

MATERIAL SAFETY DATA SHEET

EPOXY SEALER - PACK A

1. Identification of the substance/preparation and company.

Product Name : Epoxy Products Epoxy Sealer - Pack A
Product Type : Epoxy Resin
Application : Epoxy Resin Floor Sealer.
Supplier : Telephone Number: (01202) 891899
Epoxy Products Limited, 7 Ferndown Industrial Estate, Wimborne, Dorset. BH21 7RZ England

2. Hazards Identification

Main Hazards Irritant
Dangerous for the environment.
Human Health Hazards Irritating to eyes and skin. May cause sensitisation by skin contact
Safety Hazards Not classified as flammable but will burn
Environmental Hazards Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

3. Composition/Information on Ingredients

Chemical Nature Mixture of epoxy resin liquids

Preparation - Hazardous Ingredients (Europe)

Component	CAS/EINECS	Concentration %	Classification	Risk Phrases
Epoxy Resin Bisphenol Type A (Mol. Wt.<700)	25068-38-6	60-70	Xi, N	R36/38, R43, R51/53
Epoxy Resin Bisphenol Type F (Mol. Wt.=<700)	28064-14-4	30-40	Xi, N	R36/38, R43, R51/53
Aliphatic glycidyl ether	68609-97-2	2.50 - 10.00	Xi, N	R38, R43, R51/53

4. first-aid Measures

Eye Contact Immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held apart during irrigation to ensure water contact with entire surface of eyes and lids. Seek immediate medical attention.

Skin Contact Wipe off as much as possible with a clean cloth. Wash skin with thoroughly with soap and water. Solvents should not be used to clean the skin because they may increase the penetration of the material.

Ingestion Wash out mouth with water. If accidentally swallowed, give large quantities of water or milk or dilute the effects on the stomach. Do not. Induce vomiting. Seek immediate medical attention.

Inhalation Remove from exposure to fresh air. In cases of possible respiratory irritation or if feeling unwell in cases of prolonged exposure, obtain medical attention.

5. Fire-fighting Measures

Extinguishing Media Use foam, water spray or carbon dioxide.
Extinguishing Media – Not suitable Do not use water jet.
Special Hazards of Product Combustion will produce smoke, carbon dioxide and carbon monoxide.
Protective Equipment for Fire-Fighting Wear full protective clothing and self-contained breathing apparatus.

6. Accidental Release Measures

Personal Precautions Avoid contact with skin, eyes and clothing
Environmental Precautions and Clean-up methods Try to prevent the material from entering the drains or water courses.
Spillages Contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal

7. Handling and Storage

Handling Avoid contact with eyes, skin and clothing
Storage Store in the original container securely closed.
Storage temperature Ambient

8. Exposure Controls/Personal Protection

Engineering Control Measures Use of the basic principles of Industrial Hygiene will enable this material to be used safely.
Respiratory Protection Not normally required. In confined areas a half mask respirator with organic vapour cartridge and particulate filter NPF 20 (gas only)
Hand Protection Butyl or nitrile type gloves or any impermeable gloves must be worn. The inside of the gloves must be kept clean
Eye Protection Safety eye glasses must be worn.
Skin and Body Protection Standard issue work clothes.

9. Physical and Chemical Properties

Physical State Liquid
Colour Various
Odour Slight
Ph ca. 7
Boiling Point >200° C
Flash Point >150° C
Auto Ignition Temperature >300° C
Vapour Pressure < 0,01 Pa at 20° C
Water Solubility Negligible
Density 1.80g/cm³ at 20° C
Viscosity Not applicable

10. Stability and Reactivity

Conditions to avoid	Caustic soda can induce vigorous polymerisation at temperatures around 200°C.
Materials to avoid	Strong oxidising agents. Caustic soda.
Hazardous Decomposition Products	Hazardous decomposition products are not expected to form during normal storage.
Hazardous Reactions	Stable under normal use conditions. Reacts with strong oxidising agents. Polymerises exothermically with amines, mercaptans at ambient temperatures. Polymerises in contact with caustic soda. Reacts exothermically with bases (eg. caustic soda), ammonia, primary and secondary amines, alcohols and acids.

11. Toxicological Information

Acute Oral Toxicity	Expected to be of low toxicity. LD50 > 2000 mg/kg
Acute Dermal Toxicity	Expected to be of low toxicity. LD50 > 2000 mg/kg
Eye Irritation	Expected to be slightly irritant.
Skin Irritation	Expected to be slightly irritant.
Sensitisation	Expected to be a skin sensitiser.
Carcinogenicity	Not expected to be carcinogenic.
Mutagenicity	Not considered to be a mutagenic hazard.

12. Ecological Information

<u>Persistence/Degradability</u>	
Biodegradable	This product is expected to be not readily biodegradable.
Bioaccumulation	Has the potential to bioaccumulate.
<u>Ecotoxicity Effects</u>	
Toxicity to fish	Expected to be very toxic. LC/EC/IC 50 > 1 mg/l
Toxicity to algae	Expected to be toxic 1. LC/EC/IC 50 > 10 mg/l
Acute toxicity to invertebrates	Expected to be toxic 1. LC/EC/IC 50 > 10 mg/l
Mobility	The product is insoluble in water and sinks in water.
Sewage treatment	Expected to be practically non toxic 1. LC/EC/IC 50 > 100 mg/l
Basis for assessment	Information given is based on knowledge of all the components and the toxicology of similar products

13. Disposal

Product Disposal	Recover and recycle if possible. Arrange for disposal via a licensed waste contractor.
Container Disposal	Dispose of containers with care. Empty packaging should be removed by a licensed waste contractor.
Local legislation	The recommendations given are considered appropriate for safe disposal. However, local regulations maybe more stringent and these must be complied with.

14. Transport Information

ADR / RID

UN Number	3082
Class	9
Classification Code	M6
Packaging Group	111
Labelling Number	9
Risk Number	90
Description of the goods contains	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S. EPOXY RESIN

ICAO / IATA-DGR

UN Number	3082
Class	9
Packaging Group	111
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S. EPOXY RESIN

IMDG

UN Number	3082
Class	9
Packaging Group	111
Labelling Number	9
Description of the goods contains	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S. EPOXY RESIN

15. Regulatory Information

Labelling according to EC Directives	EPOXY RESIN (NUMBER AVERAGE MOLECULAR WEIGHT < 700)
Classification	Irritant Dangerous for the environment

Symbol (s)



X - IRRITANT



N - DANGEROUS FOR THE ENVIRONMENT

Risk Phrases - R	R36/38 R43 R51/53	Irritating to eyes and skin May cause sensitisation by skin contact. Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment
Safety Phrases - S	S24 S26 S28A	Avoid contact with skin In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water.

S37/39	Wear suitable gloves and eye/face protection.
S46	If swallowed seek medical advice immediately and show this container or label.
S61	Avoid release to the environment. Refer to special instructions/safety data sheet.

Notification Status

TSCA	All components listed
AICS	All components listed
DSL	All components listed
IECSC	All components listed
EINECS	All components listed or polymer exempt
KECI (KR)	All components listed
PICCS (PH)	All components listed

16. Other Information

Date Issued	01.09.2008
Reference	ESA/03
Product Code	Epoxy Products Epoxy Sealer (Resin - Pack A)
Intended Use	Epoxy Resin floor Sealer.

The information is based on our current knowledge and is intended to describe the product for the purpose of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

MATERIAL SAFETY DATA SHEET

EPOXY SEALER - PACK B

1. Identification of the substance/preparation and company.

Product Name : Epoxy Products Epoxy Sealer (Hardener - Pack B)
 Product Type : Epoxy Resin Curing Agent
 Application : Concrete Floor Sealer
 Supplier: Emergency Telephone Number: (01202) 891899
 Epoxy Products Limited, Unit 7 Haviland Rd, Ferndown Industrial Estate, Wimborne, Dorset. BH21 7RZ

2. Hazards Identification

Classification: **Xn Harmful**
 R20/22 Harmful by inhalation and if swallowed
 R52/53 Harmful to aquatic organisms, may cause long term adverse effects in the aquatic environment.
 R41 Risk of serious damage to eyes.

Emergency Overview

Components of the product may effect the nervous system
 Severe eye irritant
 Mild skin irritant
 Risk of serious damage to eyes
 Harmful if swallowed
 Harmful in contact with skin

Potential Health Effects

Inhalation	May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure.
Eye Contact	Severe eye irritation
Skin Contact	If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Mild skin irritation. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Harmful in contact with skin.
Ingestion	Harmful if swallowed
Chronic Health Hazard	This product contains no listed carcinogens according to Directive 67/548/EEC, IARC, ACGIH and/or NTP in concentrations of 0.1% or greater.
Aggravated Medical Condition	Neurological disorders. Eye disease Skin disorders and allergies
Target Organs	Eyes Central nervous system

3. Composition/Information on Ingredients

Substance/Preparation	Preparation			
Components	ElINECS / ELINCS Number	CAS Number	Concentration	Classification
4,4'-Methylenebis (cyclohexylamine)	217-168-8	1761-71-3	<5%	C; N R53,R51,R35; R22
Benzyl Alcohol	202-859-9	100-51-6	>45%	Xn; R20/22
Methyleneoxide, polymer with Benzenamine, hydrogenated		135108=88-2	30% - 60%	C ; R34;R22
Chemical Family	Cycloaliphatic Amine			

4. first-aid Measures

General Advice	Seek medical advice. If breathing has stopped or is laboured, give assisted respirations. Supplemental oxygen maybe indicated. If the heart has stopped trained personnel should begin cardiopulmonary resuscitation immediately.
Eye Contact	Rinse immediately with plenty of water also under the eyelids for at least 20 minutes. Remove contact lenses.
Skin Contact	Wash off immediately with plenty of water for at least 20 minutes. Wash off with soap and water. Immediately remove contaminated clothing and any extraneous chemical, if possible to do so without delay.
Ingestion	Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victims head to the side.
Inhalation	Move to fresh air

5. Fire-fighting Measures

Suitable Extinguishing Media

Alcohol resistant foam.
 Carbon dioxide (CO2)
 Dry chemical
 Dry sand
 Limestone powder

Specific Hazards

Incomplete combustion may form carbon monoxide. May generate ammonia gas. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

Special protective equipment for fire fighters

Avoid contact with the skin. Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

6. Accidental Release Measures

Personal precautions	Wear suitable protective clothing, gloves and eye/face protection. Use self contained breathing apparatus and chemically protective clothing. Evacuate personnel to safe areas.
Environmental precautions	Construct a dike to prevent spreading
Methods of cleaning up	Approach suspected leak areas with caution. Place in appropriate chemical waste container.
Additional advice	If possible, stop flow of product.

7. Handling and Storage

Handling Emergency showers and eye wash stations should be readily available. Adhere to work practise rules established by government regulations. Avoid contact with eyes. Use personal protective equipment. When using, do not eat, drink or smoke

Storage Keep away from acids and alkalis. Keep containers tightly closed in a dry, cool place.

8. Exposure Controls/Personal Protection

Engineering measures

Provide readily accessible eye wash stations and safety showers

Provide ventilation to ensure concentrations are kept below exposure limits.

Personal Protective Equipment

Hand Protection : Butyl rubber, Nitrile rubber, Neoprene gloves, PVC disposable gloves or impervious gloves
Eye Protection : Chemically resistant eye goggles must be worn
Skin and body protection : Long sleeved overalls must be worn.
Environmental exposure controls : Construct a dike to prevent spreading
Special instructions for protection : Discard contaminated clothing. Provide readily accessible eye wash stations and safety showers. Wash at the end of the workshift and before eating, smoking or using the toilet.

9. Physical and Chemical Properties

Form : Liquid
Colour : Amber
Odour : Ammoniacal
pH : Alkaline
Boiling Point/Range : 222°C (432F)
Flash Point : 103°C (219F) (Closed Cup Method)
Flammability : Not applicable
Auto-ignition Temperature : No data
Explosive Limits : No data
Vapour Pressure : 0.70 mmHG @ 21°C (70°F)
Relative Density : 1.06
Water Solubility : Slightly

10. Stability and Reactivity

Stability

Stable under normal conditions

Materials To Avoid

Amines. Incompatible with bases. Reducing agents. Reactive metals (e.g. sodium, calcium, zinc etc.). Materials reactive with hydroxyl compounds.

Caution : N-Nitrosamines, many of which are known to be potent carcinogens, maybe formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Nitrous acid and other nitrosating agents. Organic acids (i.e. acetic acid, citric acid etc.) Mineral acids, sodium hypochlorite. Product slowly corrodes copper. Aluminium, zinc and galvanised surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.

HAZARDOUS DECOMPOSITION PRODUCTS

Ammonia. Nitric acid. Nitrogen oxides Carbon monoxide. Carbon dioxide. Aldehydes. Flammable hydrocarbon fragments. Nitrosamine. Organic vapours

11. Toxicological Information

Acute Health Hazard

Ingestion LD50 : 1,200mg/kg (species : rat)
Inhalation No data is available on the product itself.
Inhalation – Components
Benzyl alcohol LC50 (4 hours) : 4.178mg.IOECD Test Guideline 403 (species : rat)
Skin No data is available on the product itself.
Skin – Components
4,4'-Methylenebis (cyclohexylamine) LD50 : 2,110mg/kg (species : rabbit)
Benzyl Alcohol LD50 : 2,000mg/kg (species : rabbit)
Methyleneoxide, polymer with LD50 : 1,000mg/kg (species : rabbit)
Benzenamine, hydrogenated
Eye irritation/corrosion Severe eye irritation. Irritation based on estimates
Acute dermal irritation/corrosion Mild skin irritant to the skin of a rabbit.
Sensitization May cause sensitization of susceptible persons by skin contact

Chronic Health Hazard

In vitro tests have shown mutagenic effects on bacterial cultures. The product or a component maybe mutagenic, the data is inconclusive. A component has shown to cause reproductive/teratogenic effects in laboratory animals. Mixed polycycloaliphatic amines were tested in rats for systemic effects in a subchronic (28 day) oral study at doses ranging from 15 to 300 mg/kg/day. Effects seen at 300mg/kg/day included decreased survival, decreased body weight gain, increased liver, kidney and adrenal weights and historical changes in the liver, kidney, adrenals and spleen. The No –Observed-Adverse-Effect-Level (NOAEL) was 15mg/kg/day.

Rats exposed orally to 800mg/kg benzyl alcohol for 13 weeks exhibited CNS depression and histopathological changes in the brain, thymus and skeletal muscles. The No –Observed-Adverse-Effect-Level (NOAEL) was 400mg/kg.

No evidence of carcinogenicity was seen in a two year study with rats and mice.

12. Ecological Information - Ecotoxicity effects

Aquatic toxicity No data is available on the product itself.

Toxicity to fish- Components

4,4'-Methylenebis (cyclohexylamine)	LC50 (96 Hours)	46 – 100mg/l	species : Golden Orfe (Leuciscus idus)
Benzyl Alcohol	LC50 (96 Hours)	10mg/l	species : Blue Gill Sunfish (Lepomis macrochirus)
Benzyl Alcohol	LC50 (96 Hours)	460mg/l	species : Fathead Minnow (Pimephales promelas)

Toxicity to daphnia- Components

4,4'-Methylenebis (cyclohexylamine)	EC50 (48 Hours)	6.84mg/l	species : Daphnia magna)
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Toxicity to algae- Components

4,4'-Methylenebis (cyclohexylamine)	EC50 (72 Hours)	140 -200mg/l	species : Algae
Benzyl Alcohol	IC50 (72 Hours)	700mg/l	species : Algae

Persistence and Degradability

Mobility	No data available
Bioaccumulation	No data is available on the product itself.
Bioaccumulation – Components	
Benzyl alcohol	Low bioaccumulation potential
Methyleneoxide, polymer with Benzenamine, hydrogenated	Does not bioaccumulate

13. Disposal Considerations

Dispose of in accordance with local and national regulations. For example, in the UK regulations made under the Control of Pollution Act 1974 and the Environmental Protection Act 1990. Wear protective clothing during disposal operations. If disposal is by a waste contractor, make sure that he has sufficient information and that waste containers are properly labelled.

14. Transport Information

ADR	:	Not dangerous goods
IATA	:	Not dangerous goods
IMDG	:	Not dangerous goods
RID	:	Not dangerous goods

15. Regulatory Information



HARMFUL DANGEROUS FOR THE ENVIRONMENT

Hazard Symbol	:	Xn. Harmful
Risk phrases	:	R20/22 Harmful by inhalation and if swallowed. R52/53 Harmful to aquatic organisms, may cause long term adverse effects in the aquatic environment R41 Risk of serious damage to eyes
Safety phrases	:	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. S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible) S60 This material and its container must be disposed of as hazardous waste

16. Other Information

Date Issued	:	06.01.2010
Reference	:	SD/ ES/B/04
Intended Use	:	Epoxy Resin Curing Agent
Product Code	:	Epoxy Products Epoxy Sealer (Pack B - Hardener)

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