

Revision Date: 2024-1-1

KH-560

Version No: 2.0

Material Safety Data Sheet - Authored according to GB/T16483(2008) and GB/T17519(2013)

1.1 Name of substance/preparation

Chemical name: γ -(2,3-epoxy propoxy) propyl tri methoxy silane

A Silane coupling agent for improve the adhesion properties of organic and inorganic material

Manufacturer/distributor:

HUANGSHAN KBR NEW MATERIAL TECHNOLOGY CO

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2024.01.01

2.1 GHS classification

Physical Hazard	unclassified
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Health Hazard

Seriously injured/Eye Irritation Category: 1

Environmental Hazard

Acute Aquatic Toxicity Category: 3

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word

Warning

Hazard statement(s)

H318

Causes serious eye damage

Precautionary statement(s)

Prevention

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P280		Wear protective gloves/protective clothing/eye protection/face										
3. COMPOSITION/INFORMATION ON INGREDIENTS												
Incident Response												
P305 + P351 + P338		IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if preset and easy to do. Continue rinsing.										
P310		Immediately call a poison center or doctor/ ...										
Safe storage												
P405		Store locked up										
Disposal consideration												
P501		Dispose of contents/container in accordance with local regulation.										
2.3 Other effects												
Chronic exposure: No relevant data												
3.1 Chemical characterization (substance)												
3.2 Hazardous ingredients												
<table><tr><th>Chemical characteristics</th><th>CAS No.</th></tr><tr><td>γ-(2,3-epoxy propoxy)propyltrimethoxysilane</td><td>2530-83-8</td></tr></table>				Chemical characteristics	CAS No.	γ -(2,3-epoxy propoxy)propyltrimethoxysilane	2530-83-8					
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γ -(2,3-epoxy propoxy)propyltrimethoxysilane	2530-83-8	$\geq 98.0\%$										
Methanol	67-56-1	$\leq 2.0\%$										
4. FIRST AID MEASURES												
4.1 General information												
Take persons to a safe place, looking for doctor, and present this safety data sheet to the doctor.												
4.2 After inhalation												
Move the exposed person to fresh air at once. Keep breathing well and rest. If feel unwell. Seek medical advice immediately.												
4.3 After contact with the skin												
Remove contaminated clothes at once. Wash off with plenty of water and soap. If skin irritation. Seek medical advice immediately												
4.4 After contact with the eyes												

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Immediately flush the contaminated eye(s) with water for several min. If contact lens is present, DO NOT delays irrigation or attempt to remove the lens. Do not interrupt flushing. If eyes irritation. Seek medical advice immediately.

4.5 After swallowing

If feel unwell. Seek medical advice immediately.

4.6 Advice for the physician

Rescuers need to wear personal protective equipment, such as rubber gloves and air-tight goggles.

5. FIRE FIGHTING MEASURES

5.1 Flash point

Flash point is 100°C

5.2 Suitable extinguishing media

Water mist, extinguishing powder, alcohol-resistant foam, carbon dioxide, sand.

5.3 Specific hazards

Be careful, combustion or high temperature may decompose to produce toxic smoke.

5.4 Specific method

Determine if evacuation or isolation of the area is necessary according to the local emergency plan.

Keep containers exposed to fired cool by spraying water.

5.5 Special protective equipment for Firemen

Use fire extinguisher, be sure to wear personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions

Wear personal protection equipment.

Avoid breathing vapors, mist or gas.

Ensure adequate ventilation.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.

Prevent product from entering drains. Do not flush into surface water or sanitary sewer system.

Discharge into the environment must be avoided.

6.3 Methods for cleaning up

Absorbed by inert adsorption material and treated as hazardous waste. Stored in a suitable closed processing container.

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7. HANDLING AND STORAGE

7.1 Precautions for operation and disposal

Handle in a well-ventilated area

When used, it comes into contact with flammable methanol in water or moist air.

When use, methanol exposure must be controlled and ventilation provided by air supply or self-contained breathing apparatus.

Keep out of the eyes.

Avoid skin contact.

Avoid breathing in steam, mist, dust or smoke..

Keep container sealed.

Take off contaminated clothing immediately.

Develop good industrial hygiene habits, must clean, before eating, drinking or smoking.

Take fire precautions

7.2 Storage

Store in the shade area, keep away from sunlight.

Keep containers tightly closed in a dry, cool and well-ventilated place.

Containers opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure limits

Component	CAS No.	Value
γ -(2,3-epoxypropoxy)propyltrimethoxysilane	2530-83-8	See the methanol term
Methanol	67-56-1	TWA 25 mg/m ³ . STEL 50 mg/m ³ , can be absorbed through the skin. OSHA PEL (final rule): TWA 200 ppm, 260 mg/m ³ ACGIH TLV-skin: TWA 200ppm, STEL 250 ppm.

8.2 Exposure in the work place limited and controlled

Workplaces are recommended to be separated.

Closed operation to prevent leakage.

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Strengthen ventilation.

Set up automatic alarm device and emergency ventilation facilities.

Set up emergency evacuation channels and necessary co-danger areas.

Set up red warning lines, warning signs and warning instructions in Chinese, and communication alarm system.

Provide safe shower and eye wash facilities.

8.3 Personal Protective.

Respiratory protection: Gas masks. According to local and government regulations.

Hand protection: Wear gloves

Eyes protection: Safety goggles. Wear a mask if necessary.

Skin and body protection: Protective clothing. Wear protective boots if necessary.

8.4 Environmental protection

Partial ventilation recommend

Regular ventilation recommend.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state/form.....liquid
Color colorless
pH approx. 7 at 25°C (50g/l H₂O)
Boiling point.....: 290°C at 760mmHg
Melting point < -50°C
Flash point 110°C (closed cup method)
Ignition temperature No data available
Oxidizing properties No
Upper explosion limit not determined
Lower explosion limit not determined
Vapor pressure 0.00213mmHg at 25°C
Vapor density no data available
Density/relative density 1.070g/cm³ (25°C)
Solubility react with water
Heat of combustion no data available
Viscosity(dynamic) approx. 3mPa·s at 25°C

10. STABILITY AND REACTIVITY

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10.1 General information

It is stored and handled in accordance with conventional industrial practices for non-hazardous reactions.

10.2 Chemical stability: moisture sensitive.

10.3 Reactions

Avoid contact conditions: Incompatible materials, ignition sources, excess heat, exposure to moist air.

Hazardous decomposed product: Silicon dioxide, nitrogen oxides, carbon monoxide.

Hazardous polymerization: Polymeric reactions tend to occur in the presence of water, strong acids, heat and especially iron.

11. TOXICOLOGICAL INFORMATION

11.1 Route of infection: inhale, skin exposure and eat by mistake.

11.2 Signs and symptoms of overexposure:

Inhalation is harmful. Swallow is harmful, eyes damage. May cause skin irritation.

11.3 Acute toxicity:

Chemical name	CAS NO.	Median lethal dose(Oral)	Median lethal dose(Skin)	LC 50(inhale)
γ -(2,3-epoxy propoxy)propyltrimethoxysilane	2530-83-8	7010 mg/kg (rat)	3970 mg/kg(Rabbit)	-

Potential health effects

Inhale: inhale is harmful, may cause respiratory irritation.

Intake: Ingestion is harmful to human health

Skin: It can be harmful if absorbed through the skin. May cause skin irritation.

Eye: Eye irritation

11.4 Chronic toxicity

Organosilicon compounds generally have low toxicity

11.5 Other health hazard information

This material may release methanol in contact with moisture or moist air, Excessive methanol can lead to blindness and neurological effects.

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

Fish: LC50 237mg/l test time:96 hours rainbow trout

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Water flea and other aquatic invertebrate: EC50 40mg/l test time:48 hours carp

Algae: EC50 40 mg/l test time: 72 hours Sweet water algae

12.2 Residuality / Degradability

Hydrolyzed in water or moist air, the product releases methanol and organic silicone compounds

12.3 Potential bioaccumulation(BCF): No data

12.4 Mobility in the soil: No data

12.5 Additional environmental information

Environmental hazards cannot be ruled out even in cases of professional treatment or disposal.

13. DISPOSAL CONSIDERATIONS

Material: Handle properly according to local regulations.

Packaging: Handle properly according to local regulations.

14. TRANSPORT INFORMATION

Class of dangerous goods: No

UN No: No

Package Level: No

Official shipping name: No

Chemical Name: No

This product has not been classified as dangerous goods by UN. IATA and IMDG.

15. REGULATORY INFORMATION

Must comply with national and local regulations. Label, see the information in this document.
<Regulations on safety management of hazardous chemicals> (Released by The State of Council at Feb. 16th. 2011). Relevant provisions have been made for the safe use, production, storage, transportation, loading and unloading of hazardous chemicals.

16. OTHER INFORMATION

Prepared by Hubei Bluesky New Material Inc.

(R) indicates Registered Trademark

The information provided in this Safety Data Sheet is to the best of our knowledge and assumed that the data listed above are correct. However, there is no basis, express or implied, for making adjustment according to the requirement of different regions. Compliance with federal, national.

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Provincial or local regulations is the responsibility of the buyer/user. Above listed information applies only to the transportation of products. Since the conditions of use of products are not controlled by our company, users have the obligation to determine the technology and conditions required for the safe use of chemicals. As information comes from different sources, we are not responsible for MSDS from other sources. If you have obtained our MSDS from non-us sources or you are not sure our MSDS is the latest version, please contact us.

-End of Material Safety Data Sheet-