SECTION 1 : IDENTIFICATION OF THE CHEMICAL AND OF THE SUPPLIER

Commercial Product Name	: CEMSEAL E500AS PART B
Relevant identified uses	: Water-Based Epoxy Conductive Primer
Company/Undertaking	: Cemseal Industries Sdn. Bhd.
Address	: No.10, Jalan Emas 29, Taman Sri Putri, 81300 Skudai, Johor, Malaysia.
Tel No.	: +607-558 3320
Email	: info@cemseal.com

SECTION 2 : HAZARDS IDENTIFICATION

According to: CLASS Regulations 2013, Malaysia (adapted from UN GHS Rev. 3)

A. Classification of the substance or mixture

Skin corrosion/irritation	Category 2
Serious eye damage/irritation	Category 2
Skin sensitizer	Category 1
Chronic aquatic toxicity	Category 2

B. Label Elements

Pictogram:



Signal word: Warning!

Hazard statement:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements:

(Prevention)

P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear eye protection/ face protection.
P280	Wear protective gloves.

(Response)

P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

(Disposal)

P501	Dispose of contents/ container to an approved waste disposal plant.

SECTION 3 : COMPOSITION AND INFORMATION OF THE INGREDIENTS

A. Single product or Mixture: Mixture

B. Common chemical name of the product: Epoxy resin (Liquid)

Chemical Name	Other name (Common name)	CAS No.	Content (%)
Bisphenol A type	Epoxy Resin	25068-38-6	100

SECTION 4 : FIRST AID MEASURES

A. Description of first aid measures

Inhalation: If signs/symptoms develop, move person to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get 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.

Eye: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. Suitable emergency eye wash facility should be available in work area.

Ingestion: No emergency medical treatment necessary.

B. Most important symptoms and effects, both acute and delayed

Aside from the information found under description of first aid measures (above) and indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

C. Indication of any immediate medical attention and special treatment needed

Notes to Physician:

No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5 : FIRE-FIGHTING MEASURES

A. Extinguishing media

Suitable Extinguishing Media : Water, carbon dioxide, dry chemical powder, foam. Spraying water to cool the surface of the flame touched and protects the safety of personnel. Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred.

Unsuitable Extinguishing Media : Do not use direct water stream. May spread fire.

B. Special Hazards Arising from The Substance or Mixture

Unusual Fire and Explosion Hazards	:	Containers may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is emitted when burned without sufficient oxygen.
Hazardous 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.

C. Recommended Fire Fighting Procedures

Fire Fighting Procedures	:	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. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Move container from fire area 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.
Special protective equipment for firefighters	:	Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during firefighting operations. If contact is likely, change to full chemical resistant firefighting clothing with self-contained breathing apparatus. If this is not available, wear fully chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures :

Wear appropriate protective equipment, e.g., respirators (R95 masks), eye protection (safety glasses), elbow-length Nitrile gloves and safety shoes. Avoid substance contact with the eyes. Do not inhale vapours. Ensure supply of fresh air in enclosed rooms.

B. Environmental precautions:

Isolate the area. Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment.

C. Methods and material for containment and cleaning up:

Contain spilled material if possible. Absorb with materials such as sand, polypropylene fibre products, polyethylene fibre products. Remove residual with soap and hot water. Collect in suitable and properly labelled containers. Residual can be removed with solvent. Consult appropriate solvent SDS for handling information and exposure guidelines. See Section 13, Disposal Considerations, for additional information.

SECTION 7 : HANDLING AND STORAGE

A. Precautions for safe handling:

Avoid prolonged or repeated contact with skin. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Application of a direct flame to a container of liquid epoxy resin can also cause explosion and/or fire.

B. Conditions for safe storage: Recommended pumping and storage temperature for bulk shipments is 60°C. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact. Ask for a product brochure.

C. Storage stability

Storage temperature: 2 - 43 °C

Shelf life: Use within 24 Months

SECTION 8 : EXPOSURE CONTROLS PERSONAL PROTECTION

A. Control parameters

Exposure: Exposure limits are listed below, if they exist.

B. Exposure controls

Engineering Measures/Controls	:	Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.
Respiratory Protection	:	Respiratory protection (R95 masks) should be worn.
Hand Protection	:	Wear protective gloves (elbow-length Nitrile gloves).
Eye Protection	:	Tightly fitting safety goggles.
Skin / Body Protection	:	Wear protective material penetration overalls and safety shoes.
Other protection	:	Work site no smoking, eating and drinking water. After work, be sure to take a shower and change clothes. Pay attention to personal hygiene.
Precautions for safe handling	:	Avoid prolonged or repeated contact with skin. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

A. Information on Basic Physical and Chemical Properties

Appearance	Viscous Liquid
Color	Colorless to yellow
Odor	Odorless to mild
Boiling Point	Data not available
Decomposition Temperature	Data not available
Specific Gravity	1.16 g/mL
Melting Point/Freezing Point	Data not available
pH	Data not available
Water Solubility	Data not available

Viscosity	11,000 - 14,000 mPa.s at 25 °C
Oxidizing Properties	Data not available
Vapor Pressure	Data not available
Evaporation Rate	Data not available
Vapor Density	Data not available
Flash Point	Data not available
LEL	Data not available
Flammability (Solid,gas)	Not flammable based on ingredients
UEL	Data not available
Autoignition	Data not available
Octanol/water Partition coefficient	log Pow: 3.242 Estimated

B. Other Information

No additional physical and chemical parameters noted.

SECTION 10 : STABILITY AND REACTIVITY

Reactivity : No dangerous reaction under condition of normal use.

Chemical stability : Stable under recommended storage conditions. See Storage Section 7.

Possibility of hazardous reactions : Will not occur by itself. Masses of more than one pound (0.5 kg) of product plus an aliphatic amine will cause irreversible polymerization with considerable heat buildup.

Incompatible materials : Avoid contact with oxidizing materials. Avoid contact with: Acids, Bases. Avoid unintended contact with amines.

Conditions to avoid : Avoid short term exposures to temperatures above 300 °C. Potentially violent decomposition can occur above 350 °C. Avoid prolonged exposure to temperatures above 250 °C. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid.

Hazardous decomposition products : Decomposition products depend upon temperature, air supply and the presence of other materials. Gases are released during decomposition. Uncontrolled exothermic reaction of epoxy resins release phenolics, carbon monoxide, and water.

SECTION 11 : TOXICOLOGICAL INFORMATION

GHS Properties	Classification
Acute oral toxicity	Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. LD50, Rat, > 15,000 mg/kg
Acute dermal toxicity	Prolonged skin contact is unlikely to result in absorption of harmful amounts. LD50, Rabbit, 23,000 mg/kg
Acute inhalation toxicity	At room temperature, exposure to vapor is minimal due to low volatility. Vapor from heated material, mist or aerosols may cause respiratory irritation. The LC50 has not been determined.

Skin corrosion/Irritation	Prolonged contact may cause skin irritation with local redness. Repeated contact may cause skin irritation with local redness.
Serious eye damage/Irritation	May cause eye irritation. Corneal injury is unlikely.
Skin sensitization	For similar material(s): Has caused allergic skin reactions in humans. Has demonstrated the potential for contact allergy in mice.
Respiratory sensitization	No relevant data found.
Aspiration Hazard	Based on physical properties, not likely to be an aspiration hazard.
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 International 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 of the data are considered, the weight of evidence does not show that DGEBPA is carcinogenic.
Germ Cell Mutagenicity	In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.
Toxicity for Reproduction	In animal studies, it did not interfere with reproduction.
STOT-SE	Evaluation of available data suggests that this material is not an STOT-SE toxicant.
STOT-RE	Except for skin sensitization, repeated exposures to low molecular weight epoxy resins of this type are not anticipated to cause any significant adverse effects.

SECTION 12 : ECOLOGICAL INFORMATION

A. Ecotoxicity:

Acute toxicity to fish

Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species). LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 2 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), static test, 48 Hour, 1.8 mg/l

Acute toxicity to algae/aquatic plants

ErC50, Scenedesmus capricornutum (freshwater algae), static test, 72 Hour, Growth rate inhibition, 11 mg/l

Toxicity to bacteria

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

B. Chronic toxicity to aquatic invertebrates
MATC (Maximum Acceptable Toxicant Level), Daphnia magna (Water flea), semi-static test, 21d, number of offspring, 0.55 mg/l

C. Persistence and degradability:
Biodegradability**:** Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. 10-day Window: Not applicable
Biodegradation: 12 %, Exposure time: 28 d
Method: OECD Test Guideline 302B or Equivalent

D. Bio accumulative potential:
Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Partition coefficient: n-octanol/water (log Pow): 3.242 at 25 °C Estimated.

E. Mobility in Soil:
Potential for mobility in soil is low (Koc between 500 and 2000). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process. Partition coefficient (Koc): 1800 - 4400 Estimated.

F. Results of PBT and vPvB assessment:
This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

G. Other adverse effects:
This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

SECTION 13 : DISPOSAL CONSIDERATIONS

The product should not be allowed to enter drains and watercourses. Preferred methods of waste disposal are incineration or biological treatment in federal/state approved facility. Empty containers should be recycled or disposed through an approved waste management facility or licensed contractor. All federal, state and local environmental regulations shall be observed.

SECTION 14 : TRANSPORTATION INFORMATION

	UN number	UN proper shipping name	Transport hazard class	Packing group	Environmental hazards
Road & Rail	UN 3082	Environmentally hazardous substances, liquid (epoxy resin)	9	III	Epoxy resin
IMO/ IMDG	UN 3082	Environmentally hazardous substances, liquid (epoxy resin)	9	III	Epoxy resin
IATA/ ICAO	UN 3082	Environmentally hazardous substances, liquid (epoxy resin)	9	III	Epoxy resin

SECTION 15 : REGULATORY INFORMATION

A. Occupational Safety and Health (DOSH)

- Occupational Safety and Health Act 1994 (Act 514)
- Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 (CLASS Regulations)
- Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000 (USECHH Regulations)

This product is subject to requirements on classification, labelling, Safety Data Sheet (SDS), and permissible exposure limits under the above regulations.

B. Department of Environment (DOE)

- Environmental Quality Act 1974
- Environmental Quality (Scheduled Wastes) Regulations 2005

This product may be subject to environmental control and disposal requirements depending on its classification as scheduled waste.

SECTION 16 : OTHER INFORMATION

A. Issuing date: Apr, 24, 2026

B. Version: E500AS(B)-260424

C. Other Information:

The information contained herein is based on the present state of our knowledge and does not therefore guarantee certain properties. Recipients of our product must take responsibility in observing existing laws and regulations.
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. SUCH INFORMATION IS TO THE BEST OF CEMSEAL KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS FOR THE DATE INDICATED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO ITS ACCURACY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY AND COMPLETENESS OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE.