



## MATERIAL SAFETY DATA SHEET

### Manufacturer/information service:

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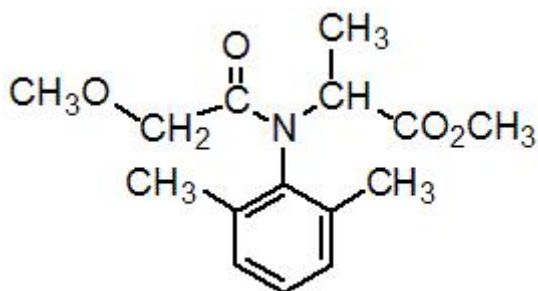
### 1. Chemical Product Identification

Product Name: Metalaxyl 98% TC

Molecular Formula: C<sub>15</sub>H<sub>21</sub>NO<sub>4</sub>

Molecular Weight: 279.33

Structural Formula:



Chemical Name: methyl N-(methoxyacetyl)-N-(2,6-xyllyl)-DL-alaninate (IUPAC)

Form: Oily liquid

Color: Brown

Odor: Sweet Aromatic

CAS No.: 57837-19-1

### 2. Composition / Information on Ingredients

Composition	Chemical name	Content (%)
Active ingredient	Metalaxyl	98
Other ingredient	-----	2



**3. Hazards Identification**

Component	Sympol	R phrases
Metalaxyl	T	R25/36/38

More important danger for the man: none

Dangers for the environment: toxic to fish and bees

Physical-chemical dangers: none

**4. First Aid Measures**

Have the product container, label or Material Safety Data Sheet with you when you calling a Poison control center or doctor, or going for treatment.

Ingestion: If swallowed, call a Poison control center or a Doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless to do so by a Poison Control center or Doctor. Do not give anything by mouth to an unconscious person.

Eye: If in eyes, Hold eye open and rinse slowly and gently with water for 15 –20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin: Wash affected area with plenty of soap and water for 15 – 20 minutes. Remove contaminated clothing. Launder contaminated clothing separately. Get medical attention.

Inhalation: Move person to fresh air. If person is not breathing give artificial respiration, preferably mouth to mouth if possible. Call a Poison control center or doctor for further treatment advice.

Note to Physician: There is no specific antidote if this product is ingested. Treat symptomatically.

**5. Fire-Fighting Measures**

Unusual Fire, Explosion and Reactivity Hazards: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In case of Fire: Use dry, chemical, foam or CO2 extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion.

Prevent use of contaminated buildings, area and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.



## 6. Accidental Release Measures

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water.

Clean up spills immediately, observing precautions in protective equipment section. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

## 7. Handling and Storage

**Handling:** KEEP OUT OF REACH OF CHILDREN and animals. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. After work, rinse gloves and remove protective equipment. Wash hands thoroughly with soap and water after handling, and before eating, tobacco use, drinking, or using the toilet. Wash contaminated clothing before re-use and separate from household laundry. Keep containers closed when not in use. Keep product, wash or rinse water, and contaminated materials out of water, away from crops, and away from access by people, animals and birds.

**Storage:** Store in original container only in a well-ventilated, cool, dry, secure area. Protect from heat, sparks and flame. Do not expose sealed containers to temperatures above 40 °C and prevent product from freezing. Keep separate from other products to prevent cross contamination. Rotate stock. Clean up spilled material immediately.

## 8. Exposure Controls/Personal Protection

Applicable control measures, including engineering controls: Please refer to the product label for personal protective clothing/equipment.

Personal protective equipment for each exposure route:

**Ingestion:** Do not eat, drink, smoke or apply cosmetics in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

**Eye Contact:** To avoid eye contact, wear safety glasses with side shields or chemical goggles.

**Skin Contact:** To avoid skin contact, wear rubber gloves, rubber boots, long-sleeved shirt, long pants and a head covering.



Inhalation: To avoid breathing dust, wear pesticide respirator with particulate prefilters. Select N or R or P type as appropriate for the oil characteristics of any other air contaminants present. Filter efficiency ranges from 95-99.7% as appropriate for the size distribution of dust present.

Applicators: Please refer to product label for personal protective clothing and equipment.

## 9. Physical and Chemical Properties

Appearance: Brown oily liquid

Acidity calculated as H<sub>2</sub>SO<sub>4</sub>: ≤0.1%

Acetone insoluble: ≤0.5%

Melting point: 63.5-72.3°C

Boiling point : 295.9°C

Relative Density: 1.20@20°C

Vapor pressure : 0.75mPa@25°C Partition coefficient KowlogP=1.75@25°C

Water solubility: 7.1g/L

Other solubilities: petroleum ether v.s.; alcohol v.s.; benzene v.s. PH value: 5-8

Flash point: 155 °C

## 10. Stability and Reactivity

Chemical stability: Stable under normal conditions of use.

Hazardous polymerisation: Will not occur

Conditions to avoid: Extreme heat and fire

Incompatible materials: None known

Hazardous decomposition products: Thermal decomposition may produce toxic by-products of carbon and nitrogen.

## 11. Toxicological Information

Acute oral LD50 (rat): >669 a.i.mg/kg

Acute dermal LD50 (rat): >5000 a.i.mg/kg

Acute InhalationLC50 (rat): >3.6 a.i. mg/L.

Skin irritation: Non-irritating (Rabbit)

Eye irritation: Slightly-irritating (Rabbit)

Skin Sensitization: Not a Sensitizer (Guinea Pig)



## 12. Ecological And Ecotoxicological Information

Effect on birds: moderate toxicity to birds, acute oral LD50 for Mallard ducks is 1466 a.i.mg/kg.

Effect on fish: moderate toxicity to fish, acute 96 hour LC50 for Rainbow trout is 0.96 a.i.mg/L.

Effect on aquatic invertebrates: moderate toxicity to aquatic invertebrates, acute 48 hour EC50 for Daphnia magna is 3.47 a.i.mg/L.

Effect on algae: moderate toxicity to algae, acute 72 hour EC50 for Scenedemus subspicatus is 0.42 a.i.mg/L.

Effect on honeybees: low toxicity to honeybees, contact acute 48 hour LD50 is 200 a.i.µg/bee; oral acute 48 hour LD50 is 269 a.i.µg/bee.

Effect on earthworms: low toxicity to earthworms, acute 14 day LC50 for Eisenia foetida is >1000 a.i.mg/kg.

## 13. Disposal Considerations

Triple or (preferably) pressure rinse containers before disposal. Add rinsings to the spray tank. Do not dispose of undiluted chemicals on-site. If recycling replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

## 14. Transport information

Not applicable

## 15. Regulatory Information

Not Applicable

## 16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the



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present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.