



KEEP OUT OF REACH OF CHILDREN

GROFRESH[®]

ACTIVE INGREDIENT: Contains 33g/kg 1-methylcyclopropene
in the form of a vapour releasing powder

NET CONTENTS:



Grosafe[®]

WARNING: Causes slight eye irritation. May be harmful if absorbed through skin.

PRECAUTIONS: Avoid contact with eyes, skin and clothing. Avoid breathing vapour. Do not eat, drink or smoke when using product. When handling, wear long-sleeved shirts and long pants, shoes and socks, and rubber gloves.

After the treatment area is sealed, post signs on all entrances to the treatment area:

CAUTION. Do not enter area. GroFresh® treatment in progress. Do not enter or allow worker entry into the treated areas prior to venting the volatile active ingredient from the treatment area.

Restricted Entry Period: 30 minutes after the treatment area has been vented.

For early entry into unvented area, wear full face-piece respirator with organic vapour/gas cartridge or canister. Wash hands and exposed skin before meals and after work.

After use, triple rinse the **GroFresh®** delivery system with water. Instructions for returning the used **GroFresh®** delivery system will be provided by Grosafe.

STORAGE: Store in original sealed bag in a dry, cool, well-ventilated place, out of direct sunlight, and away from food and animal feeds.

DISPOSAL: Dispose of this product only by using according to the label or at an approved landfill. Do NOT burn product or packaging material.

FIRST AID: For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor if you feel unwell. **IF ON SKIN:** Remove contaminated clothing and wash skin with plenty of soap and water. If skin irritation persists, get medical advice/attention. **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention. **IF INHALED:** Remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms get immediate medical advice.

GENERAL INFORMATION:

GroFresh® is a powder that when mixed with hot water releases the volatile active ingredient 1-methylcyclopropene (1-MCP).

GroFresh® is applied post-harvest to counteract many undesirable effects of both internal (produced by fruit) and external effects of ethylene on harvested fruit. By counteracting ethylene, **GroFresh®** provides many benefits to fruit during transport and storage including:

- Maintaining firmness,
- Maintaining titratable acidity,
- Preventing superficial scald and soft scald on pome fruit,
- Reducing internal ethylene production,
- Protection from external sources of ethylene,
- Reducing fruit aspiration,
- Delaying ripening and senescence,
- Reducing incidence of peel greasiness in apples,
- Reducing incidence of core flush and mealiness in pome fruit,
- Reducing chilling injury.

GroFresh® can be used immediately after harvest, prior to storage, prior to shipment and/or prior to sale. **GroFresh®** is effective under both cool (below 13 °C) and warm (above 13 °C) temperature conditions. To realise maximum benefit in controlling senescence, products should be treated as soon as possible after harvest.

Harvested fruits must be exposed to the volatile active ingredient of **GroFresh®** in enclosed areas, such as storage rooms, greenhouses, coolers, shipping containers, enclosed truck trailers, or ambient temperature, refrigerated or controlled atmosphere food storage areas. **GroFresh®** is not intended for use outdoors or in other non-enclosed area. These enclosed treatment areas should be air-tight as leakage will reduce **GroFresh®** effectiveness.

Fruit Storage Conditions

GroFresh® is compatible with and complementary to fruit stored under both controlled atmosphere and regular air fruit storage conditions. **GroFresh®** must be used in air-tight treatment areas.

Timing of Harvest and Application

For best results, do not use with fruit treated with Ethephon.

To realise maximum benefit for optimum quality, fruit should be pre-cooled promptly and **GroFresh®** should be added to the treatment area containing fruit immediately after harvest, upon entering storage or in transit and before the climacteric peak of respiration has occurred. Best results from **GroFresh®** are obtained with fruit at the optimum maturity level for long term storage. Fruit may benefit from repeat application. After application, fruit not for immediate sale should be stored, according to good standard commercial practices, in either refrigerated air or controlled atmosphere. Storage in controlled atmosphere is recommended for fruit that is to be held longer than 6 months. It must be emphasised that maintaining the cold chain (keeping the fruit cool at all times) and strict adherence to phytosanitary practices remain essential in maintaining safe and high-quality fruit. For optimum control of superficial scald on pome fruits, **GroFresh®** must be applied within two weeks of harvest.

Application

Prior to application, ensure that the treatment area can be properly and promptly sealed following application. Treatment areas should be checked for vapour leakage as excessive leakage reduces effectiveness of **GroFresh®**. If needed, use plastic liners, tape and/or other products and procedures to make enclosed areas more air tight. Any

internal air circulation system (that does not bring in outside air) should remain on during treatment to help distribute **GroFresh®**.

GroFresh® is applied by the use of a purpose designed Holder, which are available in two sizes; large and small. See the Directions for Use table to select the appropriate size Holder and the amount of **GroFresh®** for the fruit and the size of the treatment area. Fill the treatment area with fruit. Place the appropriate application Holder on a stable surface of the treatment area in a position that would be within the flow of air from the internal refrigeration system.

The selected Holder and of the amount of **GroFresh®** required is based on the treatment area volume and crop to be treated. Calculate the treatment area volume by measuring the length, width and height of the treatment area in metres. Multiply these three numbers together to obtain the treatment area volume in cubic metres. For example, if a room is 4 metres wide, 5 metres long and 5 metres high, the treatment area volume equals 100 cubic metres.

To determine the amount of **GroFresh®**, multiply the treatment volume by the rate shown in the Directions for Use table for the selected crop and use the size and number of foil bags that correspond to the calculated amount. For example, to calculate the amount of **GroFresh®** for a 300 cubic metre apple room, multiply 300 m³ times 6g per 100 m³ to get 18g of **GroFresh®**.

Add water at a temperature between 90 - 100 °C (nearly boiling) to the Holders.
To determine the amount of water, the rate should be 20 times the amount of **GroFresh®**. For example, for 18g **GroFresh®** required for a 300 cubic metre apple room: multiply 20ml per 1g to give 360ml of water for 18g **GroFresh®**.

Determine the appropriate size and number of **GroFresh®** foil bags and pour the powder into the water contained in the Holders (Stir for 30 seconds - 1 minute to dissolve powder). Immediately leave the storage area and seal the door in order to contain the **GroFresh®** vapour and ensure the maximum efficacy of **GroFresh®**. The release of the **GroFresh®** to the area will start several minutes after the water soluble powder is added to the Holders. After the area is sealed, post a sign on all of the entrances to the treatment area. The sign should read **"CAUTION. Do not enter area. GroFresh® treatment in progress."** The doors to the storage area should remain sealed for 24 hours to ensure effective **GroFresh®** treatment. Entrance to the room prior to 24 hours may compromise the treatment. During the treatment, the internal refrigerated air circulation should be running to ensure good air circulation within the room. All vents to outside air should be closed. At the end of the **GroFresh®** treatment period, vent the treated room by opening the doors for a minimum of thirty minutes with continued full internal ventilation before allowing workers to enter. At the end of the room venting, remove the application Holders. The spent water contained in the Holder can be disposed by pouring down a suitable drain. Treated fruit not intended for immediate sale should be stored according to good, standard commercial practices, in either refrigerated air or controlled atmosphere. Storage in controlled atmosphere conditions is recommended for fruit that is planned to be held longer than 6 months.

DIRECTIONS FOR USE

SITUATION	CROP	GROFRESH g per 100m³	CRITICAL COMMENTS
Post-harvest application in an enclosed area, eg cool-room, truck, shipping container, plastic tent or bag	Apples Kiwifruit	4.3 - 6.1	For temperate tree fruit (apples, kiwifruit, melon, pears, and persimmon): Apply GroFresh® as soon after harvest as possible. For Cox Orange Pippin Apple: Apply at half rate.
	Melons Persimmons Tomatoes	1.9 - 4.1	Tomato: Apply between colour stage breaker (USDA Colour Stage 2) and light red (USDA Colour Stage 5).
	Avocados	1.7 - 4.1	Avocado: Apply to the fruit as soon after harvest as possible. For late season and mature fruit, use the higher application rate.
	Pears	1.7 - 2.5	

It is an offence for users of this product to cause residues exceeding the relevant MRL in the Food Notice: Maximum Residue Limits for Agricultural Compounds.

WITHHOLDING PERIOD: 1 day

Registered pursuant to the ACVM Act 1997, No. P9823
See www.foodsafety.govt.nz for registration conditions.

Emergency Response 0800 CHEMCALL (0800 243 622)

WARRANTY This formulation is warranted to contain the specified active ingredient within accepted analytical tolerance when packed. The user bears the risk for damage resulting from factors beyond the manufacturer's control. The manufacturer declines all liability for damage resulting from improper storage or use of the product.

REGISTERED AND DISTRIBUTED BY:



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