



SAFETY DATA SHEET

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

Product Name and/or Code : HEMPADUR MASTIC 45889

4588910000

Company name and address : Hempel A/S
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See section 4 First aid measures.

Product Type : Epoxy polyamide adduct (base for 2-component product)

Field of application : metal industry, ships and shipyards.

Ready for use mixture : 45889 7,5 LI / 95880 2,5 LI OR 95881 2.5 LI

Date of issue : 7/18/2005.

Date of Previous Issue : 4/19/2004.

2. Composition/information on ingredients

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

Ingredient Name	CAS No.	%	EC Number	Classification
bisphenol A-(epichlorhydrin) epoxy resin MW =< 700	25068-38-6	20 - 30	500-033-5	Xi; R36/38 R43 N; R51/53
xylene	1330-20-7	5 - 10	215-535-7	R10 Xn; R20/21 Xi; R38
benzyl alcohol	100-51-6	3 - 5	202-859-9	Xn; R20/22
cyclohexanone	108-94-1	3 - 5	203-631-1	R10 Xn; R20
alpha'-(1,3-xylenediyl)bis(12-hydroxyoctadecanamide)		1 - 3		R53
ethylbenzene	100-41-4	1 - 3	202-849-4	F; R11 Xn; R20

Notes

(*) See full text of phrases under section 16 and occupational Exposure Limit(s), if available, are listed in section 8

3. Hazards identification



Irritant

Flammable. May cause sensitization by skin contact. Irritating to eyes and skin. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. 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 : Move the person into fresh air and keep the person under surveillance. 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.

Eye Contact	: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek immediate medical attention.
Skin Contact	: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do not use solvents or thinners.
Ingestion	: If swallowed, seek medical advice immediately and show this document. Keep person warm and at rest. Do NOT induce vomiting unless directed to do so by medical personnel. Lower the head so that the vomit will not reenter the mouth and throat.

5. Fire-fighting measures

Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Fire-fighters should wear appropriate protective equipment. Cool closed containers exposed to fire with water. Do not release runoff from fire to sewers or waterways.

Extinguishing Media	: Recommended: alcohol resistant foam, CO ₂ , powders, water spray. Not to be used : waterjet.
Fire Degradation Products	: These products are carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂ etc.), halogenated compounds, hydrogen chloride. Some metallic oxides.

6. Accidental release measures

Exclude sources of ignition and be aware of explosion hazard. Ventilate the area. 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). Do not allow to enter drains or watercourses. Clean preferably with a detergent; avoid use of solvents. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulation.

7. Handling and storage

Handling

Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits. In addition, the product should be used only 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, ground drum and connect to receiving container with bonding strap. No sparking tools should be used. Avoid all possible skin contact with epoxy and amine containing products, they may cause allergic reactions.

Avoid inhalation of vapour, dust and spray mist. Avoid contact with skin and eyes. Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Appropriate personal protective equipment: see Section 8. Always keep in containers made from the same material as the original one.

Storage

Store in accordance with local regulations for flammable liquids. Observe label precautions. Store in a cool, well-ventilated area away from incompatible materials and ignition sources. Keep out of the reach of children. Keep away from: Oxidizing agents, strong alkalis, strong acids. No smoking. Prevent unauthorized access. Containers that are opened must be carefully resealed and kept upright to prevent leakage.

8. Exposure controls/personal protection

Engineering measures	: Arrange sufficient ventilation by local exhaust ventilation and good general ventilation to keep the airborne concentrations of vapors or dust lowest possible and below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Hygiene measures	: Wash hands, forearms, and face thoroughly after handling the product and before eating, smoking, using lavatory, and at the end of day.

Ingredient Name	Occupational Exposure Limits
xylene	EU OEL (Europe, 3/2003). Skin STEL: 442 mg/m ³ 15 minute/minutes. Form: All forms STEL: 100 ppm 15 minute/minutes. Form: All forms TWA: 221 mg/m ³ 8 hour/hours. Form: All forms TWA: 50 ppm 8 hour/hours. Form: All forms
cyclohexanone	EU OEL (Europe, 3/2003). Skin STEL: 81.6 mg/m ³ 15 minute/minutes. Form: All forms STEL: 20 ppm 15 minute/minutes. Form: All forms TWA: 40.8 mg/m ³ 8 hour/hours. Form: All forms TWA: 10 ppm 8 hour/hours. Form: All forms
ethylbenzene	EU OEL (Europe, 6/2000). Skin

STEL: 884 mg/m³ 15 minute/minutes. Form: All forms
STEL: 200 ppm 15 minute/minutes. Form: All forms
TWA: 442 mg/m³ 8 hour/hours. Form: All forms
TWA: 100 ppm 8 hour/hours. Form: All forms

Personal protective equipment

General	: Gloves must be worn for all work that may result in soiling. Apron/coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. Safety eyewear should be used when there is a likelihood of exposure.
Respiratory system	: If working areas have insufficient ventilation: When the product is applied by means that will not generate an aerosol such as, brush or roller wear half or totally covering mask equipped with gas filter of type A, when grinding use particle filter of type P. When the product is applied by spraying and for continuous or prolonged work always wear an air-fed respirator e.g. hood with supply of fresh or compressed air or a full face, powered air purifying filter. Be sure to use approved/certified filter, respirator or equivalent.
Skin and body	: Wear suitable protective clothing. Always wear protective clothing when spraying.
Hands	: Wear suitable gloves. Barrier creams may help to protect the exposed areas of the skin, but should not be applied once exposure has occurred. Barrier creams may not be used under or instead of gloves. It is not possible to specify precise type of gloves, since the actual work situation is unknown. Supplier of gloves should be contacted in order to find the appropriate type.
Eyes	: face shield or safety glasses with side shields.

9. Physical and chemical properties

Physical state	: Liquid.
Density	: Weighted average: 1.6 g/cm ³
Solubility	: Insoluble in cold water, hot water.
Flash point	: Closed cup: 40°C (104°F).
Explosion Limits	: 1 - 15 vol %
% Solvent by Weight	: Weighted average: 11 %
% Water by Weight	: Weighted average: 0 %
VOC Content	: Weighted average: 169 g/l (CEPE)
TOC Content	: Weighted average: 198 g/l (based on data for: Solvent.)
Solvent Gas	: 0.039 m ³ /l

10. Stability and reactivity

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

Highly reactive or incompatible with the following materials: oxidizing materials and metals.

Reactive or incompatible with the following materials: reducing materials.

When exposed to high temperatures (i.e. in case of fire) harmful decomposition products may be formed:

These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂ etc.), halogenated compounds, hydrogen chloride. Some metallic oxides.

11. Toxicological information

Effects and symptoms

Exposure to component solvent vapor concentrations 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. Symptoms and signs include headaches, 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. If splashed in the eyes, the liquid may cause irritation and reversible damage. Accidental swallowing may cause stomach pain. Chemical lung inflammation may occur if the product is taken into the lungs via vomiting.

Epoxy and amine containing products can cause skin disorders such as allergic eczema. The allergy may arise after only a short exposure period.

Sensitization : Contains (bisphenol A-(epichlorhydrin) epoxy resin MW =< 700). May produce an allergic reaction.

Acute toxicity

Ingredient Name	Test	Result	Route	Species
bisphenol A-(epichlorhydrin) epoxy resin MW =< 700	LD50	13600 mg/kg	Oral	Rat
	LD50	>1200 mg/kg	Dermal	Rat
xylene	LD50	4300 mg/kg	Oral	Rat
	LD50	>1700 mg/kg	Dermal	Rabbit
	LDLo	50 mg/kg	Oral	Human
benzyl alcohol	LC50	>6700 ppm (4 hour/hours)	Inhalation	Rat
cyclohexanone	LD50	1230 mg/kg	Oral	Rat
	LD50	1535 mg/kg	Oral	Rat
	LD50	948 mg/kg	Dermal	Rabbit
	LDLo	1600 mg/kg	Oral	Rabbit
alpha'-(1,3-xylenediyl)bis(12-hydroxyoctadecanamide)	LD50	>2000 mg/kg	Oral	Rat
	LD50	>2000 mg/kg	Dermal	Rat
	LC50	3.6 mg/l (4 hour/hours)	Inhalation	Rat
ethylbenzene	LD50	3500 mg/kg	Oral	Rat

12. Ecological information

The product must not be drained into water courses or drainage system.

The product is considered having hazardous effects in the aquatic environment following the method of the Dangerous Preparations Directive.

Ingredient Name	Species	Period	Result
xylene	Oncorhynchus mykiss (LC50)	96 hour/hours	8.2 mg/l
benzyl alcohol	Lepomis macrochirus (LC50)	96 hour/hours	10 mg/l
	Pimephales promelas (LC50)	96 hour/hours	460 mg/l
cyclohexanone	Pimephales promelas (LC50)	96 hour/hours	630 mg/l
ethylbenzene	Daphnia magna (EC50)	48 hour/hours	2.93 mg/l
	Selenastrum capricornutum (EC50)	48 hour/hours	7.2 mg/l
	Fish (LC50)	96 hour/hours	9.09 mg/l

13. Disposal considerations

Residues of the product is listed as hazardous waste. Dispose of according to all state and local applicable regulations.

Spillage, remains, discarded clothes and similar should be discarded in a fireproof container.



European waste catalogue no. (EWC) and national waste group, catalogue, code or number is given below.

EWC no. : 08 01 11

14. Transport information

Transport may take place according to national regulation or ADR for transport by road, RID for transport by train, IMDG for transport by sea.

The transport classification is according to ADR 2005, IMDG edition 2004 (incl. Amdt. 32-04).

	UN-no.	Proper shipping name	Class	PG*	Label	Additional information
ADR/RID Class	UN1263	PAINT	3	III		Remarks H-14
IMDG Class	UN1263	PAINT. (bisphenol A-(epichlorhydrin) epoxy resin MW =< 700)	3	III		Emergency schedules (EmS) F-E, S-E

(P)

PG* : Packing group

15. Regulatory information

Classification and labelling according to EU-Directives (the Preparations directive etc.).

Symbol : Irritant

Contains : bisphenol A-(epichlorhydrin) epoxy resin MW =< 700

Risk Phrases : R10- Flammable.
R36/38- Irritating to eyes and skin.
R43- May cause sensitization by skin contact.
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases : S23- Do not breathe vapor/spray.
S24- Avoid contact with skin.
S37- Wear suitable gloves.
S51- Use only in well-ventilated areas.

Additional Warning Phrases : Contains epoxy constituents. See information supplied by the manufacturer.

Other EU Regulations

Classification and labeling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use.

- Industrial applications, Used by spraying.

16. Additional information

Full text of R-phrases referred to in the Safety Data Sheet : R11- Highly flammable.
R10- Flammable.
R20- Harmful by inhalation.
R20/21- Harmful by inhalation and in contact with skin.
R20/22- Harmful by inhalation and if swallowed.
R36/38- Irritating to eyes and skin.
R38- Irritating to skin.
R43- May cause sensitization by skin contact.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53- May cause long-term adverse effects in the aquatic environment.

Notice to Reader

Modified data or content compared with the previous version are marked with a triangular marker in the upper-left corner within the Safety Data Sheet.

The information contained in this safety data sheet is based on the present state of knowledge and EU and national legislation. It provides guidance on health, safety and environmental aspects for handling the product in a safe way and should not be construed as any guarantee of the technical performance or suitability for particular applications. It is always the duty of the user/employer to ascertain that the work is planned and carried out in accordance with the national regulations.