

MATERIAL SAFETY DATA SHEET

(MSDS)

Page 1/14

Applicant Name : WUHAN OXIRAN SPECIAL CHEMICALS COMPANY

Applicant Address : No.130 Chemical Avenue,Chemical Industrial
Zone,Wuhan,Hubei,China

Product Name : Polyalkylene glycol monobutyl ether

Regulatory Requirements : Material Safety Data Sheet is prepared according to Globally
Harmonized System of Classification and Labelling of Chemicals
(GHS).

Material Safety Data Sheet

DATE: 2022-11-8

Page2/14

SECTION 1. Identification of the substance/preparation and company

Product Name : Polyalkylene glycol monobutyl ether

Model No. : ST-001

Applicant Name : WUHAN OXIRAN SPECIAL CHEMICALS COMPANY

Applicant Address : No.130 Chemical Avenue,Chemical Industrial Zone,Wuhan
,Hubei,China

Manufacturer Name : WUHAN OXIRAN SPECIAL CHEMICALS COMPANY

Manufacturer Address : No.130 Chemical Avenue,Chemical Industrial Zone,Wuhan
,Hubei,China

Tel / Fax : +86-27-83600060/86416922

SECTION 2. Hazards identifications

GHS Classification

This product is not hazardous per the Globally Harmonized System of Classification and Labelling (GHS).

Physical and chemical hazards

Not classified based on available information.

Health hazards

Not classified based on available information.

Environmental hazards

Not classified based on available information.

Other hazards

No data available

Material Safety Data Sheet

DATE: 2022-11-8

Page3/14

SECTION 3. Composition / information on ingredients

This product is a mixture.

Substance name	Conc. (%)	CAS.
Polyalkylene glycol monobutyl ether	>99.5	9038-95-3

SECTION 4. First aid measures

Description of first aid measures

Protection of first-aiders:

If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air and keep comfortable for breathing; consult a physician.

Skin contact: Wash off with plenty of water.

Eye contact: 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.

Ingestion: No emergency medical treatment necessary.

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.

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. Firefighting measures

Extinguishing media

Material Safety Data Sheet

DATE: 2022-11-8

Page4/14

Suitable 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..

Unsuitable extinguishing media: Do not use direct water stream.. May spread fire..

Special hazards arising from the substance or mixture

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:. Carbon monoxide.. Carbon dioxide..

Unusual Fire and Explosion Hazards: Container 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..

Advice for firefighters

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. Consider the use of unmanned hose holders or monitor nozzles.. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container.. Burning liquids may be extinguished by dilution with water.. 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..

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves).. If protective equipment is not available or not used, fight fire from a protected location or safe distance..

Material Safety Data Sheet

DATE: 2022-11-8

Page5/14

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to section 7, Handling, for additional precautionary measures.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

SECTION 7. Safe handling and storage

Precautions for safe handling: No special precautions required. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Conditions for safe storage: Store in the following material(s): 316 stainless steel. Carbon steel. Glass-lined container. Polypropylene. Polyethylene-lined container. Stainless steel. Teflon. This material may soften and lift certain paint and surface coatings. Use product promptly after opening. Store in original unopened container. Unopened containers of material stored beyond the recommended shelf life should be retested against the sales specifications before use. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage stability

Shelf life: Use within

24 Month

SECTION 8. Exposure controls / personal protection

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Material Safety Data Sheet

DATE: 2022-11-8

Page6/14

Exposure controls

Engineering 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. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Wear clean, body-covering clothing.

Respiratory protection: Under intended handling conditions, no respiratory protection should be needed.

SECTION 9. Physical and chemical properties

Appearance (physical state, shape, colour, etc.)	Colorless to yellow liquid
Odour	Mild
Odor Threshold	No test data available
PH	5.0 - 7.0 (1.0% dilution in water)
Flash point	closed cup 204 °C ASTM D 93
Freezing point	See Pour Point
Boiling point (760 mmHg)	291°C Calculated.

Material Safety Data Sheet

DATE: 2022-11-8

Page 7/14

Melting point	Not applicable
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Flammability (liquids)	Not expected to be a static-accumulating flammable liquid.
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	< 0.01 mmHg at 20°C ASTM E1719
Relative Vapor Density (air = 1)	42.41 Calculated.
Relative Density (water = 1)	1.040 at 20°C / 20 °C ASTM D891
Water solubility	at 20°C Visual completely soluble
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No test data available
Decomposition temperature	No test data available
Kinematic Viscosity	81 cSt at 40°C ASTM D 445
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	1,230 g/mol Calculated.
Pour point	-41°C ASTM D97
Volatile Organic Compounds	0.0 g/L EPA Method No. 24

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10. Stability and reactivity

Reactivity: No data available

Chemical stability: Thermally stable at recommended temperatures and pressures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

Material Safety Data Sheet

DATE: 2022-11-8

Page8/14

Incompatible materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials.. Decomposition products can include and are not limited to: Aldehydes.. Alcohols.. Ethers.. Hydrocarbons.. Ketones.. Organic acids.. Polymer fragments.

SECTION 11. Toxicological information

Toxicological information appears in this section when such data is available.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

LD50, Rat, > 5,000 mg/kg

Information for components:

Polyalkylene glycol monobutyl ether

LD50, Rat, > 5,000 mg/kg

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

Information for components:

Polyalkylene glycol monobutyl ether

LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

Material Safety Data Sheet

DATE: 2022-11-8

Page9/14

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. For respiratory irritation and narcotic effects: No relevant data found.

As product: The LC50 has not been determined.

For similar material(s):

LC50, Rat, dust/mist, > 5.01 mg/l No deaths occurred at this concentration.

Information for components:

Polyalkylene glycol monobutyl ether

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. For respiratory irritation and narcotic effects: No relevant data found.

The LC50 has not been determined.

For similar material(s): LC50, Rat, dust/mist, > 5.01 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation

Based on product testing:

Brief contact is essentially nonirritating to skin.

Information for components:

Polyalkylene glycol monobutyl ether

Brief contact is essentially nonirritating to skin.

Serious eye damage/eye irritation

Based on product testing:

May cause slight temporary eye irritation.

Corneal injury is unlikely.

Information for components:

Polyalkylene glycol monobutyl ether

May cause slight temporary eye irritation.

Material Safety Data Sheet

DATE: 2022-11-8

Page10/14

Corneal injury is unlikely.

Sensitization

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Information for components:

Polyalkylene glycol monobutyl ether

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Information for components:

Polyalkylene glycol monobutyl ether

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

Information for components:

Polyalkylene glycol monobutyl ether

Based on physical properties, not likely to be an aspiration hazard.

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Material Safety Data Sheet

DATE: 2022-11-8

Page11/14

For similar material(s):

Mist may cause irritation of upper respiratory tract (nose and throat) and lungs.

Information for components:

Polyalkylene glycol monobutyl ether

For similar material(s):

Mist may cause irritation of upper respiratory tract (nose and throat) and lungs.

Carcinogenicity

Similar material(s) did not cause cancer in laboratory animals.

Information for components:

Polyalkylene glycol monobutyl ether

Similar material(s) did not cause cancer in laboratory animals.

Teratogenicity

No relevant data found.

Information for components:

Polyalkylene glycol monobutyl ether

No relevant data found.

Reproductive toxicity

No relevant data found.

Information for components:

Polyalkylene glycol monobutyl ether

No relevant data found.

Mutagenicity

No relevant data found.

Information for components:

Polyalkylene glycol monobutyl ether

No relevant data found

Material Safety Data Sheet

DATE: 2022-11-8

Page 12/14

SECTION 12. Ecological information

Ecotoxicological information appears in this section when such data is available.

Ecotoxicity

Acute toxicity to fish

Based on information for a similar material:

Material is practically non-toxic to aquatic organisms on an acute basis
(LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Persistence and Degradability

Biodegradability: Based on information for a similar material: 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.

Bioaccumulative Potential

Bioaccumulation: For this family of materials: No bioconcentration is expected because of the relatively high water solubility.

Mobility in Soil

No relevant data found.

Results of PBT and vPvB assessment

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Other adverse effects

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13. Disposal considerations

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and

Material Safety Data Sheet

DATE: 2022-11-8

Page13/14

local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

SECTION 14. Transport information

Classification for ROAD and Rail transport:

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Not regulated for transport

Transport in bulk

Consult IMO regulations before transporting ocean bulk

according to Annex I or II
of MARPOL 73/78 and the
IBC or IGC Code

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15. Regulatory information

Material Safety Data Sheet

DATE: 2022-11-8

Page14/14

The following statutes, regulations and standards have the related prescribes on chemicals in terms of safe use, storage, transportation, loading and unloading, classification and symbol etc.

Provisions on the Environmental Administration of New Chemical Substances.

The Regulation on Chemicals Safe Use at Working Site

Law on Prevention and Control of Environmental Pollution Caused by Solid Waste.

China. Inventory of Existing Chemical Substances in China (IECSC) (IECSC)

All intentional components are listed on the inventory, are exempt, or are supplier certified.

SECTION 16. Other information

Disclaimer

The information in this Material Safety Data Sheet was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

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