



SAFETY DATA SHEET

Revision date: 11/21/2014

Revision number: 2

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

Product identifier

Product Name	BioSpikes 4000
Product Code	7032705

Recommended use of the chemical and restrictions on use

Recommended Use	Wastewater Treatment.
Uses advised against	Please refer to Product Data Sheet

Details of the supplier of the Safety Data Sheet

Contact Manufacturer	Novozymes Biologicals Inc. 5400 Corporate Circle Salem, VA, USA 24153
Information Telephone Number	1-540-389-9361, 8am - 4:30pm EST M-F
Emergency Telephone Number	1-800-424-9300 (Chemtrec) 24 hours every day

2. HAZARDS IDENTIFICATION

Classification

Classification of the product is in accordance with 29CFR 1910.1200

Respiratory sensitization

Category 1

Label elements

Emergency Overview

Danger

Hazard statements

May cause allergy or asthma symptoms or breathing difficulties if inhaled



Appearance Light brown

Physical State Immobilized Granulate

Odor Slight fermentation odor

Precautionary Statements - Response

Eyes	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Skin	IF ON SKIN: Gently wash with plenty of soap and water
Inhalation	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
Ingestion	IF SWALLOWED: Rinse mouth. DO NOT induce vomiting Call a POISON CENTER or doctor/physician if you feel unwell

Precautionary Statements - Storage

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

Precautionary Statements - Disposal

Dispose of unused product and container in accordance with all applicable local and regional requirements

Hazards not otherwise classified (HNOC)

Not Applicable

Other Information

Health Hazard	1
Fire Hazard	1
Reactivity	0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Dolomitic Limestone	1317-65-3	40-50%
Pasteurized Bran	Not Applicable	20-25
Polythethylene glycol	25322-68-3	10-15%
Hy-Yeast 412 Powder	Not Applicable	5-10%
Viable Bacteria Cultures	Not Applicable	1-5%
Alpha-amylase	9000-90-2	< 0.5%

* The exact percentage (concentration) of composition has been withheld as a trade secret

GHS Classification of Enzymes is based on AEP content. The above figure does not represent total AEP in the product.

4. FIRST AID MEASURES

First aid measures

General Advice

If you feel unwell, seek medical advice (show the label if possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children..

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes

Skin Contact

Wash off immediately with soap and plenty of water

Inhalation

Move to fresh air

Ingestion

Clean mouth with water and afterwards drink plenty of water

Most important symptoms and effects, both acute and delayed

Main Symptoms

No information available

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Specific Hazards Arising from the Chemical

No information available

Hazardous Combustion Products

Carbon monoxide. Carbon dioxide (CO₂). Oxide of Nitrogen. Formaldehyde. Sulphur Dioxide.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Ensure adequate ventilation

Environmental precautions

Environmental Precautions It is not anticipated to be hazardous for the environment

Methods and material for containment and cleaning up

Methods for Clean-up Pick up and transfer to properly labelled containers

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place

Packaging Material There could be many packaging types for the product. The details are given in other Novozymes documents

Incompatible Materials Strong acids or alkali compounds and strong oxidizing agents may inactivate biological cultures

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Dolomitic Limestone 1317-65-3	-	TWA: 15 mg/m ³ TWA: 5 mg/m ³	-
Pasteurized Bran Not Applicable	-	-	-
Polyethylene glycol 25322-68-3	-	-	-
Hy-Yeast 412 Powder Not Applicable	-	-	-
Viable Bacteria Cultures Not Applicable	-	-	-
Alpha-amylase 9000-90-2	-	-	-

IDLH: Immediately Dangerous to Life or Health

Appropriate engineering controls

Individual protection measures, such as personal protective equipment

Eye Protection Avoid contact with eyes

Skin and body protection No special technical protective measures are necessary

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practices

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Immobilized Granulate
Appearance	Light brown
Odor	Slight fermentation odor
Odor Threshold	No information available

<u>Property</u>	<u>Values</u>
Melting/freezing point	No information available
Boiling point/range (°C) VALUE	
Boiling point/range (°F) VALUE	
Flash point (°F) VALUE	
Evaporation rate VALUE	No information available
Flammability (solid, gas)	No information available
Burning rate 100mm VALUE	No information available
Vapor Pressure	No information available
Vapor Density	No information available
Specific Gravity	No information available
Water Solubility	No information available
Solubility in other solvents	No information available
Partition Coefficient (n-octanol/water)	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity of Product	No information available
Viscosity	No information available
Explosive Properties	No information available
Oxidizing Properties	No information available

Other Information

Softening Point	No information available
VOC Content	No information available
Density	No information available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight. Exposure to air or moisture over prolonged periods.

Incompatible materials

Strong acids or alkali compounds and strong oxidizing agents may inactivate biological cultures

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapours.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	There is no data available for this product
Eye contact	Contact with eyes may cause irritation
Skin contact	Prolonged or repeated contact may dry skin and cause irritation
Ingestion	Ingestion may cause stomach discomfort

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Polythethylene glycol 25322-68-3	28 g/kg Rat 20 g/kg Rabbit	28 g/kg Rat 20 g/kg Rabbit	28 g/kg Rat 20 g/kg Rabbit
Alpha-amylase 9000-90-2	Oral LD50 Rat: 7500 mg/kg	Oral LD50 Rat: 7500 mg/kg	Oral LD50 Rat: 7500 mg/kg

Information on toxicological effects

Symptoms No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No information available
Mutagenic Effects	No information available
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.
Reproductive Effects	No information available
Specific target organ systemic toxicity (single exposure)	No information available
Specific target organ systemic toxicity (repeated exposure)	No information available
Chronic Toxicity	No information available.
Aspiration hazard	No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

None known

Persistence/Degradability

No information available

Bioaccumulation/ Accumulation

No information available

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method Dispose of contents/container in accordance with local regulation

Contaminated Packaging Empty containers should be taken for local recycling, recovery or waste disposal

14. TRANSPORT INFORMATION

<u>DOT</u>	Not regulated
<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated
<u>ICAO</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated
<u>ADN</u>	Not regulated

15. REGULATORY INFORMATION

International Inventories

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372:

SARA 311/312 Hazardous

Categorization

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

State Regulations

California Proposition 65

This product in its present state does not contain any Proposition 65 chemicals

State Right-to-Know

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Zinc Stearate 557-05-1	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not Applicable

16. OTHER INFORMATION

Revision date: 11/21/2014

Revision Summary

No information available

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text. Furthermore, as the conditions of use are beyond the control of Novozymes, it is the responsibility of the customer to determine the conditions of safe use of this preparation.

End of SDS