SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0
Creation Date: July 15, 2019
Revision Date: July 15, 2019

SECTION 1: Identification

1.1 GHS Product identifier

Product name 2-ethoxyethanol

1.2 Other means of identification

Product number -
Other names 2-hydroxyethyl ethyl ether; EGEE; 2-ethoxy-ethanol

1.3 Recommended use of the chemical and restrictions on use

Identified uses Industrial and scientific research use.
Uses advised against no data available

1.4 Supplier's details

Company Shanghai Baishun Biotechnology Co., Ltd
Address No. 26, Lane 918, Lianye Road, Zhelin Town, Fengxian District, Shanghai, 201400, China
Telephone +86-21-37581181

1.5 Emergency phone number

Emergency phone number +86-21-37581181
Service hours Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Flammable liquids, Category 3
Acute toxicity - Category 4, Oral
Acute toxicity - Category 3, Inhalation
Reproductive toxicity, Category 1B

2.2 GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger
Hazard statement(s) H226 Flammable liquid and vapour
H302 Harmful if swallowed
H331 Toxic if inhaled

Precautionary statement(s)

Prevention	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/... P264 Wash ... thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P271 Use only outdoors or in a well-ventilated area. P203 Obtain, read and follow all safety instructions before use.
Response	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower]. P370+P378 In case of fire: Use ... to extinguish. P301+P317 IF SWALLOWED: Get medical help. P330 Rinse mouth. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P316 Get emergency medical help immediately. P321 Specific treatment (see ... on this label). P318 IF exposed or concerned, get medical advice.
Storage	P403+P235 Store in a well-ventilated place. Keep cool. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.
Disposal	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
2-ethoxyethanol	2-ethoxyethanol	110-80-5	203-804-1	100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Give one or two glasses of water to drink. Refer for medical attention .

4.2 Most important symptoms/effects, acute and delayed

Some eye irritation. Inhalation of vapors causes irritation of nose. (USCG, 1999)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Emergency and supportive measures. 1. Maintain an open airway and assist ventilation if necessary. Administer supplemental oxygen. 2. Treat coma, convulsions, cardiac arrhythmia and metabolic acidosis if they occur. Observe the patient for several hours to monitor for development of metabolic acidosis, especially if the patient is symptomatic or there is a known co-ingestion of ethanol. 3. Treat hypocalcemia with intravenous calcium gluconate or calcium chloride. Ethylene glycol and other glycols

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

If material on fire or involved in fire: Do not extinguish fire unless flow can be stopped or safely confined. Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use "alcohol" foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical

Special Hazards of Combustion Products: Toxic gases, such as carbon monoxide, may be produced in fire. (USCG, 1999)

5.3 Special protective actions for fire-fighters

Use water spray, powder, alcohol-resistant foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Remove all ignition sources. Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Ventilation. Collect leaking liquid in sealable containers. Wash away remainder with plenty of water.

6.2 Environmental precautions

Remove all ignition sources. Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Ventilation. Collect leaking liquid in sealable containers. Wash away remainder with plenty of water.

6.3 Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO open flames, NO sparks and NO smoking. Above 44°C use a closed system, ventilation and explosion-proof electrical equipment. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Fireproof. Separated from strong oxidants and food and feedstuffs. Keep in the dark. Cool.Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

TLV: 5 ppm as TWA; (skin); BEI issued.MAK: 7.5 mg/m3, 2 ppm; peak limitation category: II(8); skin absorption (H); pregnancy risk group: B.EU-OEL: 8 mg/m3, 2 ppm as TWA; (skin)

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid.
Colour	Colorless.
Odour	Sweet, pleasant, ether-like odor
Melting point/freezing point	-70 °C. Remarks:Pour point.
Boiling point or initial boiling point and boiling range	135.6 °C. Atm. press.:1 013 hPa. Remarks:Bp.
Flammability	Class II Combustible Liquid: Fl.P. at or above 100°F and below 140°F.
Lower and upper explosion limit/flammability limit	Upper 15.6% at 93 deg C; lower 1.7% at 93 deg C
Flash point	40 °C. Atm. press.:1 013.25 hPa.
Auto-ignition temperature	235 °C. Atm. press.:1 013.25 hPa. Remarks:In the data source the term "autogeneous ignition temperature" was used. Atmospheric pressure of 1013.25 hPa was assumed by the author of the IUCLID data set. No info about pressure in the data source.
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	centipoise = 1.84. Temperature:25.0°C.
Solubility	Miscible with water
Partition coefficient n-octanol/water	log Pow = 0.32. Remarks:Room temperature (as described in Tanii and Hashimoto (1982)).
Vapour pressure	7.51 hPa. Temperature:25 °C.
Density and/or relative	0.919. Temperature:25 °C.;0.929. Temperature:20 °C.

density
Relative vapour density 3.1 (vs air)
Particle characteristics no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

The substance can form explosive peroxides. Reacts with strong oxidants. This generates fire and explosion hazard. Attacks many plastics and rubber.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Flammable in the presence of a source of ignition when the temperature is above the flash point.ETHYLENE GLYCOL MONOMETHYL ETHER may react with oxidizing materials, i.e. hydrogen peroxide, to form peroxides. It dissolves many oils, resins and waxes. (NTP, 1992)

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Polyacrylamide gels were dissolved in 30% peroxide solution and added to a scintillation mixture in 1:1 2-ethoxyethanol-toluene. After counting, the mixtures were bulked and evaporated intermittently with heat during a 4 week period, and the accumulated peroxidised residues eventually exploded violently. A subsequent comment indicated that peroxidised materials may not peroxide are themselves potentially explosive.

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat, guinea pig (male/female) - 3 000 mg/kg bw. Remarks:Rat.
- Inhalation: LC50 - rat (female) - 7.36 mg/L air.
- Dermal: LD50 - rabbit (male) - 3.56 mL/kg bw.

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance is mildly irritating to the eyes and respiratory tract. The substance may cause effects on the central nervous system, blood, bone marrow, kidneys and liver. Exposure at high levels could cause unconsciousness. Medical observation is indicated.

STOT-repeated exposure

The substance defats the skin, which may cause dryness or cracking. The substance may have effects on the blood and bone marrow. This may result in anaemia and lesions of blood cells. May cause toxicity to human reproduction or development.

Aspiration hazard

A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20°C.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: LC0 - Leuciscus idus melanotus Heckel - >= 10 000 mg/L - 48 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - > 10 000 mg/L - 24 h.
- Toxicity to algae: NOEC - Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) - >= 1 000 mg/L - 72 h.
- Toxicity to microorganisms: EC0 - other bacteria: mixed bacterial population - > 10 000 mg/L - 24 h.

12.2 Persistence and degradability

AEROBIC: Ethylene glycol monoethyl ether, present at 100 mg/L, reached 76% of its theoretical BOD in 2 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(1). In pilot-scale activated sludge systems, ethylene glycol monoethyl ether was reduced from 2,284 mg/L in the feed to 18 mg/L in the effluent(2). No ethylene glycol monoethyl ether was detected in the off-gas or waste mixed liquor samples(2).

12.3 Bioaccumulative potential

An estimated BCF value of 3 was calculated for ethylene glycol monoethyl ether(SRC), using a log Kow of -0.32(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF value suggests that bioconcentration in aquatic organisms is low(SRC).

12.4 Mobility in soil

The Koc of ethylene glycol monoethyl ether is estimated as 2(SRC), using a log Kow of -0.32(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that ethylene glycol monoethyl ether is expected to have very high mobility in soil(SRC).

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

14.1 UN Number

ADR/RID: UN1171 (For reference only, please check.)

IMDG: UN1171 (For reference only, please check.)

IATA: UN1171 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: ETHYLENE GLYCOL MONOETHYL ETHER (For reference only, please check.)

IMDG: ETHYLENE GLYCOL MONOETHYL ETHER (For reference only, please check.)

IATA: ETHYLENE GLYCOL MONOETHYL ETHER (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.)

IMDG: 3 (For reference only, please check.)

IATA: 3 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: III (For reference only, please check.)

IMDG: III (For reference only, please check.)

IATA: III (For reference only, please check.)

14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
2-ethoxyethanol	2-ethoxyethanol	110-80-5	203-804-1
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

SECTION 16: Other information

Information on revision

Creation Date	July 15, 2019
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Abbreviations and acronyms

- CAS: Chemical Abstracts Service

- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
- ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

Depending on the degree of exposure, periodic medical examination is indicated.The odour warning when the exposure limit value is exceeded is insufficient.Check for peroxides prior to distillation; eliminate if found.

Any questions regarding this SDS, Please send your inquiry to sds@xixisys.com

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