

**MATERIAL SAFETY DATA SHEET****1. CHEMICAL PRODUCT AND COMPANY INFORMATION**

Product Name : Metalaxyl 8% WP + Mancozeb 64% WP

Common Name : Metalaxyl, Mancozeb

IUPAC Name : Metalaxyl: methyl *N*-(methoxyacetyl)-*N*-(2,6-xylyl)-DL-alaninate
Mancozeb: manganese ethylenebis (dithiocarbamate) (polymeric) complex with zinc salt

Chemical Abstracts Name : Metalaxyl: methyl *N*-(2,6-dimethylphenyl)-*N*-(Methoxyacetyl)-DL-alaninate
Mancozeb: [[1,2-ethanediy]bis[carbomodithioato]](2-) manganese mixture with [[1,2-ethanediy]bis[carbomodithioato]](2-)zinc

CAS No. : Metalaxyl:[57837-19-1]
Mancozeb: [8018-01-7]

Chemical formula : Metalaxyl : $C_{15}H_{21}NO_4$
Mancozeb : $[C_4H_6 MnN_2S_4]xZn_{0.5}$

Molecular weight : Metalaxyl: 279.3
Mancozeb : 271.2 (based on composition)

Chemical Family : Metalaxyl: acylalanine
Mancozeb: alkylenebis (dithiocarbamate)

Use : Fungicide

Company Name : Solas CropTech Private Limited.

Address : 36, Strand Road, 4th Floor, Room No-01, Kolkata-700001

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2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Content % (w/w)
Metalaxyl a.i.	57837-19-1	8.00
Mancozeb a.i.	8018-01-7	64.00
Others		28.00

3. HAZARDS IDENTIFICATION

- Health Hazards** : The pesticide is irritating to the respiratory system. Harmful or fatal if swallowed - can enter lungs and cause damage. It may cause irritation of nose, throat and lungs. Prolonged or repeated skin contact may cause possible skin irritation, or dermatitis due to skin sensitization.
- Emergency** : Warning! Keep out of reach of children. Inhalation of vapors can irritate the nose and throat. Contact can cause eye or skin irritation.
- Skin and Eyes** : Avoid contact with mouth, skin and eyes.
- Entry route** : Ingestion, Inhalation, Contact with eye or skin.
- Symptoms of poisoning** : Sedation, dyspnoea, exophthalmos, abnormal posture, tightness in muscles may occur.

4. FIRST AID MEASURES

- Ingestion** : If swallowed, give 2 glasses of water to drink. See a physician. Never give anything by mouth to an



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	unconscious person.
Eye	: Flush eyes with water. Consults a physician if irritation persists.
Skin	: Wash affected skin areas thoroughly with soap and water. Consult a physician if irritation persists. Remove and wash contaminated clothing thoroughly. Do not take clothing home to be laundered.
Inhalation	: Move the victim to fresh air or remove source of contamination.
Advice to Physician	: No specific Antidote. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Specific Hazard	: There is no risk of an explosion from this product under normal circumstances if involved in a fire.
Extinguishing Media	: Extinguish fire using media suited to burning material. If containers are ruptured contain all runoff. CO ₂ , Foam or dry chemical are preferred. Soft stream water fog or fine water sprays if no alternatives. Contain all runoff.
Hazard From Combustion products	: If involved in a fire, it will emit toxic and noxious fumes of oxides of carbon, nitrogen or sulfur. Firefighters to wear self-contained breathing apparatus and suitable protective clothing if risk to of exposure to vapour or smoke.
Protective equipment	: Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapours generated.

6. ACCIDENTAL RELEASE MEASURES

In Case of Emergency	: Isolate and post spill area. Wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves and eye/face protection to prevent skin and eyes being affected. Evacuate unprotected and unnecessary personnel from area of spill. If material is leaking from a container, stop the leak only if this can be done safely. Prevent spillage entering
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drains or watercourses. Contain spill and absorb spilled material with absorbent material such as sand, clay or cat litter and dispose of waste as per regulations.

- Clean up Procedures** : To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

7.

- Handling** : Ensure containers are kept closed until using product. Avoid contact with eyes and skin. Wear cotton overalls buttoned to the neck and wrist, washable hat and elbow-length PVC gloves.
- Storage** : DO NOT store near (or allow to contact) fertilizers, fungicides or pesticides. Store in the closed original container, in a cool well ventilated area, out of direct sunlight. Store in a room or place away from children, animals, food, feed stuffs, seed and fertilizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering Controls** : Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.
- Ingestion** : DO NOT eat, drink or apply cosmetics, where there is a potential for exposure to the product.
- Eye Protection** : Safety goggles, chemical splash goggles or face shield for eyes protection should be used. Safety showers and eye wash should be easily available.
- Skin Protection** : Chemical resistant gloves, coveralls socks, apron and chemical resistant foot covering should always be used while handling the product.
- Respiratory protection** : Always use NIOSH/MSHA approved respiratory protection equipment with a universal filter type including particle filter.

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General Protection : Avoid contact with eyes and skin. While handling the product wear cotton overalls buttoned to the neck and wrist. Elbow-length PVC gloves and face shield. After use and before eating, drinking and smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves and contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Colour : Greyish yellow loose fine Powder
Odour : Musty odour
Physical state : Solid
Melting Point (°C) : 195-204
Solubility : Form suspension with water

10 STABILITY AND REACTIVITY

Chemical Stability : Stable
Conditions to Avoid : Keep dry and avoid excessive heat (> 49°C) and ignition sources.
Hazardous decomposition products : Hydrogen Sulfide, Carbon Disulfide, Oxides of carbon, Nitrogen and Sulphur
Hazardous Reactions : Data not available

11. TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀ : LD50 for rats >5000mg/kg. Low toxicity.
Acute Dermal LD₅₀ : LD50 for rabbits >5000mg/kg. Low toxicity.
Acute Inhalation LC₅₀ : LC50 for rats >2.0mg/L for 4 hours. Low toxicity.
Skin Irritation : Practically non-irritating (rabbits)
Eye Irritation : Irritation (rabbits)

12. ECOLOGICAL INFORMATION

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: **Metalaxyl**
(LD50 for Japanese quail (7 days)
923 mg/kg;
Mallard ducks (8 days) 1466 mg/kg.
LC50 (8 days) Japanese quail,
bobwhite quail and mallard ducks >
10000 mg/kg)

Mancozeb

(In ten-day dietary studies, there were
no mortalities in mallard ducks at
6400 mg/kg daily and in Japanese
quail at 3200 mg/kg daily)

Fish

: **Metalaxyl**
LC50 (96 h) for rainbow trout, carp,
and bluegill sunfish > 100 mg/l

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LC50 (48 h) for goldfish 9.0 mg/l;
rainbow trout 2.2mg/l; catfish 5.2
mg/l; carp 4.0 mg/l

Daphnia

: **Metalaxyl**
Soil Daphnia: LC50 (48 h) >28 mg/l

Bees

: **Metalaxyl**
LD50 (48 h) (contact) > 200 µg/bee;
(oral) 269.3 µg/bee

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LC50 0.193 mg/bee

13. DISPOSAL CONSIDERATIONS

Disposal : This material must be disposed of as a Hazardous Waste.
Disposal should be in accordance with local, nation or state
rule and regulations.

**Disposal of
empty
Containers** : Break, crush, or puncture and deliver empty packaging for
appropriate disposal to an approved waste management
facility. If an approved waste management facility is not
available, bury the empty packaging 500 mm below the
surface in a disposal pit specifically marked and set up for
this purpose clear of waterways, desirable vegetation and

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tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

14. TRANSPORT INFORMATION

Shipping Name : Environmentally hazardous substance, solid
UN No. : 3077
Class : 9
Packing group : III
Marine pollutant : No

15. REGULATORY INFORMATION

Hazard symbol



Dangerous for the environment (N)

Risk Phrase **R 22** Harmful if swallowed
 R 36/38 Irritating to eyes and skin
 R 37 Irritating to respiratory system
 R 43 May cause sensitization by skin contact
Safety phrase **S 1/2:** Keep locked up and out of reach of children.
 S 26: In case of contact with eyes rinse immediately with plenty of water and seek medical advice.
 S 35: The material and its container must be disposed-off in a safe way.

16. OTHER INFORMATION



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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 resented 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 produces formulations containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS. Accordingly, no guarantee or warrantee expressed or implied is made by Solas Cropotech Private Limited., as to the results to be obtained based upon the user's use of the information, nor does Solas Cropotech Private Limited, assume any liability arising out of user's use of the information.

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