STATE OF HAWAII
Department of Agriculture
ACCEPTED
LICENSE NO. 9329.252

# FRACTURE™
## FUNGICIDE

**EPA Reg. No. 84876-1-279**
**EPA Est. No. 84876-PRT-001**

**ACTIVE INGREDIENT:**
Banda de Lupinus albus doce (BLAD)* ..... 20%
**OTHER INGREDIENTS** ..... 80%
**TOTAL** 100%

*BLAD is a naturally-occurring seed storage protein in sweet lupines; it is a 20 kDa polypeptide of β-conglutin, or characterized as a fragment of the amino acid sequence of β-conglutin.

1 gallon of Fracture Fungicide contains 2.1 lb of BLAD protein.

**KEEP OUT OF REACH OF CHILDREN**
**CAUTION**

**For TRANSPORTATION and SPILLS Call CHEMTREC: (800) 424-9300.**

Sold By:

FMC

FMC Corporation
Agricultural Products Group
1735 Market Street
Philadelphia PA 19103

**Net Contents: 1 Gallon**

| FIRST AID | |
|---|---|
| **If in eyes** | • Hold eye open and rinse slowly and gently with water for 15-20 minutes.<br>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.<br>• Call a poison control center or doctor for treatment advice. |
| **If on skin or clothing** | • Take off contaminated clothing.<br>• Rinse skin immediately with plenty of water for 15-20 minutes.<br>• Call a poison control center or doctor for treatment advice. |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-331-3148 for emergency medical treatment information. | |

## PRECAUTIONARY STATEMENTS
### HAZARDS TO HUMANS AND DOMESTIC ANIMALS
**CAUTION:** Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse. Wear the appropriate Personal Protective Equipment (PPE).

### PERSONAL PROTECTIVE EQUIPMENT
Applicators mixers, loaders and other handlers must wear:
- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride
- Shoes plus socks
- Protective eyewear

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Engineering Controls: When handlers use enclosed cabs in a manner that meets requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### User Safety Recommendations
Users should:
- Wash hands before drinking, eating, chewing gum, using tobacco or using the toilet.
- Remove PPE clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

## ENVIRONMENTAL HAZARDS

For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with the terms of the Label. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. Carefully read and understand the Directions for Use and restrictions before applying this product. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

## AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride
- Shoes plus socks

## GENERAL INFORMATION

Fracture Fungicide is a broad spectrum, preventive biofungicide formulated as a suspension concentrate containing 2.1 lbs active ingredient per gallon. Fracture Fungicide is used for the control or suppression of many important plant diseases. Apply as a foliar spray alone, or in tank mixes with other registered pesticides. Apply Fracture Fungicide with spray equipment commonly used for making ground, and aerial applications, as well as sprinkler/irrigation systems commonly used for chemigation.

**Preparation of the Spray Solution:** Insure the spray tank is clean and free of residues from previous spray treatments. Fill the spray tank ¾ full with clean water. Shake the container and pour the required amount of Fracture Fungicide into the sprayer tank while the tank agitation system is operating. Add specified amount of Fracture Fungicide while filling with the appropriate amount of water into the spray tank. Maintain agitation. Do not store the mixture overnight.

**Spray Volume:** Apply Fracture Fungicide in a minimum 10 gallons of spray solution per acre for ground equipment and a minimum of 5 gallons for aerial equipment, except as noted under “GENERAL” for each crop. Increase spray volume as crop growth increases to ensure thorough coverage of the foliage and fruit. Check equipment calibration frequently. Complete coverage and uniform application are essential for the most effective results, especially when lower spray volumes are applied.

**Compatibility:** Do not tank mix with products containing a prohibition against tank mixing. Fracture Fungicide may be mixed with foliar fertilizers, provided that the fertilizer is added after Fracture Fungicide has been diluted to the recommended field application. Follow the most restrictive labeling requirements of any tank mix product. To determine the physical compatibility of Fracture Fungicide with other products use a jar test. The following procedure should be followed: Pour the specified proportions of the products into a suitable container of one quart of water; mix thoroughly and allow to stand for at least 15 minutes. If the combination remains mixed or can be re-mixed readily, the mixture is considered a homogeneous solution and physically compatible. If separation occurs (e.g. oils float to top, clumps of solids form, etc.), the combination is incompatible and cannot be used. For further information, contact your local FMC representative.

### Chemigation Application

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, drip (trickle) or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect any irrigation system, including greenhouse systems, used for pesticide application to a public water system. Crop injury, lack of effectiveness or illegal residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the Chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional,reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream form the point of pesticide introduction As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap)between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.

The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment. Fracture Fungicide should be applied continuously for the duration of the water application. Fracture Fungicide should be diluted in sufficient volume to insure accurate application over the area to be treated. Use the appropriate amount of water to carry the product to the target pest. Agitation generally is not required when suitable diluents are used. A diluents test should be conducted to ensure that phase separation would not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

Using Water from Public Water Systems: do not apply Fracture Fungicide through any irrigation system physically connected to a public water system. Public water system means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Fracture Fungicide may be applied through irrigation systems, which may be supplied by a public water system only if water from the water system is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning Chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

**Use of Adjuvants:** The use of adjuvants with Fracture Fungicide is not required.

**Pre-Harvest Interval:** Do not harvest until 1 day after last application.

**Integrated Pest Management (IPM):** Integrate Fracture Fungicide into a disease management strategy that follows practices known to reduce disease development and prevent fungicide resistance. Consult local agricultural advisors for specific IPM strategies meeting the specific crop and location.

# USE DIRECTIONS (Applications, Rates, Timings)

## GRAPE

| APPLICATION INSTRUCTIONS | | |
|---|---|---|
| **CROP** | **DISEASE** | **RATE OF FRACTURE FUNGICIDE** |
| Grape | Botrytis gray mold *(Botrytis cinerea)* | 24.4 - 36.6 fl oz/A (0.4 - 0.6 lbs ai/A) |
| | Powdery mildew *(Erisiphe necator Schw.)* | 20.5 - 24.4 fl oz/A (0.34 - 0.4 lbs ai/A) |

**GENERAL:**
Apply in a minimum of 40 gallons of spray solution per acre. Increase spray volume as vine growth increases in order to provide thorough coverage of vines and fruit for optimum disease control. The rates on the Fracture Fungicide label reflect the amount of product that should be applied uniformly over an acre of ground on a broadcast basis.

Fracture Fungicide is a contact fungicide with penetration properties. BLAD is the active ingredient which degrades the fungal chitin. Alternate applications with another effective fungicide with a different mode of action.

Fracture Fungicide requires two to four hours drying time on plant foliage for the active ingredient to be fixed into the plant tissue before rain or irrigation occurs. If, during the next 12 hours it rains significantly, a new application will be needed during the next 4 days.

**Powdery Mildew**
Apply in a preventive spray schedule. Make the first application of Fracture Fungicide before bloom and continue applications using spray intervals of up to 14 days in low to moderate disease pressure at lower rates in the rate range. Use higher rates and a 14 day schedule when disease pressure is severe.

**Botrytis**
For control of Botrytis gray mold apply of Fracture Fungicide prior to onset of disease development when conditions favor Botrytis development during early bloom, bunch pre-closure, veraison and ripening up to the harvest day.

Do not make more than five foliar applications of Fracture Fungicide per crop season.

Do not make more than two sequential applications of Fracture Fungicide before alternating to a labeled fungicide with a different mode of action.

Do not harvest until 1 day after last application.

## STRAWBERRY

| APPLICATION INSTRUCTIONS | | |
|---|---|---|
| **CROP** | **DISEASE** | **RATE OF FRACTURE FUNGICIDE** |
| Strawberry | Botrytis gray mold *(Botrytis cinerea)* | 24.4 - 36.6 fl oz/A (0.4 - 0.6 lbs ai/A) |
| | Powdery mildew *(Sphaerotheca macularis)* | 20.5 - 24.4 fl oz/A (0.34 - 0.4 lbs ai/A) |

**GENERAL:**
Begin applications of Fracture Fungicide at early bloom and continue on a 7 to 10-day interval if conditions continue to favor disease development. Under conditions of severe disease pressure, use the higher labeled rate. Apply in a minimum of 50 gallons of spray solution with conventional ground application equipment except when using an electrostatic sprayer where a minimum of 10 gallons of spray solution may be used. Do not apply by air. Thorough coverage is important for optimum disease control.

Alternate applications with another effective fungicide with a different mode of action.

Fracture Fungicide requires two to four hours drying time on plant foliage for the active ingredient to be fixed into the plant tissue before rain or irrigation occurs. If, during the next 12 hours it rains significantly, a new application will be needed during the next 4 days.

Do not make more than five foliar applications of Fracture Fungicide per harvest cycle.

Do not apply by air to strawberries.

Do not make more than two sequential applications of Fracture Fungicide before alternating to a labeled fungicide with a different mode of action.

Do not harvest until 1 day after last application.

## TOMATO

| APPLICATION INSTRUCTIONS | | |
|---|---|---|
| **CROP** | **DISEASE** | **RATE OF FRACTURE FUNGICIDE** |
| Tomato | Botrytis gray mold (*Botrytis cinerea*)<br>*Powdery mildew (*Oidium spp*) | 24.4 - 36.6 fl oz/A (0.4 - 0.6 lbs ai/A) |

*Not For Use In California

**GENERAL:**
Begin applications of Fracture Fungicide prior to onset of disease development and continue on a 7 to 10-day interval to maintain disease control. Under conditions of severe disease pressure, use the higher labeled rate. Apply the specified rate of Fracture Fungicide as a foliar spray in a minimum of 20 gallons or more of water per acre to assure thorough coverage of the plants.

Alternate applications with another effective fungicide with a different mode of action.

Fracture Fungicide requires two to four hours drying time on plant foliage for the active ingredient to be fixed into the plant tissue before rain or irrigation occurs. If, during the next 12 hours it rains significantly, a new application will be needed during the next 4 days.

Do not make more than five foliar applications of Fracture Fungicide per harvest cycle.

Do not make more than two sequential applications of Fracture Fungicide before alternating to a labeled fungicide with a different mode of action.

Do not harvest until 1 day after last application

## ALMOND

| APPLICATION INSTRUCTIONS | | |
|---|---|---|
| **CROP** | **DISEASE** | **RATE OF FRACTURE FUNGICIDE** |
| Almond | Brown rot blossom blight (Monilinia spp.) | 20.5 - 24.4 fl oz/A (0.34 - 0.4 lbs ai/A) |

**GENERAL:** Apply Fracture Fungicide in a minimum spray volume of 15 gallons per acre by air or 50 gallons per acre by ground.

Fracture Fungicide is a contact fungicide with penetration properties. BLAD is the active ingredient which degrades the fungal chitin. Alternate applications with another effective fungicide with a different mode of action.

Fracture Fungicide requires two to four hours drying time on plant foliage for the active ingredient to be fixed into the plant tissue before rain or irrigation occurs. If, during the next 12 hours it rains significantly, a new application will be needed during the next 4 days.

**Almond:** For control of brown rot blossom blight, begin application at pink bud. If the bloom period is extended, and/or severe disease conditions exist, make a second application at full bloom. If conditions remain favorable for disease, make another application at petal fall.

Do not make more than five foliar applications of Fracture Fungicide per crop season.

Do not make more than two sequential applications of Fracture Fungicide before alternating to a labeled fungicide with a different mode of action.

Do not harvest until 1 day after last application.

## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**Pesticide Storage**

Keep container tightly closed when not in use. Store product in a cool and dry place.

**Pesticide Disposal**

To avoid waste, use all material in this container by application according to label directions. If waste cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Improper disposal of unused pesticide, wash water or rinse water is a violation of federal law.

**Container Handling**

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available or puncture and dispose of the container in a sanitary landfill, or by other procedures approved by state and local authorities.

## CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control of FMC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and, to the extent consistent with applicable law, Buyer and User agree to hold FMC and Seller harmless for any claims relating to such factors.

**Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, FMC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT. Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) seller or FMC, and, to the extent permitted by applicable law, buyer assumes the risk of any such use.**

To the extent consistent with applicable law, FMC or seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF FMC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF FMC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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