

Roots Turf Food 20-2-8

Version 3

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Date: 2007-05-11

Supersedes version from 2006-03-15

1. IDENTIFICATION OF THE SUBSTANCE/PRODUCT AND OF THE COMPANY/UNDERTAKING

- 1.1 Identification of the Substance or Preparation:** **Roots Turf Food 20-2-8**
- 1.2 Intended use of the Substance/Preparation:** Granular formulation of nutrients, biostimulants and non-harmful micro-organisms for use in turf grass and plant cultivation.
- 1.3 Company/Undertaking Identification:** NOVOZYMES BIOLOGICALS FRANCE S.A.
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2. HAZARDS IDENTIFICATION

Most Important Hazards: The preparation is classified as irritant according to the criteria laid down in Council Directives 67/548/EEC (Annex VI of directive 2001/59/EC) and 1999/45/EC.

Xi, R36/37/38 'Irritating to eyes, respiratory system and skin'

Most Important Adverse Human Effects: The preparation has been classified as an irritant to eyes, skin and respiratory system.

Environmental hazard: The preparation is not classified as dangerous for environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical/trade name	Quantity %	Symbols	R phrase	CAS No.	EINECS, ELINCS
Di-calcium phosphate	1-3	Xi	36/37/38	7757-93-9	231-826-1
Ammonium phosphate	1-10	Xi	36/37/38	7783-28-0	231-987-8
Potassium sulphate	5-18	Xn	22	7778-80-5	231-915-5
Methylene urea	10-20	Xi	36/37/38	9011-05-6	N/A

Other raw materials are either non-hazardous, or carry a 'hazard' label but are present at <0.5%

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4. FIRST-AID MEASURES

- Exposure by inhalation: Remove victim to fresh air. Seek medical attention if symptoms occur.
- Exposure by skin and eye contact: Skin - Immediately wash affected area thoroughly with water. Seek medical attention if irritation develops.
Eyes: Immediately flush eyes with plenty of water and seek medical attention if irritation develops.
- Exposure by ingestion: Do not induce vomiting. Drink fluids to dilute. Seek medical attention.

5. FIRE FIGHTING MEASURES

- Suitable Extinguishing Media: Water, foam, dry chemical or carbon dioxide extinguishers may be used.
- Extinguishing media not to be used: None
- Specific Exposure Hazards: If the substance is involved in a fire, oxides of carbon and nitrogen may be evolved.
- Protective Equipment for firefighters: Full protective clothing and self-contained breathing apparatus should be worn.

6. ACCIDENTAL RELEASE MEASURES

- Personal Precautions: Evacuate personnel from immediate vicinity. Wear appropriate protective clothing (goggles, gloves, and a half mask). Refer to section 8.
- Environmental Precautions: Avoid excessive release to natural waters. It is not anticipated to be hazardous for environment.
- Methods for Cleaning Up: Stop the leak or release at source. Absorb spillages with a suitable inert material (e.g. sand or soil) or vacuum pump. Transfer the spillage to waste containers labelled in the same way as the original containers. Clean the spillage area with water and detergent. Small releases should not pose any hazard to the local environment.

7. HANDLING AND STORAGE

7.1 Handling:

- Precautions: The substance should be handled under conditions of good industrial hygiene and in accordance with any local regulations in order to avoid unnecessary exposure.
- Technical Measures: The use of gloves is recommended to reduce exposure to the preparation.
- Specific Requirements: None.

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7.2 Storage:	
Specific design for Storage rooms or vessels:	None
Incompatible Materials:	Strong acids or alkali compounds may inactivate biological cultures. Strong oxidising agents. Do not store in metallic containers
Conditions of Storage:	Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Avoid freezing temperatures and above 45 °C.
Quantity Limits:	None
Packaging Materials:	Empty packaging can be recycled or reused.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure limit value

VME 8h dusts =10 mg/m³ (particles of a diameter < 100µ) and 5 mg/m³ (particle of a diameter < 5µ)

8.2 Professional exposure control

Engineering Measures: Engineering controls such as LEV are recommended to reduce exposure to the preparation

Specific Control Parameters: None

Personal Protective Equipment: The provision of personal protective equipment and the need to provide engineering control measures should be decided upon by the user as part of a formal exposure risk assessment. Based upon the available toxicological information the protective measures described below should be regarded as a minimum.

Respiratory Protection: If operating conditions create high airborne concentrations of this material, based upon available information and in the absence of occupational exposure limits the use of a vapour mask to a minimum standard of EN405 FFA1P1 is recommended.

Hand Protection: Avoid skin contact chemical protective gloves to a Standard EN374 should be provided. Usage periods should not exceed the breakthrough times for the chemical stated by the manufacturer of the glove.

Eye Protection: Care should be used to prevent eye exposure and eye protection should be used when handling the preparation. The protection should be capable of giving chemical protection as classified in BS2092 or EN166.

Skin Protection: Avoid skin contact. In case of prolonged/frequent direct handling of the material it is recommended to cover any skin wounds and abrasions and to wear protective clothing as classified NF EN 13982-1 (Type 5).

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	greyish brown, granular
Odour:	Mild, organic
pH (10% dispersion):	6.0 – 7.0
Boiling Point/Boiling Range:	Not applicable
Melting Point/Melting Range:	Not applicable
Flash Point:	Not determined
Flammability (Solid, Gas):	Not applicable
Autoflammability:	Not determined
Explosive Properties:	Predicted not explosive based on chemical structure.
Oxidising Properties:	Not determined
Vapour Pressure:	Not applicable
Relative Density:	approx 0.6 – 0.8 @ 25 °C
Solubility	- Water solubility: <15% (dry product)
	- Fat solubility: Not determined
Partition coefficient n-octanol/water:	Not determined
Other Data:	None available

10. STABILITY AND REACTIVITY

Conditions to Avoid:	Excessive temperature variations, below 0°C or above 45 °C
Materials to Avoid:	Strong acids or alkali compounds may inactivate biological cultures. Avoid contact with oxidising agents.
Hazardous Decomposition Products:	None anticipated

11. TOXICOLOGICAL INFORMATION

11.1 Acute toxic effects

11.1.1	Ingestion, LD50 Rat oral (mg/kg):	Not determined
11.1.2	Inhalation, LC50 Rat inhalation (mg/l/4h):	Not determined
11.1.3	Skin, LD50 Rat dermal (mg/kg)	Not determined

11.2 Local effects

11.2.1	Skin irritation	Not determined
11.2.2	Eye irritation	Not determined

11.3 Sensitization

11.3.1	By skin contact	Not determined
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Contact with eyes, skin and respiratory tract may cause irritation.

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12. ECOLOGICAL INFORMATION

- Mobility:** Components of this preparation are largely miscible or insoluble in water. Therefore, it is likely to distribute predominantly to the terrestrial environment.
- Biodegradability:** The preparation is expected to biodegrade rapidly. However no information on anaerobic biodegradation is available.
- Accumulation:** Not anticipated to bioaccumulate due to high water solubility and hence, biomagnification is not likely.
- Ecotoxicity:** The preparation is not anticipated to pose any environmental hazard. No data on toxicity specifically to soil organisms, plants and terrestrial animals are available.
- Other adverse effects:** There is no ozone depletion, photochemical ozone creation or global warming potential. Adverse effects in the sewage treatment plant are not anticipated.

13. DISPOSAL CONSIDERATIONS

- Waste from Residues:** Dispose of by incineration, landfill or to drain in accordance with local regulations. Stack gases should be scrubbed.
- Contaminated Packaging:** Dispose of by incineration or landfill in accordance with local regulations. Empty packaging can be recycled or reused.

14. TRANSPORT INFORMATION

- International Regulations**
- | | |
|-------------------|-----------------|
| Land: | Not applicable. |
| Inland waterways: | Not applicable. |
| Sea: | Not applicable. |
| Air: | Not applicable. |
- UN classification number:** None
- Local Regulations:** Any relevant local regulations concerning transport should be observed.
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15. REGULATORY INFORMATION

EC Regulations: The preparation is classified as "irritating" according to the criteria of Council Directives 67/548/EEC (Annex VI of Directive 2001/59/EC) and 1999/45/EC.

Classification proposal

Symbols: Xi

R-phrases: R36/37/38 'Irritating to eyes, respiratory system and skin'

S-phrases: S2 Keep out of reach of children
S24/25/26/28 Avoid contact with skin and eyes. In case of contact with skin or eyes, rinse immediately with plenty of water and seek medical advice.
S36/37 Wear suitable gloves and protective clothing.

Microbial classification

The preparation is not deemed 'hazardous' according to the requirements of Council Directive 2000/54/EEC. Fungi contained in this preparation are designated Class 1 according to Council Directive 90/679/EEC (as amended by Council Directive 93/88/EEC) and all other recognised classification systems for micro-organisms.

Local Regulations: Any relevant local regulations should be observed.

16. OTHER INFORMATION

R phrases

R22 Harmful by ingestion
R 36 Irritating to eyes
R 37 Irritating to the respiratory system
R 38 Irritating to skin

Miscellaneous

LEV: Local Exhaust Ventilation

The information contained is based on our knowledge of the product at the date of publishing. It applies to the product as such. In case of formulation or mixture make sure no new danger appear. Users are advised of possible additional danger when the product is used in applications for which it is not intended to.

Version 3: revised points: 1-16 (2007-05-11)
