SECTION 1 – IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 – Product identifier:

Commercial name: **LALNIX ® ACT DC**

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

Identified use: NEMATICIDE, INSECTICIDE

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:

- Globally Harmonized System of Classification and Labelling of Chemicals (GHS section 1.5.2).
- Canadian Hazardous Product Act (HPA).
- US Occupational Safety and Health Administration (OSHA).
- Regulation 1272/2008/EC (CLP).

Classification: Sensitization – Skin Category 1
Eye Damage/Irritation Category 2A
Hazardous to the Aquatic Environment – Long-term (Chronic) Hazard Category 2

2.2 – Label elements:

Hazard pictogram(s):

Signal word: Warning

Hazard statement(s): H317 – May cause an allergic skin reaction.

H319 – Causes serious eye irritation.

H411 – Toxic to aquatic life with long lasting effects.

EUH401 – To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statement(s):

P280 – Wear protective gloves, eye protection/face protection.

P308 + P311 – IF exposed or concerned: Call a POISON CENTER/doctor.

P391 – Collect spillage.

P501 – Dispose of contents/container in accordance with national regulations.

2.3 – Other hazards:

Not considered as a PBT or vPvB substance.

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
Purpureocillium lilacinum strain 251	None	None	≥ 4.7 x 10^{10} viable spores/mL	None
Polyether modified trisiloxane	134180-76-0	None	80%	Acute toxin 4, H312 Acute toxin 4, H332 Eye irritation 2, H319 Aquatic Chronicle 2, H411

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:

No symptoms known or expected.

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

Treat symptomatically.

SECTION 5 – FIREFIGHTING MEASURES

5.1 – Extinguishing media:

Suitable:	Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable:	High volume water jet.

5.2 – Special hazards arising from the substance or mixture:

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

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.

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 a place accessible by authorized persons only. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Protect from frost. Keep away from food, drink and animal feeding stuffs.

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 known occupational limit values.
Biological limits:	Not established.

8.2 – Exposure controls:

Protection of lungs:	In case of insufficient ventilation, wear respirator with a particle filter mask (protection factor 20).
Protection of skin:	Wear standard coveralls and Category 3 Type 5 suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently. If there is a risk of significant exposure, consider a higher protective type suit.
Protection of hands:	Wear chemical resistant nitrile rubber gloves.
Protection of eyes:	Safety glasses with side-shields.

SECTION 9 – PHYSICAL & CHEMICAL PROPERTIES

9.1 – Information on basic physical and chemical properties:

Physical state:	Liquid.
Colour:	Dark brown to brown-violet.
Odour:	Characteristic.
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 explosive 92/69/EEC, A.14/OECD 113.
Flash point:	112°C.
Auto-ignition temperature:	385°C.
Decomposition temperature:	Not available.
pH:	Not available.
Kinematic viscosity:	Not available.
Solubility:	Soluble in water.
Partition coefficient (n-octanol/water):	Polyether modified heptamethyltrisiloxane – log Pow: 1,42.
Vapour pressure:	Not available.
Density and/or relative density:	ca. 1,08 g/cm³ (20 °C).
Relative vapour density:	Not available.
Particle characteristics:	Not applicable.

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:

Extremes of temperature and direct sunlight. Freezing.

10.5 – Incompatible materials:

Store only in the original container.

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:	Oral: LD_{50} (Rat) > 5.000 mg/kg.

	Inhalation: no relevant route of exposure for this formulation. No volatility, no aerosols under normal conditions.
	Dermal: LD_{50} (Rat) > 5.000 mg/kg.
Skin corrosion/irritation:	Slight irritant effect (rabbit).
Serious eye damage/irritation:	Severe eye irritation (rabbit).
Respiratory or skin sensitization:	Skin: Sensitising (mouse).
	OECD Test Guideline 429, local lymph node assay (LLNA).
	Skin: Sensitising (guinea pig).
	OECD Test Guideline 406, Buehler test.
Germ cell mutagenicity:	*Purpureocillium lilacinum* 251 was not mutagenic or genotoxic in a battery of *in vitro* and *in vivo* tests.
	Not mutagenic in Ames Test.
Carcinogenicity:	Test not required for microorganisms.
Reproductive toxicity:	Test not required for microorganisms.
STOT-single exposure:	*Purpureocillium lilacinum* 251 did not cause specific target organ toxicity in experimental animal studies.
STOT-repeated exposure:	*Purpureocillium lilacinum* 251 did not cause specific target organ toxicity in experimental animal studies.
Aspiration hazard:	No known information is available.

11.2 – Other information:

No further information.

SECTION 12 – ECOLOGICAL INFORMATION

12.1 – Toxicity:

Toxicity to fish:	LC_{50} (*Oncorhynchus mykiss* (rainbow trout)) 2,1 mg/L
	Exposure time: 96 h
	Information refers to the main component.
Toxicity to aquatic invertebrates:	LC_{50} (*Daphnia magna* (water flea)) 1,1 mg/L
	Exposure time: 48 h
	Information refers to the main component.
Toxicity to aquatic plants:	EC_{50} (*Desmodesmus subspicatus* (green algae)) 28,2 mg/L
	Biomass; Exposure time: 72 h
	Information refers to the main component.
	EC_{50} (*Desmodesmus subspicatus* (green algae)) 152,2 mg/L
	Growth rate; Exposure time: 72 h

Information refers to the main component.

12.2 – Persistence and degradability:

Polyether modified heptamethyltrisiloxane not rapidly biodegradable.

12. 3 – Bioaccumulative potential:

Purpureocillium lilacinum 251 does not bioaccumulate.

12.4 – Mobility in soil:

Purpureocillium lilacinum 251 is immobile in soil.

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:

If the product has escaped into a water course, into a drainage system, or has contaminated the ground or vegetation in exceed quantities, notify the competent authorities.

SECTION 13 – DISPOSAL CONSIDERATIONS

13.1 – Waste treatment methods:

Product:	In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant.
Contaminated packaging:	Triple rinse containers. Do not re-use empty containers. Not completely emptied packagings should be disposed of as hazardous waste.
Waste key for the unused product:	02 01 08* agrochemical waste containing hazardous substances.

SECTION 14 – TRANSPORT INFORMATION

14.1 – ADR/RID/ADN:

UN number:	3082
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (POLYETHERSILOXANE)
Transport hazard class(es):	9
Packaging Group:	III
Environm. Hazardous Mark:	YES
Hazard no.:	90
Tunnel Code:	-

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

14.2 – IMDG:

UN number:	3082
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (POLYETHERSILOXANE)
Transport hazard class(es):	9
Packaging Group:	III
Marine pollutant:	YES

14.3 – IATA:

UN number:	3082
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (POLYETHERSILOXANE)
Transport hazard class(es):	9
Packaging Group:	III
Environm. Hazardous Mark:	YES

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:

WHO-Classification: III (Slightly hazardous). A chemical safety assessment is not required.

SECTION 16 – OTHER INFORMATION

Method for the mixture classification:	Calculation method.
Revision summary:	September 2023 – 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).
Creation date:	January – 2022