

refine[®] 24.2L

A hormone type product for control of pre-harvest drop of apples and pears

Active Ingredient: 1-Naphthaleneacetic Acid, Potassium Salt*	24.2%
Other Ingredients:	75.8%
Total:	100.0%

* Contains 2.22 lb. ai. (equivalent to 20.2% of 1-Naphthaleneacetic Acid or 843.7 grams (1.86 lbs)) per gallon

KEEP OUT OF REACH OF CHILDREN CAUTION

EPA Reg. No. 62097-38-82917

EPA Est. No indicated by first letter of batch number on this package (E) 39578-TX-001
(C) 70815-GA-001

Net contents: 1 gallon (3.78 liters)

FIRST AID	
IF IN EYES	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• 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. For information on this pesticide product (including general health concerns or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378, Monday through Friday, 8:00 AM to 12:00 PM Pacific Standard Time. In the event of a medical emergency, call your poison control center at 1-800-222-1222. Note to Physician: No specific antidote is available. All treatments should be based on observed signs and symptoms of distress in the patient. Over exposure to materials other than this product may have occurred.	

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)

Some materials that are chemical-resistant to this product are made of any waterproof material.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical resistant gloves made of barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride or Viton
- Shoes plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

DO NOT apply directly to water, 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 wash waters or rinsate. **DO NOT** contaminate irrigation ditches or water used for irrigation or domestic purposes. **DO NOT** apply when weather conditions favor drift from treated areas.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labelling 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 entry into treated areas during the restricted entry interval (REI) of 48 hours. Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

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
- Shoes plus socks
- Chemical resistant gloves made of barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride or Viton

DIRECTIONS FOR USE

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

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. For any requirement specific to your state or tribe, consult the state or tribal agency responsible for pesticide regulation. **DO NOT** apply this product through any type of irrigation system.

Restrictions

DO NOT apply this product through any type of irrigation system.

DO NOT use in a greenhouse.

DO NOT exceed 7.6 fl. oz. (0.13 lb.ai. (0.11 lb.ai. of NAA equivalent)) per acre per application for all uses except olives.

DO NOT exceed 22.8 fl. oz. (0.39 lb. ai. (0.33 lb. ai. of NAA equivalent)) per acre per application and season for olives.

DO NOT exceed maximum annual application of 150 grams of NAA (22.8 fl. oz. (0.39 lb. ai. (0.33 lb. ai. of NAA equivalent)) per acre per year or per crop cycle for apples and pears. (Maximum seasonal quantity and per application is based on NAA acid equivalent of the active ingredient).

MANDATORY SPRAY DRIFT MANAGEMENT

Airblast applications:

- Sprays must be directed into the crop canopy.
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.
- **DO NOT** apply during temperature inversions.

Ground Boom Applications:

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Select nozzle and pressure that deliver medium or coarser droplets as indicated in nozzle manufacturers' catalogues and in accordance with American Society of Agricultural & Biological Engineers Standard 572 (ASABE S572).
- **DO NOT** apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters **DO NOT** apply during temperature inversions.

Aerial Applications:

- **DO NOT** apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- Applicators must select nozzle and pressure that deliver medium or coarser droplets in accordance with American Society of Agricultural & Biological Engineers Standard 641 (ASABE S641). If the windspeed is 10 miles per hour or less, applicators must use $\frac{1}{2}$ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field.
- **DO NOT** apply during temperature inversions.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavourable environmental conditions.

Controlling Droplet Size – Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size – Aircraft

- Adjust Nozzles - Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, orient nozzles parallel with the airflow in flight.

BOOM HEIGHT – Ground Boom

For ground equipment, the boom must remain level with the crop and have minimal bounce.

RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

SPRAY DRIFT ADVISORIES

Boomless Ground Applications:

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

SPRAY DRIFT ADVISORIES

Handheld Technology Applications:

Take precautions to minimize spray drift.

PRODUCT INFORMATION

Refine 24.2L[®] is plant growth regulator for use in fruit production. The response of fruit trees to an application may vary depending on factors such as variety, climatic factors, tree vigor, etc. Users need to consider these factors before choosing the desired rate and timing for application. Always apply Refine 24.2L[®] using sufficient water to ensure complete and uniform spray coverage. Application can be made in the range of 50-400 gallons of water per acre. The appropriate spray

volume is determined by the type of equipment used, tree size and density of foliage. Consider all variables in rate and application timing for each variety and orchard location when establishing the spray program.

Refine® 24.2L can be used to control pre-harvest drop of apples and pears leading to a higher yields and a reduction of losses from factors such as windfall and knockdown.

Refine® 24.2L, when diluted with the specified amount of water, is physically compatible with a wide range of commonly used spray products. However, evaluating the full ranges of compatibilities under all conditions is impossible. Therefore, it is recommended that users premix a small quantity of a desired tank mix and observe for possible adverse changes (settling out, flocculation, etc.). Avoid mixtures of several materials and very concentrated spray mixtures. Observe all limitations and precautions on labeling of all products used in any tank mix. It is recommended that you consult your local Extension Pomologist for guidance or when tank mixing any product you have not previously used with Refine® 24.2L. In addition, always test spray a small area prior to the general use of a tank mix that you have not previously used.

The minimum interval between applications is to be no less than 5 days.

Table 1. Refine® 24.2L spray preparation chart for dilute application.

Note: All use of ppm refers to the active ingredient (a.i.) not the formulated product.

Rate (ppm)	Gallons of spray per acre			
	100	150	300	400
2	0.12 fl oz	0.18 fl oz	0.36 fl oz	0.48 fl oz
5	0.3 fl oz	0.45 fl oz	0.9 fl oz	1.2 fl oz
7.5	0.45 fl oz	0.68 fl oz	1.35 fl oz	1.8 fl oz
10	0.6 fl oz	0.9 fl oz	1.8 fl oz	2.4 fl oz
15	0.9 fl oz	1.35 fl oz	2.7 fl oz	3.6 fl oz
20	1.2 fl oz	1.8 fl oz	3.6 fl oz	4.8 fl oz

APPLICATION INSTRUCTIONS

Control of pre-harvest drop - apples:

Apply Refine® 24.2L at 7-14 days prior to harvest. Application timing is dependent on the maturation of the crop, requiring that separate sprays be applied to early and late maturing varieties. **DO NOT** make more than two applications of Refine® 24.2L per year, and **DO NOT** delay picking beyond optimum maturity. **DO NOT** spray within 2 days of harvest. Refine® 24.2L is effective in 3-4 days after application and controls drop for 2 weeks.

Ground application: Use 4-7.6 fl oz (0.07-0.13 lb.ai.) of Refine® 24.2L per acre in sufficient water to ensure good coverage.

Aerial application: Use 4-7.6 fl oz (0.07-0.13 lb.ai.) of Refine® 24.2L in at least 5 gallons of water per acre. Utilize aircraft spray equipment that gives thorough coverage to all portions of the tree canopy. Apply Refine® 24.2L only when weather conditions favor minimal spray drift. Use lower rates for normal foliage and fruiting. For dense foliage and heavy fruiting, higher rates may be

necessary. **DO NOT** apply within 2 days of harvest.

Control of pre-harvest drop - pears (Bartlett, Bosc):

Apply Refine® 24.2L to pears 5-7 days prior to harvest. Application timing is dependent on the maturation of the crop, requiring that separate sprays be applied to early and late maturing varieties. **DO NOT** make more than 2 applications and **DO NOT** delay picking beyond optimum maturity. Refine® 24.2L is effective in 3-4 days after application and controls drop for 2 weeks. **DO NOT** apply within 2 days of harvest. **DO NOT** apply more than 7.6 fl oz (0.13 lb. ai.) per acre per year

Ground application (except California): Use 2-4 fl oz (0.035-0.069 lb. ai.) of Refine® 24.2L per acre in sufficient water to ensure good coverage. When Bartlett and Bosc are inter-planted, spray only once per year. Use a maximum of 4 fl oz (0.07 lb. ai.) of product per acre per year on Bartlett to prevent premature ripening.

Ground application (California): Use 2-6 fl oz (0.035-0.104 lb. ai.) of Refine® 24.2L per acre in sufficient water to ensure good coverage. When Bartlett and Bosc are inter-planted, spray only once per year. Use a maximum of 4-6 fl oz (0.069-0.104 lb. ai.) of product per acre per year on Bartlett to prevent premature ripening.

Aerial application (except California): Use 2-4 fl oz (0.035-0.069 lb. ai.) of Refine® 24.2L in at least 5 gallons of water per acre. Utilize aircraft spray equipment that gives thorough coverage to all portions of the tree canopy. Apply Refine® 24.2L only when weather conditions favor minimal spray drift. Use lower rates for normal foliage and fruiting. For dense foliage and heavy fruiting, higher rates may be necessary. **DO NOT** apply within 2 days of harvest.

Aerial application (California): Use 2-6 fl oz (0.035-0.104 lb. ai.) of Refine® 24.2L in at least 5 gallons of water per acre. Utilize aircraft spray equipment that gives thorough coverage to all portions of the tree canopy. Apply Refine® 24.2L only when weather conditions favor minimal spray drift. Use lower rates for normal foliage and fruiting. For dense foliage and heavy fruiting, higher rates may be necessary. **DO NOT** apply within 2 days of harvest.

Control of pre-harvest drop - pears (D'Anjou):

Ground application (Idaho, Oregon and Washington): Apply either one single application of 7.6 fl oz (0.13 lb.ai.) per acre OR two 2-3.8 fl oz (0.035-0.066 lb.ai.) applications per acre.

Ground application (California): Use 2-6 fl oz (0.035-0.104 lb.ai.) of Refine® 24.2L per acre in sufficient water to ensure good coverage.

Ground application (all other states): Use 2-4 fl oz (0.035-0.069 lb.ai.) of Refine® 24.2L per acre in sufficient water to ensure good coverage.

Aerial application (Idaho, Oregon and Washington): Apply either one single application of 7.6 fl oz per acre OR two 2-3.8 fl oz (0.035-0.066 lb.ai.) applications per acre.

Aerial application (California): Use 2-6 fl oz (0.035-0.104 lb.ai.) of Refine® 24.2L in at least 5 gallons of water per acre. Utilize aircraft spray equipment that gives thorough coverage to all portions of the tree canopy. Apply Refine® 24.2L only when weather conditions favor minimal spray drift. Use lower rates for normal foliage and fruiting. For dense foliage and heavy fruiting, higher rates may be necessary. **DO NOT** apply within 2 days of harvest.

Aerial application (all other states): Use 2-4 fl oz (0.035-0.069 lb.ai.) of Refine® 24.2L in at least 5 gallons of water per acre. Utilize aircraft spray equipment that gives thorough coverage to all portions of the tree canopy. Apply Refine® 24.2L only when weather conditions favor minimal spray drift. Use lower rates for normal foliage and fruiting. For dense foliage and heavy fruiting, higher rates may be necessary. **DO NOT** apply within 2 days of harvest.

Preserving ornamental holly boughs:

To delay leaf drop of holly boughs, make a "dip solution" containing 2-4 fl oz of Refine® 24.2L in 100 gallons of water (equal to 33-66 ppm). Dip holly boughs in the treated solution immediately after cutting. Allow excess solution to drain from boughs. **DO NOT** soak or leave boughs in dip solution. Replenish dip solution as needed. To maintain the effectiveness of Refine® 24.2L, mix and use a new solution every 3-4 days.

Refine® 24.2L compatibility with other products:

Refine® 24.2L is compatible with a wide range of pesticides. Field test the mixture on a small scale to insure the product performance and plant safety before large-scale field use. Observe all limitations and precautions on labeling of all products used in mixtures. **DO NOT APPLY TANK MIX COMBINATIONS UNLESS YOUR PREVIOUS EXPERIENCE INDICATES THE MIXTURE IS EFFECTIVE AND WILL NOT RESULT IN APPLICATION PROBLEMS OR PLANT INJURY.**

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 in a cool, dry place. Protect from temperatures below 32°F. This product may freeze. If freezing should occur, thaw and shake gently to unify the product. **DO NOT** store diluted product.

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: 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 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. Then offer for recycling or reconditioning, if available, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

WARRANTY DISCLAIMER AND LIMITATION OF LIABILITY

Fine Agrochemicals Limited ("FINE") warrants that this Product conforms to the specifications on this label. To the extent consistent with applicable law, FINE makes no other warranties and disclaims all other warranties, express or implied, including but not limited to warranties of merchantability and fitness for a particular purpose. No agent of FINE or any other person is authorized to make any representation or warranty beyond those contained herein.

It is impossible to eliminate all risks associated with this Product. Plant injury, lack of performance, or other unintended consequences may result because of factors such as abnormal weather conditions, use of the Product other than in strict accordance with this label's instructions, presence of other materials, the manner of application or other factors, all of which are beyond the control of FINE or the seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

To the extent consistent with applicable law: 1) FINE disclaims any liability whatsoever for special, incidental or consequential damages resulting from the handling or use of this Product and 2) FINE's liability under this label shall be limited to the amount of the purchase price or, at the election of FINE, the free replacement of the Product.

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