



**SAFETY DATA SHEET
QUICSEAL 396 – PART A
EPOKOTE WB**

1. INFORMATION OF THE SUBSTANCE/COMPOUND AND THE SUPPLIER

Product Name: QUICSEAL 396 – EPOKOTE WB (Part A)
Product Use: Resin Component of two part epoxy resin

Details of the supplier:

*QUICSEAL CONSTRUCTION CHEMICALS PTE LTD
No. 7 Eunos Avenue 8A
Eunos Industrial Estate
Singapore 409460*

Emergency Contact No.: (65) 6742 4466

2. HAZARDS IDENTIFICATION

GHS Classification:

Acute Toxicity (Oral) – Category 4
Skin Corrosion/Irritation – Category 2
Skin sensitization – Category 1
Chronic aquatic toxicity – Category 2

GHS LABEL ELEMENTS

Symbol(s):



Signal Word

Warning

Hazard Statements:

H302: Harmful if swallowed
H315: Causes skin irritation
H317: May cause an allergic skin reaction
H411: Toxic to aquatic life with long lasting effects.

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Precautionary Statements:Prevention

P261: Avoid breathing fume/mist/vapours/spray.

P264: Wash hands and forearms thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P272: Contaminated work clothing should not be allowed out of the workplace.

P273: Avoid release to the environment.

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

Response

P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P330: Rinse mouth.

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

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

P362: Take off contaminated clothing and wash before reuse.

P363: Take off contaminated clothing and wash before reuse.

P391: Collect spillage.

Disposal

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

This product contains the following components classified as hazardous:

COMPONENTS	CAS No.	Percentage
4,4'-(1-methylethylidene)bisphenol polymer with (chloromethyl) oxirane	25068-38-6	>80 %
Glycidyl ether of C12-C14 alcohol	68609-97-2	<20%
Additives	-	<5%

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4. FIRST-AID MEASURES

General information

Take person to a safe place. Observe self-protection for first aid. Always seek medical advice in the event of contact with this substance.

Inhalation

Keep the patient calm. If unconscious place in stable sideways position. Protect against loss of body heat. If breathing stops, administer artificial respiration. Seek medical advice immediately and clearly identify substance.

Skin contact

Remove contaminated clothes at once. Wash off with plenty of water or water and soap immediately for 10-15 minutes. In serious cases, use emergency shower immediately. Seek medical advice immediately and clearly identify substance.

Eye contact

Rinse immediately with plenty of water for 10-15 minutes. Keep eyelids well open to rinse the whole eye surface and eyelids with water. Seek medical advice immediately and clearly identify substance. Continue to bathe eyes during transport to medical practitioner.

Ingestion

If conscious, give several small portions of water to drink. Do not induce vomiting. Seek medical advice immediately and clearly identify substance.

Notes to physician

Treat patient symptomatically (decontamination, vital functions).

5. FIRE-FIGHTING MEASURES

Suitable Fire-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 function, but will be less effective. Water fog applied gently may be used as a blanket for fire extinguishment.

Unsuitable Extinguishing Media

Do not use direct water stream. May spread fire.

6. ACCIDENTAL RELEASE MEASURES

Emergency Measures

Emergency and non-emergency responders should use personal protective equipment. Avoid contact with skin and eyes. Do not breathe vapours/aerosol.

Personal Precautions and Protective equipment

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

Environmental Precautions

Prevent entry into drains, sewers and water courses.

Decontamination Precaution

Clear with liquid absorbent or contain and remove by best available means. Contact local industrial waste disposal company for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Plan first aid action before beginning work with this product. Wear personal protective equipment. Avoid contact with skin and eyes.

Conditions for safe storage, including any incompatibilities

Store in original container. Keep tightly closed in a dry and cool place. Protect from heat and direct sunlight.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure Limit

None assigned.

Personal Protective Equipment:

Hand Protection

Chemical resistant gloves complying with EN374.

Break through time: > 4 h.

Eye Protection

Safety glasses with side-shields conforming to EN166.

Skin / Body Protection

Long sleeved clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory Protection

No personal respiratory protective equipment normally required. Breathing apparatus needed only when aerosol or mist is formed. Respirator with A/P2 filter.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Viscous liquid
Color:	Clear to pale yellow
Odour:	Odourless to mild
Flash Point:	> 200°C
Initial boiling point and boiling range:	Not available
Freezing / Melting point:	Not available
Autoignition temperature:	> 200°C
Flammability Limits:	Not available
Vapor pressure (20°C):	< 0.01
Relative density 20°C):	1.17
Water Solubility (25°C):	Not soluble

10. STABILITY AND REACTIVITY

Chemical stability

Stable at normal conditions. No decomposition if stored and applied as directed.

Material to avoid

Strong acids, strong alkalis, strong oxidizing agents.

Hazardous decomposition products

Thermal decomposition. Oxides of carbon. Irritant fumes.

11. TOXICOLOGICAL INFORMATION

This product has not been tested and all the toxicological statements have been derived from the respective components' available toxicity information.

Acute toxicity

Experimental/calculated data:

LD50, oral: > 5,000 mg/kg (the product is not toxic/harmful if ingested)

LD50, dermal: > 5,000 mg/kg (the product is not toxic/harmful on contact with skin)

LC50, inhalation: > 20 mg/L (the product is not toxic/harmful if inhaled)

Skin and Eye Irritation

The product contains the following components with their respective skin and eye corrosion/irritation classification:

COMPONENTS	CAS No.	Animal skin test result	Animal eye test result
4,4'-(1-methylethylidene)bisphenol polymer with (chloromethyl)	25068-38-6	Moderate Irritant (Skin Irritant Category 2)	Moderate Irritant (Eye Irritant Category 2)
Glycidyl ether of C12-C14 alcohol	68609-97-2	Moderate Irritant (Skin Irritant Category 2)	Moderate Irritant (Eye Irritant Category 2)

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Respiratory / Skin sensitization

The product's components may cause an allergic skin reaction. This product is not expected to cause allergy or asthma symptoms or breathing difficulties if accidentally inhaled.

Germ cell mutagenicity / Carcinogenicity / Reproductive toxicity / Developmental toxicity

Based on the assessment of available information, the product is: not mutagenic in bacteria; has no known carcinogenic effect; and not expected to cause reproductive and developmental toxicity.

Specific target organ toxicity (single and repeated exposure)

Based on the available information, there is no specific target organ toxicity expected after a single or repeated exposure to the product.

12. ECOLOGICAL INFORMATION

The following ecological assessment is based on the available ecotoxicity information of the product's components.

Chronic toxicity to the aquatic environment

The product's major components are classified as Category 2 chronic aquatic toxicants. By estimation this product is considered toxic to aquatic life with long lasting effects (Chronic toxicity to the aquatic environment Category 2)

13. DISPOSAL CONSIDERATIONS**Description of waste residues and information on their safe handling & methods of disposal**

Dispose of the product through licensed hazardous waste collectors under Singapore regulations. Provide the hazardous waste collector the sufficient information on the various hazards of this product.

Disposal of any contaminated packaging

Dried material can be disposed off in authorized landfill site in accordance to national regulations. Container should be recycled after cleaning or dispose of the container through licensed hazardous waste collectors under Singapore regulations. Provide the hazardous waste collector the sufficient information on the various hazards of this product in this container.

14. TRANSPORT INFORMATION**Land Transport (ADR):**

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., MIXTURE (Epoxy resin)

UN Number: 3082

Hazard Class: 9

Packing Group: III

Air Transport (IATA):

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.,
MIXTURE (Epoxy resin)
UN Number: 3082
Hazard Class: 9
Packing Group: III
Packing instructions: Passenger aircraft: 964 (450 L)
LQ: Y964 (30 kg G)
Cargo aircraft: 964 (450 L)

Sea transport (IMDG):

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.,
MIXTURE (Epoxy resin)
UN Number: 3082
Hazard Class: 9
Packing Group: III
Marine pollutant: Yes

15. REGULATORY INFORMATION**Applicable National Regulations**

This product is subject to the requirements in the following acts/regulations:

Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations
Environmental Protection and Management Act and Environmental Protection and Management
Maritime and Port Authority of Singapore (Dangerous Goods, Petroleum and Explosives)

International Regulations

This product is classified as hazardous pursuant to the provision set forth in Directives 67/548/EEC and 1999/45/EC and/or EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments.

16. OTHER INFORMATION

The information and data contained herein are believed to be accurate and reliable; however, it is the user's responsibility to determine suitability of use. Since QUICSEAL Construction Chemicals Pte. Ltd. cannot know all of the uses to which its products may be put or the conditions of use; it makes no warranties concerning the fitness or suitability of its products for a particular use of purpose.

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**SAFETY DATA SHEET
QUICSEAL 396 – PART B
EPOKOTE WB**

1. INFORMATION OF THE SUBSTANCE/COMPOUND AND THE SUPPLIER

Product Name: QUICSEAL 396 – EPOKOTE WB (Part B)
Product Use: Resin Component of two part epoxy resin

Details of the supplier:

*QUICSEAL CONSTRUCTION CHEMICALS PTE LTD
No. 7 Eunos Avenue 8A
Eunos Industrial Estate
Singapore 409460*

Emergency Contact No.: (65) 6742 4466

2. HAZARDS IDENTIFICATION

GHS Classification:

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

GHS LABEL ELEMENTS

Symbol(s):



Signal Word

Danger

Hazard Statements:

H314: Causes severe skin burn and eye damage
H318: Causes serious eye damage
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention

P261: Avoid breathing fume/mist/vapours/spray.
P264: Wash hands and forearms thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

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Response

P301+P330+P331: IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

P303+P361+P353: IF ON SKIN (on hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338: IF IN EYE: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310: Immediately call a POISON CENTRE/doctor.

P391: Collect spillage.

Storage

P405: Store locked up.

Disposal

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

This product contains the following components classified as hazardous:

COMPONENTS	CAS No.	Percentage
Polyamine Polymer	-	>40%
Extender/Filler	-	>20%
Pigment	-	>10%
Tetraethylenepentamine	112-57-2	<5%

4. FIRST-AID MEASURES**General information**

Take person to a safe place. Observe self-protection for first aid. Always seek medical advice in the event of contact with this substance.

Inhalation

Keep the patient calm. If unconscious place in stable sideways position. Protect against loss of body heat. If breathing stops, administer artificial respiration. Seek medical advice immediately and clearly identify substance.

Skin contact

Remove contaminated clothes at once. Wash off with plenty of water or water and soap immediately for 10-15 minutes. In serious cases, use emergency shower immediately. Seek medical advice immediately and clearly identify substance.

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Eye contact

Rinse immediately with plenty of water for 10-15 minutes. Keep eyelids well open to rinse the whole eye surface and eyelids with water. Seek medical advice immediately and clearly identify substance. Continue to bathe eyes during transport to medical practitioner.

Ingestion

If conscious, give several small portions of water to drink. Do not induce vomiting. Seek medical advice immediately and clearly identify substance.

Notes to physician

Treat patient symptomatically (decontamination, vital functions).

5. FIRE-FIGHTING MEASURES**Suitable Fire-extinguishing Media**

Alcohol-resistant foam, carbon dioxide (CO₂), dry chemical, dry sand, limestone powder

Special Hazards

May generate ammonia gas. May generate toxic nitrogen oxide gases. Use of water may result in formation of very toxic aqueous solutions. Do not allow run-off from fire-fighting to enter drains or water courses. Incomplete combustion may form carbon monoxide. Ammonia gas may be liberated at high temperatures. In case of incomplete combustion an increased formation of oxide of nitrogen (NO_x) is to be expected. Downwind personnel must be evacuated. Burning produce noxious and toxic fumes.

Special Protective Equipment For Fire-Fighter

Avoid contact with skin. Use proper personal protective equipment. Wear self-contained breathing apparatus for fire-fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES**Emergency Measures**

Emergency and non-emergency responders should use personal protective equipment. Avoid contact with skin and eyes. Do not breathe vapours/aerosol.

Personal Precautions and Protective equipment

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

Environmental Precautions

Prevent entry into drains, sewers and water courses. Construct a dike to prevent spreading.

Methods For Cleaning Up

Approach suspected leak areas with caution. Place material in appropriate chemical waste containers. Call Emergency Response number for advice.

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7. HANDLING AND STORAGE

Precautions for Safe Handling

Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Emergency shower and eye wash stations should be readily accessible. Adhere to workplace safety rules established by government regulations. Ensure adequate ventilation. Avoid skin contact. Maintain good standards of personal hygiene. Do not eat, drink or smoke when handling.

Conditions for safe storage, including any incompatibilities

Do not store near acid and keep away from alkalis. Keep tightly closed in a dry and cool place. Protect from heat and direct sunlight.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limit(S)

Tetraethylenepentamine	Time Weighted Average (TWA) : WEEL	1ppm	5mg/m ³
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Personal Protective Equipment:

Hand Protection

Chemical resistant gloves complying with EN374.
Break through time: > 4 h.

Eye Protection

Safety glasses with side-shields conforming to EN166.

Skin / Body Protection

Long sleeved clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory Protection

No personal respiratory protective equipment normally required. Breathing apparatus needed only when aerosol or mist is formed. Respirator with A/P2 filter.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Viscous liquid, pigmented
Flash Point:	> 212 °F (> 100 °C)
Initial boiling point and boiling range:	Not available
Freezing / Melting point:	Not available
Autoignition temperature:	Not available
Flammability Limits:	Not available
Vapor pressure (20°C):	Not available
Relative density(20°C):	1.13
Water Solubility (25°C):	Soluble

10. STABILITY AND REACTIVITY

Chemical stability

Stable at normal conditions. No decomposition if stored and applied as directed.

Material to avoid

Sodium hypochloride. Organic acid (i.e. acetic acid, citric acid etc.). Mineral acids.

Reaction with peroxide may result in violent decomposition of peroxide possibly creating an explosion. N-Nitrosamines, many of which are known to be potent carcinogen, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations.

Hazardous decomposition products

Organic acid vapours, Nitric acid, Ammonia, Nitrogen oxides (NOx), Nitrogen oxide can react with water vapours to form corrosive nitric acid. Carbon dioxide (CO₂), Carbon monoxide, Nitrosamine, Chlorine.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Effect on eye: No data available

Effect on skin: Symptoms of over exposure may be headache, dizziness, tiredness, nausea and vomiting. Harmful in contact with skin.

Inhalation effect: Harmful if inhaled and may cause delayed lung injury.

Ingestion effect: No data available

Symptoms: No data available

Acute Oral Toxicity

Tetraethylenepentamine: LD50: 2,140MG/KG / Species: Rat

Inhalation: No data available on the product itself

Sensitization: Sensitization has occurred in laboratory animals after repeated exposure.

Chronic toxicity or effects from long term exposures

Carcinogenicity: No data available

Reproductive toxicity: No data available on the product itself

Germ cell mutagenicity: Result from a battery of short term genotoxicity tests on this material or its component indicate mutagenic activity.

This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1% or greater. May cause allergic skin reaction. Skin disorder and allergies.

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12. ECOLOGICAL INFORMATION

The following ecological assessment is based on the available ecotoxicity information of the product's components.

Chronic toxicity to the aquatic environment

The product's major components are classified as Category 2 chronic aquatic toxicants. By estimation this product is considered toxic to aquatic life with long lasting effects (Chronic toxicity to the aquatic environment Category 2)

13. DISPOSAL CONSIDERATIONS

Description of waste residues and information on their safe handling & methods of disposal

Dispose of the product through licensed hazardous waste collectors under Singapore regulations. Provide the hazardous waste collector the sufficient information on the various hazards of this product.

Disposal of any contaminated packaging

Dried material can be disposed off in authorized landfill site in accordance to national regulations. Container should be recycled after cleaning or dispose of the container through licensed hazardous waste collectors under Singapore regulations. Provide the hazardous waste collector the sufficient information on the various hazards of this product in this container.

14. TRANSPORT INFORMATION

Land Transport (ADR):

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., MIXTURE (Epoxy resin)

UN Number: 3082
Hazard Class: 9
Packing Group: III

Air Transport (IATA):

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., MIXTURE (Epoxy resin)

UN Number: 3082
Hazard Class: 9
Packing Group: III
Packing instructions: Passenger aircraft: 964 (450 L)
LQ: Y964 (30 kg G)
Cargo aircraft: 964 (450 L)

Sea transport (IMDG):

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., MIXTURE (Epoxy resin)

UN Number: 3082
Hazard Class: 9
Packing Group: III
Marine pollutant: Yes

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15. REGULATORY INFORMATION

Applicable National Regulations

This product is subject to the requirements in the following acts/regulations:

Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations
Environmental Protection and Management Act and Environmental Protection and Management
Maritime and Port Authority of Singapore (Dangerous Goods, Petroleum and Explosives)

International Regulations

This product is classified as hazardous pursuant to the provision set forth in Directives 67/548/EEC and 1999/45/EC and/or EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments.

16. OTHER INFORMATION

The information and data contained herein are believed to be accurate and reliable; however, it is the user's responsibility to determine suitability of use. Since QUICSEAL Construction Chemicals Pte. Ltd. cannot know all of the uses to which its products may be put or the conditions of use; it makes no warranties concerning the fitness or suitability of its products for a particular use of purpose.

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