



SAFETY DATA SHEET

FIRWOOD 85 TWO PACK EPOXY HIGH BUILD MIO CURING AGENT

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

1.1. Product identifier

Product name	FIRWOOD 85 TWO PACK EPOXY HIGH BUILD MIO CURING AGENT
Product number	85C
Container size	1 litre container

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

1.3. Details of the supplier of the safety data sheet

Supplier	Firwood Paints Ltd. Oakenbottom Road Bolton BL2 6DP T: +44 (0)1204 525231 F: +44(0)1204 362522
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Contact person	e-mail: sales@firwood.co.uk
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1.4. Emergency telephone number

Emergency telephone	+44 (0) 1204 525231 (08.00-17.00)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards	Flam. Liq. 3 - H226
Health hazards	Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Elicitation - EUH208 STOT SE 3 - H335, H336 STOT SE 3 - H335, H336
Environmental hazards	Not Classified

Classification (67/548/EEC or 1999/45/EC) Xn; R20/21/22. Xi; R41, R37/38. R10, R67

Environmental The product is not expected to be hazardous to the environment.

Physicochemical Heating may generate flammable vapours. Vapours may form explosive mixtures with air.

2.2. Label elements

Pictogram



Signal word

Danger

FIRWOOD 85 TWO PACK EPOXY HIGH BUILD MIO CURING AGENT

Hazard statements	<p>EUH208 Contains TRIETHYLENETETRAMINE. May produce an allergic reaction.</p> <p>H226 Flammable liquid and vapour.</p> <p>H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.</p> <p>H315 Causes skin irritation.</p> <p>H318 Causes serious eye damage.</p> <p>H335 May cause respiratory irritation.</p> <p>H336 May cause drowsiness or dizziness.</p>
Precautionary statements	<p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P332+P313 If skin irritation occurs: Get medical advice/attention.</p> <p>P501 Dispose of contents/container in accordance with national regulations.</p>
Contains	BUTANOL-norm, XYLENE
Supplementary precautionary statements	<p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P240 Ground/bond container and receiving equipment.</p> <p>P241 Use explosion-proof electrical equipment.</p> <p>P242 Use only non-sparking tools.</p> <p>P243 Take precautionary measures against static discharge.</p> <p>P261 Avoid breathing vapour/spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P270 Do not eat, drink or smoke when using this product.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</p> <p>P312 Call a POISON CENTER/doctor if you feel unwell.</p> <p>P321 Specific treatment (see medical advice on this label).</p> <p>P330 Rinse mouth.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P403+P235 Store in a well-ventilated place. Keep cool.</p> <p>P405 Store locked up.</p>

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

BUTANOL-norm	10-30%
CAS number: 71-36-3	EC number: 200-751-6
Classification	Classification (67/548/EEC or 1999/45/EC)
Flam. Liq. 3 - H226	R10 Xn;R22 Xi;R37/38,R41 R67
Acute Tox. 4 - H302	
Skin Irrit. 2 - H315	
Eye Dam. 1 - H318	
STOT SE 3 - H335, H336	
STOT SE 3 - H335, H336	

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XYLENE	10-30%
CAS number: 1330-20-7	EC number: 215-535-7
Classification	Classification (67/548/EEC or 1999/45/EC)
Flam. Liq. 3 - H226	R10 Xn;R20/21 Xi;R38
Acute Tox. 4 - H302	
Acute Tox. 4 - H312	
Acute Tox. 4 - H332	
Skin Irrit. 2 - H315	
Eye Irrit. 2 - H319	
STOT SE 3 - H335	
STOT RE 2 - H373	
Asp. Tox. 1 - H304	
STOT SE 3 - H335	

TRIETHYLENETETRAMINE	<1%
CAS number: 112-24-3	EC number: 203-950-6
Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 4 - H302	C;R34 Xn;R21 R43 R52/53
Acute Tox. 4 - H312	
Acute Tox. 4 - H332	
Skin Corr. 1B - H314	
Skin Sens. 1 - H317	
Aquatic Chronic 3 - H412	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Move affected person to fresh air at once. Get medical attention if any discomfort continues.
Inhalation	Move affected person to fresh air at once. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention.
Ingestion	Never give anything by mouth to an unconscious person. Do not induce vomiting. Do not induce vomiting. Rinse mouth thoroughly with water. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Get medical attention immediately. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.
Skin contact	Remove affected person from source of contamination. Rinse immediately with plenty of water. Get medical attention promptly if symptoms occur after washing.
Eye contact	Remove affected person from source of contamination. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

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

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with the following media: Carbon dioxide (CO₂). Foam. Water spray, fog or mist.

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5.2. Special hazards arising from the substance or mixture

Specific hazards The product is flammable. Heating may generate flammable vapours. Thermal decomposition or combustion products may include the following substances: Toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Do not touch or walk into spilled material. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Absorb in vermiculite, dry sand or earth and place into containers. Wash thoroughly after dealing with a spillage. Avoid the spillage or runoff entering drains, sewers or watercourses. Inform authorities if large amounts are involved.

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Provide adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly closed original container in a dry, cool and well-ventilated place. Keep only in the original container.

Storage class Flammable liquid storage.

7.3. Specific end use(s)

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

BUTANOL-norm

Long-term exposure limit (8-hour TWA): WEL

Short-term exposure limit (15-minute): WEL 50 ppm(Sk) 154 mg/m3(Sk)

XYLENE

Long-term exposure limit (8-hour TWA): WEL 50 ppm(Sk) 220 mg/m3(Sk)

Short-term exposure limit (15-minute): WEL 100 ppm(Sk) 441 mg/m3(Sk)

WEL = Workplace Exposure Limit

Ingredient comments WEL = Workplace Exposure Limits

BUTANOL-norm (CAS: 71-36-3)

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DNEL Workers - Inhalation; Long term local effects: 310 mg/m³
 Consumer - Oral; Long term systemic effects: 3.125 mg/kg/day
 Consumer - Inhalation; Long term local effects: 55 mg/m³

PNEC

- Fresh water; 0.082 mg/l
- Marine water; 0.0082 mg/l
- Intermittent release; 2.25 mg/l
- STP; 2476 mg/l
- Sediment (Freshwater); 0.178 mg/kg
- Sediment (Marinewater); 0.0178 mg/kg
- Soil; 0.015 mg/kg

XYLENE (CAS: 1330-20-7)

DNEL Industry - Inhalation; Short term : 442 mg/m³
 Industry - Inhalation; Long term local effects: 221 mg/kg/day
 Industry - Dermal; Long term : 3182 mg/kg/day
 Consumer - Inhalation; Short term : 260 mg/m³
 Consumer - Inhalation; Long term : 65.3 mg/m³
 Consumer - Dermal; : 1872 mg/kg/day
 Consumer - Oral; Long term : 12.5 mg/kg/day

PNEC

- Fresh water; 0.327 mg/l
- Marine water; 0.327 mg/l
- Sediment (Freshwater); 12.46 mg/kg
- Sediment (Marinewater); 12.46 mg/kg
- Soil; 2.31 mg/kg
- STP; 6.58 mg/l

TRIETHYLENETETRAMINE (CAS: 112-24-3)

DNEL Industry - Inhalation; Short term systemic effects: 5380 mg/m³, mg/m³
 Industry - Dermal; Long term systemic effects: 0.57 mg/kg/day
 Industry - Inhalation; Long term systemic effects: 1 mg/m³
 Consumer - Dermal; Short term systemic effects: 8 mg/kg/day
 Consumer - Inhalation; Short term systemic effects: 20 mg/kg/day
 Industry - Dermal; Long term local effects: 0.0028 mg/m³
 Consumer - Oral; Short term systemic effects: 20 mg/kg/day
 Consumer - Dermal; Short term local effects: 0.1 mg/m³
 Consumer - Dermal; Long term systemic effects: 0.25 mg/kg/day

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation.

Eye/face protection

The following protection should be worn: Chemical splash goggles.

Hand protection

Use protective gloves.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Provide eyewash station.

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Hygiene measures DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly with soap and water if skin becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

Respiratory protection If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Organic vapour filter.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Odour	Characteristic.
Initial boiling point and range	116 - 143 @°C @ 760 mm Hg
Flash point	25°C CC (Closed cup).
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 0.8
Vapour density	>1
Relative density	0.86 - 0.95 @ @ 20°C
Solubility(ies)	Immiscible with water
Viscosity	100 - 150 cP @ 25°C

9.2. Other information

Volatility	54
Volatile organic compound	This product contains a maximum VOC content of <450 g/litre.

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability

Stability Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Conditions to avoid Avoid contact with the following materials: Acids. Oxidising agents.

10.5. Incompatible materials

10.6. Hazardous decomposition products

Hazardous decomposition products Heating may generate the following products: Vapours/gases/fumes of: Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg) 1,746.41983933

Acute toxicity - dermal

ATE dermal (mg/kg) 1,258.04695946

Acute toxicity - inhalation

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ATE inhalation (gases ppm) 20,136.12017237

ATE inhalation (vapours mg/l) 15.41263836

Inhalation May cause respiratory system irritation.

Ingestion Harmful if swallowed.

Skin contact Irritating to skin. May cause sensitisation by skin contact.

Eye contact Risk of serious damage to eyes.

Route of entry Inhalation Ingestion. Skin and/or eye contact.

Toxicological information on ingredients.

XYLENE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

Species Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 1,700.0

Species Rabbit

ATE dermal (mg/kg) 1,700.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ gases ppmV) 5,000.0

Species Rat

ATE inhalation (gases ppm) 5,000.0

TRIETHYLENETETRAMINE

Acute toxicity - oral

ATE oral (mg/kg) 500.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 11.0

SECTION 12: Ecological Information

Ecotoxicity Not regarded as dangerous for the environment.

12.1. Toxicity

Ecological information on ingredients.

FIRWOOD 85 TWO PACK EPOXY HIGH BUILD MIO CURING AGENT

BUTANOL-norm

Acute toxicity - fish	LC ₅₀ , 96 hours: 1000 mg/l, Fish LC ₅₀ , 96 hours: 1740 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 1983 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: >500 mg/l, Algae

XYLENE

Acute toxicity - fish	LC ₅₀ , 96 hours: 4.2 mg/l, Onchorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: >2.93 mg/l, Daphnia magna
Chronic toxicity - fish early life stage	NOEC, hours: mg/l, Fish
Chronic toxicity - aquatic invertebrates	NOEC, 96 hours: 3.3 mg/l, Daphnia magna

12.2. Persistence and degradability

Ecological information on ingredients.

XYLENE

Persistence and degradability	The product is biodegradable.
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12.3. Bioaccumulative potential

Ecological information on ingredients.

XYLENE

Bioaccumulative potential	The product contains potentially bioaccumulating substances.
Partition coefficient	:

12.4. Mobility in soil

Ecological information on ingredients.

XYLENE

Mobility	The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.
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12.5. Results of PBT and vPvB assessment

Ecological information on ingredients.

XYLENE

Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB.
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12.6. Other adverse effects

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 1263

UN No. (IMDG) 1263

UN No. (ICAO) 1263

14.2. UN proper shipping name

Proper shipping name (ADR/RID) PAINT RELATED MATERIAL

Proper shipping name (IMDG) PAINT RELATED MATERIAL

Proper shipping name (ICAO) PAINT RELATED MATERIAL

Proper shipping name (ADN) PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR/RID class 3

ADR/RID subsidiary risk

ADR/RID label 3

IMDG class 3

IMDG subsidiary risk

ICAO class/division 3

ICAO subsidiary risk

Transport labels



14.4. Packing group

ADR/RID packing group III

IMDG packing group III

ICAO packing group III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS F-E, S-E

FIRWOOD 85 TWO PACK EPOXY HIGH BUILD MIO CURING AGENT

Emergency Action Code 3YE

Hazard Identification Number 30
(ADR/RID)

Tunnel restriction code (D/E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

SECTION 15: Regulatory information

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

National regulations	The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716). Control of Substances Hazardous to Health Regulations 2002 (as amended)
EU legislation	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) (as amended).
Guidance	Approved Classification and Labelling Guide (Sixth edition) L131.

15.2. Chemical safety assessment

SECTION 16: Other information

Issued by	HS&E Manager.
Revision date	09/12/2014
Revision	6
Supersedes date	25/02/2010
SDS number	10186
SDS status	Approved.
Risk phrases in full	R10 Flammable. R20/21 Harmful by inhalation and in contact with skin. R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R21 Harmful in contact with skin. R22 Harmful if swallowed. R34 Causes burns. R37/38 Irritating to respiratory system and skin. R38 Irritating to skin. R41 Risk of serious damage to eyes. R43 May cause sensitisation by skin contact. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R67 Vapours may cause drowsiness and dizziness.

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Hazard statements in full	<p>EUH208 Contains TRIETHYLENETETRAMINE. May produce an allergic reaction.</p> <p>H226 Flammable liquid and vapour.</p> <p>H302 Harmful if swallowed.</p> <p>H304 May be fatal if swallowed and enters airways.</p> <p>H312 Harmful in contact with skin.</p> <p>H314 Causes severe skin burns and eye damage.</p> <p>H315 Causes skin irritation.</p> <p>H318 Causes serious eye damage.</p> <p>H319 Causes serious eye irritation.</p> <p>H332 Harmful if inhaled.</p> <p>H335 May cause respiratory irritation.</p> <p>H336 May cause drowsiness or dizziness.</p> <p>H373 May cause damage to organs (Respiratory system, lungs) through prolonged or repeated exposure.</p> <p>H412 Harmful to aquatic life with long lasting effects.</p>
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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 process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.