1,3-Butanediol  
CAS No 107-88-0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers
   Product name : 1,3-Butanediol
   CAS-No. : 107-88-0

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet
   Company : Central Drug House (P) Ltd
              7/28 Vardaan House
              New Delhi-10002
              INDIA
   Telephone : +91 11 49404040
   Email : care@cdhfinechemical.com

1.4 Emergency telephone number
   Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements
   Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards
   This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances
   Synonyms : 1,3-Butylene glycol
   Formula : C4H10O2
   Molecular weight : 90.12 g/mol
   CAS-No. : 107-88-0
   EC-No. : 203-529-7
No components need to be disclosed according to the applicable regulations.

SECTION 4: First aid measures

4.1 Description of first aid measures

   General advice
   Consult a physician. Show this safety data sheet to the doctor in attendance.

   If inhaled
   If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

   In case of skin contact
   Wash off with soap and plenty of water. Consult a physician.

   In case of eye contact
   Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

   If swallowed
   Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
   The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed
   No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

   Suitable extinguishing media
   Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

   Carbon oxides

5.3 Advice for firefighters

   Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

   No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

   Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

   For personal protection see section 8.

6.2 Environmental precautions

   Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

   Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

   For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

   Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

   For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

   Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
7.3 **Specific end use(s)**
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

**SECTION 8: Exposure controls/personal protection**

8.1 **Control parameters**

8.2 **Exposure controls**

**Appropriate engineering controls**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment**

**Eye/face protection**
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection**
Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN 14387) respirator cartridges as a backup to enginee protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**
Do not let product enter drains.

**SECTION 9: Physical and chemical properties**

9.1 **Information on basic physical and chemical properties**

- **a) Appearance** Form: liquid
  Colour: colourless, clear
- **b) Odour** odourless
- **c) Odour Threshold** No data available
- **d) pH** 6.0 - 7.0 at 20 °C
- **e) Melting point/freezing point** Freezing point: -57 °C
- **f) Initial boiling point and boiling range** 203 - 204 °C - lit.
- **g) Flash point** 108 °C - closed cup
- **h) Evaporation rate** No data available
- **i) Flammability (solid, gas)** No data available
- **j) Upper/lower flammability or explosive limits** Lower explosion limit: 1.9 %(V)
- **k) Vapour pressure** 0.06 mmHg at 20 °C
l) Vapour density 3.11 - (Air = 1.0)
m) Relative density 1.005 g/cm³ at 25 °C
n) Water solubility completely miscible
o) Partition coefficient: n-octanol/water log Pow: -0.9 at 25 °C
p) Auto-ignition temperature 410 °C at 1,019 hPa
q) Decomposition temperature No data available
r) Viscosity No data available
s) Explosive properties No data available
t) Oxidizing properties No data available

9.2 Other safety information
   Surface tension 72.6 mN/m at 20 °C
   Dissociation constant 15.5 at 25 °C
   Relative vapour density 3.11 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity
   No data available

10.2 Chemical stability
   Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
   No data available

10.4 Conditions to avoid
   Avoid moisture.

10.5 Incompatible materials
   Strong oxidizing agents, Acid chlorides, Acid anhydrides, Chloroformates, Reducing agents

10.6 Hazardous decomposition products
   Hazardous decomposition products formed under fire conditions. - Carbon oxides
   Other decomposition products - No data available
   In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

   Acute toxicity
   LD50 Oral - Rat - male - 22,800 mg/kg(Butane-1,3-diol)

   Skin corrosion/irritation
   Skin - Rabbit(Butane-1,3-diol)
   Result: No skin irritation - 24 h

   Serious eye damage/eye irritation
   Eyes - Rabbit(Butane-1,3-diol)
   Result: Mild eye irritation - 18 h

   Respiratory or skin sensitisation
   No data available(Butane-1,3-diol)
Germ cell mutagenicity
(Butane-1,3-diol)
Rat - male and female
Result: negative

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
Specific target organ toxicity - single exposure
No data available (Butane-1,3-diol)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available (Butane-1,3-diol)

Additional Information
Repeated dose toxicity - Rat - male and female - Oral - No observed adverse effect level - 5,000 mg/kg (Butane-1,3-diol)
RTECS: EK0440000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (Butane-1,3-diol)

SECTION 12: Ecological information
12.1 Toxicity
Toxicity to algae static test EC50 - Desmodesmus subspicatus (Scenedesmus subspicatus) - > 1,070 mg/l - 72 h (Butane-1,3-diol)

12.2 Persistence and degradability
Biodegradability aerobic - Exposure time 29 d (Butane-1,3-diol)
Result: 81 % - Readily biodegradable
(OECD Test Guideline 301B)

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available (Butane-1,3-diol)

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
No data available

SECTION 13: Disposal considerations
13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: -     IMDG: -     IATA: -

14.2 UN proper shipping name
ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

14.3 Transport hazard class(es)
ADR/RID: -     IMDG: -     IATA: -

14.4 Packaging group
ADR/RID: -     IMDG: -     IATA: -

14.5 Environmental hazards
ADR/RID: no     IMDG Marine pollutant: no     IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.