

# METALAXYL-M TECHNICAL

## Indofil Industries Ltd

Chemwatch: 5716-03  
Version No: 4.1  
Safety Data Sheet

Chemwatch Hazard Alert Code: 3

Issue Date: 12/07/2024  
Print Date: 16/07/2024  
L.GHS.IND.EN

### SECTION 1 Identification of the substance / mixture and of the company / undertaking

#### Product Identifier

Product name	METALAXYL-M TECHNICAL
Chemical Name	Not Available
Synonyms	mefenoxam; high-efficiency Metalaxyl,; - (2,6-Dimethylphenyl)-N- (methoxyacetyl)-D-alanine methyl ester;; Methyl (R)-2-[[{(2,6-dimethylphenyl)methoxyacetyl]amino} propionate; (R)-DMPM
Chemical formula	C 15 H 21 NO 4
Other means of identification	Not Available
CAS number	70630-17-0

#### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	<p>Metalaxyl-M ((R)-Metalaxyl) is the active (R)-enantiomer of Metalaxyl. Concentrate fungicide to control soil-born diseases caused by Pythium and Phytophthora, and foliar diseases caused by Phycomycetes (downy mildews). Overall, Metalaxyl and Metalaxyl-M are like identical twins share DNA code (chemical formula) to each other, but have different personalities (properties). Metalaxyl-M ((R)-Metalaxyl) is the active (R)-enantiomer of Metalaxyl. Methyl (R)-N-(2,6-dimethylphenyl)alaninate ((R)-DMPM) is a key chiral intermediate for the production of (R)-metalaxyl, which is one of the best-selling fungicides. Fungicide.</p>
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#### Details of the manufacturer or supplier of the safety data sheet

Registered company name	Indofil Industries Ltd
Address	Kalpataru Square, 4th Floor, Kondivita Road, Off. Andheri Kurla Road, Andheri (E) Maharashtra, India. Mumbai 400 059 India
Telephone	1800-120-003-004
Fax	Not Available
Website	<a href="http://www.indofil.com">www.indofil.com</a>
Email	customercare@indofil.com

#### Emergency telephone number

Association / Organisation	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	+918000403230
Other emergency telephone numbers	+61 3 9573 3188





Once connected and if the message is not in your preferred language then please dial 01

### SECTION 2 Hazards identification

#### Classification of the substance or mixture

Chemwatch Hazard Ratings

## METALAXYL-M TECHNICAL

	Min	Max
Flammability	1	
Toxicity	2	
Body Contact	3	
Reactivity	1	
Chronic	0	

0 = Minimum  
1 = Low  
2 = Moderate  
3 = High  
4 = Extreme

## NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

**Classification** Acute Toxicity (Oral) Category 4, Serious Eye Damage/Eye Irritation Category 1

## Label elements

**Hazard pictogram(s)**



**Signal word** **Danger**

## Hazard statement(s)

**H302** Harmful if swallowed.  
**H318** Causes serious eye damage.

## Precautionary statement(s) Prevention

**P280** Wear protective gloves, protective clothing, eye protection and face protection.

## Precautionary statement(s) Response

**P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## Precautionary statement(s) Storage

Not Applicable

## Precautionary statement(s) Disposal

**P501** Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

## SECTION 3 Composition / information on ingredients

## Substances

CAS No	%[weight]	Name
70630-17-0	>94	<u>Metalaxyl-M Technical</u>
57837-19-1	6 max	<u>Metalaxyl Technical</u>

## Mixtures

See section above for composition of Substances

## SECTION 4 First aid measures

## Description of first aid measures

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Quickly but gently, wipe material off skin with a dry, clean cloth.</li> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> </ul>

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	<ul style="list-style-type: none"> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor, without delay.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ <b>IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.</b></li> <li>▶ For advice, contact a Poisons Information Centre or a doctor.</li> <li>▶ Urgent hospital treatment is likely to be needed.</li> <li>▶ In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.</li> <li>▶ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist.</li> <li>▶ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.</li> </ul> <p><b>Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:</b></p> <ul style="list-style-type: none"> <li>▶ <b>INDUCE</b> vomiting with fingers down the back of the throat, <b>ONLY IF CONSCIOUS</b>. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> </ul> <p><b>NOTE:</b> Wear a protective glove when inducing vomiting by mechanical means.</p>

### Indication of any immediate medical attention and special treatment needed

As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination).

For poisons (where specific treatment regime is absent):

#### BASIC TREATMENT

- ▶ Establish a patent airway with suction where necessary.
- ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- ▶ Administer oxygen by non-rebreather mask at 10 to 15 L/min.
- ▶ Monitor and treat, where necessary, for pulmonary oedema.
- ▶ Monitor and treat, where necessary, for shock.
- ▶ Anticipate seizures.
- ▶ **DO NOT** use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

#### ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

## SECTION 5 Firefighting measures

### Extinguishing media

- ▶ Water spray or fog.

### Special hazards arising from the substrate or mixture

<b>Fire Incompatibility</b>	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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### Advice for firefighters

<b>Fire Fighting</b>	▶ Alert Fire Brigade and tell them location and nature of hazard.
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Combustible.</li> </ul> <p>Combustion products include: carbon dioxide (CO<sub>2</sub>) nitrogen oxides (NO<sub>x</sub>) other pyrolysis products typical of burning organic material.</p>

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May emit poisonous fumes.  
May emit corrosive fumes.

**SECTION 6 Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

See section 8

**Environmental precautions**

See section 12

**Methods and material for containment and cleaning up**

<b>Minor Spills</b>	▶ Remove all ignition sources.
<b>Major Spills</b>	Moderate hazard.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

**SECTION 7 Handling and storage**

**Precautions for safe handling**

<b>Safe handling</b>	▶ <b>DO NOT</b> allow clothing wet with material to stay in contact with skin ▶ Avoid all personal contact, including inhalation.
<b>Other information</b>	▶ Store in original containers.

**Conditions for safe storage, including any incompatibilities**

<b>Suitable container</b>	▶ Metal can or drum ▶ Packaging as recommended by manufacturer.
<b>Storage incompatibility</b>	▶ Avoid reaction with oxidising agents



X — Must not be stored together  
O — May be stored together with specific preventions  
+ — May be stored together

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

**SECTION 8 Exposure controls / personal protection**

**Control parameters**

**Occupational Exposure Limits (OEL)**

**INGREDIENT DATA**

Not Available

**Emergency Limits**

Ingredient	TEEL-1	TEEL-2	TEEL-3
METALAXYL-M TECHNICAL	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
Metalaxyl-M Technical	Not Available	Not Available
Metalaxyl Technical	Not Available	Not Available

**Occupational Exposure Banding**

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
Metalaxyl-M Technical	E	≤ 0.1 ppm

**Notes:** Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.


## METALAXYL-M TECHNICAL

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
Metalaxyl Technical	E	≤ 0.01 mg/m <sup>3</sup>
<b>Notes:</b>	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.	

## MATERIAL DATA

Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat.

## Exposure controls

<b>Appropriate engineering controls</b>	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye and face protection</b>	▶ Safety glasses with side shields.
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	▶ Wear chemical protective gloves, e.g. PVC. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer.
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	▶ Overalls.

## Respiratory protection

Type A Filter of sufficient capacity.

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	A-AUS / Class1	-
up to 50	1000	-	A-AUS / Class 1
up to 50	5000	Airline *	-
up to 100	5000	-	A-2
up to 100	10000	-	A-3
100+			Airline**

\* - Continuous Flow \*\* - Continuous-flow or positive pressure demand

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

## SECTION 9 Physical and chemical properties

## Information on basic physical and chemical properties

<b>Appearance</b>	pale yellow to reddish brown homogeneous liquid mixture of isomers; depending of ratio of isomers may exist as a solid or liquid. Miscible in Acetone, Methanol, toluene, Ethanol, MDC, EDC. Metalaxyl and Metalaxyl-M are chemical compounds with a pair of different structures and same formulas co-existing together (Called chiral compounds). The two chiral compounds are S-Metalaxyl and R-Metalaxyl enantiomers based on their 3-D atom arrangement. The spatial difference makes R-Metalaxyl more active in plant diseases control than either the S-Metalaxyl or the combination of the enantiomers. Metalaxyl-M contributes to risk reduction for Metalaxyl. In the German soil, the degradation of the R-enantiomer was much faster than the S-enantiomer. These studies mark that different soil ecosystems may cause different degradation preferences for different structures. Even though Metalaxyl and Metalaxyl-M's chemical structures look the same, some of their properties have striking differences. In the German soil, the degradation of the R-enantiomer was much faster than the S-enantiomer. These studies mark that different soil ecosystems may cause different degradation preferences for different structures. Even though Metalaxyl and Metalaxyl-M's chemical structures look the same, some of their properties have striking differences. Such distinct phases are caused by their disparate melting points. The Metalaxyl-M's atom arrangement provides its weaker attraction (intermolecular forces) between
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## METALAXYL-M TECHNICAL

atoms, which leads to a lower melting point and liquid phase at room temperature. Metalaxyl and Metalaxyl-M also have big difference in solubility, Metalaxyl-M is more soluble than Metalaxyl in water, but Metalaxyl is more soluble than Metalaxyl-M in organic solvent.

<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	1.125
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	Not Applicable	<b>Decomposition temperature (°C)</b>	Not Available
<b>Melting point / freezing point (°C)</b>	-38.7	<b>Viscosity (cSt)</b>	Not Applicable
<b>Initial boiling point and boiling range (°C)</b>	Not Available	<b>Molecular weight (g/mol)</b>	279.33
<b>Flash point (°C)</b>	179	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Applicable	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	Negligible
<b>Vapour pressure (kPa)</b>	Negligible	<b>Gas group</b>	Not Available
<b>Solubility in water</b>	Miscible	<b>pH as a solution (1%)</b>	Not Applicable
<b>Vapour density (Air = 1)</b>	Not Available	<b>VOC g/L</b>	Not Applicable

## SECTION 10 Stability and reactivity

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	► Unstable in the presence of incompatible materials.
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

## SECTION 11 Toxicological information

## Information on toxicological effects

<b>Inhaled</b>	The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce serious damage to the health of the individual.
<b>Ingestion</b>	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.
<b>Skin Contact</b>	Skin contact with the material may produce toxic effects; systemic effects may result following absorption.  The material is not thought to be a skin irritant (i.e. is unlikely to produce irritant dermatitis as described in EC Directives using animal models). Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects.
<b>Eye</b>	When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.
<b>Chronic</b>	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

<b>Metalaxyl-M Technical</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Eye : Not irritating
<b>Metalaxyl Technical</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >3100 mg/kg <sup>[2]</sup>	Eye (rabbit): slight *

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Inhalation (Rat) LC50: >3.6 mg/L4h <sup>[2]</sup>	Skin (rabbit): mild* [Ciba-Geigy]*
Oral (Rat) LD50: 566 mg/kg <sup>[2]</sup>	Skin (rabbit): slight *

**Legend:** 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

<b>METALAXYL-M TECHNICAL</b>	Oral (Rat, adult female) LD50: 375 mg/kg* Skin : Not irritating non sensitizer Carcinogenicity Not likely to be carcinogenic in humans Reproductive toxicity No reproductive effects or offspring's toxicity at parental toxic doses . Genotoxic No evidence for genotoxicity in-vivo. metaxyl -m technical liquid, indofil sds Incidents of liver injury or failure among modern antifungal medicines are very low to non-existent.
<b>METALAXYL TECHNICAL</b>	Toxicity Class WHO III * ADI 0.03 mg/kg b.w. NOEL for rats 2.5, mice 31.7, dogs 8.0 mg/kg b.w. for 50% wettable powder For metalaxyl: <b>Acute toxicity:</b> The pesticide is moderately toxic by ingestion and slightly toxic following dermal application. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). [ <i>* The Pesticides Manual, Incorporating The Agrochemicals Handbook, 10th Edition, Editor Clive Tomlin, 1994, British Crop Protection Council</i> ]
<b>METALAXYL-M TECHNICAL &amp; METALAXYL TECHNICAL</b>	When rats were exposed to the acylalanine (phenylamide) fungicide , R-metalaxyl, the significantly perturbed metabolic pathways were biosynthesis of valine, leucine, and isoleucine, synthesis and degradation of ketone bodies, and metabolism of glycerolipid. The following information refers to contact allergens as a group and may not be specific to this product.

<b>Acute Toxicity</b>	✓	<b>Carcinogenicity</b>	✗
<b>Skin Irritation/Corrosion</b>	✗	<b>Reproductivity</b>	✗
<b>Serious Eye Damage/Irritation</b>	✓	<b>STOT - Single Exposure</b>	✗
<b>Respiratory or Skin sensitisation</b>	✗	<b>STOT - Repeated Exposure</b>	✗
<b>Mutagenicity</b>	✗	<b>Aspiration Hazard</b>	✗

**Legend:** ✗ – Data either not available or does not fill the criteria for classification  
✓ – Data available to make classification

## SECTION 12 Ecological information

### Toxicity

	Endpoint	Test Duration (hr)	Species	Value	Source
<b>Metalaxyl-M Technical</b>	EC50	48h	Crustacea	>136.73mg/L	4
	LC50	96h	Fish	>146.41mg/L	4
	NOEC(ECx)	336h	Crustacea	0.1mg/l	4
<b>Metalaxyl Technical</b>	EC50	72h	Algae or other aquatic plants	4.828-219.183mg/L	4
	EC50	48h	Crustacea	11.979-19.118mg/L	4
	LC50	96h	Fish	16.456-37.268mg/L	4
	EC50	96h	Algae or other aquatic plants	7.479mg/l	4
	NOEC(ECx)	336h	Crustacea	0.1mg/l	4

**Legend:** Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Environmental Fate Chemical stability Material is stable under normal conditions. stable under acidic and neutral condition. Under alkaline condition, DT50 116 Day at pH 9 at 25°C. DT50 7.7 Day at pH 9 at 50°C. DT50 2.7 Day at pH 9 at 60°C. Ecotoxicity oral bird(14day)LD50981 mg/kg fish lc50 (96 h): .100 mg/l daphnia ec50 948 h0.10 mg/l algae ec50 972 h0; 150 mg/l honeybee ld50 (8 h):.97.3 ug/bee worm LC50 914 d0 830 mg/kg soil

For metalaxyl:

log Kow 1.75 (distilled water, 25 C).

**DO NOT** discharge into sewer or waterways.

### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
Metalaxyl-M Technical	HIGH	HIGH

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Ingredient	Persistence: Water/Soil	Persistence: Air
Metalaxyl Technical	HIGH	HIGH

**Bioaccumulative potential**

Ingredient	Bioaccumulation
Metalaxyl-M Technical	LOW (LogKOW = 1.7014)
Metalaxyl Technical	LOW (LogKOW = 1.7014)

**Mobility in soil**

Ingredient	Mobility
Metalaxyl-M Technical	LOW (Log KOC = 22.6)
Metalaxyl Technical	LOW (Log KOC = 22.6)

**SECTION 13 Disposal considerations**

**Waste treatment methods**

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Containers may still present a chemical hazard/ danger when empty.</li> <li>Legislation addressing waste disposal requirements may differ by country, state and/ or territory.</li> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li> </ul>
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**SECTION 14 Transport information**

**Labels Required**

<b>Marine Pollutant</b>	NO
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**Land transport (UN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

**14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code**

Product name	Group
Metalaxyl-M Technical	Not Available
Metalaxyl Technical	Not Available

**14.7.3. Transport in bulk in accordance with the IGC Code**

Product name	Ship Type
Metalaxyl-M Technical	Not Available
Metalaxyl Technical	Not Available

**SECTION 15 Regulatory information**

**Safety, health and environmental regulations / legislation specific for the substance or mixture**

**Metalaxyl-M Technical is found on the following regulatory lists**

Not Applicable

**Metalaxyl Technical is found on the following regulatory lists**

Not Applicable

**Additional Regulatory Information**

Not Applicable



**National Inventory Status**

National Inventory	Status
Australia - AIIIC / Australia Non-Industrial Use	No (Metalaxyl-M Technical)
Canada - DSL	No (Metalaxyl-M Technical; Metalaxyl Technical)
Canada - NDSL	No (Metalaxyl-M Technical; Metalaxyl Technical)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (Metalaxyl-M Technical)
Japan - ENCS	No (Metalaxyl-M Technical; Metalaxyl Technical)
Korea - KECI	No (Metalaxyl-M Technical)
New Zealand - NZIoC	Yes
Philippines - PICCS	No (Metalaxyl-M Technical; Metalaxyl Technical)
USA - TSCA	No (Metalaxyl-M Technical; Metalaxyl Technical)
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	No (Metalaxyl-M Technical; Metalaxyl Technical)
<b>Legend:</b>	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

**SECTION 16 Other information**

<b>Revision Date</b>	12/07/2024
<b>Initial Date</b>	17/05/2024

**SDS Version Summary**

Version	Date of Update	Sections Updated
3.1	06/06/2024	Physical and chemical properties - Appearance, Toxicological information - Chronic Health, Hazards identification - Classification, Composition / information on ingredients - Ingredients, Exposure controls / personal protection - Personal Protection (hands/feet), Identification of the substance / mixture and of the company / undertaking - Synonyms, Toxicological information - Toxicity and Irritation (Other), Identification of the substance / mixture and of the company / undertaking - Use
4.1	12/07/2024	Composition / information on ingredients - Ingredients

**Other information****Ingredients with multiple cas numbers**

Name	CAS No
Metalaxyl Technical	57837-19-1, 70630-17-0, 75596-99-5, 69516-34-3

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment.

**Definitions and abbreviations**

- PC - TWA: Permissible Concentration-Time Weighted Average
- PC - STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit,
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value

- BCF: BioConcentration Factors
- BEI: Biological Exposure Index
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
  
- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSDL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
- ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ENCS: Existing and New Chemical Substances Inventory
- KECL: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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