

Ratchet®

MINIMUM GUARANTEED ANALYSIS

2.5 x 10⁻⁵% lipo-chitooligosaccharide (LCO)

Read the entire label before using this product.
Use only according to label directions.

How it Works

Ratchet® is a liquid formulation for use in terrestrial and greenhouse foliar applications that features lipo-chitooligosaccharide (LCO) technology. The LCO mode of action supports the growth and yield potential of the crop by increasing each of the following:

- Stomata conductance
- Transpiration rate
- Photosynthesis
- Sugar content
- Nutrient uptake

Directions for Use

MIXING INSTRUCTIONS: Shake well before using. Ratchet® may be applied using hand-held, ground and/or aerial spray equipment. Ratchet® mixes readily in water. Fill spray tank with half of the desired amount of water and start agitation. Slowly add desired amount of Ratchet® to spray tank. Add remaining desired amount of water. Triple rinse empty Ratchet® container with water and add rinse water to spray tank.

TERRESTRIAL FIELD APPLICATIONS: Dilute 60 or 120ml (2 or 4 oz) of Ratchet® into 19-76 Liters (5 to 20 gallons) of water. For aerial applications apply 76 Liters (5 gallons) of diluted product per acre. For ground or boom sprayer applications apply 38-76 Liters (10-20 gallons) of diluted product per acre. Use sufficient carrier to adequately cover crop foliage. As needed, apply a second application at least 14 days later.

GREENHOUSE APPLICATIONS: Apply final solution of Ratchet® at a rate of 60 or 120ml (2 or 4 fluid ounces) per acre. Volume of water in tank depends on instructions for other tank-mixed chemistry. Use sufficient carrier to adequately cover crop foliage. As needed, apply a second application at least 14 days later.

APPLICATION TIMING: Apply at mid-vegetative stage and/or early reproductive stage for row crops. For specialty crops, apply in vegetative stage for leaf quality and early flowering stage for increased flowers and fruit.

TANK MIX COMPATIBILITY: Ratchet® is chemically compatible with a wide range of pesticides and spray adjuvants. If adjuvants are required when applying Ratchet® in combination with other pesticides, contact your dealer or Novozymes BioAg for specific recommendations. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

CROPS ON WHICH Ratchet® MAY BE USED:

Crop Group 1	Root and tuber vegetables
Crop Group 2	Leaves of root and tuber vegetables
Crop Group 4-13	Leafy vegetables (except Brassica vegetables)
Crop Group 6-21	Legume vegetables (Succulent or dried)
Crop Group 7-21	Foliage of legume vegetables
Crop Group 8-09	Fruiting vegetables
Crop Group 9	Cucurbit vegetables
Crop Group 10	Citrus fruits
Crop Group 13-07	Small fruits and berries
Crop Group 15-21	Cereal grains
Crop Group 16-20	Forage, fodder and straw of cereals
Crop Group 17	Forage, fodder and hay of grasses
Crop Group 18	Non-grass animal feed
Crop Group 20	Oilseed
	Hemp and cannabis
	Turf and ornamentals

Applicators and Other Handlers

The active ingredient in Ratchet® is lipo-chitooligosaccharide (LCO). Avoid breathing mist, vapors or spray. Avoid skin contact and wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. If on skin: wash with plenty of water and soap. If skin irritation or rash occurs get medical advice/attention. All mixers, loaders, applicators, and other handlers must wear chemical-resistant gloves, long sleeve shirt, long pants, and shoes plus socks when handling product to prevent skin contact. Contaminated work clothing must not be allowed out of the workplace. Remove and wash contaminated clothing with detergent and hot water before reuse. Keep and wash PPE separately from other laundry. Use safety goggles where splashing is possible. In case of contact with skin or eyes, immediately flush exposed areas with plenty of water. Get medical attention if irritation occurs.

Storage and Disposal

Ratchet® requires specific storage conditions to ensure product performance:

- Store in original container away from feed and food.
- Store product away from sunlight and direct heat sources.
- Minimize temperature fluctuations.
- Avoid freeze/thaw cycles.
- Use before expiration date.
- Keep out of reach of children.

Unused Ratchet® should be disposed of in accordance with applicable Federal, state/provincial, and local requirements.

Do not contaminate drains, sewers, and waterways when disposing of equipment rinse water.

LIMITS OF LIABILITY AND WARRANTY

The seller warrants that this product is reasonably fit for the purposes set forth in the DIRECTIONS FOR USE ("Directions") when used in accordance with those Directions under the conditions described therein. This warranty is also subject to the inherent risks, conditions and limitations stated herein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE, INFRINGEMENT (ALONE OR IN COMBINATION WITH OTHER REGISTERED PRODUCTS) OR MERCHANTABILITY IS MADE.

To the extent consistent with applicable law, buyer and all users are responsible for all loss or damage from use or handling of the product that results from conditions beyond the control of the seller, including, but not limited to, crop injury, ineffectiveness due to such factors as weather conditions at planting, environmental conditions during seed storage, presence of other materials, seed of low quality or low vigor or low germination, or other unintended consequences that may result because of the manner of use or application inconsistent with that set forth in the Directions. The seller does not warrant any product reformulated or repackaged from this product except in accordance with the seller stewardship requirements and with the seller express written permission.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THE SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THE SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED PURCHASE, REPLACEMENT OF SUCH QUANTITY. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL THE SELLER OF THE PRODUCT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF LIABILITY AND WARRANTY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

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BATCH CODE:

7237065-786 CAN

Net Contents: 2 x 9.5L (2.5 gal)
Net Weight: 2 x 9.5 kg (21 lbs)

novozymes® 

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Product of USA