DANGEROUS POISON

KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

STRIKE 80
SOIL FUMIGANT

ACTIVE CONSTITUENTS:
795 g/kg (1234 g/L) CHLOROPICRIN
195 g/kg (302 g/L) 1,3-DICHLOROPROPENE

For the control of a wide range of soil borne diseases, plant parasitic nematodes, symphylans, wireworms and suppression of weeds as specified in the directions for use table

Supply of this product may be restricted by SUSMP Appendix J to persons authorised under relevant State legislation.

NET CONTENTS:
100 kg

APVMA Approval No. 70117/121162

TriCal AUSTRALIA

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HEALTHY FIELDS. HEALTHY YIELDS.

DIRECTIONS FOR USE

RESTRAINTS

DO NOT dilute with water.
DO NOT apply through any type of irrigation 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 transplants, tools, or move crop residues or soil (e.g. on clothing and footwear) that could carry pests from infested land onto treated areas.

DO NOT apply to non-tarped soil.

Broadacre Application Rates for the control of a wide range of soil borne diseases, plant parasitic nematodes, symphylans, wireworms and suppression of weeds.

Crop	Pest	Soil Type	Broadacre Rates[1] kg/ha (L/ha)	Critical Comments
• Field crops • Vegetables • Fruit and Nut crops • Nursery crops (NOT strawberries)	**Soil borne diseases** (including *Fusarium* and *Verticillium* wilts, *Rhizoctonia*, *Pythium*); **Plant parasitic Nematodes;** **Symphylans** (garden centipedes); **Wireworms;** **and for the suppression of weeds.**	Light to medium soils (e.g. coarse-textured sands, sandy loams and loams, coarse textured clay loams). Use the higher rate for medium soils. Product is not recommended for use on heavy soils (e.g. fine textured clay loams and clays or soils with very high organic matter such as peats)	400-410 (258-264 L/ha), 40-41 g/m² of row	**Pre-plant treatment only:** At time of application soil should be in good seed bed condition, free of clods and undecomposed plant material and with adequate soil moisture. Use a film such as low density polyethylene or virtually impermeable film (VIF) over the entire area or in strips to seal the soil surface. Use of a film to seal the soil surface does not eliminate the need to eliminate tyne traces prior to application of the plastic film. **For Application Timing, Soil Conditions and Soil Moisture, Soil Preparation and Placement Of Fumigant, Application Methods, Equipment and Sealing the Soil After Application: See APPLICATION.** **Exposure period:** Leave soil undisturbed for at least 7 days after treatment. **Aeration period before planting:** Use a minimum of 14 days; although longer periods must be used under certain conditions (see also **Soil Fumigation Interval** under **APPLICATION**).

1. Rates given may be concentrated in the row, but 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.

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.

IN TASMANIA, THIS PRODUCT IS NOT TO BE SOLD OR USED WITHOUT A LICENCE FROM THE REGISTRAR OF PESTICIDES.

IN SOUTH AUSTRALIA, THIS PRODUCT IS NOT TO BE SOLD OR USED WITHOUT A LICENCE FROM THE HEALTH COMMISSION.

GENERAL INSTRUCTIONS

- Strike 80 Soil Fumigant is a multi-purpose liquid fumigant for pre-plant treatment of cropland soil that can 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 80 will also 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 carrying 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. On low organic matter soils, do not apply more than 2/3 of the nitrogen requirements from fertilisers 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.

APPLICATION

Application Timing
Strike 80 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 the best results. Strike 80 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.

Soil Conditions
Optimal temperatures for application are between 15°C and 25°C at the intended depth of fumigation.

Soil Moisture
It is critical to manage soil moisture properly before fumigation. Plan fumigation for seasons, crop rotations, or irrigation schedules which leave moisture in the soil. For fumigation depths of 40 to 45 cm (as for apple replants), the soil should be moist within a 40 cm radius upwards from the point of injection as determined by the feel method (see below). For all other applications, the soil must be moist from 5 cm below the soil surface to at least 30 cm deep as determined by the feel method (see below). The amount of moisture needed in this zone will vary according to soil type. The surface soil generally dries very rapidly and should not be considered in this determination. If there is insufficient moisture at the 5 cm to 15 cm depth, the soil moisture must be adjusted. If irrigation is not available and there is adequate soil moisture below 15 cm, it may be brought to the surface by disking or ploughing before or during the injection.

In general, no irrigation should immediately precede subsoiling or fumigation. However, when irrigation is available and surface soil moisture conditions are not likely to provide an adequate seal against fumigant loss, a very light sprinkler irrigation to wet the top 2.5 to 5 cm of soil may be used to bring soil moisture content to the desired level.

The following descriptions will aid in determining acceptable soil moisture conditions by the "feel method". For coarse soils (sand and loamy sand), there must be enough moisture to allow formation of a weak ball when compressed in the hand. Due to soil texture, this ball is easily broken with little disturbance. In loamy, or medium textured soils (coarse sandy loam, sandy loam and fine sandy loam), a soil sample with the proper moisture content can be formed into a ball which holds together with moderate disturbance, but does not stick between the thumb and forefinger. Fine textured soils (clay loam, silty clay loam, sandy clay, silty clay, sandy clay loam and clay), should be pliable and not crumbly, but should not form a ribbon when compressed between the thumb and forefinger.

Soil Preparation
The soil should be worked to the depth where control is desired. The soil should be free of clods. Large clods can prevent effective soil sealing and reduce effectiveness of Strike 80. 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. Little or no crop residue should be present on the soil surface. Crop residue that is present should lie flat to permit the soil to be sealed effectively. 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 80 may be applied as either a broadacre (overall) or row treatment. It should be placed at least 20 cm below the final soil surface, although placement to 30 cm below the final soil surface is recommended. 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 distributed pests.

Application Methods and Equipment
Use equipment specifically designed for application of fumigants to soil.

Minimising end row spillage: Product spillage at the end of rows should be minimised. An effective flow shut-off device must be used to prevent discharge of fluid at the end of rows. After shutting off flow, run tynes underground for 30 cm to limit spillage that may occur when the tyne is raised from the ground.

Broadacre Application: Choose application equipment that allows the deepest application and best soil seal under existing conditions. The fumigant outlet spacing varies with the type of application equipment used:
With tyne equipment a fumigant tyne spacing of 30 cm is recommended. The outlet spacing for this equipment may be up to 1½ times the application depth but generally should be equal to the application depth and should not exceed the soil-shattering capability of the tynes.

Row Application (for row spacing greater than 60 cm): Use tyne equipment to treat a band of soil where the crop is to be planted, i.e. the plant row. When multiple tynes per plant row are used, space the tynes (fumigant outlets) 20 to 30 cm. Regardless of the number or spacing of tynes used, the fumigant must be placed at least 30 cm from the nearest soil/air interface (e.g. furrow). To prevent seed germination problems caused by improper seed-to-soil contact or improper seeding depth, do not place the seed directly over the furrow left by the applicator tyne(s).

Sealing the Soil after Application
To seal the fumigant, apply un-perforated plastic film such as low density polyethylene or virtually impermeable film (VIF) over the entire area or in strips. Use of a film to seal the soil surface does not eliminate the need to eliminate tyne traces prior to application of the plastic film.

Immediately after tyne application of Strike 80, the soil must be "surface-sealed" with plastic film to prevent fumigant loss and ensure that an effective concentration of fumigant is maintained within the soil for a period of several days.

For broadacre treatment (flat fumigation), prior to sealing, equipment should be used that will uniformly mix the soil to a depth of 8 to 10 cm to effectively eliminate tyne or plough traces which can allow direct escape of the fumigant. A tandem disc or similar equipment may be used for this purpose. To improve sealing prior to laying of film, the soil surface can be compacted with a ring roller or roller in combination with tillage equipment to further retard the rate of fumigant loss. Compaction of the soil surface alone does not effectively disrupt tyne or plough traces.

For row treatment, forming the beds at the time of application should be accomplished in a manner that places the fumigant at least 30 cm from the nearest soil/air interface (e.g. furrow). The closest soil/air interface could be the furrow for multiple tyne applications or the top of the beds for single tyne applications. Row treatments into pre-formed beds must be sealed by application of plastic film and by disrupting the tyne trace using press sealers, ring rollers or by reforming the beds and following with such equipment.

Proper soil conditions at the time of application (see **Soil Preparation**) are important to ensure proper placement of fumigant (see **Placement of Fumigant**) and obtaining adequate sealing. Prior tillage should be adequate to eliminate clods and thoroughly mix crop residues into the soil.

Soil Fumigation Interval

1. **Exposure Period:** Leave the soil undisturbed for at least 7 days after treatment. A longer undisturbed interval is required if the soil becomes either cold, wet or "surface-sealed" under wet conditions and for deep-rooted tree, shrub and vine planting sites.
2. **Aeration Period before Planting:** After the exposure period, allow the fumigant to dissipate completely before planting the crop. Do not plant crops if the odour of Strike 80 is present within the fumigation zone. Under good dissipation conditions as occur 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 long period. Under these conditions, an approved plant germination test must be conducted to ensure crop safety at planting.

Recontamination Prevention
Strike 80 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. To avoid reinfestation of treated soil, DO NOT use irrigation water, transplants, seed pieces, or equipment that could carry soil borne pests from infested land. Avoid contamination from moving infested soil onto treated beds through cultivation, movement of soil from below the treated zone, dumping contaminated soil in treated fields and soil contamination from equipment or crop remains. Clean equipment carefully and ensure shoes and/or clothing are cleaned of soil before entering treated fields.

CLEANING EQIUPMENT

- 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

All entrances to the fumigation area must be clearly placarded in accordance with the relevant State and Territory WHS requirements and regulations, with the warning equivalent to:

"DANGER - KEEP OUT - POISONOUS GAS - FUMIGATION IN PROGRESS - KEEP AWAY DO NOT ENTER UNLESS WEARING APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT"

The warning statement on the placard should be in accordance with the Australian Standard for the General Fumigation Procedures (AS 2476-2008).

The placard should also carry a skull and crossbones pictogram with date and time of the fumigation commencement, date and time the restrictions expire, fumigant product name and contact details (telephone number) for the fumigator.

Re-Entry Periods
Field application (tarped)
Do not enter treated field(s) until 7 days after tarp removal, unless wearing cotton overalls buttoned to the neck and wrist and a washable hat, chemical resistant gloves, chemical resistant footwear (rubber boots or overboots, not steel capped), a full-face piece respirator with organic vapour cartridge.

Soil re-handling period
Do not handle treated soil until 21 days after tarp removal, unless wearing cotton overalls buttoned to the neck and wrist and a washable hat, chemical resistant gloves, chemical resistant footwear (rubber boots or overboots, not steel capped), a half-face piece respirator with organic vapour cartridge and goggles.

Warning
Vapour is harmful to health on prolonged exposure.

Ground Water Advisory Statement
The 1,3-dichloropropene in Strike 80 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 use in enclosed greenhouses or other enclosed areas. Strike 80 can be used in large greenhouses with both ends removed to allow ventilation.
- 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 polyethylene 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 80 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
Vapour is harmful to health on prolonged exposure.

Very dangerous. Product is poisonous if inhaled or swallowed. Will irritate the nose, throat and skin. Attacks eyes. The fumes first cause smarting, then watering of the eyes. This should be taken as a warning sign. The liquid can cause burns. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. Do not inhale vapour. Protect eyes while using.

When opening the container and using the product and when uncovering the treated area wear chemical resistant clothing buttoned to the neck and wrist, a washable hat, elbow-length chemical resistant gloves, chemical resistant footwear (rubber boots or overboots, not steel capped), full-face piece respirator with organic vapour cartridge or canister. Detailed instructions for safe use appear in state regulations.

If clothing becomes contaminated with product remove clothing immediately. If product on skin, immediately wash area with soap and water. Thoroughly ventilate treated areas before reoccupying. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves, respirator and if rubber wash with detergent and warm water and contaminated clothing. Do not re-use footwear until thoroughly aired.

FIRST AID
If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126, New Zealand 0800 764 766. 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 which is available from the supplier.

Fatal if swallowed, in contact with skin or if inhaled. May cause an allergic skin reaction. Causes serious eye damage. Causes severe skin burns and eye 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 the 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 Pty Ltd, or under abnormal conditions.

UN 3390
TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S. (CHLOROPICRIN; 1,3-DICHLOROPROPENE)

IN A TRANSPORT EMERGENCY
DIAL 000
POLICE OR FIRE BRIGADE

Batch No.:

D.O.M.:

[*Date of Labeling: 2019 September 16*]