

SECTION 1 - IDENTIFICATION

Product Identifier

Product Name:	1000A Epoxy Resin
Proper Shipping Name:	Environmentally Hazardous Substance Liquid, N.O.S
Other means of identification:	Epoxy Resin, Bisphenol- A Epoxy Resin
Recommended use of the chemical and restrictions on use	Resin for composite part manufacture. Part A of a 2 part epoxy resin system.
Details of manufacturer or importer:	TROJAN FIBREGLASS PTY LTD 18-20 Torrens Ave, Cardiff NSW 2285 Australia Ph: (02)49426940 Fax: (02)49426941
Emergency phone number:	Business Hours (02)49426940 After Hours 0425 292 391 Emergency 000

SECTION 2 - HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

Dangerous Goods. According to the WHS Regulations, ADG Code and Globalised Harmonised System of classification and labelling of Chemicals (GHS).

Acute Toxicity – Category 5
Skin Corrosion/Irritation – Category 2
Eye Irritation – Category 2A
Skin Sensitizer – Category 1
Acute Aquatic Hazard – Category 2
Chronic Aquatic Hazard – Category 2

Label Elements

Pictograms:



Signal Word: **WARNING**

Hazards Statement(s)

H303	May be harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H317	May cause an allergic skin reaction
H411	Toxic to aquatic life with long lasting effects

Precautionary Statement(s) Prevention

P280	Wear protective gloves/protective clothing/eye protection/face protection
P261	Avoid breathing vapours/mist/spray
P273	Avoid release to the environment
P272	Contaminated work clothing should not be allowed out of the workplace

Precautionary Statement(s) Response

P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P362	Take off contaminated clothing and wash before reuse
P302+P352	IF ON SKIN: Wash with plenty of soap and water
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary Statement(s) Storage

Not Applicable

Precautionary Statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations
------	--

SECTION 3 – COMPOSITION AND INFORMATION ON INGREDIENTS

Cas No	% Weight	Name	Hazardous Chemical (according to GHS standards)
25068-38-6	>60	Bisphenol-A / epoxy resin, liquid	X
28064-14-4	<10	Bisphenol-F / epoxy resin, liquid	X
100-51-6	<10	Benzyl Alcohol	✓

SECTION 4 – FIRST AID MEASURES

Description of necessary first aid measures

- Eye Contact** If this product comes in contact with the eyes:
- Wash out immediately with fresh running water.
 - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
 - Seek medical attention without delay; if pain persists or recurs seek medical attention.
 - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
- Skin Contact** If skin contact occurs:
- Immediately remove all contaminated clothing, including footwear.
 - Flush skin and hair with running water (and soap if available).
 - Seek medical attention in event of irritation.
- Inhalation** If inhalation occurs:
- If fumes or combustion products are inhaled remove from contaminated area.
 - Lay patient down. Keep warm and rested.
 - 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 pocket mask as trained. Perform CPR if necessary.
 - Transport to hospital, or doctor.
- Ingestion** If ingestion occurs:
- If swallowed do **NOT** induce vomiting.
 - If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
 - Observe the patient carefully.
 - Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
 - Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
 - Seek medical advice.
 - Avoid giving milk or oils.
 - Avoid giving alcohol.
 - If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

Suitable extinguisher equipment

Foam, Dry Chemical Powder, CO₂, BCF (where regulations permit)
Large Fire: General extinguisher powder, water spray or fog.

Specific hazards arising from the chemical

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Special protective equipment and precautions for fire fighters

Fire Fighting

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- Use water delivered as a fine spray to control fire and cool adjacent area.

Fire/Explosion Hazard

- 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).

Hazchem Code: 3Y

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Refer to Section 8 of this SDS.

Methods and materials for containment and cleaning up

Minor Spills

- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Wear impervious gloves and safety goggles.
- Trowel up/scrape up.

Major Spills

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- Environmental hazard – contain spillage.
- Personal Protective Equipment advice is contained in Section 8 of the SDS.

Environmental precautions

Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of overexposure occurs.
- Use in a well-ventilated area.
- Store in original containers in approved flame-proof area.
- Keep containers securely sealed.
- Store away from incompatible materials in a cool, dry well-ventilated area.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storage and handling recommendations contained within this MSDS.

Conditions for safe storage, including any incompatibilities

Suitable Container

- Packing as supplied by manufacturer.
- Check that containers are clearly labelled and free from leaks.

Storage Incompatibility

Avoid storage with oxidisers

Must not be stored together



SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control Parameters

Emergency Limits

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
Bisphenol-A Epoxy Resin	Not Available	90 mg/m ³	990 mg/m ³	5900 mg/m ³
Bisphenol-F Epoxy Resin	Not Available	Not Available	Not Available	Not Available
Benzyl Alcohol	10 ppm	60 ppm	150 ppm	150 ppm

Ingredient	Original IDLH	Revised IDLH
Bisphenol-A Epoxy Resin	Not Available	Not Available
Bisphenol-F Epoxy Resin	Not Available	Not Available
Benzyl Alcohol	Not Available	Not Available

Appropriate Engineering Controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

Personal Protection



Eye and Face Protection

- Safety glasses with side shields.
- Chemical goggles.
- 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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable.

Skin Protection

PE/EVAL/PE/PVA/TEFLON/LATEX are the most ideal choice for using this product. This material may produce skin sensitisation in predisposed individuals. Care must be taken when removing gloves and other protective equipment, to avoid all possible skin contact.

Respiratory Protection

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent).

Thermal Hazards

Not Available

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear	Relative Density (Air=1)	1.15-1.20
Physical State	Liquid	Partition coefficient n-octanol / water	Not Available
Odour	Not Available	Auto-ignition temperature (°C)	Not Available
Odour Threshold	Not Available	Decomposition temperature	Not Available
Ph (as supplied)	Not Applicable	Viscosity (cps)	Not Available
Melting point/freezing point (°C)	5	Molecular weight (g/mol)	Not Applicable
Initial boiling point and boiling range (°C)	Not Available	Taste	Not Available
Flash Point (°C)	>150	Explosive properties	Not Available
Evaporation point	Not Available	Oxidising properties	Not Available
Flammability	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Upper Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Lower Explosive Limit (%)	Not Applicable	Gas group	Not Available
Vapour Pressure (kPa)	Not Applicable	pH as a solution (1%)	Not Applicable
Solubility in water (g/L)	Immiscible	VOC g/L	Not Available
Vapour Density (Air=1)	>1		

SECTION 10 - STABILITY AND REACTIVITY

Reactivity

See Section 7

Chemical Stability

- Unstable in the presence of incompatible materials
- Product is considered stable.
- Hazardous polymerisation will not occur.

Possibility of hazardous reactions

See Section 7

Conditions to avoid

See Section 7

Incompatible materials

See Section 7

Hazardous decomposition products

See Section 5

SECTION 11 – TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled

There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

Ingestion

Accidental ingestion of the material may be damaging to the health of the individual

Skin Contact

This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing condition. Open cuts, abraded or irritated skin should not be exposed to this material.

Eye

This material can cause eye irritation and damage in some persons.

Chronic

Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.

	<i>Toxicity</i>	<i>Irritation</i>
Bisphenol-A Epoxy Resin	Dermal (Rat) LD50: >1200mg/kg Oral (rat) LD50: >1000mg/kg	Eye (rabbit): 100mg-Mild
Bisphenol-F Epoxy Resin	Not Available	Not Available
Benzyl Alcohol	Dermal (rabbit) LD50: >2000 mg/kg * Inhalation (rat) LC50: >4178 mg/m ³ /4h * Inhalation (rat) LC50: 1000 ppm/8h * Oral (rat) LD50: 1230 mg/kg	Eye (rabbit): 0.75mg open SEVERE Skin (man): 16 mg/48h – Mild Skin (rabbit): 10 mg/24h open-mild

Bisphenol-A Epoxy Resin

The substance is classified by IARC as Group 3: **NOT** classifiable as to its Acute toxicity (any route of exposure) to humans. Evidence of Acute toxicity (any route of exposure) may be inadequate or limited in animal testing. Animal testing over 13 weeks showed bisphenol A diglycidyl ether (BADGE) caused mild to moderate, chronic, inflammation of the skin. Reproductive and Developmental Toxicity: Animal testing showed BADGE given over several months caused reduction in body weight but had no reproductive effects. Cancer-causing potential: It has been concluded that bisphenol A diglycidyl ether cannot be classified with respect to its cancer-causing potential in humans. Genetic toxicity: Laboratory tests on genetic toxicity of BADGE have so far been negative. Foetotoxicity has been observed in animal studies Oral (rabbit, female) NOEL 180 mg/kg (teratogenicity); NOEL (maternal 60 mg/kg

Bisphenol-F Epoxy Resin

The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. No significant acute toxicological data identified in literature search. Data for liquid polymer, ie for molecular weights generally less than 700.

Benzyl Alcohol

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. For benzyl alkyl alcohols: Unlike benzylic alcohols, the beta-hydroxyl group of the members of this cluster is unlikely to undergo phase II metabolic activation.

Acute Toxicity	✓	Carcinogenicity	✗
Skin Irritation/Corrosion	✓	Reproductivity	✗
Serious Eye Damage/Irritation	✓	STOT – Single Exposure	✗
Respiratory or Skin Sensitisation	✓	STOT – Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

SECTION 12 – ECOLOGICAL INFORMATION**Toxicity**

Ingredients	End Point	Test Duration	Effect	Value	Species	BCF
Bisphenol-A Epoxy Resin	LC50	96hr	Not Available	1.2 mg/L	Fish	Not Available
	EC50	72hr	Not Available	9.4 mg/L	Algae or aquatic plant	Not Available
	NOEC	72hr	Not Available	2.4 mg/L	Algae or aquatic plant	Not Available
Bisphenol-F Epoxy Resin	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Benzyl Alcohol	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Persistence and degradability

Ingredient	Persistence: Soil/Water	Persistence: Air
Bisphenol-A Epoxy Resin	HIGH	HIGH

Bio accumulative potential

Ingredient	Bioaccumulation
Bisphenol-A Epoxy Resin	LOW (LogKOW = 2.6835)

Mobility in soil

Ingredient	Mobility
Bisphenol-A Epoxy Resin	LOW (KOC = 51.43)

SECTION 13 – DISPOSAL CONSIDERATIONS**Water treatment methods****Product /Packaging disposal**

- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

Otherwise:

- If container cannot be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
- Do NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- Bury or incinerate residue at an approved site.
- Where possible retain label warnings and MSDS and observe all notices pertaining to the product.

SECTION 14 – TRANSPORT INFORMATION**Labels Required**

Marine Pollutant: YES



HAZCHEM: .3Y

Land Transport (ADG)

UN Number: 3082
Packaging Group: III
UN proper shipping name: Environmentally Hazardous Liquid, N.O.S
Environmental hazard: Environmentally hazardous
Transport hazard: Class 9
 Sub Risk -
Special precautions for user: Special Provisions 223, 331, 335, 375
 Limited quantity 5L

Air Transport (IATA-Code)

UN Number:	3082
Packaging Group:	III
UN proper shipping name:	Environmentally Hazardous Liquid, N.O.S
Environmental hazard:	Environmentally hazardous
Transport hazard:	Class 9 Sub Risk -
Special precautions for user:	Special Provisions: A97, A158, A197 Cargo Only Packing Instructions: 964 Cargo Only Maximum Qty/pack: 450L Passenger and Cargo Packing Instructions: 964 Passenger and Cargo Maximum Qty/Pack: 450L Passenger and Cargo Limited Qty Instructions: Y964 Passenger and Cargo Limited Maximum Qty/Pack: 30kg G

Sea Transport (IMDG-Code)

UN Number:	3082
Packaging Group:	III
UN proper shipping name:	Environmentally Hazardous Liquid, N.O.S
Environmental hazard:	Marine Pollutant
Transport hazard:	Class 9 Sub Risk -
Special precautions for user:	EMS Number F-A, S-F Special Provisions 274 335 969 Limited quantity 5L

SECTION 15 – REGULATORY INFORMATION

Regulatory Information

Australia: Classified as environmentally hazardous according to the criteria of National Occupational Health and Safety Commission (NOHSC)

Poison Schedule

-

International Regulations

Ozone-depleting substances(ODS):	Not Applicable
Persistent Organic Pollutants:	Not Applicable
Export Notification requirements:	Not Applicable

SECTION 16 – OTHER INFORMATION

Definitions and abbreviations

PC-TWA: Permissible Concentration-Time Weighted Average
PC-STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL: No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit of Detection
OTV: Odour Threshold Value
BCF: Bioconcentration Factors
BEI: Biological Exposure Index

Contact Person/Point: Managing Director/Operations Manager (+61 2 49426940)
18-20 Torrens Ave, Cardiff NSW 2285, Australia

The information provided in this safety data sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not considered a warrant or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

END OF SAFETY DATA SHEET