to

# RESTRAINTS **DANGEROUS POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING** SOIL FUMIGANT **ACTIVE CONSTITUENTS:** 608 g/kg (805 g/L) 1,3-DICHLOROPROPENE 333 g/kg (445 g/L) CHLOROPICRIN of water For the control of a wide range of soil borne diseases, plant parasitic nematodes, symphylans and wireworms, and for the suppression of weeds, as specified in directions for use table Calibration Supply of this product may be restricted by SUSMP Appendix J State persons authorised under relevant legislation. FOR USE ONLY BY FUMIGATORS WHO HAVE BEEN TRAINED IN THE TRICAL TRAINING PROGRAM General **NET CONTENTS:** APVMA Approval No.: 69731/118444 140 kg A U S T R A L I A TriCal Australia Pty Ltd APPLICATION ACN 600 066 966 5 Chamberlain Street Id, SA 5013, Australia Application Timing Phone (08) 8347 3838

HEALTHY FIELDS. HEALTHY YIELDS.

# **DIRECTIONS FOR USE:**

DO NOT apply through any type of Tyne Rig system. DO NOT use when soil temperature is below 10°C or above 27°C. DO NOT treat soil when very wet or very dry at depth of fumigation DO NOT use in soils that are very high in organic matter (e.g. muck or peats).

Broadacre Equivalent Application Rates for the control of a wide range of soil borne

Сгор	Pest	Soil Type	Broadacre Rates¹ kg/ha (L/ha)	Critical Comments
Vegetables, Field crops and Nursery crops	Soil borne diseases including Fusarium and Verticillium wilts, Rhizoctonia, Pythium;	Light soils (e.g. coarse- textured sands, sandy loams and loams) Heavy soils (e.g. fine-textured clay). All soil types	270-470 (row: 27- 47 g/m <sup>2</sup> ) (200-350) <sup>2,4</sup>	<ul> <li>At time of application soil should be in good seed bed condition free of clods and undecomposed plant material.</li> <li>OW: For application timing, soil conditions, soil preparation and placemen of fumigant, application methods and equipment: See APPLICATION.     </li> <li>Exposure period: Leave soil undisturbed for at least in other streament</li> </ul>
	Plant parasitic Nematodes;		470,000 (rour	
	<b>Symphylans</b> (garden centipedes);		470-800 (row: 47- 80 g/m <sup>2</sup> ) (350-600) <sup>3, 4</sup>	
	Wireworms;			
	For suppression of weeds, see			
	Footnote 3.			
Fruit and Nut crops including Strawberries			470-940 (row: 47- 94 g/m <sup>2</sup> ) (350-700) <sup>3,4</sup>	
				Aeration period before planting: Use a minimum of 21 days after application, although longer periods must be used under certain conditions (see also Soil Fumigation Interval under APPLICATION).

an application rate of 500 to 1500 parts per million (ppm) of 1,3-dichloropropene in the irrigation water DO NOT exceed a concentration of 1.8 Litres (2.4 kg) Strike 35 Drip Soil Fumigant in 1000 Litres

- 1. Rates given are broadacre equivalent. Based on the width of the area to be treated, reduce the broadacre rates proportionately or calculate on the amount needed per square metre. In no case should the amount applied per hectare exceed the maximum broadacre application rates (kg/ha or L/ha) given in the above table.
- 2. For cyst-forming nematodes use at least 335 kg/ha (250 L/ha).
- 3. For control of apple replant diseases and for suppression of weeds, higher rates (>670 kg/ha or >500 L/ha) are recommended. 4. For high disease and weed pressure use higher rates. Some weed species eg nutgrass, may not
- be suppressed at these rates.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION

THIS PRODUCT IS TOO HAZARDOUS FOR USE IN THE HOME GARDEN.

Calibration must be done in a manner that does not release product above the soil. Recommended methods are use of a flow meter or determining flow rate by dispensing an alternative fluid such as water or diesel fuel into collection cups. Flow meter capacity previously calibrated for water or methyl bromide may be converted to Strike 35 Drip Soil Fumigant capacity using the following equations:

Flow capacity for water x 0.85 = flow capacity for Strike 35 Drip Soil Fumigant Flow capacity for methyl bromide x 1.2 = flow capacity for Strike 35 Drip Soil Fumigant Flow capacity for diesel fuel is roughly the same as for Strike 35 Drip Soil Fumigant

### **GENERAL INSTRUCTIONS**

Strike 35 Drip Soil Fumigant is a multi-purpose liquid fumigant for pre-plant treatment of cropland soil using drip irrigation systems only. Strike 35 Drip Soil Fumigant should be used as part of a management program involving rotation, resistant varieties, and other cultural practices designed to alleviate soil borne diseases, plant parasitic nematodes, wireworms and symphylans. Strike 35 Drip Soil Fumigant may suppress weeds.

- Before fumigation, soil sampling for the type and number of pests present is recommended. In fields where pre-treatment soil samples indicate the presence of high population levels of soil-borne pathogens, a successful fumigation cannot be expected to eradicate entire populations. Therefore, post-treatment sampling is recommended to determine the need for additional pest management practices.
- For best results, it may be necessary to treat soils planted to annual crops every year
- Fumigation may temporarily raise the level of ammonium nitrogen and soluble salts in the soil. This is most likely to occur when heavy rates of fertiliser are applied to soils before fumigation, especially if the soils are either cold, wet, acid or high in organic matter. To avoid ammonia injury or nitrate starvation (or both) to crops grown on high organic soils, DO NOT use fertilisers containing ammonium salts and use only fertilisers containing nitrates, until after the crop is well established and the soil temperature is above 18°C. In low organic soils, do not apply more than 3/3 of the nitrogen requirements from fertilizers containing ammonium salts until the crop is well established and the soil temperature is above 18°C.
- Certain nursery crops such as citrus seedlings and vegetable crops such as cauliflower have shown evidence of phosphorus deficiency following fumigation. To avoid this possible effect, additional phosphate fertiliser (foliar applied) is recommended where experience indicates a deficiency may occur.

Strike 35 Drip Soil Fumigant can be applied at any time of the year when soil conditions permit. Conditions that allow rapid diffusion of the fumigant as a gas through the soil normally give best results. Strike 35 Drip Soil Fumigant does not provide residual control of soil pests and must be applied before planting each crop. The following soil temperature and moisture conditions should exist at time of application. Failure to meet these conditions may result in unsatisfactory product performance.

#### Application Method

Drip Application: Apply Strike 35 Drip Soil Fumigant as a pre-plant application through surface or buried drip irrigation systems. The volume of water required must be sufficient to wet the soil to the depth required for treatment. Pre-irrigation may be needed to wet soil sufficiently. Use of a plastic tarp as mulch to cover beds during and after fumigation may improve efficacy of drip applications.

interval is required under cold or wet soil conditions.

To prevent phytotoxicity after fumigation, allow the fumigant to dissipate completely before planting a crop. Under optimum soil conditions for dissipation. 1 week for each 100 L/ha is recommended with a minimum interval of 21 days following application. Seed may be used as a bioassay to determine if Strike 35 Drip Soil Fumigant is present in the soil at concentrations sufficient to cause plant injury Do not plant if the odour of Strike 35 Drip Soil Fumigant is present.

Soil Conditions

# the intended depth of fumigation.

Soil Preparation The soil should be free of clods. Large clods can prevent effective soil sealing and reduce effectiveness of Strike 35 Drip Soil Fumigant. Plant residues should be thoroughly incorporated into the soil prior to treatment to avoid interfering with application. Undecomposed plant material may harbour pests that will not be controlled by fumigation. No crop residue should be present on the soil surface Compacted soil layers within the desired treatment zone should be fractured before or during application of the fumigant. Deviation from the above conditions may result in unsatisfactory results.

## Placement of fumigant

Strike 35 Drip Soil Fumigant may be applied as either a broadacre (overall) or row treatment via irrigation. Deeper placement is recommended when fumigating soil to be planted to deep-rooted plants, such as perennial fruit and nut crops, or to control deeply listributed pests. The amount of water applied must be sufficient to ensure adequate wetting of the soil in the desired fumigation zone.

# Application Methods and Equipment wet the entire bed.

Planting should occur within the treated area Step 1: Moderate pre-irrigation may enhance coverage in very andy soils, very dry conditions, or in soils with deep buried tape. Except under these conditions, pre-irrigation is not recommended Step 2: Apply appropriate rate (see DIRECTIONS for USE) of Strike 35 Drip Soil Fumigant in enough water so that the soil moisture throughout the treatment zone, including near the soil surface, is at or near field capacity. Strike 35 Drip Soil Fumigant must be metered into the water supply and should pass through a mixing device (such as a centrifugal pump or static mixer, course filter or fine strainer) to assure proper agitation before it is distributed into the drip irrigation line system. Do not exceed a concentration of 1.8 Litres (2.4 kg) of Strike 35 Drip Soil Fumigant in 1000 Litres of irrigation water. A separate mixing device is not needed if the chemical injection point is at least 20 metres in front of the "T" junction point. For low velocity (laminar) flows, more distance or a mixing device is needed to thoroughly mix the fumigant. Do not allow treatment solution to accumulate on the soil surface. If ponding, puddling or run-off occurs, then 1) discontinue application

mmediately, and 2) cover with soil to absorb. Step 3: After application of Strike 35 Drip Soil Fumigant, continue to irrigate the area with sufficient untreated water to flush the mixture from the irrigation system completely. Make sure any rigid PVC dead end or low spots are drained or flushed completely. Do not allow any Strike 35 Drip Soil Fumigant to remain in the irrigation system. Leave the soil undisturbed for at least 21 days; then proceed with normal crop management activities.

# Equipment

- type of irrigation system.
- uniform distribution of treated water.
- If you have questions about calibration, contact the distributor,
- Do not connect irrigation system used for pesticide application safety devices for public water systems are in place.
- system except as described in the labelling.
- necessary adjustments should the need arise.
- water source.
- - shut down.
  - motor stops.
  - distribution is adversely affected.
- 12. Injection system must use a metering pump, such as a positive

Planting Interval: Leave the soil undisturbed and unplanted for at least 21 days after application of the fumigant. A longer undisturbed

Optimal temperatures for application are between 15°C and 25°C at

Drip emitters should be spaced evenly apart and close enough to

#### Special Use Preparations for Chemigation Application

Apply this product only through surface or buried tape drip irrigation systems. Do not apply this product through any other

2. Crop injury or lack of effectiveness can result from non-

equipment manufacturers, or other experts.

to a public water system unless the pesticide label prescribed

Do not apply this product through any other type of irrigation

 Only a person knowledgeable of the chemigation system and responsible for its operation, or a person under the supervision of the responsible person, shall operate the system and make

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent back flow contamination of the

The pesticide injection pipeline must contain a functional automatic, quick closing check valve to prevent the flow of fluid back toward the chemical supply or injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, automatic 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

10. The system must contain a functional interlock to automatically shut off the pesticide injection pump when the water pump

11. The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide

displacement injection or diaphragm pump, venturi system, or a pressure-safe cylinder containing Strike 35 Drip Soil Fumidant equipped with a metering valve and flow meter. This equipment must be constructed of materials compatible with Strike 35 Drip Soil Fumigant and capable of being fitted with a system interlock.

Strike 35 Drip Soil Fumigant should be injected into the centre of the irrigation water stream by using a suitable dip tube. This will prevent damage from undiluted fumigant contacting PVC pipe at the point of injection.

#### Soil Fumigation Interval

- 1. Exposure Period: Leave the soil undisturbed for at least 5 days after treatment. A longer undisturbed interval is required if the soil becomes either cold or wetter than required by the correct amount of irrigation and for deep-rooted tree, shrub and vine planting sites
- Aeration Period before Planting: After the exposure period, 2. allow the fumigant to dissipate completely before planting the crop. Do not plant crops if the odour of Strike 35 Drip Soil Fumigant is present within the fumigation zone. Under good dissipation conditions as occurs in warm, moist soil situations. allow 1 week for every 100 kg/ha used before planting the crop unless an approved plant germination test verifies that the product has dissipated sufficiently to allow planting. A longer aeration period will be required if the soil is cold, wet or was surface-sealed" under wet conditions and for deep-rooted tree, shrub and vine planting sites. Saturated, cool to cold soil can remain phytotoxic for a ong period. Under these conditions, an approved plant germination test must be conducted to ensure crop safety at planting.

#### **Recontamination Prevention**

Strike 35 Drip Soil Fumigant will control pests that are present in the soil treatment zone at the time of fumigation. It will not control pests that are introduced into soil after fumigation. Avoid contamination from moving infested soil onto treated beds through cultivation, movement of soil from below the treated zone or soil contamination from equipment. Clean equipment carefully and ensure shoes and/ or clothing are cleaned of soil before entering treated fields.

#### CLEANING EQUIPMENT

- Clean equipment of all soil or plant debris before using but DO NOT allow water to enter fumigant lines or containers. Since this product is corrosive under certain conditions, flush all
- application equipment with diesel oil or kerosene immediately after use. Dispose of flushing solution by incorporation into the treated field or by other means in accordance with appropriate State legislation
- Fill pumps and meters with new motor oil or a 50% motor oil/ diesel oil mixture before storing.

#### PRECAUTIONS

Signs or placards as follows must be prominently shown at all approaches to the fumigation site:

#### **"DANGER - KEEP OUT - POISONOUS GAS -FUMIGATION IN PROGRESS - KEEP AWAY**"

#### These signs should also include contractor's name and address plus "Poisons Information Centre. Phone: Australia 13 11 26".

Workers conducting any activity within 2 metres of unshielded, pressurised hoses containing Strike 35 Drip Soil Fumigant must wear the protective equipment as defined in the product's Safety Directions. Other workers in the general application area should wear normal work clothing and non-sparking rubber boots or overboots (not steel-capped).

#### **Re-Entry Period**

Do not allow entry into treated areas for 5 days after treatment. When prior entry is necessary, or when odour persists beyond 5 days after treatment and entry is required, wear cotton overalls buttoned to the neck and wrist, chemical resistant gloves, chemical resistant footwear (rubber boots or overboots, not steel-capped) and full facepiece respirator with organic vapour/ gas cartridge or canister.

### Ground Water Advisory Statement

The 1,3-dichloropropene in Strike 35 Drip Soil Fumigant is known to move through soil and under certain conditions has the potential to reach ground water. Application in areas where soils are permeable and ground water is near the surface could result in ground water contamination for a period of time after treatment. Do not apply within 30 metres of any well used for drinkable water

#### Other Precautions

- DO NOT drop, bump or drag cylinders
- DO NOT unload cylinders by rope-sling, hooks or tongs.
- Keep cylinders upright in tamper-proof airy stores, away from dwellings, food and feed stuffs.
- Put out all pilot lights and glowing heating units.
- DO NOT use containers, pumps or other transfer equipment made of aluminium, magnesium or their alloys as under certain conditions this product may be severely corrosive to such metals. Australian Standards approved Teflon-braided hoses are preferred as transfer lines for this product. DO NOT use polvethylene tubing as transfer hosing.
- DO NOT contaminate food.
- DO NOT allow this chemical to contaminate water used for irrigation, drinking or other domestic purposes.

#### PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply within 1.5 m of desirable plants or living trees.

- PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT
- DO NOT contaminate streams, rivers or waterways with the chemical or used containers.
- DO NOT fumigate more than once per crop
- DO NOT apply Strike 35 Drip Soil Fumigant within 5 metres of aquatic environments such as rivers, streams, marshes and other water bodies.

### STORAGE AND DISPOSAL

- Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Store in a locked room or place away from children, animals,
- food, feedstuffs, seed and fertilisers. Empty contents fully into application equipment. Close all
- valves and return to point of supply for refill or storage. Do not use empty containers to store any other material

#### SAFETY DIRECTIONS

Poisonous if absorbed by skin contact or inhaled or swallowed. Will damage eves, nose, throat and skin, Repeat exposure may cause allergic disorders. Avoid contact with eyes and skin. Do not inhale vapour. The fumes first cause smarting, then watering of the eves. This should be taken as a warning sign. If product in eyes, wash it out immediately with water. If product on skin, immediately wash area with soap and water. If clothing becomes contaminated with product remove clothing immediately. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. When using the product wear cotton overalls buttoned to the neck and wrist and a washable hat, chemical resistant apron, elbow length neoprene gloves, chemical resistant footwear and full facepiece respirator with organic vapour/ gas cartridge. After each day's use, wash gloves, contaminated clothing and respirator (if rubber wash with detergent and warm water). Do not re-use footwear until thoroughly aired.

#### FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126. If skin contact occurs, remove contaminated clothing and wash skin thoroughly. Remove from contaminated area. Apply artificial respiration if not breathing. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

#### SAFETY DATA SHEET

Additional information is listed in the Safety Data Sheet available from the supplier or distributor.

Flammable liquid and vapour. Toxic if swallowed. Fatal in contact with skin. Fatal if inhaled. May cause an allergic skin reaction. Causes serious eve damage. Causes severe skin burns and eve damage. May cause respiratory irritation Suspected of causing cancer. Causes damage to organs (respiratory system). Causes damage to organs (lung, liver kidney, respiratory system) through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

#### NOTICE

Seller warrants that this product conforms to its chemical description and is reasonably fit for the purpose stated on the label when used in accordance with directions under normal conditions of use. No warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of the product contrary to label instructions or under off-label permits not endorsed by Trical Australia Ptv Ltd. or under abnormal conditions.

UN 3489 TOXIC BY INHALATION LIQUID, FLAMMABLE. CORROSIVE, N.O.S. (CHLOROPICRIN; 1.3-DICHLOROPROPENE)

> IN A TRANSPORT EMERGENCY **DIAL 000** POLICE OR FIRE BRIGADE

Batch No.

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