

UNIVERSAL SEALANTS (UK) LIMITED

NUFINS DIVISION

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1. Product Identification

Trade Name: FORMFIL

Description: Formwork polyester resin repair paste.

2. Composition / Information on Ingredients

Ingredient	CAS Number	Conc. (w/w)	Classification	R. Phrases
BASE COMPONENT				
Styrene	100-42-5	10-20%	F,Xn	10,20,36/38
Limestone	1317-65-3	10-20%	None	None
Talc	14807-96-6	40-50%	None	None
HARDENER COMPONENT				
Dibenzoyl Peroxide	94-36-0	50%	E,Xi	2,36,43
Diisobutyl Phthalate	84-69-5	25%	None	None

3. Hazard Identification

Base: Base resin is flammable, harmful by inhalation and irritating to eyes and skin. Strongly exothermic polymerisation may be initiated by heat, peroxides or other free radical generators.

Hardener: The hardener is an oxidising substance, may cause fire. Irritating to the eyes and may also cause sensitisation by skin contact.

4. First Aid Measures

Inhalation: In case of drowsiness or sickness remove to fresh air, keep patient warm and at rest. If unconscious, turn to the recovery position. Seek medical assistance.

Skin Contact: Promptly remove contaminated clothing and wash the affected area with plenty of soap and water to ensure all traces of product are removed, then rinse thoroughly. Any contaminated clothing must be thoroughly cleaned before re-using. Seek medical advice if irritation persists.

Eye Contact: Flush with copious amounts of clean water for at least 15 minutes, with the eye lids held open. Seek medical attention.

Ingestion: Wash out mouth with water. Keep patient at rest and obtain medical attention. DO NOT INDUCE VOMITING.

5. Fire Fighting Measures

Suitable Extinguisher Media: Alcohol-resistant foam, dry powder, carbon dioxide or sand.

Unsuitable Extinguishing Media: Water, halons.

Exposure Hazards: May give off toxic fumes if heated or involved in a fire, including carbon monoxide, carbon dioxide, benzoic acid, benzene and phenyl benzoate.

Special Protective Equipment: Full face, positive pressure, self-contained breathing apparatus and full protective clothing.

6. Accidental Release Measures

Personal Precautions: Wear protective equipment as specified in Section 8. Do not eat, drink or smoke. Avoid contact with skin and eyes. Avoid breathing vapours and dust. Eliminate all ignition sources.

Environmental Precautions: Eliminate all ignition sources. Keep people and animals away. Prevent entry into drains, sewers and watercourses. If spillage enters drains leading to sewerage works inform the local water company. If spillage enters rivers or watercourses inform the Environment Agency.

Spillages: Cordon off area. Absorb/contain spillage using inert absorbent granules, sand or earth. Transfer collected material to heavy-duty plastic/steel drums and keep in a well ventilated place for subsequent safe disposal. See Section 13.

7. Handling and Storage

Handling: No specific precautions required when handling unopened containers; follow any relevant manual handling guidance. Refer to Sections 6 and 8 if exposure to product is possible. Take precautionary measures against static discharges. Wash thoroughly with soap and water before eating, drinking or smoking, and after work

Storage: Store in original containers in a well ventilated area away from heat, sunlight, ignition sources or open flame. Keep away from reducing agents (eg amines), acids, alkalis and heavy metal compounds (eg accelerators, driers, metal soaps).

8. Exposure Controls / Personal Protection

Occupational Exposure Standards: Styrene - 8 hour TWA 100ppm, 15 min STEL 250ppm MEL.
This exposure limit must not be exceeded at any time during the exposure period.
Talc - 8 hour TWA 1mg/m³ (respirable) OES.
General Dust - 8 hour TWA 10mg/m³ (total inhalable), 4mg/m³ (respirable) OES.
While the base component contains talc and general dusts, which have an Occupational Exposure Standards assigned to them, these materials are not present in powder form and therefore do not present an inhalation hazard.
Dibenzoyl Peroxide - 8 hour TWA 5mg/m³ OES.
Diisobutyl Phthalate - 8 hour TWA 5mg/m³ OES.

While the hardener component contains dibenzoyl peroxide and diisobutyl phthalate, it is very unlikely that these Occupational Exposure Standards would be exceeded under foreseeable conditions of use.

- Engineering Control Measures:** Refer to any applicable COSHH assessments. Engineering controls should be used where practicable in preference to personal protection and may include physical containment and good ventilation.
- Respiratory Protection:** If levels of styrene exceed the above limits, or in the unlikely event that the limits for dibenzoyl peroxide or diisobutyl phthalate are exceeded, use an approved respirator fitted with an appropriate gas cartridge (organic substance). All items must conform to EN149 and should be suitable for the levels of contamination present in the workplace.
- Hand Protection:** Wear Neoprene, Nitrile or PVC gloves or gauntlets. These must be manufactured to EN374. The material breakthrough time should be stated by the glove manufacturer, and must be observed at all times.
- Eye Protection:** If eye contact with the product is likely chemical resistant goggles conforming to BS 2092 should be worn.
- Body Protection:** Wear suitable impervious, chemical resistant overalls.
- Foot Protection:** Wear chemical resistant safety footwear.
- Hygiene Measures:** Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Appearance:	Base Off-white paste	Boiling Point:	Base Hardener	>=145°C Decomposes
	Hardener White paste			
Odour: (Base) (Hardener)	Styrene Faint	Vapour Pressure @ 20°C:	Base Hardener	6.52mb N/A
pH: (Base) (Hardener)	N/A Weak Acid	Evaporation Rate (Butyl Acetate = 1):		N/D
Flash Point: (Base) (Hardener)	>31°C >SADT value	Flammable Limits in Air:	Upper: Lower:	6.1% 1.1%
Solubility: (Base) (Hardener)	Immiscible in water Insoluble in water	Autoignition Temperature:	(Base)	490°C
Flammability: (Base) (Hardener)	Flammable N/D	SADT: (Hardener)		50°C
		Peroxide Content: (Hardener)		49-51%
Specific Gravity:	1.74 (Mixed)	Active Oxygen Content: (Hardener)		3.24-3.37%

10. Stability and Reactivity

Stability: Base: Stable under normal conditions (see Section 7).
Hardener: A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by direct contact with incompatible substances or by thermal decomposition at and above the SADT of 50°C.

Materials to Avoid: Base: Strong oxidising agents.
Hardener: Acids, alkali, heavy metals and reducing agents. Avoid contact with rust, iron and copper. Do not mix with peroxide accelerators. Do not mix with reducing agents. Avoid temperatures above 25°C. Avoid shock and friction.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, benzoic acid, benzene and phenyl benzoate.

11. Toxicological Information

There is no data available on the product itself.
The following data applies to the Base material.

Acute Toxicity:

Inhalation: Harmful.
Eye Contact: Irritating to the eyes.
Skin Contact: Irritating to the skin.
Ingestion: May result in irritation to the gastro intestinal tract.

The following data applies to the Benzoyl peroxide component of the Hardener material.

Acute Toxicity:

Eye Contact: Moderately irritating.
Skin Contact: Non-irritating.
Ingestion: Oral LD50 (rat) >5000 mg/kg
Genotoxicity: Ames test: not mutagenic.

12. Ecological Information

There is no data available on the product itself.
The following data applies to un-mixed material only, as once the base and hardener are combined the harmful constituents will react to form an inert product.
Both styrene and dibenzoyl peroxide are readily biodegradable.

Dibenzoyl peroxide (78%)

Ecotoxicity: Fish: Acute toxicity, 96h-LC50 = 2.0 mg/ltr (Poecilia reticulata)
Bacteria: Activated sludge respiration inhibition test EC50 = 35 mg/ltr.

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Hazardous for water. Do not allow the product to reach ground water, water bodies or sewage systems. Must not reach sewage water or drainage ditch undiluted or unneutralised.

13. Disposal Considerations

Un-reacted materials: Dispose of used containers and un-reacted product as hazardous waste, in accordance with all applicable local and national regulations, and in compliance with the Environmental Protection (Duty of Care) Regulations 1991.

14. Transport Information

Base:

UN Number:	1866	Packaging Group:	III
ROAD		AIR	
ADR Class:	Limited quantity	Air Transport Number:	3
ADR Hazard No:	in compliance with chapter 3.4 LQ7 less than 5 litres per inner package	Packaging Instruction:	310

SEA

IMDG Class: 3.3
IMDG Page Number: 3379
Marine Pollutant: No

Proper Shipping Name: Resin solution, flammable.

Hardener:

UN Number:	3108	Packaging Group:	II
ROAD		AIR	
ADR Class:	Limited quantity	Air Transport Number:	5.2
ADR Hazard No:	in compliance with chapter 3.4 LQ11 less than 500gms per inner package	Packaging Instruction:	513

SEA

IMDG Class: 5.2
IMDG Page Number: 5228
Marine Pollutant: No

Proper Shipping Name: Organic Peroxide Type E, solid (Dibenzoyl Peroxide).

15. Regulatory Information

EU Classification and Labelling Particulars:

Base:

Designated Name: FORMFIL - BASE

Classification: Flammable & Harmful

Indication(s) of Danger: F & Xn

Contains: Styrene

Risk and Safety Phrases:

R10: Flammable.
R20: Harmful by inhalation.

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R36/38: Irritating to eyes and skin.
S23: Do not breathe vapours.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

Hardener:

Designated Name: FORMFIL - HARDENER

Classification: Oxidising & Irritant

Indication(s) of Danger: O & Xi

Contains: Dibenzoyl peroxide

Risk and Safety Phrases:

R7: May cause fire.
R36: Irritating to eyes.
R43: May cause sensitisation by skin contact.
S3/7: Keep container tightly closed in a cool place.

S14: Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps).
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S50: Do not mix with peroxide-accelerators or reducing agents.

UK Guidance Publications: EH40; Occupational Exposure Limits, HSE. Revised annually.
EH44; Dust in the Workplace: General Principles of Protection, HSE.
EH26; Occupational Skin Diseases - Health and Safety Precautions, HSE.
MDHS 14; Methods for the Determination of Respirable and Total Dusts, HSE.

UK Legislation: Health and Safety at Work, etc Act, 1974, and relevant Statutory Provisions.
Control of Substances Hazardous to Health Regulations, 1999.
The Manual Handling Operations Regulations, 1992.
The Personal Protective Equipment at Work Regulations, 1992.
Chemicals (Hazard Information and Packaging for Supply) Regulations, 2002 - CHIP 3.

16. Other Information

Full Text of R-Phrases Referred to above:

R2: Risk of explosion by shock, friction, fire or other sources of ignition.
R10: Flammable.
R20: Harmful by inhalation.
R36: Irritating to eyes.
R38: Irritating to skin.

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R43: May cause sensitisation by skin contact.

Training Advice: Do not use unless trained to do so. Refer to the Technical Data Sheet for the product.

Recommended Uses: For professional use only. This product is designed for use for the rectification of surface defects on timber and metal formwork, and for small defects in concrete surfaces.

Further Information: This Safety Data Sheet was compiled in accordance with EU Directives 67/548/EEC and 1999/45/EC. Reference was also made to the above legislation and guidance publications.

MSDS First Issued: 2nd November 1989

MSDS Revised: 18th November 2005

Changes in this Version: Section 14 transport reclassification.

Prepared By: F. Stratton

Disclaimer: The information in this document is offered for general health and safety guidance only and is not intended to be a definitive source of advice, nor does it constitute a risk assessment, for which the user is responsible. All information provided in this document is believed to be accurate to the best of our knowledge. Users of the products referred to should observe the recommendations, conditions and instructions relating to any relevant product label, usage information, consent or approval in force at the time. Further and more specific information may be obtained from the supplier on request.