

SECTION 1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND THE COMPANY**1.1 Product identifier**Product name LALGUARD[®] M52 OD

EC No. / Cas No. Not applicable

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

Relevant identified uses Biological insecticide (plant protection product) for professional use only.

Uses advised against Any uses except relevant identified uses described above and as listed on the product label.

1.3 Details of the supplier of the safety data sheet

Supplier Danstar Ferment AG /
LALLEMAND PLANT CARE
Poststrasse 30.
CH-6300 Zug, Switzerland
Phone: +41 41 727 20 30
email: plantcare@lallemand.com

U.S. Contact for regulatory and compliance inquiries Name: Lallemand Specialties Inc.
Street: 6120 W. Douglas Avenue
Postal code/City: 53218 / Milwaukee
Country: USA
Telephone: +1 414 464 6440

1.4 Emergency telephone number

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

SECTION 2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No. 1272/2008 [CLP]:
This product does not meet the criteria for classification in a hazard class according to Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures.

Hazard identification (according to Regulations for plant protection products):

None

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard Pictogram: —

Signal Word: Caution

Hazard Statements: —

Precautionary Statements:

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

2.3 Other hazards

No other hazards known.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Product is a mixture.

3.2 Mixtures

1. Ingredient (active)

Metarhizium brunneum Ma 43

CAS No. / EC No.: Not applicable

REACH Registration No.: Not applicable

Content: > 2.0 x 10⁹ CFU/mL

Classification according to Reg
(EC) No 1278/2008 [CLP]: Not classified

SCL, M-factor, ATE: —

2. Ingredient

Distillates (petroleum), solvent-dewaxed light
paraffinic

CAS No. / EC No.: 64742-56-9

REACH Registration No.: —

Content: > 50%

Classification according to Reg
(EC) No 1278/2008 [CLP]:

SCL, M-factor, ATE

The mineral oils in the product contain < 3% DMSO
extract (IP 346).

Aspiration Hazard Cat. 1

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3. Other ingredients

Mixture does not contain any other ingredients that are
classified as dangerous according to Reg (EC) No.
1272/2008 [CLP].

SECTION 4. FIRST AID MEASURES

4.1 Description of First Aid Measures

Generic measures	If medical advice is needed, have the product package / container or label at hand. In the event of poisoning, consult a doctor or local poison center for treatment advice.
Eye Contact	Remove contact lenses. Hold eye open and rinse slowly and gently for 15-20 minutes with plenty of water.
Skin Contact	Take off contaminated clothing. Wash exposed skin with plenty of water and consult a doctor if skin irritation occurs.
Inhalation	Move person to fresh air. Keep the victim resting in a semi-seated position. If person is not breathing, call 112 or an ambulance, then give artificial respiration. Depending on symptoms or if severe exposure occurs, seek medical attention.
Ingestion	Rinse mouth with water. Consult a doctor if symptoms develop. Have the product container or label with you when calling a poison center or when calling / visiting a doctor or a treatment center.

4.2 Most important symptoms and effects, both acute and delayed

Micro-organisms may have the potential to provoke sensitizing reactions.

4.3 Indication of any immediate medical attention and special treatment needed

No specific treatment requirements or recommendations for medical attention exists for this product. Treat
symptomatically.

SECTION 5. FIREFIGHTING MEASURES**5.1 Extinguishing media**

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

Unsuitable Extinguishing Media: None known.

5.2 Special hazard arising from the substance or mixture

Hazardous combustion products: None known.

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

5.3 Advice for firefighters

Protection of firefighters: None specified.

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. Contaminated fire extinguishing water 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**

For non-emergency personnel: Avoid contact with the eyes, skin and clothing (see Section 8). Use personal protections as indicated in Section 8. Keep unauthorized people away from the concerned area. Evacuate the danger area and observe emergency procedures.

For emergency responders: Use personal protection recommended in Section 8.

6.2 Environmental precautions

Avoid release to the environment.

Do not contaminate water with the product or its container. Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads.

6.3 Method and materials for clean 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. Do not allow wash water to contaminate water supplies. Dispose of in accordance with local and national regulations for disposal of plant protection product waste.

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. Dispose of in accordance with local and national regulations for disposal of plant protection product waste.

6.4 References to other sections

See Section 8 for personal protective equipment, occupational exposure limits and risk management measures. Refer to Section 13 for waste disposal recommendations.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Preventive measures:	Keep out of the reach of children and unauthorized persons.
Handling:	Avoid breathing dust. Avoid contact with skin or eyes. Use localized ventilation system.
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. Storage instructions (temperatures and times) given on product label. Keep away from food, drink and animal feeding stuffs.
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7.3 Specific end use

Product is a biological insecticide used in plant protection. See detailed end uses and instructions for use on product label. For professional use only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

National occupational exposure limit values:	None.
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Other limit values:	None.
DNEL:	None.
PNEC:	None.

8.2 Exposure controls

<u>Appropriate engineering controls:</u>	Ensure good ventilation. This can be achieved by local exhaust ventilation or general exhaust ventilation. Avoid exposure. No exposure to the product is to be expected during normal handling.
<u>Personal Protective Equipment:</u>	Applicators and other handlers.
Eye / face protection:	Not needed during normal handling.
Skin protection :	Avoid contact with skin. Wear suitable protective clothing.
Hand protection:	Wear protective gloves.
Respiratory protection:	Avoid breathing spray / dust. Respiratory protection not needed during normal handling. In case of insufficient ventilation, effective dust mask (with PPF2 or PPF3 filter).
Thermal hazards:	None.
Other information:	Causes moderate eye irritation. Harmful if inhaled, absorbed through skin or swallowed. Avoid contact with skin, eyes and clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.
<u>Environmental exposure controls:</u>	Active microbe is a natural and generally occurring. No environmental exposure limits or controls.
	Do not apply directly to water, or to areas where surface water is present. Do not contaminate water when cleaning equipment or disposing of equipment wash waters or rinsate. Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local and national health and environmental regulations.

SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Oil dispersion; Green liquid/oil with dark green sediment.
Odour: .	No discernible odour.
pH:	7.1 at 20°C (1% aqueous dispersion).
Melting point/Freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point:	> 115°C (Method: EEC A9, closed cup).

Evaporation rate:	No data available
Flammability (solid, gas):	Not applicable
Upper/lower flammability or explosive limits:	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Relative density:	D420=0.953 (Method: EEC A3; OECD 109).
Solubility in water:	Not completely miscible in water. Do not dissolve completely, no layer of separation.
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	344°C (Method: EEC A15).
Decomposition temperature:	No data available
Viscosity (kinematic):	41.7 cSt at 20°C; 23.6 cSt at 40°C (calculated with dynamic viscosity and relative density)
Explosive properties:	No data available
Oxidising properties:	No data available

9.2 Other information

Not available.

SECTION 10. STABILITY AND REACTIVITY

Stable under recommended conditions of storage, use and transportation.

10.1 Reactivity

Not reactive. No hazardous reactions when transported, stored, and handled according to prescribed instructions.

10.2 Chemical stability

Product is stable under normal conditions of use, storage, and transportation.

10.3 Possibility of hazardous reactions

Product is stable and hazardous reactions do not occur under recommended conditions of use, storage, and transportation.

10.4 Conditions to avoid

No specific data.

10.5 Incompatible materials

Acids, bases, concentrated fertilizer liquids, chemical pesticides, food, drink and animal feeding stuffs.

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 hazard classes as defined in Regulation (EC) No 1272/2008

Information on toxicological data assessed:

Toxicological data originates from experimental data (testing results) made with the substance (*Metarhizium brunneum* Ma43) and/or the product. This data applies to the substance as well as to the product (mixture) as a whole, as no other components / ingredients with toxicological hazard properties are included in the substance or the product.

Acute toxicity:

Oral:

Dermal:

Inhalation:

Intraperitoneal:

No toxicity, infectivity or pathogenicity.

LD₅₀ (mouse) > 1.72×10⁸ CFU/animal

LD₅₀ (rat) > 5000 mg/kg of body weight

LD₅₀ (mouse) > 1.03×10⁸ CFU/animal

Not toxic or pathogenic to rat.

Skin corrosion/irritation:

Serious eye damage/irritation:

Respiratory / Skin sensitization:

Slightly irritating to skin (rabbit). Not classified.

Not irritating to the eyes (chicken)

Micro-organisms may have the potential to provoke sensitizing reactions. Not classified.

Germ cell mutagenicity:

Carcinogenicity:

Reproductive toxicity:

STOT-single exposure:

STOT-repeated exposure:

Aspiration hazard:

Other information:

No data available. Not required for microbial based product.

No data available. Not required for microbial based product.

No data available. Not required for microbial based product.

No data available. Not required for microbial based product.

No data available. Not required for microbial based product.

No data available. Not required for microbial based product.

No further information. No classification required based on toxicological information.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

11.2.2. Other information

No other known hazards.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Information on ecotoxicological data assessed:

Toxicological data originates from experimental data (testing results) made with the substance (*Metarhizium brunneum* Ma43) and/or the product. This data applies to the substance as well as to the product (mixture) as a whole, as no other components / ingredients with ecotoxicological hazard properties are included in the substance or the product.

<u>Mammals:</u>	Not toxic or pathogenic (LD ₅₀ oral > 5x10 ⁸ cfu/kg bw) (rat)
<u>Birds:</u>	Not toxic or pathogenic (LD ₅₀ > 3.5x10 ⁸ cfu/g bw) <i>Colinus virginianus</i>)
<u>Fish:</u>	Not toxic or pathogenic (no observed effect concentration (NOEC) ≥ 3.7x10 ⁹ cfu/L) (<i>Oncorhynchus mykiss</i>).
<u>Daphnia magna:</u>	Not toxic or pathogenic (no observed effect concentration (NOEC) = 3.5x10 ⁸ cfu/L).
<u>Algae:</u>	Not toxic or pathogenic (no observed adverse effect concentration (NOAEC) = 4.4x10 ¹⁰ CFU/L (<i>Raphidocelis subcapitata</i>).
<u>Aquatic macrophytes:</u>	No data, not required. No adverse effects to aquatic macrophytes are expected.
<u>Honeybees:</u>	No adverse effects (NOER ≥ 6000 CFU/larva) (<i>Apis mellifera</i>).
<u>Bumblebees:</u>	No adverse effects expected (NOEC = 9.3x10 ⁶ CFU/bumble bee) (<i>Bombus terrestris</i>).
<u>Arthropods (other than bees):</u>	Not toxic, infective, or pathogenic (<i>Typhlodromus pyri</i> , <i>Chrysoperla carnea</i> larvae, <i>Hippodamia convergens</i> , <i>Nasonia vitripennis</i>). No adverse effects at 3.5x10 ¹³ CFU/ha (22 taxa of non-target ground-dwelling or emerging arthropods).
<u>Earthworms:</u>	Not toxic, infective, or pathogenic to earthworms (LC ₅₀ > 7x10 ¹⁰ CFU/kg dry soil) (<i>Eisenia fetida</i>).
<u>Soil micro-organisms:</u>	No data. No toxic or pathogenic effects expected.

12.2 Persistence and degradability

Degradability expected to be easy, as for other naturally occurring soil microbes.

12.3 Bioaccumulative potential

No expected bio accumulative potential.

12.4 Mobility in soil

Metarhizium brunneum Ma43 is not mobile in soil.

12.5 Results of PBT and vPvB assessment

This substance / mixture does not contain any substances that are assessed or considered to be PBT or vPvB.

12.6 Endocrine disrupting properties

This substance / mixture does not have endocrine disrupting properties with respect to non-target organisms as it does not meet the criteria set out in Section B of Regulation (EU) No 2017/2100.

12.7 Other adverse effects

No other known adverse effects on non-target organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

<u>Disposal instructions:</u>	Dispose of contents and container in accordance with local and national regulations. Do not throw the product or packaging / containers into waters, ponds, rivers or ditches.
<u>Product disposal:</u>	To avoid wastes, use all material in this package / container by application according to label instructions. If wastes cannot be avoided, offer remaining product to an appropriate waste collection point according to national and local pesticide disposal requirements and instructions.
<u>Sewage disposal:</u>	Waste should not be disposed of by release to sewers.
<u>Packaging disposal:</u>	Rinse empty packaging / container with water to reduce any potential product residue in the packaging / container to insignificant amounts. Empty, rinsed packages / containers are disposed to appropriate waste collection point according to national and local requirements and instructions. Do not reuse or refill the packages / containers for other purposes.

SECTION 14. TRANSPORT INFORMATION

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

14.1. UN number or ID number Not applicable, not regulated.

	Road/rail transport (ADR/RID)	Sea transport (IMDG code)	Air transport (IATA)
14.2. UN proper shipping name	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)	Not applicable	Not applicable	Not applicable
14.4. Packing group	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards	None	None	None

14.6. Special precautions for user None.

14.7. Maritime transport in bulk
according to IMO instruments Product is not intended for bulk transport.

SECTION 15. REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Safety Data Sheet and Classification in accordance with following EU Regulations:

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

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.

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.

Regulation (EU) 547/2011 implementing Regulation (EC) No 1107/2009 of the European Parliament and of the Council as regards labelling requirements for plant protection products.

Directive 2003/82/EC regarding standard phrases for special risk and safety precautions for plant protection products.

Directive 2001/36/EC concerning the placing of plant protection products on the market.

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

Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture under Regulation (EC) 1907/2006 REACH).

Other safety assessment

Active substance and formulated end product/mixture regulated, assessed, and approved as plant protection product under Regulation (EC) 1107/2009, (EU) 540/2011 and Directive 91/414/EEC.

SECTION 16. OTHER INFORMATION

Indication of changes: Revision of Section 1 to 16.

Abbreviations and acronyms:

ADR	Accord European Relatif au International Transport des Marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
CFU	Colony forming units
CLP	Classification, Labeling and Packaging (REGULATION (EC) No. 1272/2008 on classification, labeling and packaging of substances and mixtures)

EC50	Average effective concentration
ECHA	European Chemicals Agency
EC	European Community
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EN	European standards
EU	European Union
IATA	International Air Transport Association (= International Air Transport Association)
IMDG Code	International Maritime Code for Dangerous Goods
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose) (= lethal dose for 50% of a test population (median lethal dose)
n.a.	not applicable
NOEC	No observed effect concentration
NOAEC	No observed adverse effect concentration
PBT	persistent, bioaccumulative and toxic
vPvB	very persistent and very bioaccumulative

Key literature and sources of data:

CLP Regulation (EC) 1272/2008, Regulation (EU) 453/2010 and Directive 1999/45/EC with amendments. Guidelines and Instructions for the creation of safety data sheets in the current version (ECHA). Guidelines on labelling and packaging in accordance with Regulation (EC) No. 1272/2008 (CLP) as amended (ECHA). Regulations for the transport of dangerous goods by road, rail, sea and air transport (ADR, RID, IMDG, IATA) in the currently valid version

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

<u>Classification</u>	Not classified.
<u>Procedure</u>	On basis of test data made with active substance and/or product. Data evaluated by authorities and experts according to Uniform Principles.

Relevant H-statements (number and full text): No H-statements.

Training advice for workers: No specific recommendations.

DISCLAIMER

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