SAFETY DATA SHEET

Authorised: 01/02/2022

SECTION 1 - INDENTIFICATION

Product Identifier

Product Name:	**1000B High Clarity Epoxy Hardener**
Proper Shipping Name:	Amines, Corrosive, Liquid, N.O.S
Other means of identification:	Epoxy Resin Part B
Recommended use of the chemical: and restrictions on use	Resin for composite part manufacture. Part B 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 Email: sales@trojanfibreglass.com.au
Emergency phone number:	Business Hours: (02)49426940 After Hours: 0425292391 Emergency: 000

SECTION 2 – HAZARD(S) INDENTIFICATION

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).

Skin Corrosion/Irritation – Category 1B
Acute Toxicity (Dermal) – Category 4
Serious Eye Damage – Category 1
Acute Toxicity (Oral) – Category 4
Skin Sensitizer – Category 1
Chronic Aquatic Hazard – Category 3

Label Elements

Pictograms:

Signal Word: **DANGER**

Hazard Statement(s)

H314	Causes sever skin burns and eye damage
H312	Harmful if contact with skin
H302	Harmful if swallowed
H317	May cause an allergic skin reaction

Precautionary Statement(s) Prevention

P260	Do not breathe mist/vapours/spray
P264	Wash all exposed external body areas thoroughly after handling
P270	Do not eat, drink, or smoke when using this product
P273	Avoid release to the environment
P280	Wear protective gloves/protective clothing/eye protection/face protection
P272	Contaminated work clothing should not be allowed out of the workplace

Precautionary Statement(s) Response

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.
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	Call a POSION CENTER/doctor/physician/first aider if you feel unwell.

Precautionary Statement(s) Storage

P405	Store locked up

Precautionary Statement(s) Disposal

P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 – COMPOSITION AND INFORMATION ON INGREDIENTS

Cas No	% Weight	Name	Hazardous Chemical (According to GHS Standard)
2855-13-2	30-60%	5-Amino-1,3,3-Trimethyl, Cyclohexanemethanamine	✓
-	Balance	Trade Secret	✗

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.
- 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

Inhalation 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.

Description of necessary first aid measures

Treat symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

Suitable extinguisher equipment

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

Specific hazards arising from the chemical

None known

Special protective equipment and precautions for fire fighters

May omit corrosive fumes.

Hazchem: 2R

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.
- Control personal contact with the substance, by using personal protective equipment.
- Contain and absorb spill with sand, earth, inert material, or vermiculite.
- Wipe up
- Place in a suitable, labelled container for waste disposal.

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.
- Collect recoverable product in labelled containers for recycling.
- Wash area and prevent runoff into drains.
- After clean-up operations, decontaminate and launder all protective clothing and equipment before storing and reusing.
- If contamination of drains or waterways occurs, advise emergency services.

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
5-Amino-1,3,3-Trimethyl, Cyclohexanemethanamine	Not Available	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
5-Amino-1,3,3-Trimethyl, Cyclohexanemethanamine	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)**	0.92
Physical State	Liquid	**Partition coefficient n-octanol / water**	0.99 @ 23c
Odour	Not Available	**Auto-ignition temperature (°C)**	Not Available
Odour Threshold	Not Available	**Decomposition temperature**	250-300
Ph (as supplied)	14	**Viscosity (cps)**	Not Available
Melting point/freezing point (°c)	10	**Molecular weight (g/mol)**	Not Available
Initial boiling point and boiling range (°C)	247	**Taste**	Not Available
Flash Point (°c)	112	**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 Available	**Volatile Component (%vol)**	Not Available
Lower Explosive Limit (%)	1.2	**Gas group**	Not Available
Vapour Pressure (kPa)	0.0002	**pH as a solution (1%)**	Not Available
Solubility in water (g/L)	5-12.3 @ 20c	**VOC g/L**	Not Available
Vapour Density (Air=1)	Not Available		

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

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.

	Toxicity	*Irritation*
1000B Epoxy Hardener	Not Available	Not Available
5-Amino-1,3,3-Trimethyl, Cyclohexanemethanamine	Oral (rat) LD50: 1030mg/kg	Not Available

5-Amino-1,3,3-Trimethyl, Cyclohexanemethanamine
Based on a limited skin irritation study with rabbits and rats, isophorone diamine is deemed to be a strong irritant (duration of the exposure not reported) and corrosive after repeated application. Isophorone diamine is corrosive to the eyes of rabbits when tested according to OECD TG 405. Isophorone diamine was found to induce dermal sensitisation when tested according to OECD TG 406 in guinea pigs. From a number of publications there is evidence that frequent occupational exposure to isophorone diamine may lead to the development of allergic contact dermatitis in humans. No definite conclusion can be currently drawn on respiratory sensitisation. From two 14-day inhalative exposure studies with rats no NOAEL could be determined. At the first study's LOAEL of 18 mg/m3, degeneration/necrosis in the olfactory epithelium of the nose were observed. Trachea, larynx and lungs were affected at 200 mg/m3 and above (degeneration/necrosis, hyperplasia, squamous metaplasia). At the LOAEL of the follow-up study, i.e. at 2.2 mg/m3, reversible minimal to mild degeneration of respiratory nasal mucosa in the anterior dorsal nose was observed. In a subchronic drinking water study according to OECD TG 408, the administration of 150 mg/kg bw/day led to reduced absolute and relative kidney weights in male and female rats (histopathology being indicative for tubular nephrosis), while 59 mg/kg bw/day (males) and 62 mg/kg bw/day (females) were determined as a NOAEL. Isophorone diamine was not mutagenic in bacteria and mammalian cell systems *in vitro* (Ames test according to Directive 84/449/EEC B.14 (1984) and HPRT test according to OECD TG 476 (1984)). It did not induce chromosomal aberrations in CHO cells *in vitro* in a test performed in accordance with OECD TG 473. *In vivo* mouse micronucleus tests (one performed according to OECD TG 474 (1983) for the induction of micronucleated polychromatic erythrocytes were clearly negative. From all *in vitro* and *in vivo* tests performed there is no evidence that isophorone diamine has a mutagenic or clastogenic potential. No studies have been performed on the toxicity of isophorone diamine to reproduction.
Data from an oral 90-day study in rats according to OECD TG 408 did not reveal any adverse effects on the male and female reproductive organs. Isophorone diamine did not show any teratogenic or embryofoetotoxic effects in a gavage study with rats performed in accordance with OECD TG 414 (2001) up to and including the highest tested dose level of 250 mg/kg bw/day. The NOAEL for maternal toxicity was 50 mg/kg bw/day, effects at 250 mg/kg bw/day were reduced food consumption and reduced body weight gain. The NOAEL for developmental toxicity is 250 mg/kg bw/day. The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may produce respiratory tract irritation. Symptoms of pulmonary irritation may include coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and a burning sensation. Unlike most organs, the lung can respond to a chemical insult or a chemical agent, by first removing or neutralising the irritant and then repairing the damage (inflammation of the lungs may be a consequence). The repair process (which initially developed to protect mammalian lungs from foreign matter and antigens) may, however, cause further damage to the lungs (fibrosis for example) when activated by hazardous chemicals. Often, this results in an impairment of gas exchange, the primary function of the lungs. Therefore, prolonged exposure to respiratory irritants may cause sustained breathing difficulties. 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 epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

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

Ingredient	End Point	Test Duration (hr)	Effect	Value	Species	BCF
1000B Epoxy Hardener	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
5-Amino-1,3,3-Trimethyl, Cyclohexanemethanamine	LC50	96	Not Available	70mg/L	Fish	Not Available
	EC50	48	Not Available	17.4mg/L	Crustacea	Not Available
	EC50	72	Not Available	37mg/L	Algae or aquatic plant	Not Available
	NOEC	72	Not Available	1.5mg/L	Algae or aquatic plant	Not Available

Persistence and degradability

Ingredient	Persistence: Soil/Water	Persistence: Air
5-Amino-1,3,3-Trimethyl, Cyclohexanemethanamine	High	High

Bio accumulative potential

Ingredient	Bio Accumulation
5-Amino-1,3,3-Trimethyl, Cyclohexanemethanamine	Low (logKOW = 1.9023)

Mobility in soil

Ingredient	Mobility
5-Amino-1,3,3-Trimethyl, Cyclohexanemethanamine	Low (logKOW = 340.4)

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: No

Hazchem: 2R

Land Transport (ADG)

UN Number:	UN2735
Packaging Group:	III
UN Proper Shipping Name:	Amines Corrosive Liquid, N.O.S
Transport Hazard:	Class 8
	Sub Risk: N/A
Special Precautions:	Not Applicable
Limited Quantity:	5L

Air Transport (IATA-Code)

UN Number:	UN2735	
Packaging Group:	III	
UN Proper Shipping Name:	Amines Corrosive Liquid, N.O.S	
Transport Hazard:	Class 8	
	Sub Risk: N/A	
	ERG Code:	8L
Special Precautions:	Special Provisions:	A803
	Cargo Only Packing:	856
	Cargo Only Packing Qty/Pack:	60L
	Passenger and Cargo Packing:	852
	Passenger and Cargo Max Qty/Packing:	5L
	Passenger and Cargo Limited Qty Instructions:	Y841
	Passenger and Cargo Limited Qty Packing:	1L

Sea Transport (IMDG-Code)

UN Number:	UN2735
Packaging Group:	III
UN Proper Shipping Name:	Amines Corrosive Liquid, N.O.S
Transport Hazard:	Class 8
	Sub Risk: N/A

Special Precautions:	Not Applicable EMS Number: F-A. S-B
Limited Quantity:	5L

SECTION 15 – REGULATORY INFORMATION

Regulatory Information
Not Available

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/General Manager (+61 2 49426940)
18-20 Torrens Ave, Cardiff NSW 2285, Australia

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