SAFETY DATA SHEET
Revision date: 2022/10/21
Version No: 1
Compliant with 29 CFR §1910.1200 HCS 2012
Compliant with HPR WHMIS 2015

Ratchet (USA)

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	Ratchet (USA)
Chemical Name.	Lipo-chitooligosaccharide (LCO)
Use of the substance/preparation	Plant growth regulators
Contact Manufacturer	Novozymes BioAg 3101 W. Custer Ave Milwaukee WI 53209 Telephone 1-888-744-5662
Information Telephone Number	1-888-744-5662 Available 24 hours a day 7 days a week from April 1st to June 15th, otherwise available from 8:00am to 4:30pm CST, Monday to Friday.
Emergency Telephone Number	1-800-424-9300 (Chemtrec) 24 hours every day

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2. HAZARDS IDENTIFICATION

Classification

Classification of the chemical in accordance with 29CFR §1910.1200
WHMIS Classification
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Hazards not otherwise classified (HNOC)
Not Applicable

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3. COMPOSITION/INFORMATION ON INGREDIENTS

The product contains no substances which at their given concentration, are considered to be hazardous to health

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4. FIRST AID MEASURES

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
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.

Notes to Physician	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties	Slightly flammable according to HMIS criteria.
Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable Extinguishing Media	None.
Hazardous Combustion Products	None.
Specific Hazards Arising from the Chemical	No information available.
Protective Equipment and Precautions for Firefighters	Self-contained breathing apparatus and standard turn-out apparel.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	For personal protection see section 8.
Environmental Precautions	Collect spillage.
Methods for cleaning up	Avoid formation of dust and aerosols. Spilled preparation should be removed immediately to avoid formation of dust from dried preparation. Take up by mechanical means preferably by a vacuum cleaner equipped with a HEPA (High Efficiency Particulate Air) filter. Flush remainder carefully with plenty of water. Avoid splashing, high pressure washing or compressed air cleaning to avoid formation of aerosols. Ensure sufficient ventilation. Wash contaminated clothing.
Other Information	For personal protection see section 8.

7. HANDLING AND STORAGE

Handling	Avoid formation of dust and aerosols. Ensure adequate ventilation
Storage Temperature Storage Conditions	Keep tightly closed in a dry and cool place. 0-25°C (32-77°F). In unbroken packaging - dry and protect from the sun. The product has been formulated for optimal stability. Extended storage or adverse conditions such as higher temperatures or higher humidity may lead to a higher dosage requirement.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure controls

Engineering Controls	Ensure adequate ventilation, especially in confined areas Maintain good conditions of industrial hygiene. Some processes may require enclosures, local exhaust ventilation, or other engineering controls to control airborne levels. Additional handling and healthy/safety information is available upon request

Personal Protective Equipment

Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment that meets HEPA/P100 specifications
Eye Protection	Wear safety glasses with side shields (or goggles)
Skin and body protection	No special technical protective measures are necessary
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Color	Colorless
Odor	Slight fermentation odor
Odor treshold	No information available
pH	6.8
Boiling Point/Range	No information available
Melting Point/Range	No information available
Flash Point	> 100 °C
Freezing point 1	No information available
Flammability (solid, gas)	No information available
Explosive Properties	No information available
Oxidizing Properties	No information available
Autoignition temperature	No information available
Vapor Pressure	No information available
Decomposition temperature	No information available
Vapor Density	No information available
Density (g/ml)	1
Evaporation rate	No information available
Solubility	No information available
Partition Coefficient (n-octanol/water)	No information available
Viscosity	No data available

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10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions

Conditions to Avoid
None

Materials to avoid
None

Hazardous Decomposition Products
None

Possibility of hazardous reactions
None

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11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

This product has no known adverse effect on human health.

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12. ECOLOGICAL INFORMATION

Toxicity
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Persistence/Degradability
Inherently biodegradable

Bioaccumulative Potential
Bioaccumulation is unlikely

Mobility in soil
Not relevant

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13. DISPOSAL CONSIDERATIONS

Disposal of wastes
Dispose of in accordance with local regulations.

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

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14. TRANSPORT INFORMATION

Transport Regulations
Not regulated as Dangerous goods by DOT and TDG.
No special precautions required

Transport hazard class(es)
not applicable

Packing group
not applicable

Environmental hazards
not applicable

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15. REGULATORY INFORMATION

USA, Federal Regulations
This product is regulated by the US Environmental Protection Agency under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and its Amendments.
TSCA Inventory
All ingredients are listed on TSCA inventory
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

USA, State Regulations

California Proposition 65

This product does not contain any intentionally added Proposition 65 chemicals.

Canada

DSL/NDSL

Does not Comply

WHMIS Statement

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by WHMIS 2015.

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16. OTHER INFORMATION

Training advice	Contact Novozymes Customer Support Centre.
GHS-Classification	The GHS calculation method has been used for classification of this mixture.
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 these products.

End of Safety Data Sheet

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