

SAFETY DATA SHEET

Polycraft FR4 Hardener

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Compilation date: 04/06/2015

Revision date: 25/08/2020

Revision No: 9

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

1.1. Product identifier

Product name: Polycraft FR4 Hardener

Product code: QL3546

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: MB Fibreglass
Unit 17 & 20 Abbey Business Park
Mill Road, Newtownabey
Co. Antrim
BT36 7EE
United Kingdom
Tel: 02890 861992
Email: sales@mbfg.co.uk

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1.4. Emergency telephone number

Emergency tel: 02890 861992
(office hours only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: Acute Tox. 4: H302+H312; Aquatic Chronic 1: H410; Repr. 2: H361fd; Skin Corr. 1B: H314; Skin Sens. 1: H317; STOT RE 1: H372

Most important adverse effects: Harmful if swallowed or in contact with skin Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of damaging fertility. Suspected of damaging the unborn child. Causes damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Label elements:

Hazard statements: H302+H312: Harmful if swallowed or in contact with skin
H314: Causes severe skin burns and eye damage.
H317: May cause an allergic skin reaction.
H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
H372: Causes damage to organs through prolonged or repeated exposure.
H410: Very toxic to aquatic life with long lasting effects.

Hazard pictograms: GHS05: Corrosion
GHS07: Exclamation mark
GHS08: Health hazard
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+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P302+P352: IF ON SKIN: Wash with plenty of water.
P362+P364: Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

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

Section 3: Composition/information on ingredients

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3.2. Mixtures

Hazardous ingredients:

3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE - REACH registered number(s): 01-2119514687-32

EINECS	CAS	PBT / WEL	CLP Classification	Percent
220-666-8	2855-13-2	-	Acute Tox. 4: H312; Acute Tox. 4: H302; Skin Corr. 1B: H314; Skin Sens. 1: H317; Aquatic Chronic 3: H412	25-50%

4-NONYLPHENOL, BRANCHED - REACH registered number(s): 01-2119510715-45

284-325-5	84852-15-3	-	Repr. 2: H361fd; Acute Tox. 4: H302; Skin Corr. 1B: H314; Aquatic Chronic 1: H410; Aquatic Acute 1: H400	25-50%
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PROPYLIDYNETRIMETHANOL, PROPOXYLATED, REACTION PRODUCTS WITH AMMONIA - REACH registered number(s): 01-2119556886-20

500-105-6	39423-51-3	-	Acute Tox. 4: H302+H312; Eye Dam. 1: H318; Aquatic Chronic 2: H411	1-25%
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NONYLPHENOL

246-672-0	25154-52-3	-	Repr. 2: H361fd; Acute Tox. 4: H302; Skin Corr. 1B: H314; Aquatic Chronic 1: H410; Aquatic Acute 1: H400	1-25%
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AMINOETHYLPIPERAZINE - REACH registered number(s): 01-2119471486-30

205-411-0	140-31-8	-	Acute Tox. 4: H302; Acute Tox. 3: H311; Skin Corr. 1B: H314; Eye Dam. 1: H318; Skin Sens. 1: H317; Repr. 2: H361; STOT RE 1: H372; Aquatic Chronic 3: H412	1-25%
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M-PHENYLENEBIS(METHYLAMINE) - REACH registered number(s): 01-2119480150-50

216-032-5	1477-55-0	-	Acute Tox. 4: H302+H332; Skin Corr. 1B: H314; Skin Sens. 1: H317; Aquatic Chronic 3: H412; -: EUH071	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.

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.

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.

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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.

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.

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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:

3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE

Type	Exposure	Value	Population	Effect
DNEL	Inhalation	0.073 mg/m ³	Workers	-
PNEC	Fresh water	0.06 mg/l	-	-
PNEC	Marine water	0.006 mg/l	-	-
PNEC	Fresh water sediments	5.784 mg/kg	-	-
PNEC	Marine sediments	0.578 mg/kg1.121 mg/	-	-

4-NONYLPHENOL, BRANCHED

Type	Exposure	Value	Population	Effect
DNEL	Dermal (short term)	15 mg/kg	Workers	Systemic
DNEL	Inhalation (short term)	1 mg/m ³	Workers	Systemic
DNEL	Dermal	7.5 mg/kg	Workers	Systemic
DNEL	Inhalation	0.5 mg/m ³	Workers	Systemic
DNEL	Dermal (short term)	7.6 mg/kg	Consumers	Systemic
DNEL	Inhalation (short term)	0.8 mg/m ³	Consumers	Systemic
DNEL	Oral (short term)	0.4 mg/m ³	Consumers	Systemic

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DNEL	Dermal	3.8 mg/kg	Consumers	Systemic
DNEL	Inhalation	0.4 mg/m ³	Consumers	Systemic
DNEL	Oral	0.08mg/kg	Consumers	Systemic
PNEC	Fresh water	0.000614 mg/l	-	-
PNEC	Marine water	0.000527 mg/l	-	-
PNEC	Microorganisms in sewage treatment	9.5 mg/l	-	-
PNEC	Fresh water sediments	4.62 mg/kg	-	-
PNEC	Marine sediments	1.23 mg/kg	-	-
PNEC	Soil (agricultural)	2.3 mg/kg	-	-

PROPYLIDYNETRIMETHANOL, PROPOXYLATED, REACTION PRODUCTS WITH AMMONIA

Type	Exposure	Value	Population	Effect
DNEL	Dermal	1.6 mg/kg bw/day	Workers	Systemic
DNEL	Inhalation	14.1 mg/m ³	Workers	Systemic
PNEC	Fresh water	0.004 mg/l	-	-
PNEC	Marine water	0 mg/l	-	-
PNEC	Fresh water sediments	0.016 mg/l	-	-
PNEC	Marine sediments	0.002 mg/l	-	-
PNEC	Soil (agricultural)	0.001 mg/kg	-	-
PNEC	Microorganisms in sewage treatment	10 mg/l	-	-

AMINOETHYLPIPERAZINE

Type	Exposure	Value	Population	Effect
DNEL	Inhalation	10.6 mg/m ³	Workers	Systemic
DNEL	Inhalation	5.3 mg/m ³	Consumers	Systemic
PNEC	Fresh water	0.058 mg/l	-	-
PNEC	Marine water	0.0058 mg/l	-	-
PNEC	Fresh water sediments	215 mg/kg	-	-
PNEC	Marine sediments	21.5 mg/kg	-	-
PNEC	Soil (agricultural)	42.9 mg/kg	-	-
PNEC	Microorganisms in sewage treatment	250 mg/l	-	-

M-PHENYLENEBIS(METHYLAMINE)

Type	Exposure	Value	Population	Effect
DNEL	Inhalation	1.2mg/m ³	Workers	Chronic - Systemic effects
DNEL	Inhalation	0.2mg/m ³	Workers	Chronic - Local effects

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DNEL	Dermal	0.33mg/kg bw/day	Workers	Chronic - Systemic effects
PNEC	Fresh water	0.094 mg/l	-	-
PNEC	Marine water	0.009mg/l	-	-
PNEC	water	0.152mg/l	-	-
PNEC	Microorganisms in sewage treatment	10mg/l	-	-
PNEC	Fresh water sediments	0.43mg/kg	-	-
PNEC	Marine sediments	0.043mg/kg	-	-
PNEC	Soil (agricultural)	0.045mg/kg	-	-

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.

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: Pale yellow

Odour: Characteristic odour

Evaporation rate: No data available.

Oxidising: No data available.

Solubility in water: No data available.

Viscosity: 150 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: 0.94 - 0.99

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

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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.

Section 11: Toxicological information

11.1. Information on toxicological effects

Hazardous ingredients:

3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE

DERMAL	RAT	LD50	> 2000	mg/kg
DERMAL	RBT	LD50	1840	mg/kg
DUST/MIST	RAT	4H LC50	> 5.01	mg/l
ORAL	RAT	LD50	1030	mg/kg

4-NONYLPHENOL, BRANCHED

ORL	RAT	LD50	> 2000	mg/kg
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PROPYLIDYNETRIMETHANOL, PROPOXYLATED, REACTION PRODUCTS WITH AMMONIA

DERMAL	RAT	LD50	>1000	mg/kg
ORAL	RAT	LD50	550	mg/kg

NONYLPHENOL

ORL	MUS	LD50	1231	mg/kg
ORL	RAT	LD50	580	mg/kg

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AMINOETHYLPIPERAZINE

DERMAL	RBT	LD50	866	mg/kg
ORAL	RAT	LD50	2140	mg/kg
ORAL	RBT	LD50	2097	mg/kg

M-PHENYLENEBIS(METHYLAMINE)

DERMAL	RAT	LD50	>3100	mg/kg
DUST/MIST	RAT	4H LC50	1.34	mg/l
ORAL	MUS	LD50	1180	mg/kg

Relevant hazards for product:

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

3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE

BACTERIA	15H EC10	1120	mg/l
Daphnia magna	48H EC50	23	mg/l
FISH	96H LC50	110	mg/l
Scenedesmus Subspicatus	72H ErC50	> 50	mg/l

[cont...]

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4-NONYLPHENOL, BRANCHED

ALGAE	72H EC50	0.01 - 0.1	mg/l
Daphnia magna	48H EC50	0.01 - 0.1	mg/l
FISH	96H LC50	0.1 - 1	mg/l

PROPYLIDYNETRIMETHANOL, PROPOXYLATED, REACTION PRODUCTS WITH AMMONIA

Daphnia magna	48H EC50	13	mg/l
GREEN ALGA (<i>Selenastrum capricornutum</i>)	72H ErC50	4.4	mg/l
RAINBOW TROUT (<i>Oncorhynchus mykiss</i>)	96H LC50	>100	mg/l

AMINOETHYLPIPERAZINE

Daphnia magna	48H EC50	58	mg/l
FISH	96H LC50	2190	mg/l
GREEN ALGA (<i>Selenastrum capricornutum</i>)	72H EC50	> 1000	mg/l

M-PHENYLENEBIS(METHYLAMINE)

ALGAE	72H EC50	20.3	mg/l
ALGAE	72H NOEC	10.5	mg/l
ALGAE (<i>pseudokirchneriella subcapitata</i>)	72H ErC50	33.3	mg/l
Daphnia magna	21D LC50	6.77	mg/l
Daphnia magna	21D NOEC	4.7	mg/l
Daphnia magna	24H EC0	16	mg/l
Daphnia magna	24H EC50	35.1	mg/l
Daphnia magna	48H EC0	8.9	mg/l
Daphnia magna	48H EC50	15.2	mg/l
Oryzias latipes	96H LC50	87.6	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.

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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: UN2735

14.2. UN proper shipping name

Shipping name: POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(Contains: Nonylphenol; 3-Aminomethyl-3,5,5-trimethylcyclohexylamine;
Trimethylolpropane poly(oxypropylene) triamine; 2-Piperazin-1-ylethylamine; m-Phenylenebis (methylamine))

14.3. Transport hazard class(es)

Transport class: 8

14.4. Packing group

Packing group: III

14.5. Environmental hazards

Environmentally hazardous: Yes

Marine pollutant: Yes

14.6. Special precautions for user

Special precautions: No special precautions.

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.

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

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Other information

Other information: according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

* 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.

H302: Harmful if swallowed.

H302+H312: Harmful if swallowed or in contact with skin

H302+H332: Harmful if swallowed or if inhaled

H311: Toxic in contact with skin.

H312: Harmful in contact with skin.

H314: Causes severe skin burns and eye damage.

H317: May cause an allergic skin reaction.

H318: Causes serious eye damage.

H361: Suspected of damaging fertility or the unborn child.

H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.

H372: Causes damage to organs through prolonged or repeated exposure ([inhalation (vapour)]).

H372: Causes damage to organs through prolonged or repeated exposure.

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.