

METAM 510

CERTIS

MAPP 16079 | Batch No.: See container

Contains 510g per litre (42.0% w/w) metam-sodium.

A concentrated liquid soil sterilant for use in glasshouse, nursery, other outdoor and potting soils.

CHEMICAL STERILANT

IMPORTANT: The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.

Operator Protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES, RUBBER BOOTS AND FACE PROTECTION (FACESHIELD) when handling the concentrate and diluted product.

However, engineering controls may replace personal equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

WASH ALL PROTECTIVE CLOTHING thoroughly after use, especially the insides of gloves.

TAKE OFF IMMEDIATELY any contaminated clothing. WHEN USING DO NOT EAT, DRINK OR SMOKE.

WASH CONCENTRATE from skin or eyes immediately.

DO NOT BREATHE FUMES. Keep the greenhouse fully ventilated during application and also during any subsequent work in the house. If necessary, for personal comfort, use a respirator.

WASH HANDS AND EXPOSED SKIN before meals and after work. IF YOU FEEL UNWELL, seek medical advice (show the label where possible).

Consumer Protection

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS. KEEP OUT OF REACH OF CHILDREN.

Environmental Protection

Do not contaminate water with the product or its container. Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads.

Storage and Disposal

WASH OUT CONTAINER THOROUGHLY and dispose of safely. KEEP IN ORIGINAL CONTAINER, tightly closed in a safe place. DO NOT RE-USE CONTAINER FOR ANY PURPOSE.

STATUTORY CONDITIONS RELATING TO USE FOR USE ONLY AS AN AGRICULTURAL/ HORTICULTURAL SOIL STERILANT

For use in glasshouse soils, nursery soils, other outdoor soils and potting soils.

Maximum individual dose:

potting soils: 1.05 litres product/5 m²
other soils (outdoor use): 300 litres product/hectare.
other soils (indoor use): 1200 litres product/hectare.

Latest timing of application:

pre-planting of crop (see 'Other specific restrictions' no. 1.)

Other specific restrictions:

1. Crops must not be planted until the safety test involving the use of cress has been carried out and germination found to be satisfactory.
2. Unprotected persons, livestock and pets must be kept out of treated areas for a least 24 hours following treatment.

DO NOT RE-USE CONTAINER FOR ANY PURPOSE. READ ALL PRECAUTIONS BEFORE USE.



The Voluntary Initiative

This label is compliant with the CPA Voluntary Initiative Guidance

METAM 510
Contains 510g per litre (42.0% w/w) metam-sodium.

DANGER

HARMFUL IF SWALLOWED.
MAY BE CORROSIVE TO METALS.
HARMFUL IF INHALED.
CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.
MAY CAUSE AN ALLERGIC SKIN REACTION.
SUSPECTED OF CAUSING CANCER.
SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD.
MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.
VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

Obtain special instructions before use.
Do not breathe fumes.
Wear gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Rinse mouth.
Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
IF exposed or concerned: Get medical advice/attention. Absorb spillage to prevent material damage. Contact with acids liberates toxic gas.

To avoid risks to human health and the environment, comply with the instructions for use.

MAPP 16079

CONDITIONS OF SUPPLY: The Seller warrants that the goods shall at the time of delivery to the Buyer conform to the Seller's standard specification but all other conditions and warranties, whether express or implied by statute or custom of the trade or otherwise and whether as to condition, quality, performance, merchantability, fitness for any purpose or otherwise, are expressly excluded and, subject as aforesaid, the Seller shall be under no liability whatsoever, in contract or in tort, for or in respect of any loss or damage whatsoever resulting from or arising out of the goods or supply or use thereof, whether caused by the negligence of the Seller or otherwise. The Seller shall be under no liability in respect of the warranty given above unless the Buyer allows the Seller reasonable opportunity of inspecting the goods where practicable. A consumers statutory rights are not affected.

DIRECTIONS FOR USE:
Refer to instructions attached.

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For technical and non-emergency calls – phone 0044 (0)1223 894261

For advice on medical emergencies, fires, spillages or chemical hazards ONLY – phone 0870 190 6777

Marketing Company and Authorisation Holder: Taminco, PO Box 1016, Silsoe, Bedfordshire, MK45 4ZU

This container must be handled by mechanical means only

Protect from Frost

800 LITRES

DIRECTIONS FOR USE

1. SPECTRUM OF ACTIVITY

Metam 510 is a partial soil sterilant which is active against:

- Nematodes: Potato cyst nematodes, root-knot nematodes
- Soil-borne diseases: Colletotrichum root rot, brown rot, corky disease of tomatoes

- Weed seeds and seedlings

- Soil pests: Millipedes, wireworms and symphiliids

Under severe conditions of pest, disease or weed infestation however, a total sterilant such as steam, may be necessary.

Wherever intensive cropping is practiced, Metam 510 will help to alleviate 'soil exhaustion' caused by a build-up of these pathogens which can lead to serious reductions in crop vigour and yield.

Metam 510 is applied when the ground is idle - in between cropping and it is worth allowing as much time as possible for this exercise to achieve optimum results.

2. PRE-TREATMENT PREPARATION

2.1 Soil Condition

The preparation of the soil before treatment with Metam 510 is an extremely important prior consideration to obtaining good results.

First remove all remaining plant tissue and other debris from the previous crop and work the soil into a fine, open tilth, free from clods, adding lime if necessary.

Do not add organic matter until after treatment and if applied, use sterile compost to avoid new contamination. Soils with high clay or organic matter content will retain the sterilizing gas longer than lighter and more sandy soils.

2.2 Moisture

The soil should be of 'potting moisture' content, suitable for use as a seed-bed to the depth of treatment.

If the soil is too dry, postpone treatment and water the soil sufficiently to achieve the correct consistency but do not saturate. An easy way to test for the correct content is to tightly squeeze a handful of soil. The resulting ball should remain intact in the open hand but shatter if dropped on to a hard surface.

2.3 Temperature

Metam 510 is usually applied after cropping in the autumn because this has traditionally been the most practical time of the year for treatment. In certain circumstances, spring and summer application is favoured but in all cases, the soil temperature at 15 cm depth should not be below 10°C. A warmer soil will improve the dispersal of the fumes and provide a quicker turnaround time by hastening the breakdown period.

OPTIMUM CONDITIONS FOR METAM 510 TREATMENT ARE USUALLY FOUND BETWEEN 1ST APRIL AND 31ST OCTOBER. OUTSIDE OF THIS PERIOD, SOIL TEMPERATURES MAY BE TOO LOW AND OUTDOOR SOILS TOO WET TO ENSURE EFFICIENT STERILIZATION AND THIS MAY PROLONG RESIDUES.

3. TREATMENT OF GLASSHOUSE AND OUTDOOR SOILS

3.1 Methods of Application

3.1.1 Soil injection

The principle is the deep application of the product by means of a special application machine that incorporates the disinfectant into the soil at the required depth.

3.1.2 Drip irrigation + gas tight plastic film

Drip irrigation of Metam 510 is a convenient method for high-value crop greenhouses and fields. Drip irrigation tubes should be spaced 20 to 50 cm apart and perforated every 15 to 30 cm. They should be buried at 5 cm soil depth and covered by plastic film soil tarpaulin. Metam 510 is then applied as a water-diluted solution/mixture where the metam is supplied by an automatic dosage controller/dosing pump such as the Dosatron. A dilution of 0.1 to 2.0% should be achieved. The system must be fitted with an anti-return valve.

3.2 Rate of Application

FOR ALL USES, ONLY 1 APPLICATION IN 3 YEARS ON THE SAME FIELD IS ALLOWED

3.2.1 Soil injection (only allowed in open field conditions)

Apply 300 litres Metam 510 per hectare.

3.2.2 Drip irrigation + gas tight plastic film

In open field conditions: apply maximum 300 litres Metam 510 per hectare. In glasshouse conditions: apply maximum 1200 litres Metam 510 per hectare. Apply the dose rate indicated in a dilution of 0.1 to 2.0%.

WHEN APPLIED THROUGH DRIP IRRIGATION: OBLIGATORY USE OF GAS TIGHT PLASTIC FILM

3.3 Mixing and Sealing the Soil

Best results can be expected from soil which has been thoroughly mixed after treatment with Metam 510, to ensure optimum dispersal of the product throughout the treated layer. This can be achieved by rotation to the normal depth of cultivation using standard rotation/spading equipment. Certain injection machines may already incorporate a rotation facility.

Metam 510 begins to decompose into the active sterilizing gas (methyl isothiocyanate or 'MIT') on contact with soil and efficient sealing of the treated area should be carried out to keep the gas in the soil for as long as possible.

3.3.1 Water Seal

In the very dry conditions, further flooding may be necessary if cracks in the surface seal start to appear. A light water seal can be achieved by applying 20 litres of water per 10 square meters.

3.3.2 Rolling

Under outdoor conditions, this method may provide a temporary seal but will only be effective on certain soil types. A 'smear' technique from a powered roller is preferred where the speed of the roller is slower than the forward speed of the tractor.

3.3.3 Polythene Sheetting

By far the most effective method of sealing the gas will be to cover the area with proprietary polythene film material, weighted down with soil at the edges or flooded with water to hold it close with the soil surface. This method is suggested especially in situations where weed control is the prime objective. The application of plastic film enables additional solarisation effects under appropriate climatic conditions.

3.4 After-Treatment Procedure

3.4.1 Glasshouse

One week after treatment: open glasshouse ventilators.

Two weeks after treatment: break seal and dig the soil to normal cultivation depth and leave rough (BE SURE NOT TO BRING UP UN-TREATED SOIL FROM UNDER THE STERILISED LAYER).

Three weeks after treatment: dig the soil again and leave rough.

Before planting: a further cultivation should be carried out.

NOTE: IF PLANTS ARE TO BE INTRODUCED INTO A HEATED HOUSE TREATED WITH METAM 510, THE HEAT MUST BE TURNED ON FOR AT LEAST TWO WEEKS BEFORE THEIR INTRODUCTION.

ON SOILS WITH HIGH ORGANIC MATTER CONTENT, CULTIVATIONS SHOULD TAKE PLACE AT LEAST ONCE MORE AS THEY WILL RETAIN FUMES LONGER. WINTER FLOODING SHOULD NOT BE UNDERTAKEN WITHIN 8 WEEKS OF TREATMENT.

IN ALL CASES, A SEED GERMINATION TEST (SEE SECTION 5) SHOULD BE CARRIED OUT BEFORE PLANTING.

3.4.2 Outdoors

Rough dig or plough 14 days after treatment and leave in a rough state for at least a further 21 days. The soil can then be prepared for planting which should not take place within 8 weeks of treatment.

ALWAYS CONDUCT A CRESS GERMINATION TEST BEFORE PLANTING (SEE SECTION 5).

4. TREATMENT OF POTTING SOILS

Use 1.05 litres Metam 510 in 170 litres water per 5 cubic meter of soil.

Treat the shredded mixture of loam and manure, watering if necessary, to bring to 'potting moisture'. Leave in a heap not more than one meter high for at least two weeks and then aerate by turning.

TEST FOR RESIDUES BEFORE MAKING UP THE COMPOST.

5. THE SEED GERMINATION TEST

Wherever treatment is made, planting of a following crop must not take place until the soil is free from the sterilising gas.

A safety test is therefore carried out using quick-germinating seeds such as cress, as follows:

- 5.1 Half-fill some jars with soil taken from the treated area. This should be representative of the whole area and to the depth of treatment. It is also advisable to set up additional jars from an adjacent untreated area for comparison.
- 5.2 If residues are suspected (more likely in wet or very heavy soils), it is advisable to sample from deeper soil to be absolutely safe.
- 5.3 Moisten the soil if necessary, sprinkle the seeds over the surface, seal tightly with lid or piece of polythene film and elastic band and keep in a warm place.
- 5.4 Planting is safe if the cress germinates normally.
- 5.5 If germination does not occur or if distorted plants are produced, it is unsafe to plant and the following procedure should be followed:
 - 5.5.1 Raise the soil temperature.
 - 5.5.2 Give a light watering if required.
 - 5.5.3 Carry out further cultivations.
 - 5.5.4 Repeat the test until a satisfactory result is achieved.

6. THIS PRODUCT CAN ONLY BE USED ON THE FOLLOWING CROPS:

Top fruit (before planting), soft fruit (before planting), vegetable brassicas (before planting), peas and beans (before planting), leafy vegetables (before planting), stem vegetables (before planting), bulb vegetables (before planting), fruiting vegetables (before planting), root and tuber crops (before planting), herbs (before planting), ornamentals (before planting), forestry (before planting), hops (before planting).

7. SUPPLEMENTARY NOTES AND WARNINGS

- 7.1 When diluted with water, Metam 510 commences to break down almost immediately and must therefore be used fresh. Only quantities for immediate use should be made up at one time.
- 7.2 Metam 510 produces fumes which are damaging to ALL plants. Plants must not be present in a house whilst treatment is taking place or while traces of fumes remain.

DO NOT treat houses within two meters of growing crops or allow any fumes to drift or leak from treated houses.

Glasshouse partitions may allow vapours to leak through.
- 7.3 When using in a glasshouse, open all ventilators during application and for personal comfort, use a respirator with an organic vapour filter (A1P2-filter).
- 7.4 When applying Metam 510 from a tank, mix small quantities at a time to avoid loss of fumes and apply without delay.
- 7.5 Divert or block drains which could carry solution under untreated glasshouses.
- 7.6 Metam 510 attacks rubber. Wash all equipment thoroughly with water and an authorised wetting agent immediately after use.
- 7.7 Weed Control

Most effective weed control will be achieved from using the soil drench method which ensures maximum concentration of gas in the top layer of soil. Certain more resistant weed seeds with hard coats may not be controlled unless the soil is watered several days before treatment to encourage germination. Weeds which produce rhizomes are unlikely to be satisfactory controlled e.g. common couch, creeping yellow-cress etc.

8. PRECAUTIONS

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES, RUBBER BOOTS AND FACE PROTECTION (FACESHIELD) when handling the concentrate and diluted product.

WASH ALL PROTECTIVE CLOTHING thoroughly after use, especially the insides of gloves.

TAKE OFF IMMEDIATELY any contaminated clothing.

WHEN USING DO NOT EAT, DRINK OR SMOKE.

WASH CONCENTRATE from skin or eyes immediately.

DO NOT BREATHE FUMES. Keep the greenhouse fully ventilated during application and also during any subsequent work in the house. If necessary, for personal comfort, use a respirator.

WASH HANDS AND EXPOSED SKIN before meals and after work.

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.

KEEP OUT OF REACH OF CHILDREN.

DO NOT CONTAMINATE SURFACE WATERS OR DITCHES with chemical or used container.

WASH OUT CONTAINER THOROUGHLY and dispose of safely.

KEEP IN ORIGINAL CONTAINER, tightly closed in a safe place.

IF YOU FEEL UNWELL, seek medical advice (show the label where possible).

DO NOT RE-USE CONTAINER FOR ANY PURPOSE.

SECTION 6 OF THE HEALTH AND SAFETY AT WORK ACT ADDITIONAL PRODUCT SAFETY INFORMATION

(This section does not form part of the product label under the Control of Pesticides Regulations 1986.)

METAM 510

The product label provides information on a specific pesticidal use of the product; do not use otherwise, unless you have assessed any potential hazard involved, the safety measures required and that the particular use has 'off-label' approval or is otherwise permitted under the Control of Pesticides Regulations.

Occupational Exposure Standard

There is no OES for this product.

Medical Information

Accidental over-exposure may result in the following symptoms:

- Eyes: Lacrimation, blepharospasm, conjunctivitis, chemical burns.
- Skin: Primary irritation, dermatitis, eczema, chemical burns.
- Ingestion: Nausea, vomiting, burns, gastroenteritis, sleepiness, cardiac and respiratory disorders, shock, renal lesions.
Symptoms aggravated by alcohol.
- Inhalation: Primary mucosal and upper respiratory tract irritation, throat pain, cough, hoarseness.

First Aid

When giving first aid, always use personal protective equipment if you are likely to be contaminated.

- Eyes: Rinse immediately with plenty of water for at least 15 minutes and seek medical attention.
- Skin: Remove contaminated clothing immediately and wash skin with soap and water. Rinse with more water and seek medical attention.
- Ingestion: Give plenty of water to drink so as to dilute the product. Seek medical attention immediately.
- Inhalation: Remove patient from exposure to the product and keep well-ventilated with fresh air. Keep at rest and if necessary, give artificial respiration. Seek medical attention.

Guide to Medical Practitioner

Metam-sodium is a methyl dithiocarbamate compound. There is no antidote. Treatment should be supportive and symptomatic.

Personal Protective Equipment (PPE)

Refer to PRECAUTIONS section. Gloves made of pvc or butyl rubber, facemask (BS 2092) and coveralls. If respiratory protection is used, such equipment should be of the gas respirator type with an organic vapour filter (A1P2-filter).

Spillage

- Keep people and animals away from spillage area. Do not eat, drink or smoke.
- Avoid contact with eyes, skin and clothing. Wear PPE as above.
- If possible, decontaminate PPE before its removal (if after - wash separately). Where PPE cannot be cleaned, dispose of as contaminated waste.
- Contain or absorb spillage with sand or earth - do not allow contamination of public drains or surface or ground waters. Sweep up carefully and shovel sweepings into marked bags or drums. Dispose of through a reputable local waste disposal contractor.
- Inform local water p/c immediately if spillage enters drains and the National Rivers Authority (England and Wales) or River Purification Boards (Scotland), if it enters surface or ground waters.

Storage

- Keep in original containers in a secure, well-ventilated pesticide store.
- PROTECT FROM FROST.

Fire Fighting

- Call the Fire Brigade at once to deal with all fires involving pesticides unless the fire is very small and immediately controllable. Avoid breathing smoke or fumes.
- This product is water-based and non-flammable but may give rise to dangerous fumes' if strongly heated. It is combustible only after evaporation of water. The container is combustible. (Such as methyl isothiocyanate and hydrogen sulphide).
- Contamination with acid introduces risk of fire from carbon disulphide.
- Wear self-contained breathing apparatus (SCBA).
- Fight fire with foam, alcohol-resistant foam, dry powder, CO₂ or water spray (in preference to water jets). Contain fire-fighting water, bunding if necessary with sand or earth.
- If without risk, remove intact containers from exposure to fire. Spray unopened containers with mist spray to keep cool.
- If contamination of drains, sewers, surface or ground water is unavoidable, inform the local water p/c and the National Rivers Authority (England and Wales) or River Purification Boards (Scotland).

Disposal

- Contact Local Authority (Environmental Health Department) or a reputable waste disposal company for collection and disposal of unwanted product or containers.
- For further guidance on the disposal of containers, surplus spray solution, tank washings and concentrate, refer to Part 5 (Disposal of Pesticide Waste) of the MAFF/HSE booklet 'Pesticides: Code of Practice for the Safe Use of Pesticides on Farms on Holdings'.

The attached Safety Data Sheet does not form part of the product labels approved under the Plant protection products regulation (EC) No 1107/2009. Following the instructions on the product label for the specified uses should ensure that the product is used safely and efficaciously for those uses.