



DANGER
KEEP OUT OF REACH OF CHILDREN



HORTCARE®

Hi-break™

A plant growth regulator which promotes uniform increased bud-break and flowering of kiwifruit, and earlier concentrated flowering of apples

Active Ingredient: Contains 540g/litre hydrogen cyanamide in the form of a soluble concentrate

Beware: Apply this product carefully. Spray drift can cause serious damage to other desirable plants

GSH-B545/F04



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 HORTCARE® HI-BREAK
 NET CONTENTS: 20 Litres



HAZARD CLASSIFICATION:

Acute oral toxicity Category 3, Acute dermal toxicity Category 4, Acute inhalation toxicity Category 4, Skin irritation Category 2, Eye irritation Category 2, Skin sensitisation Category 1, Reproductive toxicity Category 2, Specific target organ toxicity (repeated exposure) Category 1, Hazardous to terrestrial vertebrates, Hazardous to terrestrial invertebrates, Hazardous to the aquatic environment chronic Category 3.



DANGER: HORTCARE HI-BREAK is toxic if swallowed, and harmful if inhaled or absorbed through the skin. Causes skin irritation and serious eye irritation. May cause an allergic skin reaction. Long term oral exposure may affect foetal development or cause organ damage. In combination with alcohol, a severe temporary reaction known as "cyanamide flush" may be produced. Symptoms of cyanamide flush include skin flushing, dizziness, headache, shortness of breath and a rapid pulse.

PERSONAL PROTECTION: When mixing or loading wear full protective clothing such as impervious gloves, respirator, waterproof hat, coat and trousers (worn outside boots) and boots, and eye/face protection. Wash splashes of concentrate from skin at once. Wash hands and exposed skin after work. Do not eat, drink or smoke while using. **DO NOT DRINK ALCOHOL FOR 24 HOURS BEFORE, AND FOR UP TO 7 DAYS AFTER USING HORTCARE HI-BREAK.**

Do not apply this product in a manner that will directly, or through drift, expose workers or other persons. The area being treated must be evacuated by unprotected persons. Where workers are in contact with kiwifruit canes within five days of spraying, gloves should be worn. Wash contaminated protective clothing and equipment before re-use.

STORAGE: Store in original container tightly closed and in a locked, dry, cool, well ventilated area, away from foodstuffs. Stores containing more than 100 L are subject to requirements for signage, secondary containment and emergency response plans. Storage must be in accordance with the current version of NZS 8409 Management of Agrichemicals. A Location compliance certificate is required if more than 1000 L is stored.

If stored from one season to the next, store at 0–5°C in a coolstore. When stored appropriately this product should show no significant degradation for 15 months from the date of manufacture.

Contact the proprietor for further information about the use of this product if it is older than this.

SPILLS AND DISPOSAL: When dealing with spills wear personal protective clothing and equipment as described in the PERSONAL PROTECTION section. Contain and absorb with suitable inert absorbent material and store in properly labelled, sealed drums for safe disposal. If spray mixture is spilled absorb and collect in drums as above. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

PRODUCT DISPOSAL: If possible dispose of by using according to the label, otherwise dispose of in an approved landfill or bury below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Avoid contamination of any water supply with chemical or empty container.

CONTAINER DISPOSAL: Triple rinse container and add residue to mixture. Do not re-use container for other purposes. Dispose of rinsed empty containers by puncturing and immediate burial at an approved landfill, or by burial at least 600mm deep at a designated site on the user's property. Do not cut, puncture or weld near unrinsed empty container.

ENVIRONMENT: Do not apply directly into or onto water. Do not allow animals to come into contact with spray mist or tank washing. Dogs are particularly sensitive to HORTCARE HI-BREAK poisoning and must be restrained away from any spraying operation. Non-grazing animals should not be exposed to residues on grass for three days and grazing animals for seven days. Toxic to bees: spray must not contact plants in flower if they are likely to be visited by bees. Apply this product carefully. Spillage or spray drift can cause serious damage to other desirable plants. Casuarine spp, lemons, tamarillos and gum trees are very susceptible. Avoid contamination of any water supply with product or empty container.

As a matter of good practice warn neighbours of your intent to apply this product.

RECORDS: A record of storage and use must be kept as described in the Management of Agrichemicals NZS: 8409 if using more than 3 litres within 24 hours.

EQUIPMENT: To minimise corrosion, flush sprayer and hose down equipment with plenty of clean water at the end of each day's spraying. Do not leave material standing in the spray tank overnight.

SAFETY DATA SHEET: A safety data sheet is available from Grosafe Chemicals Ltd.

SYMPTOMS OF POISONING by HORTCARE HI-BREAK are irritation of mucous membranes, severe dermatitis on moist skin, flushing of face, headache, dizziness, shortness of breath and rapid pulse.

FIRST AID: If exposed or concerned, get medical advice. For advice call the National Poison Centre, telephone 0800 POISON [0800 764 766]. If swallowed, rinse mouth with water. Do NOT induce vomiting.

Immediately call the NATIONAL POISONS CENTRE or a doctor for advice. If on skin, remove contaminated clothing and wash skin with plenty of soap and water. Get medical advice if person feels unwell, or if irritation or rash develops. 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. If inhaled, remove person to fresh air and keep at rest in a position comfortable for breathing. Call the NATIONAL POISONS CENTRE or doctor for advice.

EMERGENCY RESPONSE 0800 CHEMCALL (0800 243 622)**MANAGEMENT CONSIDERATIONS**

• Over cropping and fruit size reduction. As the use of HORTCARE HI-BREAK may significantly increase crop load, good management (eg, crop thinning, ample water and fertiliser) is essential to optimise export yield in the desirable size counts.

APPLES - General: HORTCARE HI-BREAK may be applied to apple trees to obtain the following effects:

• Advanced bud-break and a compressed earlier flowering period. Flowering can be advanced to improve the synchrony of flowering between varieties to achieve better cross pollination. Larger and more uniform fruitlets allow thinning sprays to be timed earlier and more accurately. An earlier flowering reduces the fire blight risk but may increase the risk of frost damage.

• Advanced harvest date, especially in early varieties in warmer regions. Fruit may be ready for harvest 7–10 days early. If temperatures are especially warm at harvest, red colouration may be compromised by an early harvest date.

Directions for Use: Use 2.5 litres HORTCARE HI-BREAK per 100 litres of water, in 800–1300 litres of water per hectare, depending on tree size. Apply as a fine spray mist to give complete tree coverage. Treatment should be made 30–45 days before the natural budbreak (50% green tip on spurs) of each variety. Applications farther out from natural budbreak will have a greater effect on advancing budbreak and flowering, but may reduce the level of budbreak and flowering. Do not apply closer than 25 days before budbreak. Warm temperatures in the three days following application improve the response.

COMPATIBILITY: Do not mix with other pesticides.

MIXING: Add the required amount of HORTCARE HI-BREAK to the half-filled spray tank. Add the remainder of the water and agitate thoroughly before and during spraying.

DIRECTIONS FOR USE - KIWIFRUIT:

General: HORTCARE HI-BREAK can cause the following beneficial effects on kiwifruit, particularly useful in orchards which receive inadequate winter chilling:

- An improved uniform budbreak
- An increased number of floral shoots and higher flower numbers, giving a significant yield increase.
- A short (4–7 day) flowering period, ideal for spray pollination.
- An advanced flowering in one part of the orchard to better fit the management programme (eg, male vines may be treated to supply early pollen for artificial pollination).
- A reduction in the number of doubles and trebles.
- HORTCARE HI-BREAK gives good control of green algae and lichen.
- Assist in the control of greedy scale.

Rate of Use: Use 4–6 litres HORTCARE HI-BREAK per 100 litres of water. Use the highest concentration at the beginning of the application period. A lower concentration within the recommended range may be used as the application period progresses.

To minimise damage use lower rates after a cold winter or in cooler areas of the orchard (shaded, frost pockets). Apply as a fine spray mist to give complete coverage. Spray all dormant buds or effects will be uneven. Ensure the spray reaches in to the central leader and covers the inner canopy. Accurately calibrated airblast sprayers are recommended.

DO NOT SPRAY TO RUN-OFF AND MINIMISE DRIP POINTS.

On mature vines apply 500–700 litres spray volume per hectare. Do not exceed 800 litres spray volume per hectare. The addition of a non-ionic wetting agent is recommended to improve coverage.

DO NOT APPLY UNDER SLOW DRYING CONDITIONS AS VINE DAMAGE MAY OCCUR. (eg, under high humidity; before 9.00am if dew is present or after 4.00pm in shaded parts of the orchard; or during periods when cold frosty nights occur).

Rainfall occurring within four hours of treatment may reduce efficacy.

Timing of Application:

• **Var. Hayward.** Apply HORTCARE HI-BREAK in the period between the last week of July and the 24th of August. Applications after this time have more risk of cane damage in a normal year, but may be effective in a very mild winter when budbreak is naturally delayed. The optimum timing is normally the second week of August. Application towards the beginning of the recommended time period may be less effective, especially in a mild winter and in areas of low winter chilling.

• **Var. Hort 16A (Zespi Gold).** Limited experience suggests that the optimum timing is mid-late July. In a very mild winter (eg, 1998) applications during late July to the first week of August were effective.

HORTCARE HI-BREAK misuse may result in the following adverse effects on kiwifruit:

• Frost damage to new growth. Do not use in orchards subject to late frosts as damage will be greater where budbreak has been advanced.

• Cane damage. Death of individual buds, spurs or whole canes has been associated with higher than recommended rates of use, high water rates applied to run-off or application under slow drying conditions.

Ensure application equipment is accurately calibrated and that recommended rates of use are not exceeded. Avoid spray drift from one row to the next. If damage occurs, reduce rate of use/water rate in the following season. Damage is more likely to occur following cold winters or in colder areas of the orchard. In such circumstances, reduce the rate or do not use.

Do not apply to weak vines or vines with broken or green cane. Stubbing, if carried out, should be completed by the end of October and male vine pruning completed by late December.

• Poor fruit pollination. Ensure sufficient bees and/or artificial pollination to adequately pollinate an increased number of blossoms, flowering over a short period.

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

Registered pursuant to the ACVM Act 1997, No. P7018
See www.foodsafety.govt.nz for registration conditions.

Approved pursuant to HSNO Act 1996, Approval Code: HRC000001
See www.epa.govt.nz for approval conditions

CONDITIONS OF SALE: The use of HORTCARE HI-BREAK being beyond the control of the suppliers, no warranty expressed or implied is given by Grosafe Chemicals Ltd regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Grosafe Chemicals Ltd accepts no responsibility whatsoever resulting from the use of this product.

REGISTERED AND DISTRIBUTED BY:

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BATCH No:

EXPIRY DATE:

DATE OF MANUFACTURE:

GSB-B/004



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