoking should be prohibited in area 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 of 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

- 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 which are opened must be carefully resealed and kept upright to prevent leakage.

8. Exposure controls/personal protection

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation 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 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 vapour below the OEL, suitable respiratory protection must be worn. (See Personal Protection.)

Ingredient name

Occupational exposure limits

n-butyl acetate

EH40-OES (United Kingdom (UK), 2002).

STEL: 966 mg/m³ 15 minute(s).

STEL: 200 ppm 15 minute(s).

TWA: 724 mg/m³ 8 hour(s).

TWA: 150 ppm 8 hour(s).

2-Methoxy-1-methylethyl acetate

EH40-OES (United Kingdom (UK), 2002). Skin

STEL: 548 mg/m³ 15 minute(s).

STEL: 100 ppm 15 minute(s).

TWA: 274 mg/m³ 8 hour(s).

TWA: 50 ppm 8 hour(s).

Xylene

EH40-OES (United Kingdom (UK), 2003). Skin

STEL: 441 mg/m³ 15 minute(s).

STEL: 100 ppm 15 minute(s).

TWA: 220 mg/m³ 8 hour(s).

TWA: 50 ppm 8 hour(s).

Ethylbenzene

EH40-OES (United Kingdom (UK), 2002). Skin

STEL: 552 mg/m³ 15 minute(s).

STEL: 125 ppm 15 minute(s).

TWA: 441 mg/m³ 8 hour(s).

TWA: 100 ppm 8 hour(s).

Hexamethylene-di-isocyanate

EH40-MEL (United Kingdom (UK), 2003).

STEL: 0,07 mg/m³ 15 minute(s).

TWA: 0,02 mg/m³ 8 hour(s).

Personal protective equipment

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 of charcoal filter and particulate filter mask.

Skin and body

: Personnel should wear anti-static clothing made of natural fibre or of high temperature resistant synthetic fibre.

Hands

: For prolonged or repeated handling, use gloves: polyvinyl alcohol or neoprene.

Barrier creams may help to protect the exposed areas of the skin, they should however 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.

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 g/cm³

Lower explosion limit

: The greatest known range is Lower: 1.2% Upper: 7.5% (n-butyl acetate)

Solubility

: Insoluble in cold water, 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 in order to avoid 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 evolution of carbon dioxide. In closed containers, pressure build up could result in distortion, blowing and in extreme cases bursting of the container.

Thermal decomposition (>200oC) 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, wheeziness and a 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 solvents vapours concentration 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 kidney, 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. The liquid splashed in the eyes 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 are 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.

Ecotoxicity data

<u>Ingredient name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
n-butyl acetate	Pimephales promelas (EC50)	48 hour(s)	19 mg/l
	Pimephales promelas (LC50)	96 hour(s)	18 mg/l
Xylene	Lepomis macrochirus (LC50)	96 hour(s)	100 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	3.3 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	8.2 mg/l
	Lepomis macrochirus (LC50)	96 hour(s)	8.6 mg/l
	Lepomis macrochirus (LC50)	96 hour(s)	12 mg/l
	Lepomis macrochirus (LC50)	96 hour(s)	13.3 mg/l
Ethylbenzene	Pimephales promelas (LC50)	96 hour(s)	13.4 mg/l
	Daphnia magna (EC50)	48 hour(s)	2.93 mg/l
	Daphnia magna (EC50)	48 hour(s)	2.97 mg/l
	Selenastrum capricornutum (EC50)	48 hour(s)	7.2 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	4.2 mg/l
	Pimephales promelas (LC50)	96 hour(s)	9.09 mg/l
	Poecilia reticulata (LC50)	96 hour(s)	9.6 mg/l

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

14. Transport information

International transport regulations

Proper shipping name : Paint.
UN Number : 1263
Class : 3
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.
Marine pollutant substances :
IATA : Not available.

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

15. Regulatory information

EU Regulations : The product is labelled as follows, in accordance with local regulations:

Hazard symbol(s) :



Harmful

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

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.

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

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.
R36/37/38- Irritating to eyes, respiratory system and skin.
R38- Irritating to 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.

Notice to reader

History

Date of printing : 09.03.2005.

Date of issue : 09.03.2005.

Date of previous issue : 16.06.2004.

Version : 6

Prepared by : Jotun Group Product Safety Department

The information of this SDS is based on the present state of our knowledge and on current EU and national laws. The product is not to be used for other purposes than those specified under section 1 without first obtaining written handling instruction. It is always the responsibility of the user to take all necessary steps in order to fulfil the demand laid down in the local rules and legislation. The information in this SDS is meant as a description of the safety requirements of our product : it is not to be considered as a guarantee of the products properties.

 Indicates information that has changed from previously issued version.

Version 6

Page: 5/5