

SAFETY DATA SHEETS (SDS)

Enviro Epoxy B-LV Part B

Version: 6

Issued by: Envirosystems Technologies

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Hazard Identifiers



SECTION 1 – IDENTIFICATION OF MATERIAL & SUPPLIER

- 1.1 Product Name:** Enviro Epoxy B-LV Part B
Manufacturer's Product Code: N/A
- 1.2 Recommended Use:** Part B of a two component, solvent free epoxy resin binder
- 1.3 Company:** Envirosystems Technologies Pty Ltd
Address: 295 Princes Highway St Peters, NSW 2044.
Website: www.envirosystems.com.au
Telephone: +61 2 85958699 (business hours)
Fax: +61 2 85958660
- 1.4 Emergency Telephone:** Info Safe – 1800 638 556, Poisons Centre – 131126
- Other Information:** All information in this MSDS is to the best of our knowledge at time of publication. Users of this product should fully review this MSDS prior to use to ensure best safety practices. Further information and or clarification can be obtained by contacting our technical department on the above telephone number.

SECTION 2 – HAZARDS IDENTIFICATION

- 2.1 Hazard Classification:** Classified as **Hazardous** according to WHS Regulations, Australian GHS criteria and a **Dangerous Goods** according to the Australian Dangerous Goods Code.

Class	Category
Acute Toxicity Oral	4 oral
Acute Toxicity Dermal	4 dermal
Skin Corrosion/Irritation	1B
Serious eye damage/eye irritation	1
Skin Sensitization	1A
Hazardous to the aquatic environment- acute	3
Hazardous to the aquatic environment- chronic	3

- 2.2 Label Elements**



Signal word

DANGER

H-code	Hazard Statements
H312	Harmful in contact with skin
H302	Harmful if swallowed
H317	May cause allergic skin reaction
H314	Causes severe skin burns and eye damage
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects

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P-Code	Precautionary Statement - Prevention
P280	Wear protective gloves / protective clothing / eye protection / face protection
P260	Do not breath dust , mist or vapors
P273	Avoid release to the environment
P272	Contaminated work clothing should not be allowed out of the workplace.
P270	Do not eat drink or smoke when using this product
P264	Wash with plenty of water and soap thoroughly after handling
P-Code	Precautionary Statement - Prevention
P310	Immediately call a Poison Center or Doctor / Physician
P305, P351, P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P303, P361, P353	If on skin or hair: Take off immediately all contaminated clothing. Rinse skin with water / shower.
P304, P340	If inhaled: Remove person to fresh air and keep comfortable for breathing.
P301, P330, P331	If swallowed: Rinse mouth. Do not induce vomiting.
P361, P364	Take off immediately all contaminated clothing and wash before reuse.
P-Code	Precautionary Statement - Storage
P405	Store locked up
P-Code	Precautionary Statement - Disposal
P501	Dispose of contents / containers to hazardous or special waste collection point. In accordance with local regulation

2.3 Other Hazards

None known

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

See section below for Mixtures

3.2 Mixtures

CAS No.	Material	Content %
Not available	Modified Isophorone diamine	30-60%
100-51-6	Benzyl alcohol	30-60%
69-72-7	Salicylic acid	<10%

SECTION 4 – FIRST AID MEASURES

4.1 Description of first aid measures

General Advice:

Immediately remove contaminated clothing. If in danger of loss of consciousness, place patient in recovery position and transport accordingly. Apply artificial respiration if necessary. First aid personal should pay attention to the own safety.

Ingestion:

Do not induce vomiting. Wash mouth with water and seek medical attention immediately. Provide liquid slowly and as much as they can comfortably drink. Never give liquid to a person showing signs of being sleepy or with reduced awareness i.e. becoming unconscious.

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Inhalation:

Keep patient calm and remove to fresh air. If breathing is difficult give oxygen. Seek medical attention immediately. Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.

Eye Contact:

While holding eyes open, gently flood with plenty of fresh water for 15 minutes. Seek immediate medical attention. Skilled personnel should only undertake removal of contact lenses after an eye injury.

Skin Contact:

Flush contacted area thoroughly with soap and plenty of water, shower if available. Seek medical attention. Remove contaminated clothing including footwear.

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|--|--|
| 4.2 Most important symptoms and effects, both acute and delayed | Any relevant information can be found in other parts of this section and in sections 2 and 11. |
| 4.3 Advice for doctor | Treat symptomatically (decontamination, vital functions), no know specific antidote. Pulmonary odema prophyaxis. Medical monitoring for at least 24 hours. For ingestion milt or water are preferred diluents, no more than 2 glasses of water should be given to an adult and neutralizing agent should never be given as endothermic heat reaction my compound injury. |

SECTION 5 – FIRE FIGHTING MEASURES

- | | |
|--|---|
| 5.1 Extinguishing media | Suitable extinguishing media:
Water spray, dry chemical powder, foam, BCF (where regulations permit)

Unsuitable extinguishing media that may not be used for safety reasons:
None known

Hazchem code:
3X |
| 5.2 Special hazards arising from the substance or mixture | Oxides of carbon and other possibly toxic fumes from fire. Keep away from oxidizing agents, acids and alkalis as ignition may result. |
| 5.3 Advice for firefighters | Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Combustible. Slight fire hazard when exposed to heat or flame. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO). Combustion products include:, carbon dioxide (CO2), aldehydes, nitrogen oxides (NOx), other pyrolysis products typical of burning organic material. Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions. May emit corrosive fumes. WARNING: Long standing in contact with air and light may result in the formation of potentially explosive peroxides. |

SECTION 6 – ACCIDENTAL RELEASE MEASURES

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- 6.1 Personal precautions, protective equipment and emergency procedures** Secure the area. Wear personal protection equipment (see section 8). Keep unprotected persons away. Avoid contact with eyes and skin. Do not inhale gases/vapours/aerosols. If material is released indicate risk of slipping. Do not walk through spilled material.
- 6.2 Environmental precautions** Do not discharge into sewers or waterways.
- 6.3 Methods and material for containment and cleaning up** Small or major spills should be absorbed with dry, inert filler (soil or sand) which then can be shoveled into appropriately labeled drums for disposal. Disposal of this material should be undertaken by a registered chemical disposal company.
- 6.4 Reference to other sections** Relevant information in other sections has to be considered. This applies in particular for information given on personal protective equipment (section 8) and on disposal (section 13).

SECTION 7 – HANDLING & STORAGE

- 7.1 Precautions for safe handling** Ensure thorough ventilation of stores and work areas. Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. Protection against fire and explosion: The product is combustible. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.
- 7.2 Conditions for safe storage**
Storage Requirements:
Store in a cool, dry area
Storage Incompatibility:
Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air. Avoid strong acids, acid chlorides, acid anhydrides and chloroformates. Avoid contact with copper, aluminium and their alloys. Avoid reaction with oxidising agents
Suitable containers:
Glass container is suitable for laboratory quantities. Do not use aluminium or galvanised containers. Lined metal can, lined metal pail/ can. Plastic pail. Polyliner drum. Packing as recommended by manufacturer.
Temperature Conditions:
5° to 35° C
Protection from weather:
Store undercover and away from frost and moisture
- 7.3 Specific end use(s)** Once mixed with part A and applied, produces a hard wearing, durable surface suitable for commercial and industrial applications.
- 7.4 Regulations and standards (Australia):** Classified as a Class 8 Corrosive Liquid which should be stored and handled in accordance with regulations

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Emergency limits:

Ingredient	TEEL-1	TEEL-2	TEEL-3
Benzyl alcohol	30ppm	49ppm	49ppm
Salicylic acid	0.11 mg/m ³	1.2 mg/m ³	180 mg/m ³

8.2 Exposure controls

General protection and hygiene measures:

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Avoid exposure. Avoid contact with eyes and skin. Do not inhale gases/vapours/aerosols. Do not eat, drink or smoke when handling. Wash hands at the end of work and before eating. Keep working clothes separately. Remove contaminated, soaked clothing immediately. Clean work areas regularly.

Personal protection equipment:

Respiratory protection

In accordance with instructions: generally not required in very well ventilated areas, however type AK-P (organic and ammonia) Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent) is still preferred to be worn and is required when irritation occurs or the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES). The degree of protection varies with both face-piece and Class of filter; the nature of protection varies with type of filter.

Eye protection

Safety glasses with side shield or chemical goggles. Full face shield may be required for supplementary but never for primary protection of eyes. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

Hand protection

Protective gloves made of Long PVC or nitrile rubber gauntlets. Gloves suitable for up to 60 minutes' use. The selection of appropriate gloves not only depends on the material, but also on other quality characteristics, and may vary depending on the manufacturer. Please observe information from your glove supplier in terms of permeability and breakthrough time.

Skin protection

Long sleeve shirts and full length pants or overalls clothing.

Other Information

Barrier creams can be used to protect skin from contact with the material. Always wash hands before smoking, eating, drinking or using the toilet and after finishing work. Observe the usual precautions when handling chemicals.

8.3 Further information for system design and engineering measures

Ensure adequate ventilation. Keep containers closed when not in use.

SECTION 9 – PHYSICAL & CHEMICAL PROPERTIES

9.1	Odour:	Ammoniacal Odour
	Colour:	Clear colourless to slight amber
	Physical State:	Low Viscosity Liquid
	Flash Point:	>95°C
	Boiling Point:	>100 °C
	Melting Point:	Not Available
	Specific Gravity:	0.98
	pH (5% solution):	>12
	Solubility in Water (g/L):	Insoluble (Hydrophobic)
	Flammability:	Yes
	Lower Limit:	N/A
	Higher Limit:	N/A
	Vapour Pressure:	<2
	Vapour Density (Air = 1)	N/A
9.2	Other information	Non available

SECTION 10 – STABILITY AND REACTIVITY

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10.1 Reactivity; Chemical stability; -3 Possibility of hazardous reactions	If stored and handled in accordance with standard industrial practices not hazardous reactions are known. Unstable in the present of incompatible material.
10.4 Conditions to avoid	Avoid all sources of ignition: heat, sparks, open flame. See SDS section 7 - Handling and storage.
10.5 Incompatible materials	Keep away from oxidizing agents, acids and alkalis and halogenated compounds Acids.
10.6 Hazardous decomposition products	Oxides of carbon and other possibly toxic fumes from fire.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity/Effects

	Acute toxicity	Irritation
Enviro Epoxy B-LV part B	Not available	Not available
Benzyl Alcohol	dermal (rat) LD50: 1000000 ppm/90M	Eye (rabbit): 0.75 mg open SEVERE
	Inhalation (rat) LC50: >4.178 mg/L/4h	Skin (man): 16 mg/48h-mild
	Oral (rat) LD50: 1560 mg/kg	Skin (rabbit):10 mg/24h open-mild
Salicylic acid	dermal (rat) LD50: >2000 mg/ kg	Eye (rabbit): 100 mg - SEVERE
	Oral (rat) LD50: 200-2000 mg/kg	Skin (rabbit): 500 mg/24h - mild
Isophorone diamine	Oral (rat) LD50: 1030 mg/kg	Skin (rabbit): Corrosive
	Inhalation (rat) LC50: >5.01 mg/L/4h	Eye (rabbit): risk of serious damage to eyes
	dermal (rat) LD50: >2000 mg/ kg	

Isophorone diamine: Assessment of acute toxicity, Of moderate toxicity after short-term skin contact. Of moderate toxicity after single ingestion. Assessment of irritating effects, corrosive! Damages skin and eyes.

Chronic Toxicity/Effects

Isophorone diamine:

Repeated dose toxicity

Assessment of repeated dose toxicity: The substance may cause damage to the kidney after repeated ingestion of high doses, as shown in animal studies.

Genetic toxicity

Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture. The substance was not mutagenic in a test with mammals.

Carcinogenicity

Assessment of carcinogenicity: Study scientifically not justified.

Reproductive toxicity

Assessment of reproduction toxicity: Repeated oral uptake of the substance did not cause damage to the reproductive organs. Study scientifically not justified.

Teratogenicity

Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Long Term Effects:

Susceptible individuals may develop allergic reactions such as dermatitis or asthma like symptoms on a single significant skin exposure or may become sensitized to the material on repeated contact. Corrosive to eyes and skin. May cause sensitization by skin contact or inhalation.

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity

Benzyl Alcohol:

EC03 (168h) Algae or other aquatic plants =16mg/L (US EPA, Ecotox database - Aquatic Toxicity Data)

LC50 (96h) Fish 10mg/L (US EPA, Ecotox database - Aquatic Toxicity Data)

NOEC (336h) Fish 5.1mg/L (Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity)

EC50 (48h) Crustacea 230mg/L (Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity)

EC50 (72h) Algae or other aquatic plants 7.221 mg/L (Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity)

Salicylic acid:

BCF (96h) Algae or other aquatic plants <50mg/L (US EPA, Ecotox database - Aquatic Toxicity Data)

LC50 (96h) Fish >100mg/L (Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity)

EC50 (48h) Crustacea 118mg/L (Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity)

NOEC (504h) Crustacea 10mg/L (Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity)

EC50 (72h) Algae or other aquatic plants >100mg/L (Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity)

EC50 (168h) Algae or other aquatic plants 6.906-13.812mg/L (Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity)

Isophorone diamine:

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms.

Toxicity to fish

LC50 (96 h) 110 mg/l, *Leuciscus idus* (Directive 84/449/EEC, C.1, semistatic)
Nominal values (confirmed by concentration control analytics)

Aquatic invertebrates

EC50 (48 h) 23 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)
Nominal values (confirmed by concentration control analytics)

EC50 (48 h) 388 mg/l, *Chaetogammarus marinus* (semistatic)
The details of the toxic effect relate to the nominal concentration.

Aquatic plants

EC50 (72 h) > 50 mg/l (growth rate), *Scenedesmus subspicatus* (Directive

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88/302/EEC, part C, p. 89)

Nominal concentration.

EC10 (72 h) 11.2 mg/l (growth rate), *Scenedesmus subspicatus* (Directive 88/302/EEC, part C, p. 89)

Nominal concentration.

Chronic toxicity to fish

Study scientifically not justified.

Chronic toxicity to aquatic invertebrates

No observed effect concentration (21 d) 3 mg/l, *Daphnia magna* (OECD Guideline 202, part 2, semistatic)

Nominal values (confirmed by concentration control analytics)

Assessment of terrestrial toxicity

Study scientifically not justified.

Microorganisms/Effect on sludge

Isophorone diamine:

Toxicity to microorganisms

DIN 38412 Part 8 bacterium/EC10 (18 h): 1,120 mg/l

Nominal concentration.

Persistence and degradability

Benzyl Alcohol:

Persistence: Water/Soil

Low

Persistence: Air

Low

Salicylic acid:

Persistence: Water/Soil

Low

Persistence: Air

Low

Isophorone diamine:

Assessment biodegradation and elimination (H₂O)

Not readily biodegradable (by OECD criteria).

Elimination information

8 % DOC reduction (28 d) (Directive 92/69/EEC, C.4-A) (aerobic, predominantly domestic sewage)

Assessment of stability in water

In contact with water the substance will hydrolyse slowly.

Information on Stability in Water (Hydrolysis)

< 10 % (5 d) (50 °C, pH value 7), (OECD Guideline 111, pH 7)

Bioaccumulative potential

Benzyl Alcohol:

LOW (LogKOW = 1.1)

Salicylic acid:

MEDIUM (BCF = 1000)

Isophorone diamine:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected. Literature data.

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Mobility in soil

Benzyl Alcohol:
LOW (KOC = 15.66)

Salicylic acid:
LOW (KOC = 23.96)

Isophorone diamine:
The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.

Additional Information

Isophorone diamine:
Adsorbable organically-bound halogen (AOX): This product contains no organically-bound halogen. Other ecotoxicological advice: Due to the pH-value of the product, neutralization is generally required before discharging sewage into treatment plants. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

SECTION 13 – DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Material Recommendation:

Material that cannot be used, reprocessed or recycled should be disposed of in accordance with Federal, State, and local regulations at an approved facility. Depending on the regulations, waste treatment methods may include, e.g., landfill or incineration.

Uncleaned packaging Recommendation:

Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local/state/federal regulations. Uncleaned packaging should be treated with the same precautions as the material.

SECTION 14 – TRANSPORT INFORMATION

Transport Information

Classified as a Dangerous Good according to the Australian Code for the Transportation of Dangerous Goods by Road and Rail.

U.N. Number:

1760

DG Class:

8

EPG card:

8A1

Hazchem Code:

3X

Proper Shipping Name:

Amines, Liquid, Corrosive, N.O.S.

Packing Group:

III

Label



SECTION 15 – REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific

National and local regulations must be observed. For information on labeling please refer to section 2 of this document.

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for the substance or mixture

Poisons Schedule Number: 5

SUSDP Schedule (Aust): 5

Benzyl alcohol (100-51-6), Salicylic acid(69-72-7) and Isophorone diamine are found on the following regulatory lists
Australia Hazardous Substances Information System - Consolidated Lists
Australia Inventory of Chemical Substances (AICS)

Australian Inventory:

Listed

Controlled Schedule

No listed substances

Carcinogenic Substances:

SECTION 16 – OTHER INFORMATION

Safety Data Sheets are updated regularly. Please ensure you have a current copy. SDS can be obtained from our website: www.envirosystems.com.au

The SDS should be used to assist in the Risk Management. Many other factors determine whether the reported Hazards are risks in any given workplace.

Specific Risks may be determined by reference to various Exposure Scenarios, Scale of use, Frequency of use and current or available engineering controls must be considered.

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Emergency Telephone: Info Safe – 1800 638 556, Poisons Centre – 13112