2,3-Butylene Oxide (cis- and trans- mixture)

Revision number: 1 Revision date: 11/29/2010

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# **SAFETY DATA SHEET**

#### 1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

**Product name:** 2,3-Butylene Oxide (cis- and trans- mixture)

Product code: B0720

Company: TCI (Shanghai) DEVELOPMENT CO., LTD.

Address: No.96 Pu Gong Road, Shanghai Chemical Industry Park, Shanghai 201507 China

Responsible Department: Sales Department +86-(0)21-67121386 +86-(0)21-67121385 e-mail: sales@tcishanghai.com.cn

Revision number: 1

### 2. HAZARDS IDENTIFICATION

Classification of the GHS
PHYSICAL HAZARDS

Flammable liquids Category 2

**HEALTH HAZARDS** 

Acute toxicity (Oral)
Acute toxicity (Dermal)
Acute toxicity (Inhalation)
Skin corrosion/irritation
Serious eye damage/eye irritation
ENVIRONMENTAL HAZARDS
Category 2
Category 2A
Not classified

**GHS** label elements

Pictograms or hazard symbols





Signal word

Hazard statement Highly flammable liquid and vapour

Harmful by inhalation, in contact with skin and if swallowed

Danger

Causes skin irritation

Causes serious eye irritation

Precautionary statements [Prevention]

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary

measures against ignition by the static discharge and the spark.

Avoid breathing.

Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling.

Wear protective gloves and eye/face protection.

## 2. HAZARDS IDENTIFICATION

[Response] IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for

breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

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

Rinse mouth.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses,

if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse

skin with water/shower.

If skin irritation occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Call a POISON CENTER or doctor/physician if you feel unwell.

[Storage] Store in a well-ventilated place. Keep cool.

[Disposal] Dispose of contents/container through a waste management company authorized by

the local government

# 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture: Substance

Component(s): 2,3-Butylene Oxide (cis- and trans- mixture)

>95.0%(GC) Percent: **CAS Number:** 3266-23-7

Synonyms: 2,3-Epoxybutane (cis- and trans- mixture), Pseudobutylene Oxide (cis- and trans-

mixture)

**Chemical Formula:** C<sub>4</sub>H<sub>8</sub>O

## 4. FIRST AID MEASURES

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact: Remove/Take off immediately all contaminated clothing. Gently wash with plenty of

soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing. If eye irritation persists: Get medical

advice/attention.

Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Ingestion:

Protection of first-aiders: A rescuer should wear personal protective equipment, such as rubber gloves and air-

tight goggles.

## 5. FIRE-FIGHTING MEASURES

Suitable extinguishing

Dry chemical, foam, carbon dioxide.

**Extinguishing media not to** Water (It may scatter and spread fire.)

be used:

media:

Specific methods:

Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should

evacuate to a safe place. In case of fire in the surroundings: Keep containers cool by

spraying with water. Eliminate all ignition sources if safe to do so.

Special protective

When extinguishing fire, be sure to wear personal protective equipment.

equipment for firefighters:

## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled

around the leakage area by roping off, etc. **Environmental precautions:** Prevent product from entering drains.

## 6. ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning

up:

Absorb spilled material in dry sand or inert absorbent before recovering it into an airtight container. In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with

appropriate laws and regulations.

Prevention of secondary

hazards:

Remove all sources of ignition. Fire-extinguishing devices should be prepared in

case of a fire. Use spark-proof tools and explosion-proof equipment.

# 7. HANDLING AND STORAGE

**Handling** 

**Technical measures:** Handling is performed in a well ventilated place. Wear suitable protective equipment.

Prevent generation of vapor or mist. Keep away from heat/sparks/open flame/hot surfaces. -No smoking. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Wash hands and face thoroughly after

handling.

Use a closed system if possible. Use a ventilation, local exhaust if vapor or aerosol

will be generated.

**Advice on safe handling:** Avoid contact with skin, eyes and clothing.

Storage

**Storage conditions:** Keep container tightly closed. Store in a cool, dark and well-ventilated place.

Store away from incompatible materials such as oxidizing agents.

Packaging material: Law is followed.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering controls:** Install a closed system or local exhaust. Also install safety shower and eye bath.

Personal protective equipment

**Respiratory protection:** Vapor respirator. Follow local and national regulations.

Hand protection: Protective gloves.

**Eye protection:** Safety glasses. A face-shield, if the situation requires. **Skin and body protection:** Protective clothing. Protective boots, if the situation requires.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C): Liquid clear

Colorless - Almost colorless

Odor: No data available
pH: No data available
Melting point/freezing point: No data available
Boiling Point/Range: No data available

Flash Point: -26°C

**Explosive limits** 

Lower: No data available Upper: No data available

Density: 0.82

Solubility: No data available

#### 10. STABILITY AND REACTIVITY

**Stability:** Stable under proper conditions.

**Reactivity:** No special reactivity has been reported.

**Incompartible materials:** oxidizing agents

Hazardous Decomposition Carbon monoxide, Carbon dioxide

**Products:** 

#### 11. TOXICOLOGICAL INFORMATION

Acute Toxicity: No data available Skin corrosion/irritation: No data available

#### 11. TOXICOLOGICAL INFORMATION

Serious eye No data available

damage/irritation:

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC = No data available
NTP = No data available
Reproductive toxicity: No data available
RTECS Number: EK3855000

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** 

Fish:
Crustacea:
Algae:
No data available

potential(BCF): Mobillity in soil

log Pow:No data availableSoil adsorption (Koc):No data availableHenry's LawNo data available

constant(PaM³/mol):

#### 13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities. You may be able to burn in a chemical incinerator equipped with an afterburner and scrubber system but exert extra care in igniting as this material is highly flammable. Observe all federal, state and local regulations when disposing of the substance

#### 14. TRANSPORT INFORMATION

Hazards Class: 3: Flammable liquid.

**UN-No:** 1993

**Proper shipping name:** Flammable liquid, n.o.s.

Packing group:

#### 15. REGULATORY INFORMATION

Safe management ordinance of dangerous chemical product (State Council announces on January 26, 2002): Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed.

## **16. OTHER INFORMATION**

The reference company name of written contents

Company: TCI (Shanghai) DEVELOPMENT CO., LTD.

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**Department:** R&D (Information Management) Department

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