SAFETY DATA SHEETS (SDS)
Enviro Ultra Tuff Part A

Hazard Identifiers

Version: 4

Issued by: Envirosystems Technologies

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SECTION 1 – IDENTIFICATION OF MATERIAL & SUPPLIER

1.1	**Product Name:**	Enviro Ultra Tuff Part A
	Manufacturer's Product Code:	N/A
1.2	**Recommended Use:**	Part A of a two component (plus colourpack) 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

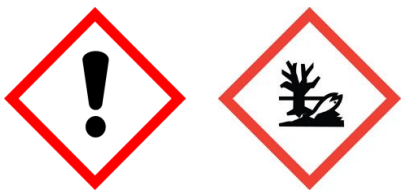
Other Information: All information in this SDS is to the best of our knowledge at time of publication. Users of this product should fully review this SDS prior to use to ensure best safety practices. Further information and or clarification can be obtained by contacting our technical department on the 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
Serious eye damage/eye irritation	2A
Skin Sensitization	1
Aquatic Chronic	2

2.2 **Label Elements**



Signal word **Warning**

H-code	Hazard Statements
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H317	May cause allergic skin reaction
H411	Toxic to aquatic life with long lasting effects
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

Sanding cured material could release respirable crystalline silica

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

3.2 Mixtures

See section below for Mixtures

CAS No.	Material	Content %
28064-14-4	Epoxy resin	25-55%
3101-60-8	Epoxy resin	1-10%
Non-hazardous ingredients or those not affecting classification to 100%		

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. Call a doctor and/or transport to a hospital promptly. Never give anything by mouth to an unconscious person. Rinse mouth with water. 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 prompt 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:
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

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
A/P2 Filter of sufficient capacity if ventilation is inadequate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent). 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
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Material of gloves
Butyl rubber, BR
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.5 mm
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application. *Skin protection*
Overalls clothing, P.V.C. apron.
Other Information
No Additional Information

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 determined
	Odour Threshold	Not determined
	Colour:	Neutral
	Physical State:	Low Viscosity Liquid
	Flash Point:	>100°C PMCC
	Boiling Point:	Not determined
	Melting Point:	Not determined
	Specific Gravity:	2.06
	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 AC Part A:
Acute oral toxicity
LD50 > 15,000 mg/kg (rat) epoxy resin 28064-14-4

Acute dermal toxicity
LD50 > 23,000 mg/kg (rabbit) epoxy resin 28064-14-4

Acute inhalation toxicity
No Data Available

Skin corrosion/irritation
Irritant to skin and mucus membranes.

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

Sensitization
Product may be a skin sensitiser in some individuals.

Chronic Toxicity/Effects

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

Specific target organ systematic toxicity (repeated exposure)
Prolonged exposure to high concentrations of vapour may affect the central nervous system.

Genetic toxicity
No data available

Carcinogenicity
No data available

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

28064-14-4 Epoxy Resin:
Acute toxicity in fish
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
MATC Daphnia magna (water flea), static test, 21d, 0.55 mg/l

Microorganisms/Effect on sludge

Epoxy Resin
IC50, Bacteria, 18 Hour, Respiration rates. > 42.6 mg/l

Persistence and degradability

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

Bioaccumulative potential

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.

Mobility in soil

Potential for mobitity is low Koc 500 – 2000.

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

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 UN 3077 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:	UN 3082
DG Class:	9
EPG card:	N/A
Hazchem Code:	3Y
Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s.(Contains Epoxy Resin)
Packing Group:	III

Classification for SEA transport (IMO-IMDG)

U.N. Number:	UN 3082
DG Class:	9
Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s.(Contains Epoxy Resin)
Packing Group:	III
EMS Number:	F –A, S –F
Marine Pollutant:	Yes epoxy resin

Classification for AIR transport (IATA/ICAO)

U.N. Number:	UN 3082
DG Class:	9
Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s.(Contains Epoxy Resin)
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: N/A

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