



MATERIAL SAFETY DATA SHEET

MALLET[®] 570EC

ASTRA INDUSTRIAL COMPLEX CO., LTD. (ASTRACHEM)
P.O. BOX 30447, AL-KHOBAR 31952
KINGDOM OF SAUDI ARABIA

1. PRODUCT IDENTIFICATION

Product Name : **MALLET[®] 570 EC**
Chemical Class : Organophosphate Pesticide

USE: MALLET 570EC Mallet 570 EC is use as a non-systemic insecticide and acaricide with contact, stomach and respiratory action. It is used to control a wide range of pests including: aphids, mites, grasshoppers, flies, scale; thrips, leaf miners loppers, pear psylla, mealy bugs, bollworms, lice, ticks, ants, spiders and many others. It is used in pome, soft and stone fruits, cotton, vegetables, potatoes and rice.

Producer: Astra Industrial Complex Co. Ltd.
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Emergency Tel.# (+966) 3 8121 406

2. COMPOSITION / INFORMATION ON INGREDIENTS

Substance	Proportions (% w/w)	Chemical structure
Malathion Tech CAS No. 121-75-5 IUPAC Name: diethyl (dimethoxythiophosphorylthio) succinate; S-1,2-bis(ethoxycarbonyl)ethyl O,O- dimethyl phosphorodithioate	58.35 (570 g / L)	$\begin{array}{c} \text{S} \\ \\ (\text{CH}_3\text{O})_2\text{P}-\text{S}-\text{CH}(\text{CH}_2\text{CO}_2\text{CH}_2\text{CH}_3) \\ \\ \text{CO}_2\text{CH}_2\text{CH}_3 \end{array}$
Formulation Aids	6.59	
Organic solvents	35.06	

3. HAZARD IDENTIFICATION



Acute Effects

Swallowed:

The concentrate is slightly toxic and considered harmful if swallowed.

Eye:

Moderately irritating to eye. Permanent eye injury is not expected.

Skin:

Slightly irritating to skin.

Inhalation:

Slightly toxic. Inhalation of excessive amount of spray may cause cholinesterase inhibition.

Chronic effects:

Prolonged or repeated exposure may show adverse effects on the liver and kidneys.

Other Health Hazard Information

Cholinesterase Inhibitor

4. FIRST AID MEASURES

First Aid:

Swallowed:

If poisoning occurs, contact a doctor. Do not give fluids or induce vomiting if person is unconscious or having convulsions. If swallowed, give one atropine tablet (0.6 mg) every 5 minutes until dryness of the mouth occurs. Get affected person to a doctor or hospital promptly.

Eye:

Irrigate for 15 minutes with copious quantities of water with eyelids held open. Seek medical advice.

Skin:

Remove contaminated clothing at once, wash skin thoroughly with soap and water. Obtain medical attention immediately.

Inhalation:

Remove to fresh air. Get to a doctor or hospital promptly.

First Aid Facilities:

Obtain an emergency supply of Atropine tablets (0.6 mg).



Advice to doctor:

A cholinesterase inhibitors. Atropine treatment may be required or treat with up to 10 mg of IV diazepam – curare therapy is contraindicated. Treat hydrocarbon pneumonitis secondary to pulmonary oedema. Do not give adrenergic amines, aminophylline, succinylcholine, phenothiazines or reserpine alkaloids or oils.

5. FIRE FIGHTING MEASURES

Toxic gases containing oxides of sulphur and phosphorous may be evolved if involved in fires or exposed to extreme heat. Breathable air apparatus may be required in confined area. Stay upwind.

Extinguishing Media:

Water fog, dry chemical, foam or carbon dioxide.

Special fire fighting procedures:

Fire fighters should use self contained breathing apparatus. Prevent runoff of fire water. Avoid exposure to smoke.

6. ACCIDENTAL RELEASE MEASURES

Contain spill and absorb with sand or proprietary absorbent (vermiculite). Prevent from entering drains, waterway or sewers. Collect in sealed open top containers for disposal.

Disposal:

Triple rinse containers, add rinsate to the spray tank, then offer container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. On-site disposal of concentrate is not acceptable.

7. HANDLING AND STORAGE

Keep out of reach of children, do not store with food, feed or other material to be used or consumed by humans or animals. Do not contaminate water supplies, lakes, streams, or ponds. Store in a secure, dry, well-ventilated area, segregated from oxidizers and incompatible materials. Protect from moisture.



8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards:

Exposure standard for Malathion (maldison): 10 mg/m³ (TWA).

Engineering Controls:

Natural ventilation only required when handling the concentrate. A local exhaust should be used in confined areas to keep the level of solvent within acceptable limits.

Personnel Protection:

The concentrate is harmful; skin absorption is the most common route of exposure. May be irritated the eyes and skin. Repeated minor exposure may have cumulative effects. Avoid contact with the skin and eyes and avoid breathing the vapor. Do not inhale the spray mist. When opening the container of concentrate and preparing the spray, wear cotton overalls buttoned to the neck and wrist, washable hat and elbow-length PVC gloves. When using in an enclosed area wear face shield. If product spilled on skin wash affected area thoroughly with soap and water. After use and before eating drinking or smoking, wash hands, arms, face thoroughly with soap and water. After each day's use, wash gloves, face shield and contaminated clothing. Do not eat or smoke while spraying.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Clear, light yellow liquid free of visible impurities.
Odour	: Slightly aromatic
Boiling Point	: 158-182 C for solvent
Melting point	: <0 C
Density	: 1.0698 Kg/L
Flash point	: 45.5 C
Solubility in H ₂ O	: Emulsifiable

Other Properties:

Concentrate forms an emulsion with water.

10. STABILITY AND REACTIVITY

Stability	: Stable
Conditions to avoid	: Contact with iron and strong alkalis and storage above 50 C
Polymerization	: Will not occur



Condition to avoid	: None currently known
Incompatibility	: Iron, strong alkalis and strong oxidizers
Hazardous	: Thermal decomposition may produce isomalathion
Combustion	: Hydrogen sulfide, sulfur, oxides of carbon and phosphorus.

11. TOXICOLOGICAL INFORMATION

Technical Malathion:

Acute oral LD ₅₀ for rats	: 1,375 – 2,800 mg/Kg
Mice	: 775 – 3,321 mg/Kg
Cattle	: 500 mg/Kg
Acute dermal LD ₅₀ for rabbits	: 4,100 mg/Kg
Toxic to fish	: Toxic to fish
LC ₅₀ for bluegill sunfish	: 0.1mg/L
Toxicity to Bees	: Toxic to bees
Toxicity to birds	: Not acutely toxic to birds

12. ECOLOGICAL INFORMATION

Toxic to fish.

Dangerous to bees.

Do not spray and plants in flower while bees are foraging.

Do not contaminate dams, rivers or streams with pesticide or used container.

Do not use container for any other purpose.

Triple rinse containers with water and add rinsate to the spray solution. Puncture top, bottom and sides of empty container, then crush and bury in an approved landfill, or bury under at least 500 mm of soil in a non –crop, non-pasture area way from water sources or homes.

Malathion is rapidly biodegraded in soil and sewage treatment plants.

13. DISPOSAL CONSIDERATION

Pesticide wastes are toxic. Do not reuse product containers. Dispose of product containers, waste containers and residues according to local health and environmental regulations.



14. TRANSPORT INFORMATION

Proper Shipping Name: Organophosphorus pesticide, liquid, toxic, flammable, flash point $\geq 23^{\circ}\text{C}$ (Malathion)

UN. No: UN 3017

Class: 6.1

Classification Code: TF2

Packing group: III

Subsidiary Risks: 6.1 + 3

Special provisions: 61

Limited quantities: LQ19

Packaging: Packing instructions P001, IBC03, R001
Special packing provisions
Mixed Packaging Provisions MP15
Instructions T7

UN Portable tanks Special Provisions TP2 TP28
Tank Code L4BH

ADR Tank Special Provision TU15 TE1 TE15 TE19
Vehicle for tank carriage FL
Transport Category 2

Special provision carriage Packages
Bulk
Loading, unloading & Handling Operation CV13 CV28
S2 S9

Hazard Identification 63

15. REGULATORY INFORMATION

SARA, Title III section 313
Malathion (CAS: 121-75-5)
Section 311/312
Acute Health Hazard
Chronic Health Hazard

16. OTHER INFORMATION

Buyer assumes all responsibility for safety and use not in accordance with the product label instructions.