SAFETY DATA SHEETS (SDS)
Enviro Epoxy RC Part A

Version: 4

Issued by: Envirosystems Technologies

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Hazard Identifiers

SECTION 1 – IDENTIFICATION OF MATERIAL & SUPPLIER

1.1	**Product Name:**	Enviro Epoxy RC Part A
	Manufacturer's Product Code:	N/A
1.2	**Recommended Use:**	Part A of a three 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
Flammable liquids	3
Acute toxicity - Inhalation	4
Skin Corrosion/Irritation	2
Serious eye damage/eye irritation	2A
Skin Sensitization	1B
Carcinogenicity	2
Specific target organ exposure - single	3 - Respiratory system
Specific target organ toxicity - repeated exposure	2
Specific target organ toxicity - repeated exposure - Inhalation	2 - Central nervous system, Liver, Kidney
Aspiration hazard	1

2.2 Label Elements

Signal word **Danger**

H-code	Hazard Statements
H226	Flammable liquid and vapour
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H351	Suspected of causing cancer
H335	May cause respiratory irritation
H317	May cause allergic skin reaction
H373	May cause damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled - Central nervous system, Liver, Kidney
P-Code	**Precautionary Statement - Prevention**
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260	Do not breathing dust/ fume/ gas/ mist/ vapours/ spray
P264	Wash skin thoroughly after handling.
P270	Do not eat drink or smoke when using this product
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment
P280	Wear protective gloves / protective clothing / eye protection / face protection
P-Code	**Precautionary Statement - Response**
P362	Take off contaminated clothing and wash before reuse
P363	Wash contaminated clothing before reuse.
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.
P337, P313	If eye irritation persists get medical attention.
P303, P353, P361	If on skin or hair: Take off immediately all contaminated clothing. Rinse skin with water/shower.
P333, P313	If skin irritation or rash occurs: Get medical advice/ attention.
P304, P340	If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P301, P310, P331	If swallowed: Rinse mouth. Immediately call a POISON CENTER or doctor/ physician. Do not induce vomiting.
P370 , P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P-Code	**Precautionary Statement - Storage**
	Store locked up in a cool well-ventilated area
P-Code	**Precautionary Statement - Disposal**
P501	Dispose of contents/ container to an approved waste disposal plant. 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 %
1330-20-7	Xylene	1-10
100-41-4	Ethylbenzene	1-10
25085-99-8	Bisphenol A Diglycidyl Ether Resin	30-60
28064-14-4	Bisphenol F Epichlorhydrin epoxy resin	10-30
68609-97-2	Alkyl glycidyl ether	1-10
14808- 60- 7	Crystalline Silica (Quartz)	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 reparation if necessary. First aid personal should pay attention to the own safety.

Ingestion:
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. Do not induce vomiting unless directed to do so by medical personal.

Inhalation:
Keep patient calm and remove to fresh air. If not breathing, give artificial respiration. Seek medical attention.

Eye Contact:
While holding eyes open, gently flood with plenty of fresh water for 15 minutes. Seek medical attention and if pain persists or recurs also 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. Seek medical attention in event of irritation. 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). Alcohols resistant foams are preferred. Protein foams may functions but will be less effective.

Unsuitable extinguishing media that may not be used for safety reasons:
Do not use direct water stream as it might spread the fire.

5.2	**Special hazards arising from the substance or mixture**	Oxides of carbon and other possibly toxic fumes (phenolis) from fire.
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 (CO2), phenolics products typical of burning organic material. 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.
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, prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Since this is in a liquid form when applied there is no risk from silica, however sometimes with general use of the product it may be sanded after it has cured and solid. Respiratory protection must be worn as this product contains silica which is a health hazard. It may cause cancer or causes damage to organs through prolonged or repeated exposure by inhaled.
7.2	**Conditions for safe storage**	**Storage Requirements:** Storage class (TRGS 510): Flammable liquids Store in a cool, dry and well-ventilated place. If two part products are mixed or allowed to mix in proportions other than manufacturer's recommendation, polymerisation with gelation and evolution of heat (exotherm) may occur. This excess heat may generate toxic vapour. Avoid reaction with amines, mercaptans, strong acids and oxidising agents. **Temperature Conditions:** Up to 40º C **Protection from weather:** Store undercover and away from frost and moisture

7.3 Specific end use(s)

Once mixed with part B and applied, produces a hard wearing, durable surface suitable for commercial and industrial applications.

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	STEL	TWA
Xylene	150ppm	80ppm
Ethylbenzene	125ppm	100ppm

Emergency Limits:

Ingredient	TEEL-1	TEEL-2	TEEL-3
bisphenol A/ diglycidyl ether resin, liquid	32 mg/m3	350 mg/m3	2100 mg/m3

8.2 Exposure controls

General protection and hygiene measures:
General 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. When there is a potential to exceed exposure limits or guidelines a positive pressure full face respirator should be worn. If there are no applicable limits, wear respiratory protection when adverse effects like irritation or discomfort have been experienced or when indicated by you risk assessment process.
Since this is in a liquid form when applied there is no risk from silica, however sometimes with general use of the product it may be sanded after it has cured and solid. Respiratory protection must be worn as this product contains silica which is a health hazard. It may cause cancer or causes damage to organs through prolonged or repeated exposure by inhaled.
Eye protection
Chemical goggles. Full face respiratory may be required if exposure causes discomfort.
Hand protection
Full contact and splash contact
Material: Fluorinated rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)
Do NOT use cotton or leather (which absorb and concentrate the resin), polyvinyl chloride, rubber or polyethylene gloves (which absorb the resin).
Skin protection
Overalls clothing, P.V.C. apron.
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:**	Mild
	Odour Threshold	Not determined
	Colour:	Neutral
	Physical State:	Low Viscosity Liquid
	Flash Point:	52°C
	Boiling Point:	Not determined
	Melting Point:	Not determined
	Specific Gravity:	1.12
	pH (5% solution):	Not determined
	Solubility in Water (g/L):	Insoluble
	Flammability:	
	Lower Limit:	Not determined
	Higher Limit:	Not determined
	Vapour Pressure:	<0.01
	Vapour Density (Air = 1)	Not determined
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 present of incompatible material.
10.4	**Conditions to avoid**	Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Heat, flames and sparks
10.5	**Incompatible materials**	Keep away from oxidizing agents, acids and alkalis and amines.
10.6	**Hazardous decomposition products**	Oxides of carbon and other possibly toxic fumes from fire.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity/Effects

Enviro RC Part A:

Acute oral toxicity
Low toxicity if swallowed. Based on components LD50, Rat, >2,000 mg/kg

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts. Based on components LD50, Rabbit, >2,000 mg/kg estimated

Acute inhalation toxicity
Excessive exposure may cause irritation to the upper respiratory tract. LC50 has not been determined.

Skin corrosion/irritation
Brief contact may cause moderate skin irritation with some local redness.

Serious eye damage/eye irritation
May cause moderate eye irritation. Corneal injury is unlikely.

Sensitization
A component did cause allergic skin reactions when tested in guinea pigs.
A component does have the potential to cause contact allergy in mice.

Chronic Toxicity/Effects

Enviro Epoxy RC part A:
Specific target organ systematic toxicity (single exposure)
No data available

Specific target organ systematic toxicity (repeated exposure)
No data available

Genetic toxicity
No data available

Carcinogenicity
IARC: 2B - Group 2B: Possibly carcinogenic to humans (Ethylbenzene)
IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Xylene)

Reproductive toxicity
No data available

Teratogenicity
No data available

Aspiration Hazard
May be fatal if swallowed and enters airways.

Silica:
Since this is in a liquid form when applied there is no risk from silica, however sometimes with general use of the product it may be sanded after it has cured and solid. Respiratory protection must be worn as this product contains silica which is a health hazard. It may cause cancer or causes damage to organs through prolonged or repeated exposure by inhaled.

Long Term Effects:

No new information.

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity

Bisphenol A Diglycidyl Ether Resin:
Acute toxicity in fish
Moderately toxic to aquatic organisms
LC50, Onorhynchus mykiss (rainbow trout), semi static, 96h, 2mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (water flea), static test, 48h, 1.8mg/l

Acute toxicity to algae/aquatic plants
ErC50, Scenedesmus capricomutum (fresh water algae), static test, 72h, growth rate inhabtion, 11mg/l.

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (water flea), static test, 21d, 0.3 mg/l.
MATC Daphnia magna (water flea), static test, 21d, 0.55 mg/l

Bisphenol F Epichlorhydrin epoxy resin:
Acute toxicity in fish
For similar material between 1 and 10mg/l for LC50/EC50 in the most sensitive species

Alkyl glycidyl ether:
Acute toxicity in fish
Not expected to be toxic to aquatic organisms
LC50, Onorhynchus mykiss (rainbow trout), semi static, 96h, >5000mg/l
LC50, Lepormis macrochirus (bluegill sunfish), semi static, 96h, 1800mg/l

Acute toxicity to algae/aquatic plants
EbC50, pseudokirchneriella subcapitata (green algae), static test, 72h, growth inhibition (cell density reduction), 843mg/l.
NOEC, pseudokirchneriella subcapitata (green algae), static test, 72h, growth inhibition (cell density reduction), 500 mg/l.

Microorganisms/Effect on sludge

No data

Persistence and degradability

Bisphenol A Diglycidyl Ether Resin:
Biodegradability:
Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable under environmental conditions. However this does not mean the material is not biodegradable under environmental conditions.

Biodegradation: 12%
Exposure: 28d
Method: OECD test guideline 302B or equivalent

Theoretical oxygen demand: 2.35 mg/mg estimated

Photodegradation
Test type: half life
Sensitizer: OH radicals
Atmospheric half-life: 1.92 hrs
Method: estimated

Bisphenol F Epichlorhydrin epoxy resin:
Biodegradability:
Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable under environmental conditions. However this does not mean the material is not biodegradable under environmental conditions.

Alkyl glycidyl ether:
Biodegradability:
Under aerobic static conditions is moderate, BOD20 or BOD28/ThOD between 10 to 40%, 10 day window Pass

Biodegradation: 87%
Exposure: 28d
Method: OECD test guideline 301f or equivalent

oxygen demand: 2.09 mg/mg estimated

Bioaccumulative potential

Bisphenol A Diglycidyl Ether Resin:
Bioaccumulation:
Potential is moderate, BCF between 100 and 3000 or Log Pow between 3 and 5.
Partition coefficient:
n-octanol/water, 3.242 at 25°C estimated.

Bisphenol F Epichlorhydrin epoxy resin:
Bioaccumulation:
Potential is moderate, BCF between 100 and 3000 or Log Pow between 3 and 5.
Partition coefficient:
n-octanol/water, 3.6 at 20°C estimated.

Alkyl glycidyl ether:
Bioaccumulation:
Potential is moderate, BCF between 100 and 3000 or Log Pow between 3 and 5.
Partition coefficient:
n-octanol/water, 3.77 at 20°C estimated. OECD guideline 107

Mobility in soil

Bisphenol A Diglycidyl Ether Resin:
Potential for mobitity is low Koc 500 – 2000.

Alkyl glycidyl ether:
Expected to be relative immobile .Koc >5000 estimated.

Additional Information

Do NOT discharge into sewer or waterways. Xylene is toxic to aquatic life.

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:	1263
DG Class:	3
EPG card:	N/A
Hazchem Code:	3Y
Proper Shipping Name:	Paint related materials
Packing Group:	III

Classification for SEA

U.N. Number: UN 1263

transport (IMO-IMDG)	DG Class:	3
	Proper Shipping Name:	Paint related materials
	Packing Group:	III
	Marine Pollutant:	Yes epoxy resin
Classification for AIR transport (IATA/ICAO)	U.N. Number:	UN 1263
	DG Class:	3
	Proper Shipping Name:	Paint related materials
	Packing Group:	III

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: S5**
	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
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.

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