



Hangzhou Tianlong Biotechnology Co., Ltd.

Add: Room 1906, Fengqi Times Tower, No.338, Fengqi East Road, Hangzhou, Zhejiang, China.

MATERIAL SAFETY DATA SHEET

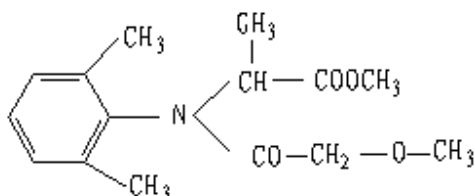
1. Chemical Product and company Identification

Product Name: Metalaxyl

Molecular Formula: C₁₅H₂₁NO₄

Molecular Weight: 279.34

Structural Formula:



Chemical Name: methyl-N-(2,6-dimethylphenyl)-N-(2-xylyl)-DL-alaninate.

CAS No.: 57837-19-1

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

Address: Room 1906, Fengqi Times Tower, No.338 Fengqi East Road, Hangzhou, China, 310020

Tel: 0086-571-87214516

Fax: 0086-571-87079476

2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Metalaxyl	57837-19-1	98.0
Other ingredients		2.0

3. Hazards Summarizing

Emergency Overview

Mild eye and skin irritation

Avoid breathing dust or spray mist.

Keep out of reach of children.

Potential Health Hazards:

Eye: Contact will cause eye irritation

Skin: Prolonged or repeated skin contact may cause irritation.

Inhalation: Mist or dust concentration may be irritating to respiratory tract.

Ingestion: This material may cause nausea, vomiting and breathing difficulty.

4. First Aid Measures

Inhalation: If affected, remove from contaminated area to fresh air. Seek medical advice.

Skin contact: wash affected skin areas with soap and water. Consult a

physician if irritation persists. Remove and wash contaminated clothing thoroughly before reuse.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Seek medical attention.

Ingestion: If swallowed, rinse mouth with water. Give large quantities of water or if available, milk, egg white or gelatin. Do not induce vomiting unless told. Keep patient at rest and do not give anything by mouth to unconscious persons. Seek medical attention.

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

Personal cautions: Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

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

Store the product in a well-ventilated, secure area out of reach of children and domestic animals. Do not use or store near heat or open flame. Do not store food, beverages, tobacco or feed in storage area. Prevent eating, drinking, smoking and cosmetic application in areas where there is a potential exposure to the product. Wash thoroughly with soap and water after handling.

8. Exposure Controls/Personal Protection

Engineering Controls: Control process conditions to avoid contact. Use local exhaust ventilation during manufacture. Use in a well-ventilated area only.

Personal Protective Equipment:

To avoid eye and skin contact, wearing the following personal protective clothing and equipment is recommended:

Eyes: Safety goggles or face shield

Clothing: Cotton overalls buttoned to the neck and wrist and a washable hat.

Gloves: Elbow length PVC gloves.

Respiratory: Respiratory protection is not normally required. If airborne concentrations are likely to exceed the exposure standard above, an AS/NZS 1715/1716 approved respirator should be worn.

Other: 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, goggles or face shield and contaminated clothing.

9. Physical and Chemical Properties

Form: Crystal

Color: Colorless

Odour: odorless

Melting point: 71.8-72.3°C

Gravity: 1.21

Water Solubility: 7100 mg/L @ 20 °C

Solubility in Other Solvents: v.s. in methanol, benzene, and hexane

Melting Point: 71.8-72.3 °C

Vapor Pressure: 0.293 mPa @ 20 °C

Partition Coefficient: Not Available

Adsorption Coefficient: 50 (estimated)

10. Stability and Reactivity

Chemical stability: Stable under normal use and storage conditions.

Conditions to avoid: None known

Incompatibility with other materials: None known

Hazardous decomposition products: Can decompose at high temperatures forming toxic gases.

Hazardous polymerization: Will not occur

11. Toxicological Information

Acute toxicity:

The oral LD50 in rats is 669 mg/kg and the dermal LD50 is greater than 3100 mg/kg, indicating slight toxicity by ingestion and dermal application.

Rabbits exhibited slight eye and skin irritation, but guinea pigs displayed no sensitization after Metalaxyl exposure. No information was available regarding the inhalation toxicity of Metalaxyl.

Chronic toxicity:

A 90-day study of rats exposed to 0.1 to 2.5 mg/kg/day in diet, showed some cellular enlargement in the liver at the highest dose. In a similar study with dogs fed diets of approximately 0.04 to 0.8 mg/kg/day for 6 months, the dogs were adversely affected by the highest dose. Manifestations included increased blood alkaline phosphatase and increased liver-to-brain weight ratio.

Reproductive effects:

A three-generation rat study where animals were fed up to 2.5 mg/kg/day showed no compound related maternal toxicity or reproductive effects. These data suggest that Metalaxyl is unlikely to cause reproductive effects. Teratogenic effects: Rats given a dosage of 120 mg/kg/day by stomach tube on days 6 to 15 of gestation exhibited no embryotoxicity or teratogenicity, nor did rabbits given a dosage of 20 mg/kg/day by the same route on days 6 to 18. These data suggest that Metalaxyl is not teratogenic.

Mutagenic effects:

Studies including a dominant lethal assay in male mice indicate that Metalaxyl has no mutagenic potential.

Carcinogenic effects:

Available studies of the carcinogenicity of Metalaxyl are inconclusive.

Organ toxicity:

The liver is the primary target organ for Metalaxyl in animal systems.

12. Ecological Information

Effects on birds: Metalaxyl is reported to be practically nontoxic to birds.

Effects on aquatic organisms:

Metalaxyl is practically nontoxic to freshwater fish. The 96-hour LC50 values in rainbow trout, carp, and bluegill are all above 100 mg/L. Freshwater aquatic invertebrates are slightly more susceptible to Metalaxyl. *Daphnia magna*, a small freshwater crustacean, has an LC50 of 12.5 to 28 mg/L, depending on the product formulation. This indicates that Metalaxyl is slightly toxic to this organism. There is little tendency for Metalaxyl to accumulate in the edible portion of fish. Metalaxyl did not accumulate beyond seven times the background concentration and it was quickly eliminated after exposed fish were placed in fresh (Metalaxyl-free) water.

Effects on other organisms: Metalaxyl is nontoxic to bees.

Breakdown in soil and groundwater:

Under field conditions, Metalaxyl has a half-life of 7 to 170 days in the soil environment. A representative half-life in moist soils is about 70 days. Increased sunlight may increase the rate of breakdown in the soil. It is poorly sorbed by soils and highly soluble in water; these properties in combination with its long persistence pose a threat of contamination to groundwater. It readily leaches in sandy soil, although increased organic matter may decrease the rate of leaching. In a large-scale, national survey, Metalaxyl was detected in the groundwater of several states at concentrations of 0.27 ug/L to 2.3 mg/L.

Breakdown in water:

At pH levels of 5 to 9 and temperatures of 20 to 30°C, the half-life in water was greater than 4 weeks. However, exposure to sunlight reduced the half-life to 1 week.

Breakdown in vegetation:

Plants absorb foliar applications through the leaves and stems, and can translocate the compound throughout the plant. Metalaxyl is not absorbed directly from the soil by plants. The parent compound is the major residue in potato tubers and grapes, but in potato leaves and on lettuce, metabolites are the major product.

13. Disposal Considerations

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, provincial, and federal health and environmental guidelines.

14. Transport Information

Class: 9

UN No: UN 3077

Packaging Group III

15. Regulatory Information

Safety Phrases: Keep out of reach of children

Keep away from food, drink and animal feeding stuff

Do not breathe spray

When using do not eat, drink or smoke

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

In case of accident or if you feel unwell, seek medical advice immediately (Show the label where possible)

Use appropriate containment to avoid environmental contamination

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 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.