



SAFETY DATA SHEET

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

Product name: (R,R)-(-)-2,3-Butanediol
Product code: B1161
Company: TCI (Shanghai) DEVELOPMENT CO., LTD.
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Revision number: 1

2. HAZARDS IDENTIFICATION

Classification of the GHS

PHYSICAL HAZARDS

Flammable liquids

Category 4

HEALTH HAZARDS

Not classified

ENVIRONMENTAL HAZARDS

Not classified

GHS label elements

Pictograms or hazard symbols

None

Signal word

Warning

Hazard statement

Combustible liquid

Precautionary statements

[Prevention]

Keep away from flames and hot surfaces.

Wear protective gloves and eye/face protection.

[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): (R,R)-(-)-2,3-Butanediol
Percent: >96.0%(GC)
CAS Number: 24347-58-8
Synonyms: (R,R)-(-)-2,3-Butylene Glycol , (R,R)-(-)-2,3-Dihydroxybutane
Chemical Formula: C₄H₁₀O₂

4. FIRST AID MEASURES

Inhalation:

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

Skin contact:

Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. 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.

Ingestion:

Get medical advice/attention if you feel unwell. Rinse mouth.

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 media:	Dry chemical, foam, carbon dioxide.
Extinguishing media not to be used:	Water (It may scatter and spread fire.)
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: Remove movable containers if safe to do so.
Special protective equipment for firefighters:	When extinguishing fire, be sure to wear personal protective equipment.

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.
Methods and materials for containment and cleaning up:	Absorb spilled material in a suitable absorbent (e.g. rag, dry sand, earth, saw-dust). 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 flames and hot surfaces. 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, ventilation.
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 under inert gas. Protect from moisture. 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 as possible so that workers should not be exposed directly. 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
Form:	clear
Color:	Colorless - Slightly pale yellow
Odor:	No data available
pH:	No data available
Melting point/freezing point:	17°C (Freezing point)
Boiling Point/Range:	80 °C/1.3kPa
Flash Point:	85°C

9. PHYSICAL AND CHEMICAL PROPERTIES

Explosive limits

Lower:	No data available
Upper:	No data available
Density:	0.99
Solubility:	No data available

10. STABILITY AND REACTIVITY

Stability:	Stable under proper conditions.
Reactivity:	No special reactivity has been reported.
Conditions to avoid:	Hygroscopic
Incompatible materials:	oxidizing agents
Hazardous Decomposition Products:	Carbon monoxide, Carbon dioxide

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	No data available
Skin corrosion/irritation:	No data available
Serious eye damage/irritation:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity:	
IARC =	No data available
NTP =	No data available
Reproductive toxicity:	No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity:	
Fish:	No data available
Crustacea:	No data available
Algae:	No data available
Persistence / degradability:	No data available
Bioaccumulative potential(BCF):	No data available
Mobility in soil	
log Pow:	No data available
Soil adsorption (Koc):	No data available
Henry's Law constant(PaM ³ /mol):	No data available

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. Observe all federal, state and local regulations when disposing of the substance.

14. TRANSPORT INFORMATION

Hazards Class:	Does not correspond to the classification standard of the United Nations
UN-No:	Not Listed

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.

16. OTHER INFORMATION

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