ELASTOTEC HIGH TEMPERATURE DIRECT BOND ADHESIVE RESIN – MATERIAL SAFETY DATA SHEET

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Issued by	Mariana Ballestrin		
Manufacture/Importer Details			
Business name	Elastotec P/L	**ABN**	65 137 437 239
Telephone	+61 2 8987 1922		
Addresss	Unit 1 / 61 Somersby Falls Road, Somersby NSW 2250 Australia		
Emergency Contact			
Business name	Elastotec P/L	**Telephone**	As above or after hours +61 452 318 580
Email	mariana@elastotec.com.au		

SECTION 1: PRODUCT IDENTIFICATION

Trade Name: **Elastotec High Temperature Direct Bond Adhesive Resin**

Recommended Use: Used in conjunction with epoxy curing agent for adhesive and composites applications

SECTION 2: HAZARDS IDENTIFICATION

GHS Classifications:

Skin Corrosion/Irritation – Category 2
Serious Eye Damage/Irritation – Category 2
Skin Sensitisation (Category 1)
Chronic Aquatic Toxicity – Category 2

Non Dangerous Goods for transport according to ADG-7 (Special Provision AU01)
GHS Label elements, including precautionary statements

Signal Word: Warning

Hazard Statements	
H303	May be harmful if swallowed.
H315	Causes skin irritation.
H317	May cause allergic skin irritation.
H318	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements	
P261	Avoid breathing dust / fumes / gas / mist / vapours / spray.
P264	Wash skin thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves / eye protection / face protection.
P273	Avoid release into the environment.

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Response	
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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.
P310	Immediately call a POISON CENTER or doctor / physician.
P321	Specific treatment (see supplement first aid instructions on this label).
P333 + P313	If skin irritation or rash occurs: Get medical advice / attention.
P362	Take off contaminated clothing and wash before reuse.
Disposal	
P501	Dispose of contents / container to an approved waste disposal plant.

SECTION 3: COMPOSITION INFORMATION

Component	Classification	Concentration
4,4'-Isopropylidenediphenolepichlorohydrin copolymer Common Name: Bisphenol A diglycidyl ether polymer	25085-99-8	>50
Phenol-formaldehyde polymer glycidyl ether Common Name: Bisphenol F diglycidyl ether polymer	28064-14-4	>10
Other ingredients determined not to be hazardous	-	To 100

SECTION 4: FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre. (Phone Australia 131 126, New Zealand 0800 764 766).

General Advice: Seek medical advice. If breathing has stopped or is laboured give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped begin cardiopulmonary resuscitation immediately.

Inhalation: Remove the source of contamination or move the victim to fresh air. Ensure airways are clear and have qualified person give oxygen through a face mask if breathing is difficult. If symptoms develop and persist seek medical attention.

Ingestion: DO NOT INDUCE VOMITING. Immediately wash out mouth with water. In general no treatment is necessary unless large quantities are ingested, however, seek medical attention.

Skin: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

Eye: If contact with the eye(s) occurs, wash with copious amounts of water holding eyelid(s) open remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. Take care not to rinse contaminated water unto the non-affected eye. If symptoms persist seek medical attention, preferably an ophthalmologist. Suitable emergency eye wash facilities should be available in the work area.

First Aid Facilities: Eye wash and normal wash room facilities.

Advice to Doctor: Treat symptomatically.

Other Information: For advice, contact a Poisons Information Center (Phone e.g Australia 131 126)

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SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may functions, but will be less effective. Water fog, applied gently may be used as a blanket for fire extinguishment.
Hazards from Combustion Products:	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Phenolics, Carbon Monoxide, Carbon Dioxide.
Precautions in connection with Fire:	Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in cases of rising sound from venting safety device or discolouration of the container. Do not use direct water stream. May spread fire. Move container from fire if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Water fog, applied gently may be used as a blanket for fire extinguishment. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Environmental precautions:	Wear appropriate personal protective equipment and clothing to minimise exposure. Dike and contain the spill. Prevent the material from entering into drains, ditches or other water ways. Place inert absorbent material onto spillage. Do not dilute material but contain. Dispose of waste according to federal, Environmental Protection Authority and state regulations.
Clean-up methods – small spillage	Soak up with an absorbent such as clay, sand or other suitable material. Place in non-leaking container. Seal tightly for proper disposal.
Clean-up methods – large spillage	Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; place in non-leaking containers for proper disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling:	Avoid prolonged or repeated contact with skin, eyes and clothing. Avoid contact with skin, eyes and clothing wash thoroughly after handling. WARNING. May cause skin and eye irritation. May cause skin sensitization. Containers, even those that have been emptied, can contain hazardous product residues. Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Launder contaminated clothing before reuse. Contaminated leather articles, including shoes cannot be decontaminated and should be destroyed to prevent reuse.
Conditions for Safe Storage:	Store in a cool, dry, well-ventilated area out of direct sunlight. Keep containers closed when not in use.

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SECTION 8: EXPOSURE CONTROLS & PERSONAL PROTECTION

National Exposure Standards:	No exposure standards have been established for this material by the Australian National Occupational Health and Safety Commission (NOHSC) or the Occupational Safety and Health Service (OHS) of the New Zealand Department of Labour. However, exposure standards for ingredients are stated below: Australian National Occupational Health and Safety Commission (NOHSC) exposure standards:
Biological Limit Values:	No biological limit allocated.
Engineering Controls:	Provide sufficient ventilation to keep airborne levels below the exposure limit. Where vapours or mist are generated, particularly in enclosed areas, and natural ventilation is inadequate, a local exhaust ventilation system is required. Provide readily accessible eye wash stations and safety showers.
Respiratory Protection:	Where ventilation is inadequate the use of an Air Purifying Respirator with a replaceable organic vapour filter complying with AS/NZS 1715 and AS/NZS 1716 is recommended.
Eye Protection:	Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 – Eye protectors for Industrial Applications.
Hand Protection:	Wear gloves of impervious material such as impervious PVC or rubber gloves. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1 Occupational protection gloves – Selection use and maintenance.
Body Protection:	Suitable work wear should be worn to protect personal clothing. Industrial clothing should conform to the specifications detailed in AS/NZS 2919: Industrial Clothing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Form:	Paste
Colour:	Neutral
Odour:	Little
pH:	Not Available
Melting Point:	Not Determined
Flash Point:	>100°C (ASTM D-93 / PMCC)
Boiling Point:	320°C DSC Decomposition.
Vapour Density:	Not Available
Vapour Pressure	<0.001 kPa @ 20°C
Density:	1.40 to 1.50
Auto-Ignition Temperature:	Not Available
Flammable Limits – Lower:	Not Available
Flammable Limits – Upper	Not Available

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SECTION 10: STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	Extremes of temperature and direct sunlight. Can react vigorously with strong oxidizing agents, strong lewis or mineral acids and organic bases. Avoid contact with water or liquids. Do not allow molten product to contact water or other liquids.Reaction with some curing agents may produce considerable heat and possible violent decomposition.
Incompatible Materials:	Strong oxidising agents.
Hazardous Decomposition Products:	Carbon Monoxide.
Hazardous Polymerisation	Reacts violently with strong oxidising agents.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute oral toxicity	LD50 Low Toxicity Rat LD50 >15,000mg/kg
Acute dermal Toxicity	LD50 Low Toxicity Rabbit LD50 >23,000mg/kg
Inhalation	At room temperature, exposure to vapour is minimal due to low volatility. Vapour from heated material, mist or aerosols may cause respiratory irritation. The LC50 has not been determined.
Skin	Irritating to skin. This product may cause sensitisation in some individuals.
Eyes	Irritating to eyes. On eye contact this product will cause tearing, stinging, blurred vision and redness.
Specific Target Organ Systemic Toxicity (Single Exposure)	Evaluation of available data suggests that this material is not an STOTSE toxicant.
Specific Target Organ Systemic Toxicity (Repeated Exposure)	Except for skin sensitisation, repeated exposures to low molecular weight epoxy resins of this type are not anticipated to cause any significant adverse effects.
Carcinogenicity	Many studies have been conducted to assess the potential carcinogenicity of diglycidyl ether of bisphenol A (DGEBPA). Indeed, the most recent review of the available data by the Internationial Agency for Research on Cancer (IARC) has concluded that DGEBPA) is not classified as a carcinogen. Although some weak evidence of carcinogenicity has been reported in animals, when all the data is considered, the weight of evidence does not show that DGEBPA is carcinogenic.
Teratogenicity	Resins based on diglycidyl ether of bisphenol A (DGEBPA) did not cause birth defects or other adverse effects on the fetus when pregnant rabbits were exposed by skin contacts, the most likely route of exposure, or when pregnant rats or rabbits were exposed orally.
Reproductive Toxicity	In animal studies, did not interfere with reproduction.

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SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Material is moderately toxic to aquatic organisms on an acute basis (LC50 or EC50 between 1 and 10 mg/L in the most sensitive species tested). Acute LC50 in water flea Daphnia magna is 1.3 mg/L. Acute LC50 in fathead minnow (Pimephales promelas) is 3.1 mg/L. Toxicity to aquatic species occurs at concentrations greater than water solubility. Maximum acceptable toxicant concentration (MATC) in water flea.Daphnia magna is 0.55 mg/L. Growth inhibition threshold in bacteria is >42.6 mg C/L.Inhibitory concentration (IC50) in OECD Activated Sludge Respiration Inhibition Test (OECD Test No. 209) is >100 mg/L.

Persistance / Degradability: Theoretical oxygen demand (ThOD) is calculated to be 2.35 p/p. In the atmospheric environment, material is estimated to have a tropospheric half-life of 1.92 hr. Biodegradation reached in Modified Zahn-Wellens/EMPA Test. (OECD Test No. 302B) after 28 days: 12%. The 20-Day Biochemical Oxygen Demand (BOD20) is <2.5%.

Movement and Partitioning: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5). Measured log octanol/water partition coefficient (log Pow) is 3.7-3.9. Potential for mobility in soil is low (Koc between 500 and 2000). Soil organic carbon/water partition coefficient (Koc) is estimated to be 1800-4400. Henry's Law Constant (H) is estimated to be <6.94E-09 atm-m3/mole. Log octanol/water partition coefficient (log Pow) is estimated, using a structural fragment method, to be 3.84.

Environmental Protection: Do not allow product to enter drains, waterways or sewers.

SECTION 13: DISPOSAL CONSIDERATIONS

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER.
Dispose of waste according to federal, EPA and state regulations.

SECTION 14: TRANSPORT INFORMATION

ADG: Not subject to the ADG Code when transported by Road or Rail. (ADG7, Special Provision AU01)

IATA:
Proper shipping name: Environmentally hazardous substance, liquid, N.O.S (EPOXY RESIN)
Class: 9
UN/ID No: UN3082
Packing Group: III

IMDG:
Proper shipping name: Environmentally hazardous substance, liquid, N.O.S (EPOXY RESIN)
Class: 9
UN/ID No: UN3082
Packing Group: III

RID / ADR:
Proper shipping name: Environmentally hazardous substance, liquid, N.O.S (EPOXY RESIN)
Class: 9
UN/ID No: UN3082
Packing Group: III
EAC: 3Z
HIN : 90

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SECTION 15: REGULATORY INFORMATION

Regulatory Information:	Australia: Classified as hazardous according to criteria of National Occupational Health and Safety Commission (NOHSC).
Poisons Schedule:	5S
National and or International Regulatory Information:	New Zealand: Classified as Hazardous according to the Hazardous substances (Classification) Regulations 2001.
Hazard Category:	Irritant. Sensitiser.

SECTION 16: OTHER INFORMATION

Contact Person/Point:	Mariana Ballestrin: +61 2 8987 1922 Elastotec. Unit 1 / 61 Somersby Falls Road, Somersby NSW 2250 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 only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty 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.