

# SAFETY DATA SHEETS (SDS)

## Enviro Epoxy B-NS Part B



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 B
  - 1.2 **Manufacturer's Product Code:** N/A
  - 1.2 **Recommended Use:** Part B of a two component, epoxy coating
  - 1.3 **Company:** Envirosystems Technologies Pty Ltd
  - 1.3 **Address:** 295 Princes Highway St Peters, NSW 2044.
  - 1.3 **Website:** [www.envirosystems.com.au](http://www.envirosystems.com.au)
  - 1.3 **Telephone:** +61 2 85958699 (business hours)
  - 1.3 **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     |
|--|--------------|
| Metal Corrosion                                  | 1            |
| Acute Toxicity - Oral                            | 4            |
| Acute Toxicity - Dermal                          | 4            |
| Acute Toxicity - Inhalation                      | 4            |
| Serious Eye Damage                               | 1            |
| Sensitizer - Respiratory                         | 1            |
| Sensitizer - Skin                                | 1            |
| Specific target organ toxicity - single exposure | 3 (Narcosis) |
| Aquatic Hazard - Acute                           | 2            |
| Aquatic Hazard - Chronic                         | 2            |

- 2.2 **Label Elements**



Signal word

Danger

| H-code | Hazard Statements            |
|--------|------------------------------|
| H290   | May be corrosive to metals   |
| H302   | Harmful if swallowed         |
| H312   | Harmful in contact with skin |

# SAFETY DATA SHEETS (SDS)

## Enviro Epoxy B-NS Part B



|                  |  |
|------------------|--|
| H332             | Harmful if inhaled   |
| H314             | Causes severe skin burns and eye damage  |
| H318             | Causes serious eye damage  |
| H334             | May cause allergy or asthma symptoms or breathing difficulties if inhaled.   |
| H317             | May cause an allergic skin reaction.   |
| H336             | May cause drowsiness or dizziness.   |
| H401             | Toxic to aquatic life  |
| H411             | Toxic to aquatic life with long lasting effects  |
| AUH019           | May form explosive peroxides   |
| <b>P-Code</b>    | <b>Precautionary Statement - Prevention</b>  |
| P260             | Do NOT breath dust/fume/gas/mist/vapours/spray.  |
|                  | P271 Use only outdoors or in a well-ventilated area.   |
| P280             | Wear protective gloves/protective clothing/eye protection/face protection.   |
| P284             | In case of inadequate ventilation wear respiratory protection  |
| P234             | Keep only in original container.   |
| P270             | Do not eat, drink or smoke when using this product.  |
| P273             | Avoid release to the environment.  |
| P272             | Contaminated work clothing should not be allowed out of the workplace  |
| <b>P-Code</b>    | <b>Precautionary Statement - Response</b>  |
| P301, P330, P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.   |
| 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.   |
| P305, P351, P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310             | Immediately call a POISON CENTER/doctor/physician/first aider  |
| P342, P311       | If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician/first aider  |
| P302, P352       | IF ON SKIN: Wash with plenty of water and soap   |
| P333, P313       | If skin irritation or rash occurs: Get medical advice/attention.   |
| P362, P364       | Take off contaminated clothing and wash it before reuse.   |
| P363             | Wash contaminated clothing before reuse.   |
| P390             | Absorb spillage to prevent material damage.  |
| P391             | Collect spillage.  |
| P301, P312       | IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.  |
| <b>P-Code</b>    | <b>Precautionary Statement - Storage</b>   |
| P405, P303, P235 | Store locked up in a cool well-ventilated area   |
| <b>P-Code</b>    | <b>Precautionary Statement - Disposal</b>  |
| P501             | Dispose of contents / containers to hazardous or special waste collection point. In accordance with local regulation             |

# SAFETY DATA SHEETS (SDS)

## Enviro Epoxy B-NS Part B



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 % |
|-----------|---------------------------|-----------|
| 100-51-6  | benzyl alcohol            | 30-60     |
| 2855-13-2 | isophorone diamine        | 10-30     |
| 1477-55-0 | benzene-1,3-dimethanamine | 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:**

Do not induce vomiting. Observe the patient carefully. Wash mouth with water then provide liquid slowly and as much as casualty can comfortably drink. Never give liquid to a person showing signs of being sleepy or with reduced awareness. Seek medical attention. Avoid giving milk or oils or alcohol. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Transport to hospital or doctor without delay. For advice, contact a Poisons Information Centre or a doctor at once.

**Inhalation:**

Keep patient calm and remove to fresh air. Protheses 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 pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor. 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. Transport to hospital or doctor 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. Quickly remove contaminated clothing including footwear. Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. Transport to hospital, or doctor.

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:  
Dry chemical powder, foam, BCF (where regulations permit) and alcohols stable foams. Water fog or fine spray for large fires only.
- 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. 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 (CO<sub>2</sub>), 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 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. Avoid all personal contact, including inhalation. Do NOT cut, drill, grind, weld or perform similar operations on or near containers. Do NOT allow clothing with this material to stay in contact with skin. Do NOT use plastic buckets. DO NOT USE brass or copper containers / stirrers 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.  
**Incompatible materials:**  
Do NOT store near acids, or oxidising agents. incompatible with mineral acids,

# SAFETY DATA SHEETS (SDS)

## Enviro Epoxy B-NS Part B



caustics, aliphatic amines, isocyanates reacts violently with strong oxidisers, and explosively with sulfuric acid at elevated temperatures corrodes aluminium at high temperatures is incompatible with aluminum, iron, steel attacks some non-fluorinated plastics; may

**Temperature Conditions:**

Up to 40° C

**Protection from weather:**

Store undercover and away from frost and moisture. Avoid reaction with oxidising agents.

**7.3 Specific end use(s)** Once mixed with part A and applied, produces an 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 |
|---------------------------|-----|------|
| benzene-1,3-dimethanamine | N/A | N/A  |

Emergency limits:

| Ingredient     | TEEL-0 | TEEL-1 | TEEL-2 | TEEL-3 |
|----------------|--------|--------|--------|--------|
| benzyl alcohol | 10ppm  | 60ppm  | 150pm  | 150ppm |

**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*

Respiratory protection should be worn. Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent). When exposure limits are exceeded or spaying continuous-flow or positive pressure is required.

*Eye protection*

Chemical goggles with unperforated side shields may be used where continuous eye protection is desirable. Full face respiratory may be required if exposure causes discomfort.

*Hand protection*

Elbow length PVC gloves or butyl and viton gloves preform the best. When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. Remember to also take into account of other chemical or processes when selecting glove type as well.

*Skin protection*

Overalls clothing and PVC Apron, PVC protective suit may be required if exposure severe

*Other Information*

Always wash hands before smoking, eating, drinking or using the toilet and after finishing work. Observe the usual precautions when handling chemicals.

# SAFETY DATA SHEETS (SDS)

## Enviro Epoxy B-NS Part B



- 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**
- |                                       |                        |
|---------------------------------------|------------------------|
| <b>Odour:</b>                         | Amine odour            |
| <b>Odour Threshold</b>                | No test data available |
| <b>Colour:</b>                        | Clear yellow           |
| <b>Physical State:</b>                | liquid                 |
| <b>Flash Point:</b>                   | 108                    |
| <b>Boiling Point:</b>                 | 200                    |
| <b>Melting Point:</b>                 | Not Available          |
| <b>Specific Gravity:</b>              | 0.98-1.02              |
| <b>pH:</b>                            | 11                     |
| <b>Solubility in Water (g/L):</b>     | Not Available          |
| <b>Flammability:</b>                  | Not Available          |
| <b>Explosive Lower Limit:</b>         | Not Available          |
| <b>Explosive Higher Limit:</b>        | Not Available          |
| <b>Vapour Pressure:</b>               | 0.006 approx.          |
| <b>Vapour Density (Air = 1)</b>       | 4                      |
| <b>Volatile component</b>             | Not Available          |
| <b>Auto-ignition temperature (°C)</b> | Not Available          |
- 9.2 Other information** None available

### SECTION 10 – STABILITY AND REACTIVITY

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

### SECTION 11 – TOXICOLOGICAL INFORMATION

#### Acute Toxicity/Effects

#### Enviro Epoxy B-NS part B:

##### benzyl alcohol:

###### Acute toxicity

Dermal (rabbit) LD50: 2000 mg/kg  
Inhalation (rat) LC50: >4178 mg/m<sup>3</sup>/4h  
Inhalation (rat) LC50: 1000 ppm/8h  
Inhalation (rat) LCLo: 2000 ppm/4h  
Oral (rat) LD50: 1230 mg/kg

###### Irritation

Eye (rabbit): 0.75 mg open SEVERE  
Skin (man): 16 mg/48h-mild  
Skin (rabbit): 10 mg/24h open-mild

# SAFETY DATA SHEETS (SDS)

## Enviro Epoxy B-NS Part B



### **isophorone diamine:**

*Acute toxicity*

Oral (rat) LD50: 1030 mg/kg

*Irritation*

Not available

### **benzene-1,3-dimethanamine:**

*Acute toxicity*

Dermal (rabbit) LD50: 2000 mg/kg

Inhalation (rat) LC50: 700 ppm/1h

Oral (rat) LD50: 930 mg/kg

*Irritation*

Eye (rabbit): 0.05 mg/24h SEVERE

Skin (rabbit): 0.75 mg/24h SEVERE

## **Chronic Toxicity/Effects**

### **Enviro Epoxy B-NS part B:**

Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.

Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals.

Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

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.

Allergic reactions to benzoic acid have been reported. Of 100 patients with asthma undergoing provocation tests with benzoic acid, 47 showed positive reactions. In another study, of 75 patients with recurrent urticaria (skin eruptions) and angio-oedema (a deep dermal condition characterised by large wheals) of more than 4 months duration, 44 were found to be sensitive to sodium benzoate or p-hydroxybenzoic acid (paraben), alone or in conjunction with aspirin or azo- dyes, or both. In a further work there was no significant objective or subjective skin response to two 500-mg daily doses of benzoic acid or lactic acid in a double blind study of 150 dermatological patients

Prolonged or repeated exposure to benzyl alcohol may cause allergic contact dermatitis. Prolonged or repeated ingestion may affect behavior/central nervous system with symptoms similar to acute ingestion. It may also affect the liver, kidneys, cardiovascular system, and metabolism (weight loss). Animal studies have shown this compound to cause lung, liver, kidney and CNS disorders. Studies in animals have shown evidence of teratogenicity in the chick embryo. The



# SAFETY DATA SHEETS (SDS)

## Enviro Epoxy B-NS Part B



significance of the information for humans is unknown.

Benzyl alcohol showed no evidence of carcinogenic activity in long-term toxicology and carcinogenesis study.

Sensitisation may give severe responses to very low levels of exposure, in situations where exposure may occur.

Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo. Inhalation of epoxy resin amine hardener vapours (including polyamines and amine adducts) may produce bronchospasm and coughing episodes lasting days after cessation of the exposure. Even faint traces of these vapours may trigger an intense reaction in individuals showing "amine asthma".

The literature records several instances of systemic intoxications following the use of amines in epoxy resin systems. Excessive exposure to the vapours of epoxy amine curing agents may cause both respiratory irritation and central nervous system depression. Signs and symptoms of central nervous system depression, in order of increasing exposure, are headache, dizziness, drowsiness, and incoordination. In short, a single prolonged (measured in hours) or excessive inhalation exposure may cause serious adverse effects, including death.

**Long Term Effects:** Above

## SECTION 12 – ECOLOGICAL INFORMATION

### Toxicity

*benzyl alkyl alcohols:*

Fish LC50 (96 h): Medaka 87.6 mg/l; golden orfe 75 mg/l; rainbow trout >100 mg/l

Daphnia magna EC50 (48 h): 15.2 - 16 mg/l

Daphnia magna EC50 (21 d): 6.77 mg/l (reproduction inhibition); NOEC 4.7 mg/l (reproduction inhibition)

Daphnia magna LC50 (21 d): 8.4 mg/l (parental toxicity)

Algae EbC50: Scenedesmus subspicatus 12 g/l; NOEC 6.25 mg/l;

EbC50 Selenastrum capricornutum 20.3 mg/l; NOEC (0-72 h) 10.5 mg/l

Harmful 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.

### Microorganisms/Effect on sludge

No Data Available

### Persistence and degradability

No Data Available

### Bioaccumulative potential

No Data Available

### Mobility in soil

No Data Available

### Additional Information

Do NOT discharge into sewer or waterways. Prevent, by any means available, spillage from entering drains or water courses.

## SECTION 13 – DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Material Recommendation:

Material that cannot be used, reprocessed or recycled should be disposed of in



# SAFETY DATA SHEETS (SDS)

## Enviro Epoxy B-NS Part B



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

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

U.N. Number: 2735

DG Class: 8

EPG card: N/A

Hazchem Code: 2X

Proper Shipping Name: Polyamines, liquid, corrosive, n.o.s. \*;  
Amines, liquid, corrosive, n.o.s. \*  
(contains isophoronediamine)

Packing Group: 8

Poison Schedule S5

### Classification for SEA transport (IMO-IMDG)

U.N. Number: 2735

DG Class: 8

Proper Shipping Name: Polyamines, liquid, corrosive, n.o.s. \*;  
Amines, liquid, corrosive, n.o.s. \*  
(contains isophoronediamine)

Packing Group: III

### Classification for AIR transport (IATA/ICAO)

Marine Pollutant: Yes

U.N. Number: 2735

DG Class: 8

Proper Shipping Name: Polyamines, liquid, corrosive, n.o.s. \*;  
Amines, liquid, corrosive, n.o.s. \*  
(contains isophoronediamine)

Packing Group: III

### Label



## SECTION 15 – REGULATORY INFORMATION

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

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

**Poisons Schedule Number: S5**

# SAFETY DATA SHEETS (SDS)

## Enviro Epoxy B-NS Part B



mixture

**Australian Inventory:**

Listed

**Controlled Schedule**

Not 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](http://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