

# MATERIAL SAFETY DATA SHEET

MALATHION 57EC

**FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300**

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Malathion 57EC

**Synonyms and Chemical name:** Malathion; (O-O-Diethyl-s- (1,2diethoxycarbonyl)-ethyl) phosphorodithioate)

**EPA Reg. No.:** 34704-108

**Company ID:** Platte Chemical Company  
P.O. Box 667  
Greeley, CO 80632-0667

**Phone #s:** Emergency Phone Number: **CHEMTREC 1-800-424-9300**  
Medical Emergency Phone Number: **1-800-228-5635 extension 136**

**Revisions:** Sections 1, 2, 8, 15 and 16

**MSDS Number:** 000108 **Date:** 03/05/03

**Supersedes:** 4/25/02

## 2. COMPOSITION INFORMATION ON INGREDIENTS

Chemical Ingredients:	CAS No.	Percent by Weight
<b>Active Ingredient:</b> Malathion	121-75-5	57.0%
Naphthalene	91-20-3	3.5%

**Inert Ingredients:**

This product is hazardous according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

## 3. HAZARDS IDENTIFICATION

**Emergency Overview:** Clear, light amber colored liquid with a mild mercaptan-like odor of moderate intensity.

**Warning Statements:**

**NOTE TO PHYSICIAN:** This product is an organophosphate (cholinesterase-inhibiting) insecticide.

Atropine is antidotal and should be given in multiple doses as necessary until the patient is atropinized. In severe cases 2-PAM may be given provided therapy begins within 24-hours of exposure. Monitor serum and RBC cholinesterase. Morphine, theophylline, aminophylline, phenothiazines, reserpine, furosemide, or ethacrynic acid are contraindicated in organophosphate poisonings. Administer i.v. fluids cautiously if needed to correct dehydration.

Symptoms of cholinesterase inhibition can include headache, dizziness, blurred vision, weakness, nausea, cramps, diarrhea, discomfort in the chest, nervousness, sweating, miosis, tearing, salivation, pulmonary edema, uncontrollable twitches, convulsions, coma, and loss of reflexes and sphincter control.

**Potential Adverse Health Effects:** Contains naphthalene, which has been determined to be a possible human carcinogen (Group 2B).

**Eye Contact:** May cause eye injury.

**Skin Contact:** Irritation may occur. The most likely route of entry is skin contact.

**Ingestion:** Contact a physician if material is ingested.

**Inhalation:** Contact a physician if material is inhaled and breathing is difficult.

## 4. FIRST AID MEASURES

**If on Skin:** Remove all contaminated clothing. Wash skin, hair and fingernails thoroughly with soap and water. If irritation persists seek medical attention. Wash clothing before reuse.

**If Inhaled:** Remove to fresh air. If breathing is difficult, please administer oxygen. If breathing stops administer artificial respiration. Get medical attention immediately.

**If Swallowed:** Drink 1 to 2 glasses of water. Do not induce vomiting or give anything by mouth to an unconscious person. Call a physician to get medical attention; the emergency telephone number is 1-800-228-5635 extension 136.

**If in eyes:** Flush with running water for at least 15 minutes while holding open eyelids to help flush out material. If irritation persists, seek medical attention.

## 5. FIRE FIGHTING MEASURES

**Flash Point (°F):** 155°F/ 68.3°C (TCC)

**Boiling Point:** > 300°F / 148.8°C

**Flammable Limits:** None established

**Fire Extinguishing Media:** Combustible material. Carbon dioxide, foam, dry chemical, water spray or fog.

**Special Fire Fighting Procedures:** Smoke and fumes from fire may contain hazardous components. Wear self-contained breathing apparatus and full protective clothing. Fight fire from upwind. Keep all non-essential personnel out of the immediate fire area, and out of any fall-out or run-off areas.

**Unusual Fire or Explosion Hazards:** If water is used to fight fire and cool the containers, contain run-off by diking to prevent contamination of water supplies. Containers in fire may burst or explode from excessive heat. Stay well back from the fire area. In a fire situation oxides of sulfur, phosphorus-containing compounds and other unknown hazardous materials may be formed. Incomplete combustion may lead to formation of carbon monoxide and other asphyxiants.

**6. ACCIDENTAL RELEASE MEASURES**

**Release or Spill:** Wear chemical safety glasses with side shields or chemical goggles, rubber gloves, rubber boots, long-sleeved shirt, long pants, head covering, and a NIOSH-approved pesticide respirator or air-supplied respirator.

For small spills, cover with an absorbent material such as pet litter. Sweep up and place in an approved chemical container. Wash the spill area with water containing a strong detergent, absorb with pet litter or other absorbent material, sweep up and place in a chemical container. Seal the container and handle in an approved manner. Flush the area with water to remove any residue. Do not allow wash water to contaminate water supplies.

For large spills, contain liquid by diking the area, keep product out of water supplies. If possible, use a pump to pick up liquid, then use absorbent material to absorb any residual liquid. Place both in a chemical container. Flush the area with a household bleach and water mixture (1:1) and then absorb the liquid as described in small spills.

**7. HANDLING AND STORAGE**

Store the material in a cool dry place away from children, feed and food products, seed and fertilizer. Do not contaminate other stored or the storage area by handling or storage of the product. Do not store beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco usage, and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Personal Protective Equipment:**

**Eye Protection:** Chemical goggles or shielded safety glasses.

**Skin Protection:** Wear protective clothing: long-sleeved shirts and pants, hat, rubber boots with socks. Wear rubber or chemical-resistant gloves.

**Respiratory Protection:** Not normally required. If vapors exceed acceptable levels, wear a MSHA/NIOSH approved pesticide respirator.

**Ventilation:** Not normally required. If vapors exceed the acceptable levels, wear MSHA/NIOSH approved respirator with cartridges for pesticide vapors.

	<b>OSHA PEL 8 hr TWA</b>	<b>ACGIH TLV-TWA</b>
Malathion	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Naphthalene	50 mg/m <sup>3</sup>	52 mg/m <sup>3</sup>
Trimethylbenzene		25 ppm (123 mg/m <sup>3</sup> )

**EPA Handler Requirements WORKER PROTECTION STANDARD 40 CFR 170**

Note, the following PPE requirements address handler/applicator requirements under FIFRA and may differ from what is felt necessary to address a clean up needs during formulation/manufacturing or other incidents with this product.

**Personal protective Equipment:** Applicators and other handlers must wear:

Long-sleeve shirt and long pants, chemical-resistant gloves (barrier laminate or viton) plus shoes and socks. Maintain the PPE accordingly to manufacturer instructions. If no instructions, use detergent and hot water. Keep and wash PPE separately from other domestic laundry.

**User Safety Recommendations:** Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately, if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Clear, light amber colored liquid    **Odor:** Mild mercaptan-like odor of moderate intensity    **Solubility:** Emulsifies in water

**Specific gravity (water= 1):** 1.0768 g/ml    **Bulk density:** 8.98 lbs/gal    **pH:** 4.4 (5% v/v aqueous solution @ 25°C)

**Vapor Pressure:** 28.4 torr @ 25°C    **Percent volatile (by volume):** >30%

**Note:** These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

**10. STABILITY AND REACTIVITY**

**Chemical Stability:** Stable

**Conditions to Avoid:** Excessive heat and ignition sources

**Incompatibility with Other Materials:** Strong oxidizers, acids, bases

**Hazardous Decomposition Products:** Oxides of sulfur, oxides of nitrogen, phosphorus containing compounds and other unknown hazardous materials may be formed in a fire situation. Incomplete combustion may lead to formation of carbon monoxide and/or other asphyxiates.

**Hazardous Polymerization:** Will not occur.

**11. TOXICOLOGICAL INFORMATION**

Acute Oral LD<sub>50</sub> (rat): 3946 mg/kg    Acute Dermal LD<sub>50</sub> (rabbit): >2000mg/kg    Acute Inhalation LC<sub>50</sub> (rabbit) >5.12 mg/L  
**Eye Irritation:** Moderate, can cause eye injury.    **Skin Irritation:** Slight    **Skin sensitizer:** Probable contact in guinea pigs  
**Chronic/Sub chronic Toxicity Studies:** Cholinesterase inhibition    **Target Organs:** Central Nervous System  
**Carcinogenic Potential:** Naphthalene has been determined to be a possible human carcinogen (Class 2B) by IARC.

**12. ECOLOGICAL INFORMATION**

Malathion is biodegradable and undergoes rapid degradation in the environment. Toxic to fish and other aquatic organisms. Malathion is highly toxic to bees.

Bobwhite Quail	LD <sub>50</sub> 400 mg/kg	LC <sub>50</sub> 3497 ppm	Mallard ducks	LD <sub>50</sub> 1485 ppm	LC <sub>50</sub> > 5000ppm
Rainbow trout	LC <sub>50</sub> 110 ppb	Bluegill sunfish	LC <sub>50</sub> 120 ppb		

**13. DISPOSAL CONSIDERATIONS**

Check local, state and federal regulations prior to disposal.

Plastic Jugs: Triple rinse (or equivalent), then offer for recycling at an ACRC site or by reconditioning, or puncture and dispose of in a sanitary landfill or by other procedures approved by local, state and federal regulations.

**14. TRANSPORT INFORMATION**

DOT Proper Shipping Description: Less than 30 gallons not regulated by DOT

*For containers greater than 30 gallons*

Environmentally Hazardous Substance, Liquid, N.O.S., 9, UN3082, III (Malathion) RQ, ERG Guide 171

U.S. Surface Freight Classification: Insecticides, insect repellents, NOI, other than poison (NMFC 102120, Class: 60)

**Consult appropriate ICAO/IATA and IMDG regulations for shipment requirements in the Air and Maritime shipping modes.**

**15. REGULATORY INFORMATION**

NFPA & HMIS Hazard Ratings:	NFPA	HMIS
1 Health	0 Least	1 Health
2 Flammability	1 Slight	2 Flammability
0 Instability	2 Moderate	0 Reactivity
	3 High	H PPE
	4 Severe	

**SARA Hazard Notification/Reporting****SARA Title III Hazard Category:**

Immediate <input checked="" type="checkbox"/>	Fire <input type="checkbox"/>	Sudden Release of Pressure <input type="checkbox"/>
Delayed <input checked="" type="checkbox"/>	Reactive <input type="checkbox"/>	

**Reportable Quantity (RQ) under U.S. CERCLA:** Malathion (CAS: 121-75-5) 100 pounds (175 pounds of the formulation)

**SARA, Title III, Section 313:** Malathion (CAS: 121-75-5) 57.0%; Naphthalene (CAS: 91-20-3) 3.5% maximum; 1,2,4 Trimethylbenzene (CAS: 95-63-6) 0.6% maximum

**RCRA Waste Code:** Not listed

**CA Proposition 65:** This product contains Naphthalene (CAS: 91-20-3), a chemical known to the State of California to cause cancer

**16. OTHER**

Reasons for revision: Sections 1, 2, 8, 15 and 16

Prepared by: Registrations and Regulatory Affairs

Reviewed by: Environmental/ Regulatory Services

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