



MATERIAL SAFETY DATA SHEET SDS/MSDS

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

1.1 Product identifiers

Product name : gamma- Butyrolactone

CAS-No. : 96-48-0

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 Bio-Chem Chemicals
5455 Nicholson Road, Science Market
Ambala Cantt, 133001 - Haryana
+91 82952 41953
info@biofinechemical.com - www.biofinechemical.com

1.4 Emergency telephone number

Emergency Phone # +91 99921 51495 (10.00am - 06.30pm) (Office Hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No

1272/2008 Acute toxicity, Oral (Category 4), H302

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), H336

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word Danger

Hazard statement(s)

H302

Harmful if swallowed.

H318

Causes serious eye damage.

H336

May cause drowsiness or dizziness.

Precautionary statement(s)

P261

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P280

Wear protective gloves/ eye protection/ face protection.

P305 + P351 + P338

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

Supplemental Hazard Statements	none
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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.

3.1 Substances

Formula	:	C4H6O2
Molecular weight	:	86.09 g/mol
CAS-No.	:	96-48-0
EC-No.	:	202-509-5
Registration number	:	01-2119533169-37-0007

Component	Classification	Concentration
γ-Butyrolactone		
CAS-No.	96-48-0	Acute Tox. 4; Eye Dam. 1;
EC-No.	202-509-5	STOT SE 3; H302, H318,
Registration number	01-2119533169-37-0007	H336

SECTION 4: First aid measures

General advice

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
Combustible liquid.

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. Evacuate personnel to safe areas. 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. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
hygroscopic
Storage class (TRGS 510): Combustible liquids not in Storage Class 3

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

Tightly fitting safety goggles. Faceshield (8-inch minimum). 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

Complete suit protecting against chemicals, 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**

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|---|---|
| a) Appearance | Form: liquid, clear
Colour: colourless |
| b) Odour | No data available |
| c) Odour Threshold | No data available |
| d) pH | 4 at 100 g/l at 20 °C |
| e) Melting point/freezing point | Melting point/range: -45 °C - lit. |
| f) Initial boiling point and boiling range | 204 - 205 °C - lit. |
| g) Flash point | 98 °C - closed cup |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: 16 %(V)
Lower explosion limit: 1.4 %(V) |
| k) Vapour pressure | 1.5 mmHg at 20 °C |
| l) Vapour density | 2.97 - (Air = 1.0) |
| m) Relative density | 1.12 g/cm ³ at 25 °C |
| n) Water solubility | No data available |
| o) Partition coefficient: n-octanol/water | log Pow: -0.57 |
| p) Auto-ignition temperature | No data available |
| 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

Relative vapour density 2.97 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

hygroscopic

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong acids, Strong bases, Strong oxidizing agents, Strong reducing agents, Zinc, Plastics

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 - 1,540 mg/kg(γ -Butyrolactone)

Remarks: Behavioral: Altered sleep time (including change in righting reflex). Behavioral: Somnolence (general depressed activity). Respiratory disorder

LC50 Inhalation - Rat - 4 h - > 5,100 mg/m³(γ -Butyrolactone)

LD50 Dermal - Guinea pig - > 5,000 mg/kg(γ -Butyrolactone)

Skin corrosion/irritation

No data available(γ -Butyrolactone)

Serious eye damage/eye irritation

No data available(γ -Butyrolactone)

Respiratory or skin sensitisation

No data available(γ -Butyrolactone)

Germ cell mutagenicity

No data available(γ -Butyrolactone)

Carcinogenicity

This product is or contains a component that is not classifiable as to its classification. (γ -Butyrolactone) (γ -Butyrolactone)

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (γ -Butyrolactone)

Reproductive toxicity

No data available(γ -Butyrolactone)

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness. (γ -Butyrolactone)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available(γ -Butyrolactone)

Additional Information

RTECS: LU3500000

an anesthetic effect on the central nervous system characterized by a loss of sensation., Preliminary excitement is the initial effect followed by relaxation, stupor, or sleep., Nausea, Dizziness, Headache(γ -Butyrolactone)
Liver - Irregularities - Based on Human Evidence(γ -Butyrolactone)

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	LC50 - <i>Leuciscus idus</i> (Golden orfe) - > 220 mg/l - 96 h(γ -Butyrolactone)
Toxicity to daphnia and other aquatic invertebrates	EC50 - <i>Daphnia magna</i> (Water flea) - > 500 mg/l - 48 h(γ -Butyrolactone) (Directive 67/548/EEC, Annex V, C.2.)
Toxicity to algae	EC50 - <i>Desmodesmus subspicatus</i> (green algae) - 360 mg/l - 72 h(γ -Butyrolactone)

12.2 Persistence and degradability

Biodegradability	Biotic/Aerobic - Exposure time 13 d(γ -Butyrolactone) Result: 90 % - Readily biodegradable (Directive 67/548/EEC Annex V, C.4.F.)
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Biochemical Oxygen Demand (BOD)	1,160 mg/g(γ -Butyrolactone)
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12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available(γ -Butyrolactone)

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

Additional ecological information	No data available
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Adsorbed organic bound halogens (AOX)	Remarks: Product does not contain any organic halogens.
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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**Full text of H-Statements referred to under sections 2 and 3.**

H302 Harmful if swallowed.

H318 Causes serious eye damage.

H336 May cause drowsiness or dizziness.

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.