

Material Safety Data Sheet

1. Chemical Product and Company Identification

Synonyms: 1, 4-Butanediol; 1, 4-Dihydroxybutane

Company name: Henan Harvest International Co., Ltd.

Company address: FL.24TH, NO.1 BUILDING, FORTUNE PLAZA,
NO.32 JINGSAN RD., ZHENGZHOU, HENAN, CHINA

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2. Composition /information on ingredients

Ingredient	CAS No.	Weight %	Hazardous
1.4Butanediol	110-63-4	99~100%	yes

3. Hazard Identification

Emergency overview

Caution! Be harmful if swallowed, cause liver and kidney damage

Health Classification: 1- slightly

Flammable Classification: 1-slightly

Reactivity Classification: None

Lab Protective equipment: Lab coat

Storage tank color code: Yellow (General tank)

Potential health effects: None

Inhalation: Not determined

Ingestion: Headache, weakness, coma, unconsciousness

Skin contact: irritation

Eye contact: irritation

Chronic Exposure: cause liver and kidney damage

**Environmental hazard: be harmful to animal or plant living in
water when leaking into the water**

4. First Aid measures :

Inhalation: If a person breaths a large amounts of this material, remove
t to fresh air

Ingestion: Induce vomiting immediately as directed by medical
personnel; never give anything by mouth to an unconscious
person

Skin contact: In case of contact, immediately wash skin with soap and
plenty of water for at least 15 minutes

Eye contact: In case of contact, immediately flush eyes with water for
at least 15 minutes

5. Fire fighting measures

Fire

Flash point : 121°C (250°F)

Flammable limits in air (by volume): 1.95-18.3

Explosion: Not applicable

Fire extinguishing media: dry chemical powder, carbon dioxide or other media appropriate to the surrounding fire

Special information: Fire fighters should wear proper protective equipment, self-contained breathing apparatus

6. Accidental release measures:

In the event of a leak or spill, firstly put out all the open flames, isolate all sources of ignition to prevent fire and explosion

Personnel who handle accident should wear appropriate protective equipment and protective mask as requested.

Dike the leaking liquid for recovery to avoid flowing into closed system such as sewer. Absorb remaining liquid in absorbent cotton.

Recover collected liquid in absorbent cotton. Never flush away with water to prevent the expansion of contaminated area .

Inform the departments of safety, environmental protection , and sanitation etc.

7. Handling and storage

1,4-Butanedio l should be stored in dry ,well-ventilated place away from heat, sparks ,and open flames .

1, 4-Butanedio l should be used up one time after opening storage drum, otherwise stored in the container which provided with protective measures

Breathing valve should be installed on the storage equipment which is padded with positive pressure nitrogen (due point no higher than -40°C).

Electrically ground all shipping containers to prevent static discharge. The empty drum may be hazardous, for they retain small amounts of product (vapor, liquid).

8. Exposure control and personal protection

Airborne Exposure Limits: Not Regulated.

Ventilation system: Ventilation can be used to control BDO hazard to Personnel's health. If not, local exhaust facilities should be installed

Protective mask: In case of direct exposure to 1.4-Butanediol, consult industrial hygienist. In the event of emergencies or unknown exposure, personnel should wear a face mask with positive pressure and air-supplied respirator. But respirator cannot protect the worker in oxygen-deficient area.

Skin protection: wear protective gloves and clean protective clothing.

Eye protection: wear chemical goggles and face shield where leaking is possible. Maintain eye wash and quick-drench facilities in work area.

9. Physical and chemical properties

Appearance: colorless viscous liquid

Odor: odorless

Specific gravity: 1.017

Solubility in water: miscible

PH: No data available

Volatiles by volume: Not available

Boiling point : 226~228°C

Melting point : 20°C

Vapor density: (AIR=1)

10.Stability and reactivity

Stability: stable under normal handling and storage conditions

Hazardous decomposition products: Carbon monoxide, Carbon dioxide

Hazardous polymerization: will not occur

Incompatibility: strong oxidizing agents, mineral acid

Avoid: heat, flames, and other sources of ignition

11.Toxicological Information

Ingredient	known	anticipated	IARC Category
1,4-Butanediol	No	No	None

12. Ecological Information

Environmental Fate: No data available.

Environmental Toxicity: No data available.

13. Disposal Considerations

Whatever for recovery or recycling, it should be stored in an appropriate and approved waste disposal facility. It can be buried at the permitted place or incinerated

14. Transport Information

Hazard classification: Not available

Packaging: sealed with nitrogen under positive pressure

Manner of packing: Isotanks or 200kg net drums

Manner of Shipping: transported by car or train. The shipping containers should be grounded to prevent static discharge.

15. Regulatory Information

None

16. Other information

Protective measures: Avoid contact with eye , skin and clothing during use. Wash thoroughly after handling , keep container tightly closed.

First-aid measure: If swallowed, induce vomiting immediately as directed by medical personnel . Never give anything by mouth to an unconscious person. In case of contact, immediately flush eye or skin with plenty of water for at least 15 minutes .