

SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

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Flowbulk Hardener

Revision 3
Revision date 2015-12-09

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	Flowbulk Hardener
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1.2. Relevant identified uses of the substance or mixture and uses advised against

Description	Restricted to professional users. Component Of A Three Pack Polyurethane Floor Screed.
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1.3. Details of the supplier of the safety data sheet

Company	Virtus Resins
Address	The Shippon, Faenol Pentrecelyn Ruthin LL15 2SP
Web	www.epoxyresinsuppliers.co.uk
Telephone	+44 (0)1978 790 744
Fax	
Email	info@epoxyresinsuppliers.co.uk
Email address of the competent person	info@ epoxyresinsuppliers.co.uk

1.4. Emergency telephone number


Emergency telephone number	+44 (0)1978 790744
	8.30am to 5.00pm Mon - Fri

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.1. Classification - 1999/45/EC	Xn; R20-40-42/43 Xi; R36/37/38 Symbols: Xn: Harmful.
Main hazards	Harmful by inhalation. Irritating to eyes, respiratory system and skin. Limited evidence of a carcinogenic effect. May cause sensitisation by inhalation and skin contact. May cause sensitisation by inhalation.
2.1.2. Classification - EC 1272/2008	Skin Sens. 1: H317; Resp. Sens. 1: H334; Carc. 2: H351;

2.2. Label elements

Hazard pictograms	
Signal Word	Danger
Hazard Statement	Skin Sens. 1: H317 - May cause an allergic skin reaction. Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. Carc. 2: H351 - Suspected of causing cancer .

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2.2. Label elements

Precautionary Statement: Prevention	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P272 - Contaminated work clothing should not be allowed out of the workplace. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P284 - [In case of inadequate ventilation] wear respiratory protection.
Precautionary Statement: Response	P302+P352 - IF ON SKIN: Wash with plenty of water/ . P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308+P313 - IF exposed or concerned: Get medical advice/attention. P321 - Specific treatment (see on this label). P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER/doctor/ .
Precautionary Statement: Storage	P405 - Store locked up.
Precautionary Statement: Disposal	P501 - Dispose of contents/container to local and national regulations

SECTION 3: Composition/information on ingredients

3.2. Mixtures

67/548/EEC / 1999/45/EC

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification	M-factor.
4,4'-Diphenylmethane-diisocyanate	615-005-00-99016-87-9			01-2119457014-47	70 - 80%		
Diphenylmethane-2,4'-di-isocyanate	615-005-00-9	5873-54-1	227-534-9	01-2119480143-45	1 - 10% Xn; R20 Xi; R36/37/38 R42/43		
4,4'-Methylenediphenyl diisocyanate	615-005-00-9	101-68-8	202-966-0	01-2119457014-47	1 - 10% Carc. Cat. 3; R40 Xn; R20-48/20 Xi; R36/37/38 R42/43		
2,2'-Methylenediphenyl diisocyanate	615-005-00-9	2536-05-2	219-799-4	01-2119927323-43	1 - 10% Xn; R20 Xi; R36/37/38 R42/43		

EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification	M-factor.
4,4'-Diphenylmethane-diisocyanate	615-005-00-99016-87-9			01-2119457014-47	70 - 80%		
4,4'-Methylenediphenyl diisocyanate	615-005-00-9	101-68-8	202-966-0	01-2119457014-47	1 - 10%	Carc. 2: H351; Acute Tox. 4: H332; STOT RE 2: H373; Eye Irrit. 2: H319; STOT SE 3: H335; Skin Irrit. 2: H315; Resp. Sens. 1: H334; Skin Sens. 1: H317;	

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Take the person into the fresh air and keep him warm, let him rest, if there is difficulty in breathing, medical advice is required.
Eye contact	Hold the eyes open and rinse with preferably lukewarm water for a sufficiently long period of time (at least 10 minutes). Contact an ophthalmologist.
Skin contact	In the event of skin contact, wipe off mechanically and wash affected areas thoroughly with soap and water.
Ingestion	DO NOT induce the patient to vomit, medical advice is required.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	No data available.
Eye contact	No data available.
Skin contact	No data available.
Ingestion	No data available.

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4.3. Indication of any immediate medical attention and special treatment needed

Inhalation	Seek medical attention if irritation or symptoms persist.
Eye contact	Seek medical attention if irritation or symptoms persist.
Skin contact	Seek medical attention if irritation or symptoms persist.
Ingestion	Seek medical attention if irritation or symptoms persist.

SECTION 5: Firefighting measures

5.1. Extinguishing media

	Carbon dioxide (CO ₂), Foam, extinguishing powder, in case of larger fires, water spray should be used.
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5.2. Special hazards arising from the substance or mixture

	Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen, isocyanate vapors and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes. Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area.
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5.3. Advice for firefighters

	During fire-fighting respirator with independent air supply and airtight garment is required. Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

	Put on protective equipment (see chapter 8). Remove sources of fire, ensure adequate ventilation/exhaust ventilation. Keep unauthorised persons away.
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6.2. Environmental precautions

	Do not allow to escape into waterways, wastewater or soil.
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6.3. Methods and material for containment and cleaning up

	Remove mechanically; cover the remainder with wet, absorbent material (e.g sawdust, chemical binder based on calcium silicate hydrate sand). After approx. one hour transfer to waste container and do not seal (evolution of CO ₂ !). Keep damp in a safe ventilated area for several days.
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6.4. Reference to other sections

	Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

	In all areas where MDI aerosols and/or vapour concentrations are produced, exhaust ventilation must be provided in such a way that the WEL is not exceeded.
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7.2. Conditions for safe storage, including any incompatibilities

	Keep only in the original container in a cool, well-ventilated place.
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7.3. Specific end use(s)

	The identified uses for this product are detailed in section 1.2.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Exposure Limit Values

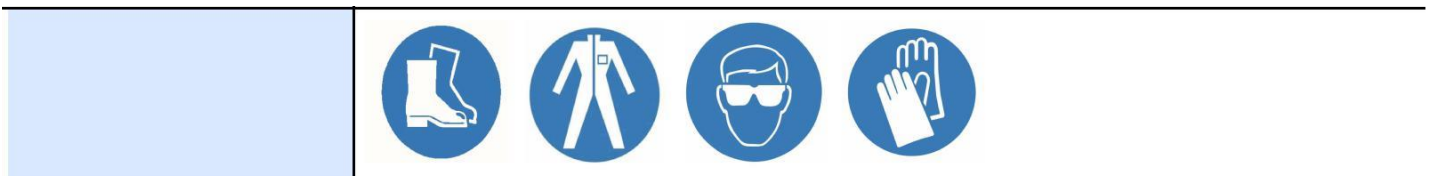
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8.1.1. Exposure Limit Values

4,4'-Diphenylmethane-diisocyanate	WEL 8-hr limit ppm: WEL 15 min limit ppm: WEL 8-hr limit mg/m3 total inhalable dust: WEL 8-hr limit mg/m3 total respirable dust:	WEL 8-hr limit mg/m3: 0.02 WEL 15 min limit mg/m3: 0.07 WEL 15 min limit mg/m3 total inhalable dust: WEL 15 min limit mg/m3 total respirable dust:
4,4'-Methylenediphenyl diisocyanate	WEL 8-hr limit ppm: WEL 15 min limit ppm: WEL 8-hr limit mg/m3 total inhalable dust: WEL 8-hr limit mg/m3 total respirable dust:	WEL 8-hr limit mg/m3: 0.02 WEL 15 min limit mg/m3: 0.07 WEL 15 min limit mg/m3 total inhalable dust: WEL 15 min limit mg/m3 total respirable dust:
Pumabulk Hardener	WEL 8-hr limit ppm: WEL 15 min limit ppm: WEL 8-hr limit mg/m3 total inhalable dust: WEL 8-hr limit mg/m3 total respirable dust:	WEL 8-hr limit mg/m3: 0.02 WEL 15 min limit mg/m3: 0.07 WEL 15 min limit mg/m3 total inhalable dust: WEL 15 min limit mg/m3 total respirable dust:

8.2. Exposure controls



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Brown
Odour	Earthy, musty
Odour threshold	No data available
Melting point	No data available
Freezing Point	No data available
Initial boiling point	> 300
Flash point	229
Evaporation rate	Not determined
Flammability (solid, gas)	No data available
Vapour pressure	No data available
Vapour density	Not determined
Relative density	No data available
Fat Solubility	No data available
Partition coefficient	Not determined
Autoignition temperature	Not applicable.
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	No data available
Solubility	No data available

9.2. Other information

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9.2. Other information

Conductivity	No data available
Surface tension	No data available
Gas group	No data available
Benzene Content	No data available
Lead content	No data available
VOC (Volatile organic compounds)	No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

	No data available.
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10.2. Chemical stability

	Polymerises at about 200oC with evolution of CO2.
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10.3. Possibility of hazardous reactions

	Exothermic reaction with amines and alcohols; reacts slowly with water forming CO2, in closed containers risk of bursting owing to increase of pressure.
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10.4. Conditions to avoid

	No data is available on this product.
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10.5. Incompatible materials

	No data is available on this product.
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10.6. Hazardous decomposition products

	No hazardous decomposition products when stored and handled correctly.
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SECTION 11: Toxicological information

11.1.4. Toxicological Information

	No data available
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SECTION 12: Ecological information

12.1. Toxicity

	No data available
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12.2. Persistence and degradability

	No data is available on this product.
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12.3. Bioaccumulative potential

Partition coefficient

	Flowbulk Hardener Not determined
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12.4. Mobility in soil

	No data is available on this product.
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12.5. Results of PBT and vPvB assessment

	No data is available on this product.
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12.6. Other adverse effects

	No data is available on this product.
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SECTION 13: Disposal considerations

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13.1. Waste treatment methods

	Completely empty the packaging and process it according to local legislation.
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Further information

	Further information on waste can be obtained from the document "Guidence on the Classification and Assessment of Waste, Technical guidance WM3.
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SECTION 14: Transport information

14.1. UN number

	The product is not classified as dangerous for carriage.
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14.2. UN proper shipping name

	The product is not classified as dangerous for carriage.
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14.3. Transport hazard class(es)

	The product is not classified as dangerous for carriage.
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14.4. Packing group

	The product is not classified as dangerous for carriage.
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14.5. Environmental hazards

	The product is not classified as dangerous for carriage.
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14.6. Special precautions for user

	The product is not classified as dangerous for carriage.
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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

	The product is not classified as dangerous for carriage.
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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

	<p>"COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC".</p> <p>"REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC".</p>
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SECTION 16: Other information

Other information

Revision	This document differs from the previous version in the following areas:. 2 - Precautionary Statement: Disposal. 7 - 7.3. Specific end use(s). 13 - Further information.
Text of risk phrases in Section 3	R20 - Harmful by inhalation. R36/37/38 - Irritating to eyes, respiratory system and skin. R40 - Limited evidence of a carcinogenic effect. R42/43 - May cause sensitisation by inhalation and skin contact. R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.

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Other information

Text of Hazard Statements in Section 3	<p>Skin Irrit. 2: H315 - Causes skin irritation. Skin Sens. 1: H317 - May cause an allergic skin reaction. Eye Irrit. 2: H319 - Causes serious eye irritation. Acute Tox. 4: H332 - Harmful if inhaled. Resp. Sens. 1: H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. STOT SE 3: H335 - May cause respiratory irritation. Carc. 2: H351 - Suspected of causing cancer . STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure .</p>
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General information

	<p>This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy.</p>
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Further information

	<p>The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.</p>
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