



SAFETY DATA SHEET

Revision date: 08/29/2014

Revision number: 1

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

Product identifier

Product Name	BioRemove 4200
Product Code	7039519

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

Serious eye damage/eye irritation	Category 2B
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Label elements

Emergency Overview

Warning

Hazard statements

Causes eye irritation

Appearance Tan; free-flowing

Physical State Powder Ingredient

Odor Slight fermentation odor

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
Fire	Water spray, fog or regular foam

Precautionary Statements - Storage

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
Keep away from sources of ignition

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 %
Pasteurized Bran	Not Applicable	50-60%
Sand	Not Applicable	15-20%
Sodium sulphate	7757-82-6	10-15%

Ethoxylated fatty alcohol, C16-C18	68439-49-6	5-10%
Viable Bacteria Cultures	Not Applicable	1-5%
Lipase	9001-62-1	1-5%

* 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

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin Contact

Wash off with warm water and soap.

Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing..

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

Contains Viable Bacterial Cultures classified as Risk Group 1.

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

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

After cleaning, flush away traces with water. Avoid dust formation.

7. HANDLING AND STORAGE

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Precautions for safe handling

Handling

Wear personal protective equipment. Wash hands and face thoroughly after handling. Avoid formation of aerosols and dust from drying out of spilled preparation. Avoid splashing and high pressure washing. Ensure good ventilation of the room, when handling this preparation. Store container in a cool place. .

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
Pasteurized Bran Not Applicable	-	-	-
Sand Not Applicable	-	-	-
Sodium sulphate 7757-82-6	-	-	-
Ethoxylated fatty alcohol, C16-C18 68439-49-6	-	-	-
Viable Bacteria Cultures Not Applicable	-	-	-
Lipase 9001-62-1	-	-	-

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

Powder Ingredient

Appearance

Tan; free-flowing

Odor

Slight fermentation odor

Odor Threshold

No information available

Property

Values

Melting/freezing point

No information available

Evaporation rate VALUE

No information available

Flammability (solid, gas)

No information available

Burning rate 100mm VALUE

No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

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

Excessive temperature variations below 32F or above 155F.

Incompatible materials

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

Hazardous Decomposition Products

No information available.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	There is no data available for this product
Eye contact	May cause temporary eye 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
Sodium sulphate 7757-82-6	Oral LD50 Rat: >10000 mg/kg	Oral LD50 Rat: >10000 mg/kg	Oral LD50 Rat: >10000 mg/kg
Ethoxylated fatty alcohol, C16-C18 68439-49-6	Oral LD50 Rat: 1260 mg/kg	Oral LD50 Rat: 1260 mg/kg	Oral LD50 Rat: 1260 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
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
Aspiration hazard No information available

12. ECOLOGICAL INFORMATION**Ecotoxicity**

None known

Chemical Name	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Sodium sulphate 7757-82-6				EC50 = 2564 mg/L 48 h EC50 = 4547 mg/L 96 h

Persistence/Degradability

The organic components of the product are biodegradable.

Bioaccumulation/ Accumulation

Does not bioaccumulate.

Other adverse effects

No known effect

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

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

Contaminated Packaging Dispose of wastes in an approved waste disposal facility.

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA Not regulated

14. TRANSPORT INFORMATION

<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/NDSL - 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 does not contain any chemicals which are subject to the reporting requirements of the Act and 40 CFR 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 does not contain any Proposition 65 chemicals

State Right-to-Know**U.S. EPA Label Information**

EPA Pesticide Registration Number Not Applicable

16. OTHER INFORMATION

Revision date: 08/29/2014

Revision Summary

No information available

16. OTHER INFORMATION

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