

LALFIX LIQUID CHICKPEA

Liquid Inoculant for Chickpea

For On-Seed and In-Furrow Application

READ ALL DIRECTIONS BEFORE USING THIS PRODUCT

MINIMUM GUARANTEED ANALYSIS

Active Ingredients..... <1%w/w

1 x 10⁹ CFU/g *Mesorhizobium ciceri*

Total Inert (Other) Ingredients: Aqueous Carrier >99% w/w

How It Works

The active ingredient in LALFIX[®] LIQUID Chickpea is *Mesorhizobium ciceri*. *Mesorhizobium ciceri* is known to nodulate chickpea roots and fix atmospheric nitrogen in a symbiotic relationship with the plants. LALFIX[®] LIQUID Chickpea contains two strains of *Mesorhizobium ciceri* selected for balanced performance in different environments.

On-Seed Application Rate

4.16 fl oz per 100lb (123 mL per 45.4 kg) of seed or 2.5 fl oz per bushel. One case treats 10,000 lb of seed.

On-Seed Application Method

- Ensure seed treater has been properly calibrated.
- Shake well to achieve uniform suspension of the product. Bacterial settling is normal.
- Apply 4.16 fl oz (123 mL per 45.4 kg) of seed.
- Protect LALFIX[®] LIQUID Chickpea inoculated seed from direct sunlight or hot, drying winds.
- Plant inoculated seed within 48 hours on bare seed for best results. Re-inoculation with fresh product is recommended after 48 hours.
- Over-application of LALFIX[®] LIQUID Chickpea could cause lodging or bridging of the seed in the planter box.
- Gently stir seed before planting to permit airflow and to prevent seed clumping.
- Some seed treatments may be harmful to the inoculants. A compatibility test should be conducted prior to use with other seed treatments.
- Do not mix with caustic fertilizers or pesticides.

In-Furrow Application Rate

15 fl oz (443 mL) per acre OR 37 fl oz (1,094 mL) per hectare. One case treats 28 acres (11 hectares).

In-Furrow Application Method

- Ensure the tank and application methods are clean.
- Shake well to achieve uniform suspension of the product. Bacterial settling is normal.
- Apply the inoculant with a minimum of 5 US gal (20 L) of clean, non-chlorinated water per acre.
- Calibrate the application equipment for the correct total volume of diluted product.
- Apply product directly on the seed within the furrow.
- Once mixed, use product within 24 hours and keep temperature below 80°F (26.7°C).
- Lallemand Plant Care recommends using an on-seed inoculant along with an in-furrow application.
- In-furrow application rate of LALFIX[®] LIQUID Chickpea should be increased if this is the sole form of inoculant or if planting in harsh conditions.
- A compatibility test should be conducted prior to co-application with other products.
- Do not mix with caustic fertilizers or pesticides.

Precautions

The active ingredient in LALFIX[®] LIQUID Chickpea are naturally occurring *Mesorhizobium ciceri* cells. Persons allergic to bacteria and immune deficient individuals should avoid using this product. Avoid exposure through inhalation or to open wounds and eyes. Standard protective clothing and equipment including gloves, safety goggles and a NIOSH (The National Institute for Occupational Safety and Health) or MSHA (the Mine Safety and Health Administration) approved respirator are recommended during handling and storage. Use this product in well ventilated areas.

In case of contact with skin or eyes, immediately flush exposed areas with a continuous gentle stream of clean water. In case of inhalation, remove person to fresh air. In case of ingestion, do not induce vomiting but rinse mouth with water. Seek medical attention if discomfort or irritation develops. Medical treatment should be based on the judgment of the physician in response to the reactions of the patient.

Accidental Release

Spilled liquid may be slippery. Flush spill area with adequate water to wash away slippery residues. In case of large spill, shut off release if safe to do so. Contain spill and clean up the material for disposal.

Storage and Handling Recommendations:

The active ingredient in LALFIX[®] LIQUID Chickpea are living microorganisms and require specific storage conditions to ensure viability and product performance.

- Do not store product in areas where freezing will occur or where temperature will exceed 72°F/22°C.
- Use before expiration date stated on the package. The expiration date is valid only for unopened bags stored under cool conditions (<72°F/22°C).
- Open package only when ready to use. Once open, use the entire package.
- Do not store opened bags of LALFIX[®] LIQUID Chickpea.
- Unused product should be disposed of in accordance with applicable federal, provincial or state, and municipal laws and regulatory guidelines.

Limited Warranty

Danstar Ferment AG / LALLEMAND PLANT CARE ("Danstar") warrants that this inoculant (the "Product") will contain the minimum number of live cells per milliliter/gram as specified on the Product label at the time the Product is first sold by Danstar. Danstar makes no warranty as to the Product's viability or performance since the storage, use and application of the Product and growing condition are beyond the control of Danstar.

To the extent permitted by applicable law, Danstar makes no other warranties of any kind and hereby disclaims all other warranties, whether oral or written, express or implied, including without limitation, the implied warranties of the merchantability and fitness for a particular purpose and the warranty of non-infringement. Buyer of the Product assumes the risk to persons and real or personal property arising from the use, application or handling of the Product or seeds treated with the Product.

Buyer's exclusive remedy for any and all losses, injury or damages resulting from a breach of this Limited Warranty shall be, at the election of Danstar, either the price paid by buyer for the Product purchased directly from Danstar, or the replacement of such quantity of the Product. Danstar shall not be responsible for any liabilities, damages, expenses, costs or other losses, including without limitation, loss of profits suffered in connection with the use of the Product, and in no event shall Danstar be liable for any incidental, consequential, special or punitive damages to the buyer or any third party.

Buyers of the Product are deemed to have accepted the terms of this Limited Warranty upon opening the container containing the Product, requesting the Product to be applied to the seed, or use of seed to which the Product has been applied, whichever is earlier. The terms of this Limited Warranty may not be varied by any oral or written agreement. LALFIX[®] LIQUID Chickpea is a registered trademark of Danstar Ferment AG / LALLEMAND PLANT CARE.

Not a plant food product.

Not recommended for use as a fertilizer substitute.

Net contents: 3.25 Gallon Bladder (416 fl oz/12.3 L)

Lot No.: see printing on the bag

Production date: see printing on the bag

Guaranteed by:

Danstar Ferment AG / LALLEMAND PLANT CARE

Poststrasse 30

CH-6300 Zug, Switzerland

Marketed by and distributed by:

Lallemand Inc. / LALLEMAND PLANT CARE

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