

L-ORNITHINE MONOHYDROCHLORIDE FOR BIOCHEMISTRY

□□□□□□□□

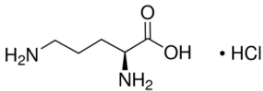
□□ (EU) 2020/878 □□ □□ REACH □□ (EC) 1907/2006 □□ □□

SDS Reference Number: 05060

□□ □□□□: 4/9/2014 □□ □□□□: 3/17/2025 □□ □□: 4/9/2015 □□: 1.0

□□ 1: □□□□ □□ □□ □□

1.1. □□□□

| | |
|--------|---|
| □□ □□ | : □□ |
| □□ □□ | : L-ORNITHINE MONOHYDROCHLORIDE FOR BIOCHEMISTRY |
| EC □□ | : 221-678-6 |
| CAS □□ | : 3184-13-2 |
| □□ □□ | : 05060 |
| □□ □□ | : Amino acids |
| □□ □□ | : C ₅ H ₁₂ N ₂ O ₂ · HCl |
| □□ □□ | : |
| |  |
| □□ □□ | : (S)-2,5-Diaminopentanoic acid monohydrochloride |

1.2. □□□□ □□ □□□□ □□ □□ □□ □□

□□ □□ □□
□□□□/□□□□ □□ : Laboratory chemicals, Manufacture of substances

1.3. □□□□□□□□ □□□□ □□

LOBA CHEMIE PVT.LTD.
107 Wode House Road, Jehangir Villa, Colaba
400005 Mumbai
INDIA
T +91 22 6663 6663, F +91 22 6663 6699
info@lobachemie.com, www.lobachemie.com

1.4. □□□□□□

□□ □□ □□ : + 91 22 6663 6663 (9:00am - 6:00 pm)

□□ 2: □□□·□□□□

2.1. □□□·□□□□ □□

Regulation (EC) No.1272/2008 [CLP] □□ □□ □□

□□ □ □□□/□ □□□, □□ 2 H319
□□(H) □□ □ EUH □□ □□: 16□ □□.

□□□□□, □□ □□ □ □□□□□□□
□□ □□ □□ □□□.

2.2. □□□□□□□□ □□□□ □□□□ □□

□□ (EC) No. 1272/2008 □□ □□ □□ □□[CLP]

□□ □□ □□□□(CLP)



GHS07

| | |
|----------------|---|
| □□□ (CLP) | : □□ |
| □□·□□ □□ (CLP) | : H319 - □□ □□ □□□ □□□. |
| □□ □□ □□(CLP) | : P305+P351+P338 - □□ □□□□: □ □□ □□ □□□□ □□□□. □□□□ □□□ □□□□□□□. □□ □□□□. |

L-ORNITHINE MONOHYDROCHLORIDE FOR BIOCHEMISTRY

□□□□□□□□

□□ (EU) 2020/878 □□ □□ □□ REACH □□ (EC) 1907/2006 □□ □□

2.3. □□ □□

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

□□ 3: □□□□ □□ □ □□□

3.1. □□□□

□□ □□ : □□□□□□

| □□ | □□□□ | % |
|-------------------------------|---------------------------------------|-----|
| L-ORNITHINE MONOHYDROCHLORIDE | CAS □□: 3184-13-2 EC □□: 221-678-6 | 100 |

□□ 4: □□□□□□

4.1. □□□□ □□

□□ □□ □□ : If you feel unwell, seek medical advice.
□□□□ □ : □□□ □□□ □□ □□□ □□ □□□ □□ □□□ □□□□. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.
□□□ □□□□ □ : Wash skin with plenty of water. □□ □□□ □□□□: □□□□ □□/□□□ □□□□.
□□ □□□□ □ : □ □□ □□□□ □□□□. □□□□ □□□□□□ □□□□□□. □□ □□□□. □□ □□□ □□□□: □□□ □□□/□□□ □□□□. □□ □□□ □□□□: □□□□ □□/□□□ □□□□.
□□□ □ : Rinse mouth out with water. If you feel unwell, seek medical advice. □□□□ □□□ □□□□(□□) □□□ □□□□.
First-aid measures for first aider : □□□□ □□□□ □□□ □□ □□ □□□ □□□□ □□□.

4.2. □□ □ □□□ □□ □□□ □□ □ □□

□□ □ □□/□□ : None under normal conditions. Dust of the product, if present, may cause respiratory irritation after excessive inhalation exposure.
□□ □□ □ □□/□□ : None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
□ □□ □ □□/□□ : □□ □□ □□□ □□□. Eye irritation.
□□ □ □□/□□ : None under normal conditions.

4.3. □□□□ □□ □ □□ □□ □□ □□ □□

Treat symptomatically.

□□ 5: □□·□□□□ □□□□

5.1. □□□ □□□

□□□ □□□ : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2). Water spray. Dry powder. Foam.
□□□□ □□□ : Do not use a heavy water stream.

5.2. □□□□□□□ □□□ □□ □□□

□□ □□ : No fire hazard.
□□ □□ : No direct explosion hazard.
□□ □ □□□ □□□ □□ : Toxic fumes may be released.

5.3. □□□□ □□□□ □ □□□□

□□ □□ : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
□□ □□ □ □□ : Do not attempt to take action without suitable protective equipment. □□□ □□□□□. Complete protective clothing.

L-ORNITHINE MONOHYDROCHLORIDE FOR BIOCHEMISTRY

□□□□□□□□

□□ (EU) 2020/878 □□ □□□ REACH □□ (EC) 1907/2006 □□ □□

□□ 6: □□□□□ □□□□

6.1. □□□ □□□□ □□ □□□ □□□□ □□□□

□□ □□ : □□□ □□□ □□ □□□□ □□□ □□ □□□ □□. □□□□ □□□□ □□ □□□□ □□□□□□.

□□□ □□ □□

□□ □□ : Wear recommended personal protective equipment.

□□ □□ : Ventilate spillage area. Evacuate unnecessary personnel. □□ □ □□□ □□□ □□□□.

□□ □□ □□

□□ □□ : Do not attempt to take action without suitable protective equipment. □□□ □□ □□□□ □□□□□□. □□ □□□ □□□ □□ 8: "□□□□ □ □□□□□" □□ □□□□□.

□□ □□ : Stop release. Evacuate unnecessary personnel.

6.2. □□□ □□□□ □□ □□□ □□□□

□□□□ □□□□ □□□.

6.3. □□ □□ □□ □□

□□□□ : Using a clean shovel, put the material in a dry container and cover without compressing it.

□□ □□ : Mechanically recover the product. Clear up rapidly by scoop or vacuum.

□ □□ □□□□ : Dispose of materials or solid residues at an authorized site.

6.4. □□ □□ □□

For further information refer to section 13.

□□ 7: □□ □ □□□□

7.1. □□□□□□

□□ □ □□□□□ □□ □□ : □□□□ □□ □□□□□ □□□ □□□ □□□ □□.

□□□□□□ : Ensure good ventilation of the work station. □, □□, □□□ □□ □□□ □□□. □□ □□□□ □□□□□□.

□□ □□ : □□ □□□ □□ □□ □(□) □□□ □□□□□. □ □□□ □□□ □□□ □□□, □□□□ □□□□ □□□.

Always wash hands after handling the product.

7.2. □□□□ □□□ □□□ □□□ □□ □□

□□□ □□ : Keep in a cool, well-ventilated place away from heat.

□□ □□ : Store in original container. □□□ □□□ □□□□□□. □□□ □□□ □□□□□□.

□□□ : Store always product in container of same material as original container.

7.3. □□ □□ □□

□□ □□

□□ 8: □□□□ □ □□□□□

8.1. □□ □□ □□

□□ □□

8.2. □□□□

□□□ □□□ □□

□□□ □□□ □□ :
Ensure good ventilation of the work station.

□□ □□□

□□ □□□ :

Wear recommended personal protective equipment.

L-ORNITHINE MONOHYDROCHLORIDE FOR BIOCHEMISTRY

□□□□□□□□

□□ (EU) 2020/878 □□ □□□ REACH □□ (EC) 1907/2006 □□ □□

□□ □□ □□ □□:



□□ □□ □□ □□

□□ □□:

Chemical goggles or safety glasses

Skin protection

□□ □□:

Wear a mask

□□ □□:

Protective gloves

□□ □□ □□

□□ □□ □□:

Wear appropriate mask

□□ □□ □□

□□ □□ □□:

□□□□ □□□□ □□□□.

□□ 9: □□□□□ □□

9.1. □□□□ □□□□□ □□□ □□ □□

| | |
|---|--|
| □□□ □□ | : □□ |
| □□ | : White. |
| □□ | : Powder. |
| □□□ | : 168.62 g/mol |
| □□ | : Odourless. |
| □□ □□ | : □□□□ |
| □□□ | : 245 °C |
| □□□ | : □□□□ |
| □□ □□□□ □□□ □□ | : □□□□ |
| □□□ | : □□□ |
| □□ □□□ | : □□□□ |
| □□ □□□ | : □□□□ |
| □□□ | : □□□□ |
| □□□□ □□ | : □□□□ |
| □□ □□ | : □□□□ |
| pH | : 5 – 6 at 20 °C |
| pH □□ | : 25 g/L |
| □□(□□□) | : □□□□ |
| □□□ | : □: 455 g/l at 30 °C - completely soluble |
| Partition coefficient n-octanol/water (Log Kow) | : □□□□ |
| □□□ | : □□□□ |
| 50°C□□□ □□□ | : □□□□ |
| □□ | : 1.42 g/cm ³ at 20 °C |
| □□ | : □□□□ |
| 20°C□□□ □□ □□ □□ | : □□□□ |
| Particle size | : □□□□ |

9.2. □□ □□ □□□□

□□ □□ □□

□□ □□ : 450 – 500 kg/m³

L-ORNITHINE MONOHYDROCHLORIDE FOR BIOCHEMISTRY

□□□□□□□□

□□ (EU) 2020/878 □□ □□□ REACH □□ (EC) 1907/2006 □□ □□

□□ 10: □□□ □□□□

10.1. □□□

The product is non-reactive under normal conditions of use, storage and transport.

10.2. □□□ □□□

Stable under normal conditions.

10.3. □□ □□□ □□□

No dangerous reactions known under normal conditions of use.

10.4. □□□ □□□

□□□□. Air contact. Moisture.

10.5. □□□ □□□

□□ □□

10.6. □□□ □□□□ □□□□

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

□□ 11: □□□ □□ □□

11.1. □□ (EC) No 1272/2008 □□□□, □□□ □□□ □□ □□

| | | |
|--------------------|---|--------------------------------------|
| □□ □□ (□□) | : | □□□□ □□ |
| □□ □□ (□□) | : | □□□□ □□ |
| □□ □□ (□□) | : | □□□□ □□ |
| □□ □□□ □□ □□□ | : | □□□□ □□ pH: 5 – 6 at 20 °C |
| □□ □ □□ □□ □□□ | : | □□ □□ □□□ □□□. pH: 5 – 6 at 20 °C |
| □□□ □□ □□ □□□ | : | □□□□ □□ |
| □□□□ □□□□ | : | □□□□ □□ |
| □□□□ | : | □□□□ □□ |
| □□□□ | : | □□□□ □□ |
| □□ □□□□ □□ (1□ □□) | : | □□□□ □□ |
| □□ □□□□ □□ (□□ □□) | : | □□□□ □□ |
| □□ □□□□ | : | □□□□ □□ |

L-ORNITHINE MONOHYDROCHLORIDE FOR BIOCHEMISTRY (3184-13-2)

| | |
|---------|------|
| □□(□□□) | □□□□ |
|---------|------|

11.2. □□ □□ □□

□□ □□

□□ 12: □□□ □□□ □□

12.1. □□

| | | |
|-------------|---|---|
| □□□ - □□ | : | The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. |
| □□ □□□□ □□□ | : | □□□□ □□ |
| □□ □□□□ □□□ | : | □□□□ □□ |

L-ORNITHINE MONOHYDROCHLORIDE FOR BIOCHEMISTRY

□□□□□□□□

□□ (EU) 2020/878 □□ □□□ REACH □□ (EC) 1907/2006 □□ □□

12.2. □□□ □□□□

L-ORNITHINE MONOHYDROCHLORIDE FOR BIOCHEMISTRY (3184-13-2)

□□□ □□□□

□□ □□ □□

12.3. □□ □□□

□□ □□

12.4. □□ □□□

□□ □□

12.5. PBT □ vPvB □□ □□

□□ □□

12.6. □□□ □□ □□

□□ □□

12.7. □□ □□ □□

□□ □□

□□ 13: □□□ □□□□

13.1. □□□ □□□

□□ □□(□□□)

□□□ □□□

□□ □□ □□ □□

□□/□□ □□ □□□□

□□ □□

: Disposal must be done according to official regulations.

: Dispose of contents/container in accordance with licensed collector's sorting instructions.

: Disposal must be done according to official regulations.

: Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.

: Do not re-use empty containers.

□□ 14: □□□ □□□ □□

ADR / IMDG / IATA / ADN / RID □□ □□

14.1. UN □□ □□ ID □□

□□ □□□□ □□□□

14.2. UN □□ □□□

□□ □□□ (ADR)

: Not regulated

□□ □□□ (IMDG)

: Not regulated

□□ □□□ (IATA)

: Not regulated

□□ □□□ (ADN)

: Not regulated

□□ □□□ (RID)

: Not regulated

14.3. □□□□□ □□□ □□

ADR

□□□□□ □□□ □□ (ADR)

: Not regulated

IMDG

□□□□□ □□□ □□ (IMDG)

: Not regulated

IATA

□□□□□ □□□ □□ (IATA)

: Not regulated

L-ORNITHINE MONOHYDROCHLORIDE FOR BIOCHEMISTRY

□□□□□□□□

□□ (EU) 2020/878 □□ □□□ REACH □□ (EC) 1907/2006 □□ □□

ADN

□□□□□ □□□ □□ (ADN) : Not regulated

RID

□□□□□ □□□ □□ (RID) : Not regulated

14.4. □□□□

□□ □□ (ADR) : Not regulated

□□ □□ (IMDG) : Not regulated

□□ □□ (IATA) : Not regulated

□□ □□ (ADN) : Not regulated

□□ □□ (RID) : Not regulated

14.5. □□ □□□□

□□ □□ □□□□ : □□ □□ □□ □□

14.6. □□□□ □□ □□ □□□□

□□ □□
Not regulated

□□ □□
Not regulated

□□ □□
Not regulated

□□ □□ □□
Not regulated

□□ □□
Not regulated

14.7. □□□□□□ (IMO) □□ □□ □□ □□

□□□□

□□ 15: □□ □□□□

15.1. □□, □□ □□ □□□□ □□□□ □□ □□□□ □□ □□ □□/□□

EU □□

REACH □□□ XVII (□□ □□)

REACH □□□ XVII □□□□ □□

REACH □□□ XIV (□□ □□)

REACH □□□ XIV (□□ □□) □□□□ □□

REACH □□ □□ □□ (SVHC)

REACH □□ □□ □□ □□ □□ □□□□ □□

PIC □□ (□□□□□□)

PIC □□□ □□□□ □□ (□□ EU 649/2012)

POP □□ (□□□□ □□ □□□□)

POP □□□ □□□□ □□ (□□ EU 2019/1021)

Ozone Regulation (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

□□□□ □□ (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

L-ORNITHINE MONOHYDROCHLORIDE FOR BIOCHEMISTRY

□□□□□□□□

□□ (EU) 2020/878 □□ □□□□ REACH □□ (EC) 1907/2006 □□ □□

□□ □□□□ □□ (2019/1148)

□□□□ □□□□ □□(□□ □□□□□□ □□ □ □□□ □□ □□ EU 2019/1148) □□ □□ □□ □□□□ □□

□□ □□□□ □□ (273/2004)

□□ □□□□ □□□□ □□□□ □□□□ □□(□□ □ □□□□□ □□□□ □□□□ □□ □□□□ □□ □□ □□ □□ □□ EC 273/2004)

□□ □□

□□

VOC ordinance (ChemVOCFarbV) :

WGK : WGK 3, □□ □□ □□□ (Classification according to AwSV).

□□ □□ □□(12. BImSchV) : □□ □□ □□(12. BImSchV) □□ □□ □□

□□□□

SZW-lijst van kankerverwekkende stoffen : □□□ □□□□ □□□□□.

SZW-lijst van mutagene stoffen : □□□ □□□□ □□□□□.

SZW-lijst van reprotoxische stoffen – Borstvoeding : □□□ □□□□ □□□□□.

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : □□□ □□□□ □□□□□.

SZW-lijst van reprotoxische stoffen – Ontwikkeling : □□□ □□□□ □□□□□.

□□□

□□□□ □□ □□ : Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225).
Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797).
The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended).
Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923).
Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154).
Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended).
The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488)
Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended).
Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141).
ADR Agreement: Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o. L. 2023, item 891)

15.2. □□ □□ □□□ □□

No chemical safety assessment has been carried out

□□ 16: □ □□ □□□□

□□ □ □□□□:

| | |
|-------|---|
| ACGIH | American Conference of Government Industrial Hygienists |
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |

L-ORNITHINE MONOHYDROCHLORIDE FOR BIOCHEMISTRY

□□□□□□□□

□□ (EU) 2020/878 □□ □□□ REACH □□ (EC) 1907/2006 □□ □□

| □□ □ □□□□□: | |
|-------------|--|
| BLV | □□ □□ □ |
| BOD | Biochemical oxygen demand (BOD) |
| CAS □□ | □□□□ □□ □□ □□(CAS) |
| CLP | Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 |
| COD | □□□ □□ □□□ |
| CSA | □□ □□ □□□ □□ |
| DMEL | Derived Minimal Effect level |
| DNEL | □□ □□□ □□ |
| EC □□ | □□ □□□ □□ |
| EC50 | Median effective concentration |
| ED | □□□ □□□□ |
| EN | □□ □□ |
| EWC | European waste catalogue |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| LOAEL | Lowest Observed Adverse Effect Level |
| Log Kow | Partition coefficient n-octanol/water (Log Kow) |
| Log Pow | Partition coefficient n-octanol/water (Log Pow) |
| MAK | maximum workplace concentration |
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| N.O.S. | Not Otherwise Specified |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | □□□ □□ □□ |
| OSHA | Occupational Safety & Health Administration |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | □□ □□□ □□ |
| PPE | □□ □□□ |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | □□□□□□□□ |
| STP | Sewage treatment plant |
| TF | □□□ □□ |
| ThOD | Theoretical oxygen demand (ThOD) |
| TLM | Median Tolerance Limit |
| TWA | Time Weighted Average |

