

SAFETY DATA SHEETS (SDS)

Enviro Epoxy B-NS Part A



Version: 2

Issued by: Envirosystems Technologies

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Hazard Identifiers



SECTION 1 – IDENTIFICATION OF MATERIAL & SUPPLIER

- 1.1 Product Name:** Enviro Epoxy B-NS Part A
Manufacturer's Product Code: N/A
- 1.2 Recommended Use:** Part A of a two component, epoxy coating
- 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 SDS is to the best of our knowledge at time of publication. Users of this product should fully review this SDS 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
Skin Corrosion/Irritation	2
Eye Irritation	2
Skin Sensitizer	1
Acute Aquatic Hazard	2
Chronic Aquatic Hazard	2

- 2.2 Label Elements**



Signal word

Warning

H-code	Hazard Statements
H315	Causes skin irritation
H319	Causes serious eye irritation
H317	May cause an allergic skin reaction
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects
AU019	May form explosive peroxides
P-Code	Precautionary Statement - Prevention
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.

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P280	Wear protective gloves / protective clothing / eye protection / face protection
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.
P-Code	Precautionary Statement - Response
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.
P302, P352	If on Skin: Wash with plenty of water and soap
P313, P333	If skin irritation or rash occurs: Get medical advice/attention.
P337, P313	If eye irritation persists: Get medical advice/attention.
P362, P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P-Code	Precautionary Statement - Storage
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

3.2 Mixtures

See section below for Mixtures

CAS No.	Material	Content %
25068-38-6	bisphenol A/ epichlorohydrin resin, liquid	>60
28064-14-4	phenyl glycidyl ether/ formaldehyde copolymer	10-30
68609-97-2	(C12-14)alkylglycidyl ether	10-30

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:

Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor

Inhalation:

Keep patient calm and remove to fresh air. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or

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pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor without delay.

Eye Contact:

While holding eyes open, gently flood with plenty of fresh water for 15 minutes. Seek medical attention without delay; if pain persists or recurs seek 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 if irritation occurs. Remove contaminated clothing including footwear.

- | | | |
|------------|--|--|
| 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 |

SECTION 5 – FIRE FIGHTING MEASURES

- | | | |
|------------|--|---|
| 5.1 | Extinguishing media | Suitable extinguishing media:
Water fog or fine spray, dry chemical powder, foam, BCF (where regulations permit) and alcohols stable foams. Water spray or fog - Large fires only.

Unsuitable extinguishing media that may not be used for safety reasons:
Do not use direct water jet/stream as it might spread the fire. |
| 5.2 | Special hazards arising from the substance or mixture | Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. 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. 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 (CO ₂), phenolics products typical of burning organic material. Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions. |

SECTION 6 – ACCIDENTAL RELEASE MEASURES

- | | | |
|------------|--|---|
| 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 and soil. |
| 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. May be violently or explosively reactive. Wear breathing apparatus plus protective gloves. |
| 6.4 | Reference to other sections | Relevant information in other sections has to be considered. This applies in |

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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: fire extinguishers should be kept handy. Avoid all personal contact, including inhalation. Do NOT allow clothing wet with material to stay in contact with skin.
- 7.2 Conditions for safe storage** **Storage Requirements:** Store in a cool, dry area away from incompatible materials. Avoid reaction with amines, mercaptans, strong acids and oxidising agents. Phenols are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Avoid use of aluminium, copper and brass alloys in storage and process equipment. **Temperature Conditions:** Up to 40° 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 epoxy coating.
- 7.4 Regulations and standards (Australia):** Classified as Hazardous Liquid which should be stored and handled in accordance with regulations

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limits:

Ingredient	TWA	STEL
No Available		

Emergency limits:

Ingredient	TEEL-1	TEEL-2	TEEL-3
bisphenol A/ epichlorohydrin resin, liquid	350/150/12.5 ppm	500/100 ppm	500ppm
phenyl glycidyl ether/ formaldehyde copolymer	50ppm	350ppm	500ppm

8.2 Exposure controls

General protection and hygiene measures:

Good Ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations. 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

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent) Respiratory protection should be worn.

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When exposure limits are exceeded continuous-flow or positive pressure is required.

Eye protection

Chemical goggles. Full face respiratory may be required if exposure causes discomfort.

Hand protection

Use handling liquid-grade epoxy resins wear chemically protective gloves (e.g nitrile or nitrile-butadiene rubber). DO NOT use cotton or leather, polyvinyl chloride, rubber or polyethylene gloves (which absorb the resin).

Skin protection

Overalls clothing

Other Information

Do NOT use barrier creams 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

Ventilation is recommended under normal use conditions. State regulations on speed and direction of airflow away from operators must be observed. Keep containers closed when not in use.

SECTION 9 – PHYSICAL & CHEMICAL PROPERTIES

9.1	Odour:	Not Available
	Odour Threshold	No test data available
	Colour:	Clear slightly yellow
	Physical State:	liquid
	Flash Point:	Not Available
	Boiling Point:	Not Available
	Melting Point:	Not Available
	Specific Gravity:	1.1
	pH (5% solution):	Not Available
	Solubility in Water (g/L):	Immiscible
	Flammability:	Not Available
	Lower Limit:	Not Available
	Higher Limit:	Not Available
	Vapour Pressure:	Not Available
	Vapour Density (Air = 1)	Not Available
	Volatile component	Not Available
9.2	Other information	None available

SECTION 10 – STABILITY AND REACTIVITY

10.1	Reactivity; Chemical stability;	If stored and handled in accordance with standard industrial practices not hazardous reactions are known. Unstable in the present of incompatible material.
-3	Possibility of hazardous reactions	
10.4	Conditions to avoid	See section 7
10.5	Incompatible materials	See section 7
10.6	Hazardous decomposition products	See section 5

SECTION 11 – TOXICOLOGICAL INFORMATION

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Acute Toxicity/Effects

Enviro Epoxy B-NS part A:

bisphenol A/ epichlorohydrin resin, liquid:

Acute toxicity

Oral (rat) LD50: 11400 mg/kg

Irritation

Eye (rabbit): 100mg – Mild

phenyl glycidyl ether/ formaldehyde copolymer:

Acute toxicity

Dermal (Rat) LD50: 4000 mg/kg

Oral (Rat) LD50: 4000 mg/kg

Irritation

Eyes Slight irritant

May cause allergic response

Skin Slight irritant

propylene glycol monoethyl ether acetate - alpha isomer:

Acute toxicity

Inhalation (rat) LC50: >6.999 mg/L/4h

Oral (rat) LD50: >5000 mg/kg

Irritation

Eye: Slight Eye

Skin: Slight [BP Chemicals]

C12-14)alkylglycidyl ether:

Acute toxicity

Oral (rat) LD50: >10000 mg/kg

Oral (rat) LD50: 17000 mg/kg

Irritation

Eye (rabbit): mild

Skin (guinea pig): sensitizer

Skin (human): Irritant

Skin (human): non- sensitiser

Skin (rabbit): moderate

Skin : Moderate

Chronic Toxicity/Effects

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Limited evidence shows that inhalation of the material is capable of inducing a sensitisation reaction in a significant number of individuals at a greater frequency than would be expected from the response of a normal population. Pulmonary sensitisation, resulting in hyperactive airway dysfunction and pulmonary allergy may be accompanied by fatigue, malaise and aching. Significant symptoms of exposure may persist for extended periods, even after exposure ceases. Symptoms can be activated by a variety of nonspecific environmental stimuli such as automobile exhaust, perfumes and passive smoking. Exposure to the material may cause concerns for human fertility, on the basis that similar materials provide some evidence of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects, but which are not a secondary non-specific consequence of other toxic effects.

All glycidyl ethers show genotoxic potential due their alkylating properties. Those

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glycidyl ethers that have been investigated in long term studies exhibit more or less marked carcinogenic potential. Alkylating agents may damage the stem cell which acts as the precursor to components of the blood. Loss of the stem cell may result in pancytopenia (a reduction in the number of red and white blood cells and platelets) with a latency period corresponding to the lifetime of the individual blood cells. Granulocytopenia (a reduction in granular leukocytes) develops within days and thrombocytopenia (a disorder involving platelets), within 1-2 weeks, whilst loss of erythrocytes (red blood cells) need months to become clinically manifest. Aplastic anaemia develops due to complete destruction of the stem cells. Glycidyl ethers have been shown to cause allergic contact dermatitis in humans. Glycidyl ethers generally cause skin sensitization in experimental animals. Necrosis of the mucous membranes of the nasal cavities was induced in mice exposed to allyl glycidyl ether.

A study of workers with mixed exposures was inconclusive with regard to the effects of specific glycidyl ethers. Phenyl glycidyl ether, but not n-butyl glycidyl ether, induced morphological transformation in mammalian cells in vitro. n-Butyl glycidyl ether induced micronuclei in mice in vivo following intraperitoneal but not oral administration. Phenyl glycidyl ether did not induce micronuclei or chromosomal aberrations in vivo or chromosomal aberrations in animal cells in vitro. Alkyl C12 or C14 glycidyl ether did not induce DNA damage in cultured human cells or mutation in cultured animal cells. Allyl glycidyl ether induced mutation in Drosophila. The glycidyl ethers were generally mutagenic to bacteria

Long Term Effects:

See section above.

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity

No Data Available

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites. Significant environmental findings are limited. Oxiranes (including glycidyl ethers and alkyl oxides, and epoxides) exhibit common characteristics with respect to environmental fate and ecotoxicology. One such oxirane is ethyloxirane and data presented here may be taken as representative. for 1,2-butylene oxide (ethyloxirane)

Microorganisms/Effect on sludge

No data available

Persistence and degradability

Ethyloxirane is hydrolysable, with a half-life of 6.5 days, and biodegradable up to 100% degradation and is not expected to persist in water. A further model-predicted biodegradation half-life of 15 days in water was obtained and used to predict the half-life of this chemical in soil and sediment by applying Boethling's extrapolation factors ($t_{1/2\text{water}} : t_{1/2\text{soil}} : t_{1/2\text{sediment}} = 1 : 1 : 4$) (Boethling 1995). According to these values, it can be concluded that ethyloxirane does not meet the persistence criteria in water and soil (half-lives = 182 days) and sediments (half-life = 365 days). Experimental and modelled log Kow values of 0.68 and 0.86, respectively, indicate that the potential for bioaccumulation of ethyloxirane in organisms is likely to be low.

Bioaccumulative potential

No data available

Mobility in soil

No data available

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Additional Information

None

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. Do **NOT** allow wash water from cleaning or process equipment to enter drains.

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

Not classified as a Dangerous Good according to the Australian Code for the Transportation of Dangerous Goods by Road and Rail.

Environmentally Hazardous Substances meeting the descriptions of UN3077 or UN 3082 are not subject to this Code when transported by road or rail in;

(a) packagings;

(b) IBCs; or

(c) any other receptacle not exceeding 500 kg(L).

- Australian Special Provisions (SP AU01) - ADG Code 7th Ed.

U.N. Number: 3082

DG Class: 9

EPG card: N/A

Hazchem Code: 3Z

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. *

Packing Group: III

Poison Schedule: N/A

Classification for SEA transport (IMO-IMDG)

U.N. Number: 3082

DG Class: 9

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. *

Packing Group: III

Marine Pollutant: Yes

Classification for AIR transport (IATA/ICAO)

U.N. Number: 3082

DG Class: 9

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. *

Packing Group: III

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Label



SECTION 15 – REGULATORY INFORMATION

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

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

Poisons Schedule Number: N/A

**Australian Inventory:
Controlled Schedule
Carcinogenic Substances:**

Listed
Not listed 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