Material Safety Data Sheet

CERAPOXY 5

SSANGKOM PTY LTD

Version 2

Issue Date: **05/06/2023**
Revision Date: **21/11/2024**

SECTION 1 Chemical Product and Company Identification

Product Identification

Product name	CERAPOXY 5
Use of Product	Liquid epoxy resin adhesive

Company Identification

Registered company name	SSANGKOM PTY LTD
Address	29 Annie Street, Coopers Plains QLD 4108
Department	Technical Research Institute
Website	www.ssangkom.com.au

Emergency telephone number

For Korea	82-31-768-3030 / 82-80-768-3030
For Australia	AUSTRALIAN POISONS INFORMATION CENTRE: 13 11 26 (24 HOUR SERVICE), 000 (POLICE OR FIRE BRIGADE)

SECTION 2 Hazards Identification

A. Hazards, Risks Classification of Substance

Skin Corrosion / Irritation	Category 2
Serious Eye Damage	Category 2
Skin Sensitization	Category 1
Chronic Aquatic Toxicity	Category 2

B. Warning Signs Elements including Precaution Phrase

▶ **Pictograph:**

▶ **Signal word: Warning**

▶ **Hazard and risk statements:**

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 statement(s) Prevention**

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.

P264: Thoroughly wash the contact body part after handling.

P273: Avoid releasing into the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

▶ **Precautionary statement(s) Response**

P302+P352: If on skin: Rinse with plenty of water.

P305+P351+P338: If in eyes: Rinse cautiously with water for a few minutes. If possible, remove contact lenses.

Keep washing up.

P321: Take emergency measures.

P330: Rinse mouth.

P332+P313: If skin irritation occurs: Seek medical attention/advice.

P333+P313: If skin irritation or rash occurs: Get medical advice/attention.

P337+P313: If eye irritation occurs: Seek medical attention/advice.

P362+P364: Take off contaminated clothing and wash it before reuse.

P391: Collect spillage.

► **Precautionary statement(s) Storage**

NONE03: Not applicable

► **Precautionary statement(s) Disposal**

P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

C. Other hazards and risks not included in the criteria for classification of hazards and risks.

NFPA Grade (0~4 Step)

Chemical Substance Name	Health Care	Fire	Reactivity
Bisphenol-A Diglycidyl Ether	2	1	0
Limestone	N/A	N/A	N/A
S1 (Trade Secret)	1	0	0

SECTION 3 Composition Name and Content

Name	CAS No.	Content (%)	Remarks
Bisphenol-A Diglycidyl Ether	1675-54-3	30-60	
Limestone	1317-65-3	50-65	
S1 (Trade Secret)		0.5-1.0	

SECTION 4 First Aid Measures

A. When it gets into your eyes:

- **If in contact with the substance, immediately flush the eyes with running water for at least 20 minutes.**
- **If possible, remove contact lenses. Keep washing up.**
- **If eye irritation persists, seek medical attention/advice**

B. When it comes into contact with your skin:

- **Skin Irritation or Erythema (Redness): Seek medical advice/attention.**
- **Remove Contaminated Clothing: Take off contaminated clothing.**
- **If Substance is Hot: If the material is hot, cool the affected area with large amounts of water to relieve heat. Seek urgent medical treatment.**
- **Remove Contaminated Clothes and Shoes: Remove contaminated clothes and shoes and isolate the affected area.**
- **If Skin Contact Occurs: Immediately wash the skin and eyes with water for at least 20 minutes.**
- **Minor Skin Contact: Prevent the spread of contamination by isolating the affected area.**

C. When inhaled:

- **If you feel unwell, seek medical attention/advice.**
- **If exposed to excessive dust or fumes, remove to fresh air and seek medical attention if experiencing coughing or other symptoms.**
- **If not breathing, give artificial respiration**
- **Give oxygen if breathing is difficult.**
- **Keep Warm and Rested**

D. When eaten:

- **Seek Emergency Medical Attention: Obtain immediate medical assistance.**

E. Other doctor's notes

- **Other Notes for Physicians: Ensure that medical personnel are aware of the substance involved and take appropriate protective measures.**

SECTION 5 Countermeasures against Explosion and Fire

A. Appropriate (Inappropriate) fire extinguishing agents:

- **Small fires: Dry sand, dry chemical, alcohol resistant foam, water spray, normal foam, CO2 (appropriate extinguishing agent)**
- **Large fires: Water spray/fog, normal foam (appropriate extinguishing agent)**
- **High pressure water injection (inappropriate extinguishing agent)**

B. Specific hazards arising from the chemical:

- **During burning, irritating and very toxic gas may be generated by pyrolysis or combustion.**
- **When heated, the container may explode.**
- **Some can burn, but not easily ignite.**
- **Non-flammable; the substance itself does not burn, but it may decompose when heated and generate corrosive/toxic fume.**

C. Protective equipment to be worn and prevention measures in case of fire extinguishing:

For Bisphenol-A Diglycidyl Ether:

- **Maintain a Safe Distance: Move to a safe distance from the fire zone during firefighting operations.**
- **Caution for High-Temperature Transport: Be aware that some materials may be transported at high temperatures.**
- **Prevent Spread of Firefighting Water: Dig containment trenches to prevent firefighting water from spreading and contaminating the environment.**
- **Move Containers if Safe: If it is not dangerous, relocate containers away from the fire zone.**
- **Cool Containers After Fire: Use large quantities of water to cool containers after the fire has been extinguished.**

- **Pressure Release or Discoloration: If the pressure release valve emits a high-pitched sound or the tank shows discoloration, evacuate immediately.**
- **In Case of Tank Engulfed in Flames: Evacuate from tanks engulfed by flames for safety**

SECTION 6 Measures against Accidental Release

A. Measures and protective equipment required to protect human body:

- **Avoid inhaling (dust, fume, gas, mist, vapor and spray).**
- **Wipe off spills immediately, and follow the precautions in the section of protective equipment.**
- **Remove all the sources of ignition.**
- **If it is not dangerous, stop leaking.**
- **Do not touch damaged containers or leaks without wearing appropriate protective clothing.**
- **Cover with plastic sheet to prevent diffusion.**
- **Prevent dust formation.**
- **Pay attention to the substances and conditions to avoid.**

B. Measures required to protect the environment:

- **Prevent entry into waterways, sewers, basements and confined spaces.**

C. Cleaning up or removing methods:

- **Absorb the spill with inert substances (for instance, dry sand or soil), and put it in a chemical waste container.**
- **Remove airborne dust and moisten it with water to prevent it from scattering**
- **Absorb the liquid and wash the contaminated area with detergent and water.**

SECTION 7 Handling and Storage

Safe handling method:	▶ Avoid inhaling (dust, fume, gas, mist, vapor and spray). ▶ Wash the handled area thoroughly after handling. ▶ Use only outdoors or in a well-ventilated area. ▶ Follow all MSDS/label precautions as there may still be product residue remaining even after the container is ▶ Handle and store with caution before use. ▶ Carefully remove the cap before opening. ▶ Avoid prolonged or continuous skin contact. ▶ Pay attention to substances and conditions to be avoided. ▶ Perform the task referring to Engineering Management and Personal Protective Equipment.
Safe storage method	▶ Store the container tightly sealed in a well-ventilated area.

SECTION 8 Exposure Prevention and Personal Protective Equipment

A. Exposure standards of chemical substances, biological exposure standards and etc.:

Name	Domestic Regulations	ACGIH Regulations	Biological Exposure Standards
Bisphenol-A Diglycidyl Ether	N/A	N/A	N/A
Limestone	TWA - 10 mg/㎥	N/A	N/A
S1 (Trade Secret)	N/A	N/A	N/A

B. Appropriate engineering control:

- **Implement process isolation, local exhaust, or other engineering controls to adjust air levels below the exposure**
- **Ensure ventilation to maintain air pollution below the exposure limits when generating dust, fumes, or mists during**
- **Install face washing facilities and safety showers in facilities that store or use this substance.**

C. Personal protective equipment:

Bisphenol-A Diglycidyl Ether

- **Wear respiratory protective equipment certified by the Occupational Safety and Health Agency (KOSHA) that is suitable for the physical and chemical properties of the exposed gas/liquid.**
- **Recommended types of respiratory protective equipment for gases/liquids:**
  - **Full-facepiece air-purifying respirator (APR) with cartridges for organic vapors (acid gas cartridges if acid gases are present).**
  - **Half-facepiece APR with cartridges for organic vapors (acid gas cartridges if acid gases are present).**
  - **Full-facepiece powered air-purifying respirator (PAPR) for organic vapors (acid gas cartridges if acid gases are present).**
  - **Half-facepiece PAPR for organic vapors (acid gas cartridges if acid gases are present).**
  - **Powered air-purifying respirators (PAPRs).**
- **In oxygen-deficient environments (<19.5%), use supplied-air respirators (SARs) or self-contained breathing apparatuses (SCBAs). Wear a respirator that has been certified by the Occupational safety and Health Agency in accordance with the physical and chemical characteristics of the substance to be exposed.**

Limestone

- **Wear respiratory protective equipment certified by KOSHA that is appropriate for particulate matter exposure.**

- For exposure levels below 100 mg/m³: Wear half-facepiece respirators equipped with suitable filters.
- For exposure levels below 250 mg/m³: Use loose-fitting hoods or helmet-type powered air-purifying respirators (PAPRs) or continuous-flow dust masks.
- For exposure levels below 500 mg/m³: Use full-facepiece respirators, powered air-purifying respirators (PAPR), or continuous-flow/pressure-demand supplied-air respirators (SARs).
- For exposure levels below 10,000 mg/m³:
  - Wear a full-facepiece respirator or helmet/hood-type, pressure-demand supplied-air respirator (SAR) with an appropriate filter.
  - Wear a full-facepiece respirator or helmet/hood-type, pressure-demand supplied-air respirator (SAR) with an appropriate filter.

S1 (Trade Secret)

No data

SECTION 9 Physical and Chemical Properties

A. Appearance: White paste	K. Vapor pressure: No data
B. Odor: No data	L. Solubility: No data
C. Odor threshold: No data	M. Vapor density: No data
D. pH : No data	N. Specific gravity: No data
E. Melding point / Freezing point: No data	O. N-octanol/water partition coefficient: No data
F. Boiling point / Boiling point range: No data	P. Autoignition temperature: No data
G. Flash point: No data	Q. Decomposition temperature: No data
H. Evaporation rate: No data	R. Viscosity: 100,000 – 200,000 mPa.s/25℃
I. Flammability (solid, gas): No data	S. Molecular weight: No data.
J. Upper/Lower limit of flammability or explosive range: No data	

SECTION 10 Stability and Reactivity

A. Chemical stability and potential for hazardous reactions

Bisphenol-A Diglycidyl Ether:

- Containers may explode when heated.
- Some materials may burn, but are not easily ignited.
- In case of fire, irritating and toxic gases may be released.

Limestone

- Stable under normal temperature and pressure conditions.
- Containers may explode when heated.
- Some materials may burn, but are not easily ignited.
- In case of fire, irritating and toxic gases may be released.
- Inhalation of the substance may be harmful.
- Some liquid forms may produce vapors that can cause dizziness or asphyxiation.

S1 (Trade Secret)

No data

B. Condition(s) to avoid

Bisphenol-A Diglycidyl Ether

- Heat

Limestone

- Heat, sparks, flames, or other sources of ignition

S1 (Trade Secret)

No data

C. Substance(s) to avoid

Bisphenol-A Diglycidyl Ether

- Water-reactive substances

Limestone

- Heat, sparks, flames, or other sources of ignition

S1 (Trade Secret)

No data

D. Hazardous substance(s) produced during decomposition

Bisphenol-A Diglycidyl Ether

No data

Limestone

Combustible materials, irritant and toxic gases, separation groups (segregation group)

S1 (Trade Secret)

No data

SECTION 11 Toxicological Information

A. Information about the highly possible exposure routes

Bisphenol-A Diglycidyl Ether

- **May cause irritation and allergic reactions.**
- **No significant adverse effects reported.**
- **Can cause irritation (including severe irritation in some cases).**

Limestone

- **Can be absorbed into the body through inhalation.**
- **Can be absorbed through inhalation and ingestion.**
- **Can be absorbed into the body through skin, ingestion, and inhalation of aerosols.**
- **Can be absorbed by inhalation of vapors.**
- **Exposure through inhalation, skin, and ingestion is possible.**

S1 (Trade Secret)

No data

B. Information on health hazard

Acute toxicity	
Oral	Bisphenol-A Diglycidyl Ether: LD50 15,600 mg/kg (Other) Limestone: No data available
Dermal	Bisphenol-A Diglycidyl Ether: LD50 > 20,000 mg/kg (Rabbit) Limestone: No data available
Inhalation	No data
Skin corrosion or irritation	Bisphenol-A Diglycidyl Ether: Mild irritation (500 mg, rabbit) Limestone: No data available
Severe eye damage or irritation	Bisphenol-A Diglycidyl Ether: Severe irritation (2 mg, 24 hours, rabbit) Limestone: No data availabl
Respiratory oversensitivity	No data
Carcinogenicity	No data
Occupational Safety and Health Act	No data
Notification of the Ministry of Employment and Labor	No data
IARC	Bisphenol-A Diglycidyl Ether: IARC Group 3 (Not classified as carcinogenic) Limestone: No data available
OSHA	No data
ACGIH	No data
NTP	No data
EU CLP	No data
Germ cell mutagenicity	No data
Reproductive toxicity	No data
Specific target organ toxicity (single exposure)	No data
Specific target organ toxicity (repeated exposure)	No data
Inhalation hazard	No data

SECTION 12 Environmental Impact

Ecotoxicity	
Fishes	No data
Shellfishes	No data
Birds	No data
Persistence and Degradability	
Persistence	Bisphenol-A Diglycidyl Ether: log Kow 3.84 (estimated) Limestone: No data available
Degradability	No data
Bioaccumulation	No data
Accumulation	No data
Biodegradability	No data
Soil mobility	No data
Other harmful impact	No data

SECTION 13 Disposal Consideration

A. Disposal method

Bisphenol-A Diglycidyl Ether

- **Dispose of the contents and container according to the regulations if specified in the Wastes Control Act.**

Limestone

- **No data available.**

B. Precautions for Disposal

Bisphenol-A Diglycidyl Ether

- **If specified in the Wastes Control Act, consider the precautions specified in the regulation**

Limestone

- **If specified in the Wastes Control Act, consider the precautions specified in the regulation**

SECTION 14 Information Required for Transportation

A. UN number (UN No.)	Bisphenol-A Diglycidyl Ether: UN 3334 Limestone: No transport hazard classification available
B. Proper shipping name	Bisphenol-A Diglycidyl Ether: Aviation Regulated Liquid, N.O.S. (Other) Limestone: Not applicable
C. Dangerousness class in transport	Bisphenol-A Diglycidyl Ether: Class 9 (Miscellaneous Dangerous Goods) Limestone: Not applicable
D. Container class	No data
E. Marine pollutants	No data
F. Special safety measures that users need or need to know about transportation or means of transportation	No data
G. Emergency measures in case of a spill	No data

SECTION 15 Legal Regulations Status

Regulation by Occupational Safety and Health Act	Bisphenol-A Diglycidyl Ether: No data available Limestone: Work environment measurement target substance (Measurement cycle: 6 months) Special health examination target substance (Examination cycle: 24 months) Exposure limit substance
Regulation by Chemical Substances Management Act	No data
Regulation by Hazardous Goods Safety Management Act	No data
Regulation by Waste Management Act	No data
Regulation by Other Domestic and Foreign Laws	No data
- Domestic Regulation	No data
Persistent Organic Pollutant Management Act	No data
- Overseas regulations	No data
U.S. Management Information (OSHA Regulation)	No data
U.S. Management Information (CERCLA Regulation)	No data
U.S. Management Information (EPCRA 302 Regulation)	No data
U.S. Management Information (EPCRA 304 Regulation)	No data
U.S. Management Information (EPCRA 313 Regulation)	No data
U.S. Management Information (Rotterdam Convention Substances)	No data
U.S. Management Information (Stockholm Convention Substances)	No data
U.S. Management Information (Montreal Protocol Substances)	No data
EU Classification Information (Determinate Classification Result)	Bisphenol-A Diglycidyl Ether: Xi (Irritant); R36/38 (Irritating to eyes and skin), R43 (May cause sensitization by skin contact) Limestone: Not applicable
EU Classification Information (Danger phrase)	Epichlorohydrin-Bisphenol A Resin: R36/38, R43 Limestone: Not applicable
EU Classification Information (Safety phrase)	Epichlorohydrin-Bisphenol A Resin: S2 (Keep out of reach of children), S28 (After contact with skin, wash immediately with plenty of water), S37/39 (Wear suitable gloves and eye/face protection) Limestone: Not applicable

SECTION 16 Other References

A. Data sources

Bisphenol-A Diglycidyl Ether:

ICSC (International Chemical Safety Cards): Physical state, color, odor, melting/freezing point, flash point, flammability (solid, gas), vapor pressure, solubility, vapor density, specific gravity, n-octanol/water partition coefficient (Kow).
HSDB (Hazardous Substances Data Bank): Solubility, specific gravity, residual effects.
ChemIDplus: Molecular weight.
Corporate Solution from Thomson Micromedex:
ECB-ESIS (European Chemical Substances Information System):
ECOTOX Database, EPA (Environmental Protection Agency):
IUCLID (International Uniform Chemical Information Database): Chemical data sheet.
International Chemical Safety Cards (ICSC):
TOXNET, U.S. National Library of Medicine:
The Chemical Database, University of Akron:
Industrial Toxicology Handbook, ShinKwang Publishing
Hazardous Materials Information Management System, National Fire Agency:
Chemical Substance Information System, National Institute of Environmental Research:

Limestone:

ICSC: Physical state, color, odor.
ECHA (European Chemicals Agency): Color.
Chemicalbook: Melting/freezing point, initial boiling point and boiling range.
NIOSH (National Institute for Occupational Safety and Health): Vapor pressure.
Chemicalbook: Specific gravity.

B. Date of the initial preparation: 05/06/2023

C. Number of revisions and the date of the last revision

Number of revisions: 2
Date of the last revision: 21/11/2024

D. Others

*This MSDS refers to the data from the Korea Occupational Safety & Health Agency, National Institute of Environmental Research, National Institute of Food and Drug Safety Evaluation, the U.S. Department of Health and Human Services, the U.S.Environmental Protection Agency, and the European Chemicals Agency

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