



SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin

Page: 1

Compilation date: 05/06/2015

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Revision No: 8

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

1.1. Product identifier

Product name: Vac Cast Epoxy Casting Resin

Product code:

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

Use of substance / mixture: PC1: Adhesives, sealants. PC9a: Coatings and paints, thinners, paint removers. PC9b: Fillers, putties, plasters, modelling clay. PC32: Polymer preparations and compounds. PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations* and articles (multistage and/or significant contact) PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10: Roller application or brushing PROC13: Treatment of articles by dipping and pouring PROC19: Hand-mixing with intimate contact and only PPE available ERC2: Formulation of preparations* ERC3: Formulation in materials ERC5: Industrial use resulting in inclusion into or onto a matrix ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

1.3. Details of the supplier of the safety data sheet

Company name: Easy Composites Ltd
Unit 39, Park Hall Business Village
Longton, Stoke on Trent
Staffordshire
ST3 5XA
United Kingdom
Tel: +44 (0) 1782 454499
Fax: +44 (0) 1782 596868
Email: sales@easycomposites.co.uk

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin

Page: 2

1.4. Emergency telephone number

Emergency tel: +44 (0) 1782 454499
(office hours only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: Aquatic Chronic 2: H411; Eye Irrit. 2: H319; Skin Irrit. 2: H315; Skin Sens. 1: H317

Most important adverse effects: Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.
Toxic to aquatic life with long lasting effects.

2.2. Label elements

Label elements:

Hazard statements: H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H411: Toxic to aquatic life with long lasting effects.

Hazard pictograms: GHS07: Exclamation mark
GHS09: Environmental



Signal words: Warning

Precautionary statements: P261: Avoid breathing dust/fumes/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P302+352: IF ON SKIN: Wash with plenty of water/.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321: Specific treatment (see instructions on this label).

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

[cont...]

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin

Page: 3

BISPHENOL A-(EPICHLORHYDRIN) {REACTION PRODUCT} - REACH registered number(s): 01-2119456619-26

500-033-5	25068-38-6	-	Eye Irrit. 2: H319; Skin Irrit. 2: H315; Skin Sens. 1: H317; Aquatic Chronic 2: H411	25-50%
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OXIRANE, MONO[(C12-14ALKYLOXY)METHYL] DERIVATIVES - REACH registered number(s): 01-21194852289-22

271-846-8	68609-97-2	-	Skin Irrit. 2: H315; Skin Sens. 1: H317	1-25%
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Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Wash immediately with plenty of soap and water. Consult a doctor.

Eye contact: Bathe the eye with running water for 15 minutes. Consult a doctor.

Ingestion: Wash out mouth with water. Consult a doctor.

Inhalation: Move to fresh air in case of accidental inhalation of vapours. Consult a doctor.

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

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: Nausea and stomach pain may occur.

Inhalation: There may be a feeling of tightness in the chest with shortness of breath. Exposure may cause coughing or wheezing.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

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

Immediate / special treatment: Show this safety data sheet to the doctor in attendance.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Water spray. Water fog. Dry chemical powder. Carbon dioxide. Alcohol or polymer foam. Alcohol resistant foam.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Mark out the contaminated area with signs and prevent access to unauthorised personnel. Refer to section 8 of SDS for personal protection details.

[cont...]

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin

Page: 4

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Mix with sand or vermiculite. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS. Refer to section 13 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Ensure there is sufficient ventilation of the area. Avoid direct contact with the substance.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well ventilated area.

Suitable packaging: Must only be kept in original packaging.

7.3. Specific end use(s)

Specific end use(s): No data available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Workplace exposure limits: No data available.

DNEL/PNEC Values

Hazardous ingredients:

OXIRANE, MONO[(C12-14ALKYLOXY)METHYL] DERIVATIVES

Type	Exposure	Value	Population	Effect
DNEL	Dermal	3.9mg/kg bw/day	Workers	Systemic
DNEL	Inhalation	13.8 mg/m3	Workers	Systemic
PNEC	STP	10 mg/l	-	-
PNEC	Fresh water	0.0072 mg/l	-	-
PNEC	Fresh water sediments	66.77 mg/kg sediment	-	-
PNEC	Marine water	0.00072 mg/l	-	-
PNEC	Marine sediments	6.677 mg/kg sediment	-	-
PNEC	Soil (agricultural)	80.12 mg/kg soil dw	-	-

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area.

Respiratory protection: Self-contained breathing apparatus must be available in case of emergency.

[cont...]

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin

Page: 5

Hand protection: Impermeable gloves.

Eye protection: Safety glasses.

Skin protection: Protective clothing.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: Grey

Odour: Characteristic odour

Evaporation rate: No data available.

Oxidising: No data available.

Solubility in water: No data available.

Viscosity: 40000 mPas (25°C)

Boiling point/range°C: No data available.

Flammability limits %: lower: No data available.

Flash point°C: No data available.

Autoflammability°C: No data available.

Relative density: 1.70 - 1.80

VOC g/l: No data available.

Melting point/range°C: No data available.

upper: No data available.

Part.coeff. n-octanol/water: No data available.

Vapour pressure: No data available.

pH: No data available.

9.2. Other information

Other information: No data available.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Polymerisation may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: Heat.

10.5. Incompatible materials

Materials to avoid: Amines.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

[cont...]

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin

Page: 6

Section 11: Toxicological information

11.1. Information on toxicological effects

Hazardous ingredients:

BISPHENOL A-(EPICHLORHYDRIN) {REACTION PRODUCT}

ORL	MUS	LD50	15600	mg/kg
ORL	RAT	LD50	11400	mg/kg
SKN	RBT	LD50	>20	ml/kg

OXIRANE, MONO[(C12-14ALKYLOXY)METHYL] DERIVATIVES

DERMAL	RAT	LD50	> 26800	mg/kg
ORL	RAT	LD50	17100	mg/kg

Relevant hazards for substance:

Hazard	Route	Basis
Skin corrosion/irritation	DRM	Hazardous: calculated
Serious eye damage/irritation	OPT	Hazardous: calculated
Respiratory/skin sensitisation	DRM	Hazardous: calculated

Symptoms / routes of exposure

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: Nausea and stomach pain may occur.

Inhalation: There may be a feeling of tightness in the chest with shortness of breath. Exposure may cause coughing or wheezing.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

Section 12: Ecological information

12.1. Toxicity

Hazardous ingredients:

OXIRANE, MONO[(C12-14ALKYLOXY)METHYL] DERIVATIVES

ALGAE	72H IC50	843.75	mg/l
DAPHNIA	48H EC50	6.07	mg/l
Leuciscus idus	96H LC50	>5000	mg/l

12.2. Persistence and degradability

Persistence and degradability: No data available.

[cont...]

SAFETY DATA SHEET
Vac Cast Epoxy Casting Resin

Page: 7

12.3. Bioaccumulative potential

Bioaccumulative potential: No data available.

12.4. Mobility in soil

Mobility: No data available.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

Disposal of packaging: Arrange for collection by specialised disposal company.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

14.1. UN number

UN number: UN3082

14.2. UN proper shipping name

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Epoxy Resin)

14.3. Transport hazard class(es)

Transport class: 9

14.4. Packing group

Packing group: III

14.5. Environmental hazards

Environmentally hazardous: Yes

Marine pollutant: No

14.6. Special precautions for user

Tunnel code: E

Transport category: 3

Section 15: Regulatory information

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

Specific regulations: Not applicable.

[cont...]

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin

Page: 8

15.2. Chemical Safety Assessment

Chemical safety assessment: A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and s.3: H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H411: Toxic to aquatic life with long lasting effects.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

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

1.1. Product identifier

Product name: Vac Cast Epoxy Casting Resin Hardener

Product code:

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

Use of substance / mixture: PC1: Adhesives, sealants. PC9a: Coatings and paints, thinners, paint removers. PC9b: Fillers, putties, plasters, modelling clay. PC32: Polymer preparations and compounds. PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations* and articles (multistage and/or significant contact) PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10: Roller application or brushing PROC13: Treatment of articles by dipping and pouring PROC19: Hand-mixing with intimate contact and only PPE available ERC2: Formulation of preparations* ERC3: Formulation in materials ERC5: Industrial use resulting in inclusion into or onto a matrix ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

1.3. Details of the supplier of the safety data sheet

Company name: Easy Composites Ltd
Unit 39, Park Hall Business Village
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Tel: +44 (0) 1782 454499
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Email: sales@easycomposites.co.uk

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin Hardener

Page: 2

1.4. Emergency telephone number

Emergency tel: +44 (0) 1782 454499
(office hours only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: Skin Corr. 1B: H314; Skin Sens. 1: H317; Acute Tox. 4: H302+332; Aquatic Chronic 2: H411; -: EUH208

Most important adverse effects: Contains amines, polyethylenepoly-, tetraethylenepentamine fraction. May produce an allergic reaction. Harmful if swallowed or if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects.

2.2. Label elements

Label elements:

Hazard statements: EUH208: Contains amines, polyethylenepoly-, tetraethylenepentamine fraction. May produce an allergic reaction.
H302+332: Harmful if swallowed or if inhaled.
H314: Causes severe skin burns and eye damage.
H317: May cause an allergic skin reaction.
H411: Toxic to aquatic life with long lasting effects.

Hazard pictograms: GHS05: Corrosion
GHS07: Exclamation mark
GHS09: Environmental



Signal words: Danger

Precautionary statements: P260: Do not breathe dust/fumes/gas/mist/vapours/spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+312: IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell.
P301+330+331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302+352: IF ON SKIN: Wash with plenty of water/.
P303+361+353: IF ON SKIN (or hair): Take off immediately all contaminated clothing.
Rinse skin with water/shower.

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

[cont...]

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin Hardener

Page: 3

3.2. Mixtures

Hazardous ingredients:

M-PHENYLENEBIS(METHYLAMINE) - REACH registered number(s): 01-2119480150-50

EINECS	CAS	PBT / WEL	CLP Classification	Percent
216-032-5	1477-55-0	-	Acute Tox. 4: H302+332; Skin Corr. 1B: H314; Skin Sens. 1: H317; Aquatic Chronic 3: H412; -: EUH071	25-50%

PENTAETHYLENEHEXAMINE - REACH registered number(s): 01-2119485826-22

223-775-9	4067-16-7	-	Skin Corr. 1B: H314; Skin Sens. 1: H317; Aquatic Chronic 1: H410; Aquatic Acute 1: H400	1-25%
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AMINES, POLYETHYLENEPOLY-, TRIETHYLENETETRAMINE FRACTION - REACH registered number(s): 01-2119487919-13

292-588-2	90640-67-8	-	Acute Tox. 4: H312; Skin Corr. 1B: H314; Skin Sens. 1: H317; Aquatic Chronic 3: H412; Eye Dam. 1: H318; Acute Tox. 4: H302	1-25%
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BENZYL ALCOHOL - REACH registered number(s): 01-2119492630-38

202-859-9	100-51-6	-	Acute Tox. 4: H332; Acute Tox. 4: H302	1-25%
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HEPA

268-626-9	68131-73-7	-	Acute Tox. 4: H312; Acute Tox. 4: H302; Skin Corr. 1B: H314; Skin Sens. 1: H317; Aquatic Chronic 1: H410; Aquatic Acute 1: H400	1-25%
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3,6,9-TRIAZAUNDECAMETHYLENEDIAMINE - REACH registered number(s): 01-2119487290-37

203-986-2	112-57-2	-	Acute Tox. 4: H312; Acute Tox. 4: H302; Skin Corr. 1B: H314; Skin Sens. 1: H317; Aquatic Chronic 2: H411	0.05-1%
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AMINES, POLYETHYLENEPOLY-, TETRAETHYLENEPENTAMINE FRACTION - REACH registered number(s): 01-2119487290-37

292-587-7	90640-66-7	-	Acute Tox. 4: H302; Skin Sens. 1: H317; Skin Corr. 1B: H314; Eye Dam. 1: H318; Aquatic Chronic 2: H411; Acute Tox. 4: H312	0.05-1%
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Section 4: First aid measures

4.1. Description of first aid measures

- Skin contact:** Remove all contaminated clothes and footwear immediately unless stuck to skin.
Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Transfer to hospital if there are burns or symptoms of poisoning.
- Eye contact:** Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.

[cont...]

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin Hardener

Page: 4

Ingestion: Wash out mouth with water. Do not induce vomiting. Give 1 cup of water to drink every 10 minutes. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.

Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so. If unconscious and breathing is OK, place in the recovery position. If conscious, ensure the casualty sits or lies down. If breathing becomes bubbly, have the casualty sit and provide oxygen if available. Transfer to hospital as soon as possible.

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

Skin contact: Blistering may occur. Progressive ulceration will occur if treatment is not immediate.

Eye contact: Corneal burns may occur. May cause permanent damage.

Ingestion: Corrosive burns may appear around the lips. Blood may be vomited. There may be bleeding from the mouth or nose.

Inhalation: There may be shortness of breath with a burning sensation in the throat. Exposure may cause coughing or wheezing.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

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

Immediate / special treatment: Eye bathing equipment should be available on the premises.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: Corrosive. In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Notify the police and fire brigade immediately. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Do not attempt to take action without suitable protective clothing - see section 8 of SDS. Turn leaking containers leak-side up to prevent the escape of liquid.

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SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin Hardener

Page: 5

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area.
Do not handle in a confined space. Avoid the formation or spread of mists in the air.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well ventilated area. Keep container tightly closed.

Suitable packaging: Must only be kept in original packaging.

7.3. Specific end use(s)

Specific end use(s): No data available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Workplace exposure limits: No data available.

DNEL/PNEC Values

Hazardous ingredients:

PENTAETHYLENEHEXAMINE

Type	Exposure	Value	Population	Effect
PNEC	Fresh water	2.5 µg/l	-	-
PNEC	Marine water	2.5 µg/l	-	-
PNEC	Fresh water sediments	0.22 mg/kg dwt	-	-
PNEC	Marine sediments	0.14 mg/kg dwt	-	-
PNEC	Soil (agricultural)	0.18 mg/kg dwt	-	-
PNEC	Microorganisms in sewage treatment	1.64 mg/l	-	-
DNEL	Inhalation	8550 mg/m3	Workers	Systemic

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SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin Hardener

Page: 6

DNEL	Inhalation (repeated dose)	1.59 mg/m3	Workers	Systemic
DNEL	Dermal (repeated dose)	0.91 mg/kg bw/day	Workers	Systemic
DNEL	Dermal (repeated dose)	0.044 mg/cm2	Workers	Local
DNEL	Inhalation	2542 mg/m3	Consumers	Systemic
DNEL	Inhalation (repeated dose)	0.46 mg/m3	Consumers	Systemic
DNEL	Dermal (repeated dose)	0.4 mg/kg bw/day	Consumers	Systemic
DNEL	Oral (repeated dose)	0.65 mg/kg bw/day	Consumers	Systemic
DNEL	Dermal	13 mg/kg bw/day	Consumers	Systemic
DNEL	Oral	32 mg/kg bw/day	Consumers	Systemic
DNEL	Dermal	1.59 mg/cm2	Consumers	Local
DNEL	Dermal (repeated dose)	0.68 mg/cm2	Consumers	Local

AMINES, POLYETHYLENEPOLY-, TRIETHYLENETETRAMINE FRACTION

Type	Exposure	Value	Population	Effect
DNEL	Inhalation	5380 mg/m3	Workers	Systemic
DNEL	Dermal (repeated dose)	0.57 mg/kg bw/day	Workers	Systemic
DNEL	Inhalation (repeated dose)	1 mg/m3	Workers	Systemic
DNEL	Dermal (repeated dose)	0.028 mg/m3	Workers	Local
DNEL	Dermal	8 mg/kg bw/day	Consumers	Systemic
DNEL	Inhalation	1600 mg/m3	Consumers	Systemic
DNEL	Oral	20 mg/kg bw/day	Consumers	Systemic
DNEL	Dermal	1 mg/cm2	Consumers	Local
DNEL	Dermal	0.25 mg/kg bw/day	Consumers	Local
DNEL	Inhalation (repeated dose)	0.29 mg/m3	Consumers	Systemic
DNEL	Oral (repeated dose)	0.41 mg/kg bw/day	Consumers	Systemic
DNEL	Dermal (repeated dose)	0.43 mg/cm2	Consumers	Local
PNEC	Fresh water	190 ug/l	-	-
PNEC	Fresh water sediments	95.9 mg/kg	-	-
PNEC	Marine water	38 ug/l	-	-
PNEC	Marine sediments	19.2 mg/kg	-	-
PNEC	Soil (agricultural)	19.1 mg/kg	-	-
PNEC	Microorganisms in sewage treatment	4.25 mg/l	-	-

BENZYL ALCOHOL

Type	Exposure	Value	Population	Effect
DNEL	Dermal	9.5 mg/kg bw/day	Workers	Systemic
DNEL	Inhalation	90 mg/m3	Workers	Systemic
DNEL	Dermal	5.7 mg/kg bw/day	Consumers	Systemic

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SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin Hardener

Page: 7

DNEL	Inhalation	8.11 mg/m ³	Consumers	Systemic
DNEL	Oral	5 mg/kg bw/day	Consumers	Systemic
PNEC	Fresh water	1 mg/l	-	-
PNEC	Marine water	0.1 mg/l	-	-
PNEC	Microorganisms in sewage treatment	39 mg/l	-	-
PNEC	Fresh water sediments	5.27 mg/kg	-	-
PNEC	Marine sediments	0.527 mg/kg	-	-
PNEC	Soil (agricultural)	0.456 mg/kg	-	-

3,6,9-TRIAZAUNDECAMETHYLENEDIAMINE

Type	Exposure	Value	Population	Effect
PNEC	Fresh water	0.0068 mg/l	-	-
PNEC	Marine water	0.0068 mg/l	-	-
PNEC	Fresh water sediments	0.341 mg/kg	-	-
PNEC	Marine sediments	0.746 mg/kg	-	-
PNEC	Soil (agricultural)	0.274 mg/kg	-	-
PNEC	Microorganisms in sewage treatment	4.6 mg/l	-	-

AMINES, POLYETHYLENEPOLY-, TETRAETHYLENEPENTAMINE FRACTION

Type	Exposure	Value	Population	Effect
DNEL	Dermal	0.74 mg/kg bw/day	Workers	Systemic
DNEL	Inhalation	1.29 mg/m ³	Workers	Systemic
DNEL	Dermal	0.036 mg/cm ²	Workers	Local
DNEL	Dermal	0.32 mg/kg bw/day	Consumers	Systemic
DNEL	Inhalation	0.38 mg/m ³	Consumers	Systemic
DNEL	Oral	0.53 mg/kg bw/day	Consumers	Systemic
DNEL	Dermal	0.56 mg/cm ²	Consumers	Local
PNEC	Fresh water	0.0068 mg/l	-	-
PNEC	Marine water	0.0068 mg/l	-	-
PNEC	Fresh water sediments	0.341 mg/kg	-	-
PNEC	Marine sediments	0.746 mg/kg	-	-
PNEC	Soil (agricultural)	0.274 mg/kg	-	-
PNEC	Microorganisms in sewage treatment	4.6 mg/l	-	-

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area.

Respiratory protection: Self-contained breathing apparatus must be available in case of emergency.

Hand protection: Impermeable gloves.

Eye protection: Tightly fitting safety goggles. Ensure eye bath is to hand.

[cont...]

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin Hardener

Page: 8

Skin protection: Impermeable protective clothing.

Environmental: The floor of the storage room must be impermeable to prevent the escape of liquids.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: Yellow-orange

Odour: Characteristic odour

Evaporation rate: No data available.

Oxidising: No data available.

Solubility in water: No data available.

Viscosity: 40 mPa.s (25°C)

Boiling point/range°C: No data available.

Flammability limits %: lower: No data available.

Flash point°C: No data available.

Autoflammability°C: No data available.

Relative density: 0.99 - 1.04

VOC g/l: No data available.

Melting point/range°C: No data available.

upper: No data available.

Part.coeff. n-octanol/water: No data available.

Vapour pressure: No data available.

pH: No data available.

9.2. Other information

Other information: No data available.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions.
Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: Heat.

10.5. Incompatible materials

Materials to avoid: Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

[cont...]

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin Hardener

Page: 9

Section 11: Toxicological information

11.1. Information on toxicological effects

Toxicity values:

Route	Species	Test	Value	Units
DUST/MIST	RAT	4H LC50	1.34	mg/l

Hazardous ingredients:

M-PHENYLENEBIS(METHYLAMINE)

DERMAL	RBT	LD50	>3100	mg/kg
DUST/MIST	RAT	4H LC50	1.34	mg/l
ORAL	RAT	LD50	930	mg/kg

PENTAETHYLENEHEXAMINE

DERMAL	RBT	LD50	1465.4	mg/kg
ORL	RAT	LD50	1600	mg/kg

AMINES, POLYETHYLENEPOLY-, TRIETHYLENETETRAMINE FRACTION

DERMAL	RBT	LD50	1465	mg/kg
ORAL	RAT	LD50	1716	mg/kg

BENZYL ALCOHOL

DERMAL	RBT	LD50	1260	mg/kg
DUST/MIST	RAT	4H LC50	>4178	mg/kg
IVN	RAT	LD50	53	mg/kg
ORAL	RBT	LD50	1040	mg/kg
ORL	MUS	LD50	1040	mg/kg
ORL	RAT	LD50	1230	mg/kg

3,6,9-TRIAZAUNDECAMETHYLENEDIAMINE

IPR	RAT	LD50	205	mg/kg
IVN	MUS	LD50	320	mg/kg
ORL	RAT	LD50	3990	mg/kg

AMINES, POLYETHYLENEPOLY-, TETRAETHYLENEPENTAMINE FRACTION

ORAL	RAT	LD50	1716.2	mg/kg
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[cont...]

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin Hardener

Page: 10

Relevant hazards for substance:

Hazard	Route	Basis
Acute toxicity (ac. tox. 4)	INH ING	Hazardous: calculated
Skin corrosion/irritation	DRM	Hazardous: calculated
Serious eye damage/irritation	OPT	Hazardous: calculated
Respiratory/skin sensitisation	DRM	Hazardous: calculated

Symptoms / routes of exposure

Skin contact: Blistering may occur. Progressive ulceration will occur if treatment is not immediate.

Eye contact: Corneal burns may occur. May cause permanent damage.

Ingestion: Corrosive burns may appear around the lips. Blood may be vomited. There may be bleeding from the mouth or nose.

Inhalation: There may be shortness of breath with a burning sensation in the throat. Exposure may cause coughing or wheezing.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

Section 12: Ecological information

12.1. Toxicity

Hazardous ingredients:

M-PHENYLENEBIS(METHYLAMINE)

Daphnia magna	21D NOEC	4.7	mg/l
Daphnia magna	48H EC50	15.2	mg/l
GREEN ALGA (Selenastrum capricornutum)	72H EC50	20.3	mg/l
GREEN ALGA (Selenastrum capricornutum)	72H NOEC	10.5	mg/l
Oryzias latipes	96H LC50	87.6	mg/l

PENTAETHYLENEHEXAMINE

ALGAE	72H EC50	0.7	mg/l
BACTERIA	2H EC50	164	mg/l
DAPHNIA	48H EC50	17.5	mg/l
FISH	96H LC50	180	mg/l

AMINES, POLYETHYLENEPOLY-, TRIETHYLENETETRAMINE FRACTION

ALGAE	72H ErC50	20	mg/l
DAPHNIA	48H EC50	31.1	mg/l
FISH	96H LC50	330	mg/l

[cont...]

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin Hardener

Page: 11

Scenedesmus Subspicatus	48H EC50	3.7	mg/l
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BENZYL ALCOHOL

ALGAE	72H EgC50	770	mg/l
ALGAE	72H NOEC	310	mg/l
DAPHNIA	21D NOEC	51	mg/l
DAPHNIA	48H EC50	230	mg/l
FISH	96H LC50	460	mg/l

3,6,9-TRIAZAUNDECAMETHYLENEDIAMINE

ALGAE	72H ErC50	6.8	mg/l
DAPHNIA	48H EC50	24.1	mg/l
FISH	96H LC50	420	mg/l

AMINES, POLYETHYLENEPOLY-, TETRAETHYLENEPENTAMINE FRACTION

ALGAE	72H ErC50	6.8	mg/l
ALGAE	72H NOEC	0.5	mg/l
BACTERIA	EC10	46	mg/l
BACTERIA	EC50	97.3	mg/l
DAPHNIA	48H EC50	24.1	mg/l
FISH	96H LC50	420	mg/l

12.2. Persistence and degradability

Persistence and degradability: Biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: No bioaccumulation potential.

12.4. Mobility in soil

Mobility: Readily absorbed into soil.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Negligible ecotoxicity.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

Disposal of packaging: Arrange for collection by specialised disposal company.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

[cont...]

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin Hardener

Page: 12

Section 14: Transport information

14.1. UN number

UN number: UN2735

14.2. UN proper shipping name

Shipping name: AMINES, LIQUID, CORROSIVE, N.O.S.

(Contains: M-PHENYLENEBIS(METHYLAMINE); PENTAETHYLENEHEXAMINE;
PENTAETHYLENEHEXAMINE, PEHA; BENZYL ALCOHOL)

14.3. Transport hazard class(es)

Transport class: 8

14.4. Packing group

Packing group: II

14.5. Environmental hazards

Environmentally hazardous: Yes

Marine pollutant: No

14.6. Special precautions for user

Special precautions: No special precautions.

Tunnel code: E

Transport category: 2

Section 15: Regulatory information

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

Specific regulations: Not applicable.

15.2. Chemical Safety Assessment

Chemical safety assessment: A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and s.3: EUH071: Corrosive to the respiratory tract.

EUH208: Contains <name of sensitising substance>. May produce an allergic reaction.

H302: Harmful if swallowed.

H302+332: Harmful if swallowed or if inhaled.

H312: Harmful in contact with skin.

H314: Causes severe skin burns and eye damage.

[cont...]

SAFETY DATA SHEET

Vac Cast Epoxy Casting Resin Hardener

Page: 13

H317: May cause an allergic skin reaction.

H318: Causes serious eye damage.

H332: Harmful if inhaled.

H410: Very toxic to aquatic life with long lasting effects.

H411: Toxic to aquatic life with long lasting effects.

H412: Harmful to aquatic life with long lasting effects.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.