

# Technical Data Sheet

## Metam Sodium

### Chemical Synonym

Metam CLR 42%, Metam Sodium MUP Formula, Engage Agro Enfuse M 510, Sodium N-methyldithiocarbamate; Methyldithiocarbamic acid sodium salt

### Applications

- Soil fumigants

### Product Description

Soil disinfectant for controlling nematodes, soil diseases, weeds and germinating weed seeds. The product works by fumigation. It is applied prior to seeding or planting, creating a favorable biotope that promotes healthy crop growth.

Metam sodium does not damage or leave residue in the planted crop. The activity is due to its decomposition into methyl isothiocyanate (MITC).

Metam sodium can be used for many different types of cultivation, including:

- Root crops such as carrots, potatoes, peanuts, beets
- Vegetable crops like lettuces, cucurbits, onions, leaks, tomatoes, cabbages.
- Strawberries
- Tobacco
- Tree nurseries
- Vineyards and orchards
- Ornamentals like cut flowers, bulbs, perennials
- Tropical crops like bananas, pineapples

The amount of the product that should be applied varies according to the kind of pest to be controlled and the type of soil and climate of the region of application. It is therefore necessary to refer to usage and to amounts approved in the region concerned.

A good application technique is the key to good and lasting disinfection.

Before applying metam sodium, always thoroughly cultivate the area to be treated, breaking up clods to facilitate the uniform distribution of the product.

Keep soil humid 5 to 10 days prior to soil disinfection to activate and sensitize target organisms. Soil humidity at time of application must be between 50 and 75% of the water holding capacity.

Metam sodium can be applied by two methods: soil injection and drip irrigation system.

Injection allows the product to be applied at 10 to 40 cm deep with machines equipped with shanks or goose footshaped blades. The machines are mounted at the rear of a tractor.

Application through the existing drip irrigation system is done by incorporating Metam in the irrigation water with the help of a dosing pump.

After the soil has been treated, it must be left for 2-4 weeks depending on the type of soil, the temperature and the moisture of the soil. Decomposition of any product still remaining in the soil after that time can be accelerated by aeration.

Since methyl isothiocyanate is phytotoxic, planting may not take place until the product has completely decomposed and the treated soil has been fully aerated. In order to decide when planting can take place, a sowing

test (cress test) on a representative sample of the treated soil is recommended.

Not all uses and/or products are registered in all countries/regions. Please contact your local Customer Service Representative for availability in your region. Metam sodium is a "Restricted Use Pesticide" in the US.

## Typical Properties

Property	Typical Value, Units
<b>General</b>	
Molecular Formula	C <sub>2</sub> H <sub>4</sub> NNaS <sub>2</sub>
Molecular Weight	129.19 g/mol
Appearance	Amber to yellowish aqueous solution
Boiling Point	97-102 °C
Density	
@ 20°C	1.21 g/cm <sup>3</sup>
Flammability	Not flammable
Oxidising properties	No oxidising properties
Partition coefficient	
@ 20°C	log P ≤ -2.91
pH	7.5-10.5
Solubility	Miscible with water
Vapor Pressure	
@ 25°C	5.75 x10 <sup>-2</sup> Pa

## Packaging

High-density polyethylene drums, 60, 200 and 210 litres, stainless-steel road tankers, 1008 litres IBC's, container (eco bulk).

## Storage

It is advisable to store metam sodium solution in its original pack or in a stainless-steel tank in a ventilated location protected from frost. The 510 g/l solution crystallizes below - 5 °C.

Keep away from acids to avoid release of CS<sub>2</sub>.

Metam sodium solution corrodes copper, zinc and their alloys. On contact with ordinary steel it rapidly forms a black precipitate. The following plastics are suitable for joints and pipes: HD polyethylene, polypropylene, polytetrafluoro-ethylene (Teflon) & polyamide (Nylon 6).

Our trials have shown that metam sodium solution (510 g/l) shows no variation in titre after storage in the closed original pack below 30 °C for one year. Solutions more dilute than 510 g/l are less stable on storage and should not be stored for more than 6 months.

After rinsing, empty drums should be sent to a recycling or re-processing agent.

In the event of accidental spillage, cover the product with an absorbent material and collect in drums. Wash contaminated surfaces with water and detergent; absorb the washing solution and send together with the absorbed compound to a treatment plant for chemical waste. Do not release metam sodium into the drains.

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