

SECTION 1 – IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 – Product identifier:**

Commercial name: **LALSTIM OSMO®**

1.2 – Relevant identified uses of the substance or mixture and uses advised against:

Identified use: (BIO) FERTILIZER

Use advised against: Higher than that indicated above.

1.3 – Details of the supplier of the safety data sheet:

Danstar Ferment AG/LALLEMAND PLANT CARE

Poststrasse 30

CH-6300 Zug, Switzerland

Phone: +41 41 727 20 30

www.lallemandplantcare.com

1.4 – Emergency telephone number:

Contact your local doctor or hospital.

In EU: Call 112

In USA and Canada: Call +1-800-424-9300 / +1-703-527-3887

In Brazil: Call +55 34 3826-0400 / 0800-940-4377

In Uruguay: Call 1722

SECTION 2 – HAZARD IDENTIFICATION**2.1 – Classification of the substance or mixture:**

Product is not classified as hazardous and does not contain any substances that are classified or labelled according to Regulations (EC) 1272/2008, (EU) 453/2010, (EC) 1907/2006 (REACH), Directive 1999/45/EC, to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS section 1.5.2), the Canadian Hazardous Product Act, US Occupational Safety and Health Administration (OSHA) and Controlled Product Regulation (CPR).

2.2 – Label elements:

Hazard pictogram(s): None required

Signal word: None required

Hazard statement(s): None required

Precautionary statement(s): None required

2.3 – Other hazards:

Not applicable.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

3.1 – Mixtures:

Substance name	CAS-, EC or index number	REACH Registration No.	Concentration	CLP Classification – Regulation (EC) No 1272/2008
Glycine Betaine	CAS# 107-43-7 EC# 203-490-6	01211952050 842	> 96 %	None

The other ingredients are not listed as they have no impact on the classification.

SECTION 4 – FIRST AID MEASURES

4.1 – Description of First Aid Measures:

General protection:	Protection of rescue workers: Wear appropriate individual protective equipment (see Section 8). Transport the affected person into the open air. Remove contaminated shoes and clothing.
Inhalation:	In the event of inhalation, take into the open air. Do not allow the person to get cold. Keep the victim resting in a semi-seated position. In the absence of breathing, use artificial respiration. Consult a doctor.
Ingestion:	In the event of ingestion, rinse the mouth with water (only if the person is conscious). Consult a doctor if symptoms develop.
Contact with the skin:	Rinse thoroughly in running water and soap. Remove contaminated shoes and clothing. Consult a doctor if symptoms develop.
Contact with the eyes:	Rinse thoroughly in running water, with the eyelids opened for a sufficient length of time (protect uninjured eye). Consult a doctor if symptoms develop.
First aid facilities:	Ensure that automatic eye baths and safety showers are located close to the workstations.

4.2 – Most important symptoms and effects, both acute and delayed:

Eye contact:	May cause irritation of the eyes (redness).
Skin contact:	Prolonged or repeated contact with the skin may cause irritation.
Inhalation:	May cause coughing (irritation) or irritate asthma. May cause sensitization.
Ingestion:	Ingestion of the product may elicit gastrointestinal problems. May induce vomiting, headache, listlessness.

4.3 – Indicate of any immediate medical attention and special treatment needed:

If you have any symptoms or concerns, consult a doctor. Show the safety data sheet, label or packaging to the emergency medical personnel. The decision on the treatment lapses with the doctor after the assessment of the victim status.

SECTION 5 – FIREFIGHTING MEASURES**5.1 – Extinguishing media:**

Suitable: Water, foam, carbon dioxide, dry powder.

Unsuitable: None.

5.2 – Special hazards arising from the substance or mixture:

Do not inhale explosion and combustion gases. Burning may produce heavy smoke.

5.3 – Advice to firefighters:

Wear a self-contained breathing apparatus (SCBA) when exposed to confined or enclosed fires as product powder could be in the air. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6 – ACCIDENTAL RELEASE MEASURES**6.1 – Personal precautions, protective equipment and emergency procedures:**

Avoid contact with the eyes, skin and clothing. Use appropriate protective equipment (see Section 8).

6.2 – Environmental precautions:

Do not allow to enter into surface water or drains. Retain contaminated washing water and dispose it. This material is not a physical, health or environmental hazard.

6.3 – Methods and material for containment and cleaning up:

Small accidental spillage or leak: Avoid the formation of dust or spray. Mop up with appropriate material. Place in an appropriate container. Clean the area affected with plenty of water.

Large accidental spillage or leak: Prevent spillage into the drains, subsoil or confined areas. Contain if necessary. Mop up the product spilled with inert material (e.g. dry sand or dry earth) and place in a chemical waste container. Recycle if possible.

6.4 – References to other sections:

See Section 8 for personal protective equipment and section 13 for waste disposal.

SECTION 7 – HANDLING AND STORAGE**7.1 – Precautions for safe handling:**

Handling: Avoid contact with eyes. Use localized ventilation system. Don't use empty container before it has been cleaned. Before making transfer operations, assure that there are not any incompatible residues in the containers.

Occupational hygiene: Wash hands thoroughly after handling. Do not eat, drink or smoke while working. Store work clothing separately. See also section 8 for recommended equipment.

7.2 – Conditions for safe storage, including any incompatibilities:

Place of storage: Store in dry and well-ventilated place in its tightly closed original packaging, at temperature between 5°C and 25°C.

7.3 – Specific end use(s):

See subsection 1.2 of the safety data sheet.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 – Control parameters:**

Exposure limits: No limit. The active substance is natural and generally occurring soil-borne microbe.

Biological limits: No limit.

8.2 – Exposure controls:

Protection of lungs: In case of insufficient ventilation, effective dust mask.

Protection of skin: Wear suitable protective clothing.

Protection of hands: Wear protective gloves.

Protection of eyes: Safety glasses with side-shields.

Environmental exposure: Special measures are not necessary.

SECTION 9 – PHYSICAL & CHEMICAL PROPERTIES**9.1 – Information on basic physical and chemical properties:**

Physical state:	Crystals.
Colour:	Light brown.
Odour:	Not available.
Melting point/freezing point:	Not available.
Boiling point or initial boiling point and boiling range:	Not available.
Flammability:	Not available.
Lower and upper explosion limit:	Not available.
Flash point:	Not available.
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
pH:	6 to 10.
Kinematic viscosity:	Not available.
Solubility:	Soluble in water.
Partition coefficient (n-octanol/water):	Not available.
Vapour pressure:	Not available.
Density and/or relative density:	Not available.
Relative vapour density:	Not available.
Particle characteristics:	Crystals.

9.2 – Other information:

No further information.

SECTION 10 – STABILITY AND REACTIVITY**10.1 – Reactivity:**

Not reactive.

10.2 – Chemical stability:

Stable under recommended conditions of storage, use and transportation

10.3 – Possibility of hazardous reactions:

None under normal processing.

10.4 – Conditions to avoid:

Hygroscopic nature for this product, avoid wet conditions.

10.5 – Incompatible materials:

Trimethylamine risk of forming in strong alkaline solutions.

10.6 – Hazardous decomposition products:

Under recommended storage and use conditions, no hazardous decomposition products should appear. In case of fire, see section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION**11.1 – Information on hazards classes as defined in Regulation (EC) No 1272/2008:**

Acute toxicity:	Product generally regarded as safe by ingestion. Substance (betaine anhydrous): LD ₅₀ (oral/rat) > 11179 mg/kg.
Skin corrosion/irritation:	Irritation to the skin may occur.
Serious eye damage/irritation:	Irritation to the eyes may occur.
Respiratory or skin sensitization:	Irritation to the nose or throat may occur.
Germ cell mutagenicity:	Negative in Ames assay with and without metabolic activation up to 5000µg/plate. Negative in chromosomal aberration using human lymphocytes. No increases in micronuclei were noted in the bone marrow of mice dosed up to 2gm/Kg by the oral route.
Carcinogenicity:	No known information is available.
Reproductive toxicity:	No known information is available.
STOT-single exposure:	No known information is available.
STOT-repeated exposure:	No known information is available.
Aspiration hazard:	No known information is available.

11.2 – Other information:

No further information.

SECTION 12 – ECOLOGICAL INFORMATION**12.1 – Toxicity:**

Contains no substances known to be hazardous to the environment or that are not degradable in waste water-treatment plants.

12.2 – Persistence and degradability:

Readily biodegradable, according to appropriate OECD test. Biological degradability (28d): 88% (Betaine).

12.3 – Bioaccumulative potential:

No known information is available.

12.4 – Mobility in soil:

The product is water soluble and may spread in water system.

12.5 – Results of PBT and vPvB assessment:

Not considered to be a PBT and vPvB substance.

12.6 – Endocrine disrupting properties:

No known information is available.

12.7 – Other adverse effects:

No known adverse effects.

Component information below is as complete as possible. Data related to substance Betaine Anhydrous:

Toxicity to algae: $EC_{50}/72h/algae = 1199 \text{ mg/l}$ (*Desmodesmus subspicatus*).

Toxicity to Daphnia: $EC_{50}/48hr/daphnia = 4335 \text{ mg/l}$.

Biodegradation: Readily biodegradable (88% after 28 days).

Log Pow: -3.1 (at 20°C).

Chemical Oxygen Demand (COD): 14 mg/g (Cr).

Biochemical Oxygen Demand (BOD): 720 mg/g (BOD5 ATU)

Dissolved Organic Carbon (DOC): 300 mg/g.

SECTION 13 – DISPOSAL CONSIDERATIONS**13.1 – Waste treatment methods:**

Product and packaging can be disposed of in regular trash or waste. No special disposal method required. Follow all applicable local laws for recycling, bagging, and disposal of trash.

SECTION 14 – TRANSPORT INFORMATION**14.1 – UN number or ID number:**

Not applicable.

- 14.2 – UN proper shipping name: Not applicable.
14.3 – Transport hazard class(es): Not applicable.
14.4 – Packing group: Not applicable.
14.5 – Environmental hazards: Not applicable.
14.6 – Special precautions for user: Not applicable.
14.7 – Maritime transport in bulk according to IMO instruments: Not applicable.

Product is not classified as dangerous goods according to international transportation regulations in force ADR, RID, ADN, OACI/IATA and OMI/IMDG.

SECTION 15 – REGULATORY INFORMATION

15.1 – Safety, health and environmental regulations/legislation specific for the substance or mixture:

In EU:

This product is not classified as dangerous according to the CLP Regulation (EC) No 1272/2008. The Safety Data Sheet of this non dangerous product and related Classification are in accordance with EU Regulations:

CLP Regulation (EC) 1272/2008 on classification, labelling, and packaging of substances and mixtures, amending and repealing Directives 67/548/EC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Regulation (EU) 453/2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

Regulation (EU) 453/2010 ANNEX II: Requirements for the compilation of safety data sheets.

Commission Regulation (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

Regulation (EC) 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

Directive 1999/45/EC concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations.

In Canada:

WHMIS Statement: This product has been classified in accordance with the hazard criteria of the Controlled Product Regulation (CPR) and the SDS contains all the information required by the CPR.

In USA:

California Proposition 65: This product does not contain any proposition 65 chemicals.

SARA 313, section 313 of the Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and 40 CFR Part 372.

In Brazil:

Federal Decree 2.657/1998.

ABNT–NBR 14725 Standard.

Ordinance nº 229 of 2011 – Amending the Regulatory Standard nº 26.

Joint Normative Instruction No. 3 of 2006.

In Uruguay:

Resolution MGAP N° 688 04-10-2013 (MGAP – Ministry of Livestock, Agriculture and Fisheries).

15.2 – Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance / mixture by the supplier.

SECTION 16 – OTHER INFORMATION

<u>Method for the mixture classification:</u>	Not applicable.
<u>Revision summary:</u>	Dec 2022 – The whole safety data sheet has been revised to align its format and content requirements of Commission Regulation (EU) 2020/878, which amends Annex II of Regulation (EC) 1907/2006 (REACH).
<u>Creation date:</u>	November – 2018.

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