

# KASUMIN® 2L

## For Agricultural Use Only

**FOR CONTROL OF BACTERIAL DISEASES IN BEARING AND NON-BEARING CHERRY (CROP SUBGROUP 12-12A); BEARING AND NON-BEARING POME FRUIT (CROP GROUP 11-10); AND BEARING AND NON-BEARING WALNUT**

<b>ACTIVE INGREDIENT:</b>	<b>% BY WT.</b>
*Kasugamycin Hydrochloride Hydrate .....	2.3%
<b>OTHER INGREDIENTS:</b> .....	97.7%
<b>TOTAL:</b> .....	100.0%

\*(Equivalent to 2.0% kasugamycin) Contains 0.168 pounds kasugamycin per gallon

EPA Reg. No. 70506-430

Read the label before use

**KEEP OUT OF REACH OF CHILDREN**

### CAUTION/PRECAUCIÓN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand this label, find someone to explain it to you in detail.)

See inside for complete Precautionary Statements and Directions for Use.

FIRST AID	
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.  
**FOR 24-HOUR MEDICAL EMERGENCY ASSISTANCE CALL ROCKY MOUNTAIN POISON AND DRUG SAFETY: 1-866-673-6671.**  
**FOR 24-HOUR CHEMICAL EMERGENCY (Spill, leaks, fire, exposure or accident) CALL CHEMTREC: 1-800-424-9300 or +1-703-527-3887.**

For Product Use Information Call 1-800-438-6071

**Net Contents: \_\_\_\_\_ Gallons**



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## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

All applicators and other handlers must wear a minimum of:

- Protective eyewear (goggles, safety glasses or face shield);
- Coveralls over short-sleeved shirt and short pants;
- Chemical-resistant gloves;
- Socks and shoes; and
- NIOSH-approved particulate filtering facepiece respirator with any N, R or P filter (TC-84A); OR an elastomeric NIOSH-approved particulate respirator with any N, R or P filter (TC-84A); OR a NIOSH-approved powered air purifying respirator with an HE filter (TC-21C). Higher level respirators that are NIOSH-approved for particulates that contain oil may also be used.

Applicators must also wear chemical-resistant headgear ensuring full coverage of the neck.

Applicators do not have to wear the protective eyewear, chemical-resistant gloves, chemical-resistant headgear, or a respirator when using closed cab systems that meet the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.607(e)].

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.607(d) and (e)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and change into 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 cleaning equipment or disposing of equipment wash waters.

### DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

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. Intended for use by professional applicators.

### 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 the label about personal protective equipment (PPE) and notification to workers.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **12 hours**.

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; wear coveralls, shoes, socks, and chemical-resistant gloves made of any waterproof material (nitrile, butyl, neoprene, and/or barrier laminate).

### PRODUCT INFORMATION

KASUMIN® 2L is a liquid formulation containing 2 percent kasugamycin. Kasugamycin is an antibiotic/bactericide that controls bacterial diseases in Cherry (Crop Subgroup 12-12A); Pome Fruit (Crop Group 11-10); and Walnut. KASUMIN 2L is intended for use by professional applicators.

KASUMIN 2L must be applied using properly calibrated, application equipment appropriate for the type of crop treated. Use sufficient water volume to obtain thorough uniform coverage of all plant surfaces, especially open blooms. Use only the specified and full-strength application rates.

**Additives:** The addition of a wetting agent or spreader/sticker may enhance efficacy of KASUMIN 2L.

### RESTRICTIONS – ALL USES

- This material is not to be used for medical, veterinary or human purposes.
- Not for greenhouse use.
- Not for ornamental/nursery production.
- Do not apply this product by aerial application. Apply by ground equipment only.
- Do not apply this product through any type of irrigation system, including chemigation.
- Animal grazing in treated areas is prohibited. The public must be notified by posting restriction signs along the perimeter of the treatment area.
- Use only the specified and full-strength application rates.
- Do not apply kasugamycin in orchards in which the soil has been fertilized with animal waste/manure or human biosolids.
- Do not apply more than two consecutive applications before alternating with another fungicide/bactericide of a different mode of action.

### RESISTANCE MANAGEMENT:

KASUMIN 2L (kasugamycin) is a Group 24 antibiotic/bactericide. Any bacterial population may contain individuals naturally resistant to KASUMIN 2L and other Group 24 antibiotics/bactericides. A gradual or total loss of pest control may occur over time if these fungicides/bactericides are used repeatedly in the same fields. The mode of action for KASUMIN 2L is the inhibition of protein synthesis. This product should be used to treat or prevent infections that are proven or strongly suspected to be caused by the indicated target bacteria. To reduce the likelihood of bacteria developing resistance to kasugamycin, follow the crop specific resistance management and use direction information present on this labeling. Use of this product should conform to resistance management practices / strategies established for the crop and use area, (for example the use of IPM, disease forecasting models, resistant crop varieties, etc.). Consult your local extension/crop consultant or State agricultural authority if reduced efficacy is suspected.

To delay antibiotic/bactericide resistance, take one or more of the following steps:

1. Rotate the use of KASUMIN 2L or other Group 24 fungicides/bactericides within a growing season sequence, or among growing seasons, with different groups that control the same pathogens.
2. Use tank-mixtures with fungicides/bactericides from a different group that are equally effective on the target pest when such use is permitted.
3. Adopt an integrated disease management program for fungicide/bactericide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.

4. Where possible, make use of predictive disease models to effectively time fungicide/bactericide applications.
5. Monitor treated bacterial populations for resistance development.
6. If disease continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or antibiotic/bactericide with a different mode of action, if available.
7. Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.

For further information or to report suspected resistance contact UPL NA Inc. at 1-800-438-6071.

**BEARING and NON-BEARING CHERRY (Crop Subgroup 12-12A); Capulin; Black Cherry; Nanking Cherry; Sweet Cherry; Tart Cherry; and Cultivars, varieties and/or hybrids of these.**

Disease Control	Application Rate fl oz product (lbs ai)	Specific Use Instructions
<b>Bacterial Blast</b> <i>(Pseudomonas syringae pv syringae)</i>	<b>64 fl oz/A</b> <b>(0.084 lb ai/A)</b>	<ul style="list-style-type: none"> <li>• Apply at a rate of <b>64 fl oz/A in at least 100 gal of water by ground application.</b></li> <li>• Reduced spray volumes may be utilized for small trees where complete coverage can be obtained with less than 100 gal of water/A. Spray volume must be sufficient to provide good coverage of treated foliage.</li> <li>• Begin applications when conditions favor disease development, from white tip to petal fall.</li> <li>• For airblast application: To help reduce off-target drift, direct spray into the canopy, and turn off outward pointing nozzles at row ends and when spraying outer rows.</li> <li>• <b>Non-bearing trees are those trees that do not produce harvestable fruit during the year in which applications are made.</b></li> </ul>
Disease Suppression	Application Rate fl oz product (lbs ai)	Specific Use Instructions
<b>Bacterial Canker</b> <i>(Pseudomonas syringae pv syringae)</i>	<b>64 fl oz/A</b> <b>(0.084 lb ai/A)</b>	<ul style="list-style-type: none"> <li>• Apply at a rate of <b>64 fl oz/A in at least 100 gal of water by ground application.</b></li> <li>• Reduced spray volumes may be utilized for small trees where complete coverage can be obtained with less than 100 gal of water/A. Spray volume must be sufficient to provide good coverage of treated area.</li> <li>• Begin applications when conditions favor disease development; prior to cold; and when wet conditions occur in the fall and winter (November through February). Check with your local university cooperative extension service or other local experts for the best preventive timing.</li> <li>• For airblast application: To help reduce off-target drift, direct spray into the canopy, and turn off outward pointing nozzles at row ends and when spraying outer rows.</li> <li>• <b>Non-bearing trees are those trees that do not produce harvestable fruit during the year in which applications are made.</b></li> </ul>

**RESTRICTIONS:**

- Do not apply more than 64 fl oz/A (0.084 lb ai/A) of KASUMIN 2L in a single application.
- Do not apply more than 256 fl oz (0.336 lb ai/A) of KASUMIN 2L per acre per year.
- Do not make more than 4 applications of KASUMIN 2L per year with a minimum interval of 7 days between applications.
- Do not apply more than 2 consecutive applications of KASUMIN 2L before alternating with another fungicide/bactericide of a different mode of action. If additional bactericide applications are needed, utilize an alternate product registered for this use. Two more consecutive KASUMIN 2L applications may be made subsequent to use of the alternate registered product.
- Do not use an alternate tree-row application method.
- Do not apply kasugamycin in orchards in which the soil has been fertilized with animal waste/manure or human biosolids.
- Animal grazing in treated areas is prohibited. The public must be notified by posting restriction signs along the perimeter of the treatment area.
- Do not apply KASUMIN 2L by aerial application.
- KASUMIN 2L must be applied at the equivalent of 64 fluid ounces per 100 gallons of water per acre when using less than 100 gallons per acre spray volume.
- Do not apply KASUMIN 2L through any type of irrigation system, including chemigation.
- Preharvest Interval (PHI) = 30 days.
- Use only the specified and full-strength application rates.
- Not for ornamental/nursery production.

**BEARING and NON-BEARING POME FRUIT (CROP GROUP 11-10); Apple; Crabapple; Mayhaw; Asian Pear; Quince; Chinese Quince; Japanese Quince; European Pear.**

Disease Control	Application Rate fl oz product (lbs ai)	Specific Use Instructions
<b>Fire Blight</b> <i>(Erwinia amylovora)</i>	<b>64 fl oz/A</b> <b>(0.084 lb ai/A)</b>	<ul style="list-style-type: none"> <li>• Apply at a rate of <b>64 fl oz/A in 100 gal of water</b>. Spray volume must be sufficient to provide good coverage of treated foliage.</li> <li>• Reduced spray volumes may be utilized for small trees where complete coverage can be obtained with a less than 100 gal of water/A.</li> <li>• Begin applications during bloom when conditions favor disease development.</li> <li>• Repeat applications at 3- to 6-day intervals or when conditions favor disease development.</li> <li>• For airblast application: To help reduce off-target drift, direct spray into the canopy, and turn off outward pointing nozzles at row ends and when spraying outer rows.</li> <li>• <b>Non-bearing trees are those trees that do not produce harvestable fruit during the year in which applications are made.</b></li> </ul>

**RESTRICTIONS:**

- Do not make more than 4 applications of KASUMIN 2L per year.
- Do not apply more than 2 consecutive applications of KASUMIN 2L before alternating with another fungicide/bactericide of a different mode of action. If additional bactericide applications are needed, utilize an alternate product registered for this use. Two more consecutive KASUMIN 2L applications may be made subsequent to use of the alternate registered product.
- Do not apply more than 256 fl oz (0.336 lb ai/A) of KASUMIN 2L per acre per year.
- Do not use an alternate tree-row application method.
- Do not apply more than 64 fl oz/A (0.084 lb ai/A) in a single application.
- Do not apply KASUMIN 2L within 90 days of harvest. Preharvest Interval (PHI) = 90 days.
- Do not apply KASUMIN 2L through any type of irrigation system, including chemigation.
- Do not apply KASUMIN 2L by aerial application.
- Do not apply kasugamycin in orchards in which the soil has been fertilized with animal waste/manure or human biosolids.
- Animal grazing in treated areas is prohibited. The public must be notified by posting restriction signs along the perimeter of the treatment area.
- Use only the specified and full-strength application rates.
- Not for use in ornamental/nursery production.

**BEARING and NON-BEARING WALNUT**

Disease Control	Application Rate fl oz product (lbs ai)	Specific Use Instructions
<b>Walnut Blight</b> <i>(Xanthomonas campestris pv juglandis)</i>	<b>64 fl oz/A</b> <b>(0.084 lb ai/A)</b>	<ul style="list-style-type: none"> <li>• Apply at a rate of <b>64 fl oz/A in at least 100 gal of water by ground application</b>.</li> <li>• Reduced spray volumes may be utilized for small trees where complete coverage can be obtained with a less than 100 gal of water/A.</li> <li>• Begin applications when conditions favor disease development.</li> <li>• For airblast application: To help reduce off-target drift, direct spray into the canopy, and turn off outward pointing nozzles at row ends and when spraying outer rows.</li> <li>• <b>Non-bearing trees are those trees that do not produce harvestable fruit during the year in which applications are made.</b></li> </ul>

**RESTRICTIONS:**

- Do not apply more than 64 fl oz/A (0.084 lb ai/A) in a single application.
- Do not apply more than 256 fl oz (0.336 lb ai/A) of KASUMIN 2L per acre per year.
- Do not make more than 4 applications of KASUMIN 2L per year with a minimum interval of 7 days between applications.
- Do not apply more than 2 consecutive applications of KASUMIN 2L before alternating with another fungicide/bactericide of a different mode of action. If additional bactericide applications are needed, utilize an alternate product registered for this use. Two more consecutive KASUMIN 2L applications may be made subsequent to use of the alternate registered product.
- Do not use an alternate tree-row application method.
- Do not apply kasugamycin in orchards in which the soil has been fertilized with animal waste/manure or human biosolids.
- Animal grazing in treated areas is prohibited. The public must be notified by posting restriction signs along the perimeter of the treatment area.
- Do not apply KASUMIN 2L through any type of irrigation system, including chemigation.
- Do not apply KASUMIN 2L by aerial application.
- Preharvest Interval (PHI) = 100 days.
- Use only the specified and full-strength application rates.
- Not for use in ornamental/nursery production.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in a dry place away from excessive heat. Do not store near food or feed. Store in original container only.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

### CONTAINER HANDLING:

#### **Rigid, non-refillable containers small enough to shake (i.e., with capacities equal to or less than 5 gallons)**

Non-refillable 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 and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 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. Then offer for recycling or puncture and dispose of in a sanitary landfill, or (if allowed by State and local authorities) by burning. If burned, stay out of smoke.

#### **Rigid non-refillable containers that are too large to shake (i.e., with capacities greater than 5 gallons or 50 lbs)**

Non-refillable 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. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix-tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or puncture and dispose of in a sanitary landfill.

### IMPORTANT INFORMATION READ BEFORE USING PRODUCT

#### 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 reflect the opinion of experts based on field use and tests, and must be followed carefully. It is impossible to eliminate all risks 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, presence of other materials or other influencing factors in the use of the product, which are beyond the control of UPL NA Inc. or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of UPL NA Inc. and Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold UPL NA Inc. and Seller harmless for any claims relating to such factors.

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