

GRAAL

Version 2 /ENG

Revision date: 15.12.2021

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

1.1. Product identifier:

Trade name: GRAAL

Product code: GRAAL

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

Use: Fertilizer

Details of the supplier of the safety data sheet

Company: NOROFERT SA

Street LT. AV. Șerban Petrescu, No. 20, Sector 1, Bucharest, Romania

Phone: +40766 080 767

E-mail address of the person responsible for SDS: office@norofert.ro

1.3. The phone number that can be called in case of emergency:

NOROFERT SA – 0727034308 or Toxicological Information Centre: Bucharest Public Health Institute Tel: 021 3183606 or 021 3183620/ext 235 (Monday-Friday 8:00-15:00)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008

It is not classified; it does not meet the conditions for classification.

2.2 Label elements

According to Regulation (EC) No 1272/2008

Danger phrases:

Not applicable

Precautionary phrases:

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

2.3. Other hazards

This mixture does not contain components considered to be bioaccumulative and toxic (PBT).

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SECTION 3: Composition/Information on Ingredients**3.1 Active substance**

Not applicable. The product is not a substance.

3.2 Mixtures**Chemical nature**

Suspension

Name	No. of identification CASE: EC	Conc. (%)	Classification Cf. Reg. (EC) no. 1272/2008
Azospirillum lipoferum	Unassigned	5X10 ⁶ cfu /ml	Unrated
Bacillus megaterium	CAS 68038-67-5 EC 614-242-5	5X10 ⁶ cfu /ml	Unrated
PROTEIN hydrolysates	CAS 9015-54-7 EC 310-296-6	1.6%	Unrated
Potassium sulfate	CAS 7778-80-5 EC 231-915-5	5%	Unrated

Inert material:

Name	No. of identification CASE: EC	Conc. (%)	Classification Cf. Reg. (EC) no. 1272/2008
Glycerol	CAS 56-81-5 EC 200-289-5	30%	Unrated

SECTION 4: First-Aid Measures**4.1 Description of first aid measure****General indications**

Keep the product container, label or safety data sheet in case you consult a doctor.

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If inhaled	It will go out into the fresh air. The person will be put to bed and kept warm. If symptoms persist, consult a doctor.
On skin contact	Contaminated clothing will be removed immediately. Wash off immediately with plenty of soap and water. If irritation persists, call a doctor.
On contact with eyes	Rinse immediately with plenty of water, including under the eyelids, for at least 15 minutes. An immediate medical examination is required.
On ingestion	Vomiting will not be induced. It will rinse the mouth very well. A doctor will be notified immediately.
4.2 Most important symptoms and effects, both acute and delayed	
Symptoms	Unknown
4.3 Indication of any immediate medical attention and special treatment needed	
Treatment	No specific antidote is known. It will be treated symptomatically.

SECTION 5: Firefighting Measures**5.1 Extinguishing media:**

Suitable Water spray, foam, Carbon dioxide

Not suitable Powerful water spray

5.2 Special hazards arising from the substance or mixture

Specific risks during firefighting: The product is not flammable under normal conditions. Decomposition and combustion products of the mixture may be toxic - carbon oxides, nitrogen oxides.

5.3 Advice for firefighters

Special protective equipment - Full protective equipment and self-contained breathing apparatus will be worn

Additional information Contaminated extinguishing water shall be prevented from entering the sewage system and running water. Firefighting is done against the wind. Closed containers located near sources of fire will be cooled by spraying with water jets.

SECTION 6: Accidental Release Measures**6.1 Personal precautions, protective equipment, and emergency procedures**

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Precautionary measures Personal protective equipment will be used. Avoid contact with spilled product or contaminated surfaces. Adequate ventilation shall be provided. Personnel will be evacuated to safe places.

6.2 Environmental precautions

Do not discharge into drains/surface waters/groundwater.

The product will be used according to the instructions on the label.

6.3 Methods and material for fire containment and cleaning

Cleaning methods It will be absorbed with an inert absorbent material (eg sand, silica gel, universal binder, sawdust). The product will be collected and stored in a tightly closed and airtight container. The contaminated surface will be carefully cleaned. Contaminated wash water shall be conserved and disposed of.

Additional observations Never put the spilled product back into the packaging for reuse.

6.4 Reference to other sections

For information on safe handling, see section 7.

Information on personal protective equipment, see SECTION 8.

Information on waste disposal, see SECTION 13

SECTION 7: Handling and Storage

7.1 Precautions for safe handling

Advices for safe handling

- When handling closed packages/containers, no special precautions are necessary, the general rules regarding the handling of packages will be observed.

Fire and explosion protection measures

- No special precautions are required

Hygiene measures Remove personal protective equipment (PPE) used immediately after working with this product. Remove contaminated clothing immediately and clean thoroughly before reuse. Always wash your hands thoroughly with soap and water before and after eating, after drinking, after chewing gum, smoking, using the toilet or cosmetics.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage spaces and containers

- Store in a dry, cool and well-ventilated place accessible only to authorized personnel. It shall be protected from direct sunlight and protected from frost.

Protective measures in case of joint storage with other materials

- Segregate from foods and animal feeds.

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Stability during storage

- Storage temperature 5°C – 25°C

7.3 Specific end use(s)

The indications on the label and those in the instructions will be followed

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

It does not contain substances with occupational exposure limit values.

8.2 Exposure controls

Personal protective equipment

Respiratory protection	In the anticipated exposure conditions, no individual respiratory equipment is required. Respiratory protection should be worn for short-term exposures to avoid any secondary risk, after all measures have been taken to reduce exposure at the source, e.g. isolation and/or ventilation with air extraction. Always follow the manufacturer's instructions for use and maintenance of respiratory equipment. A particle filter mask (protection factor 20) according to EN149FFP3 or EN140P3 or equivalent shall be worn.
Hand protection	Suitable gloves, resistant from a chemical point of view (EN 374) and to prolonged contact (Recommended: protection index 6, corresponds to > 480 minutes penetration time, according to EN 374): e.g. nitrile rubber (0.4 mm), chlorprenic rubber (0.5 mm), butyl rubber (0.7 mm) and others.
Eye protection	Safety glasses with side shields (EN 166)
Body protection	Body protection must be chosen according to the activity and possible exposure. For example: apron, protective boots, protective overalls (according to EN 14605 in the case of splashes or EN ISO 13982 in the case of dust).
Hygiene measures	The contaminated clothes and gloves will be removed and washed, inside and out, before reuse. Wash your hands before breaks and immediately after handling the product. Do not eat, do not drink, and do not smoke when handling the product.
Protection measures	It is recommended to wear work equipment with long sleeves. Store work equipment separately. Keep away from food, drink or animal food.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	liquid
Color	brown
Odor	specific
Odor threshold	No data available
PH	3-6
Melting point/boiling range	No data available
Boiling point/boiling range	No data available
Flash point	No data available
Auto-ignition temperature	No data available
Flammability	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor pressure	No data available
Relative vapor density	No data available
Relative density	No data available
Density (20°C)	1.102 ± 0.1
Solubility in water	Soluble
The n-octanol/water partition Coeff	No data available
Dynamic viscosity	No data available
Kinematic viscosity	No data available
Particle characteristics	No data available
Oxidizing properties	No data available
Explosion hazard	Not explosive
Evaporation rate	No data available
9.2 Other information	No other data available

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SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

The product is stable under normal conditions of use/handling and storage.

10.2 Chemical stability

The product is stable if stored and handled as prescribed/indicated

10.3 Possibility of hazardous reactions No data available

10.4 Conditions to avoid

Protection from extreme temperatures and direct sunlight.

10.5 Incompatible materials Unknown

10.6 Hazardous decomposition products

Under the influence of high temperature, carbon and nitrogen oxides can be released.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity: LD50 rat

Dosage: > 3000 mg/kg

Acute inhalation toxicity This is not the case as the product is a concentrated suspension

Acute dermal toxicity LD50 rat

Dosage: > 2000 mg/kg

Skin Corrosion/Irritation Does not irritate the skin

Serious eye damage/irritation Does not irritate the eyes

Respiratory or skin sensitization Not sensitizing

STOT – Specific target organ toxicity – single exposure

No data available

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No data available

Mutagenicity assessment Test not required for microorganisms

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Assessment of carcinogenicity	Test not required for microorganisms
Reproductive toxicity assessment	Test not required for microorganisms
Developmental toxicity assessment	Test not required for microorganisms
Inhalation hazard	No data available

11.2 Information regarding other hazards

No data available

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

- Aquatic toxicity (acute)	No data available
- Aquatic toxicity (chronical)	No data available
- Daphnia toxicity	No data available
- Toxicity to algae/aquatic plants	No data available

12.2 Persistence and degradability

Biodegradation	Not relevant for microorganisms
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12.3 Bioaccumulative potential

Bioaccumulation	Not relevant for microorganisms
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12.4 Mobility in soil	No data available
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12.5 Results of PBT and vPvB assessment	This mixture does not contain any substance considered to be persistent, bioaccumulative and toxic (PBT)
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12.6 Endocrine disrupting properties	No data available
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12.7 Other adverse effects	No data available
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SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product:	Do not contaminate waterways, waterways or ditches with the product or used containers. Waste will not be disposed of down the drain. Where recycling is possible, this is preferred over disposal or
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	incineration. If recycling is not possible, it will be disposed of in accordance with local regulations.
Contaminated packaging	The rest of the content will be emptied. The containers must be washed 3 times. Empty containers must be taken to an authorized waste handling facility for recycling and disposal.
Waste code	uncleaned packaging 15.01.10 packaging containing residues of dangerous substances or contaminated with dangerous substances or contaminated with dangerous substances
Legislation	Emergency Ordinance 92/2021 regarding the waste regime GD 856/2002 regarding waste management records and for the approval of the list including waste, including hazardous waste Law 249/2015 regarding the management of packaging and packaging waste

SECTION 14: TRANSPORT INFORMATION

According to ADN/ADR/RID/IATA this product is not classified as dangerous

14.1 – 14.5 Not applicable

14.6 Special precautions for users No data available

14.7 Shipping in bulk under IMO instruments

Not applicable to products like the one supplied

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

REACH - Restrictions on the production, placing on the market and use of certain dangerous substances, preparations, and articles (Annex XVII): Not applicable

REACH - List of candidate substances of particular concern for authorization (Article 59):
Not applicable

REACH - List of substances subject to authorization (Annex XIV): Not applicable

Regulation (EC) no. 1005/2009 on substances that deplete the ozone layer: Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (reform): Not applicable

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Regulation (EC) no. 649/2012 of the European Parliament and of the Council regarding the export and import of dangerous chemical products: Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances: Not applicable

15.2 Chemical Safety Assessment

Chemical Safety Assessment is not required for this substance.

SECTION 16: OTHER INFORMATION

Full text of the H statements

Full text of other abbreviations

ADN	DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the inland transport of dangerous goods
ADR	European Agreement on the International Carriage of Dangerous Goods by Road
CAS-Nr.	CAS registry number (engl. Chemical Abstracts Service)
Conc.	Concentration EC-No. Number European Community
ECx	The effective concentration for x%
EINECS	European inventory of existing chemicals introduced on the market
ELINCS	European list of notified chemical substances
EN	European standards
ETA	Acute toxicity estimate EU European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	The inhibitory concentration for x%
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration for x%
LDx	Lethal dose for x%
LOEC/LOEL	Minimum observable effect dose
MARPOL	International Convention for the prevention of marine pollution from ships
N.O.S	Not otherwise specified
NOEC/NOEL	Concentration/Dose no observable effect

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OCDE	Organization for Economic Cooperation and Development
OMS	World Health Organization
RID	Regulation on the international transport of dangerous goods by road
TWA	Time weighted average
UN	United Nations

The information contained in this safety data sheet has been established based on our knowledge, information, and assumptions at the date of publication of this document. The information provided is for guidance only for safe handling, use, processing, storage, transport, disposal, and release, and shall not be considered a warranty or specification of quality. The information relates only to the specific material designated and is not valid for the material used in combination with any other materials or in any other process, other than that specified in the text.

This Safety Data Sheet is made in accordance with Regulation (EC) no. 1907/2006 of the European Parliament and of the Council on the registration, evaluation, authorization, and restriction of chemical substances (REACH)