

# MATERIAL SAFETY DATA SHEET

# MALATHION 57 EC

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

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### FORMULATED FOR:

LOVELAND PRODUCTS, INC.  
P.O. Box 1286 • Greeley, CO 80632-1286

24-Hour Emergency Phone: 1-800-424-9300

Medical Emergencies: 1-866-944-8565

U.S. Coast Guard National Response Center: 1-800-424-8802

PRODUCT NAME: MALATHION 57 EC  
CHEMICAL NAME: Malathion; (O-O-Dimethyl phosphorodithioate of diethyl mercaptosuccinate)  
CHEMICAL FAMILY: Organophosphate Insecticide  
EPA REG. NO.: 34704-108  
MSDS Number: 000108-11-LPI

MSDS Revisions: Sec. 2, 3, 7, and 10

Date of Issue: 08/17/11

Supersedes: 12/02/10

## 2. HAZARDS IDENTIFICATION SUMMARY

**KEEP OUT OF REACH OF CHILDREN – WARNING - AVISO** – Causes substantial but temporary eye injury. Harmful if swallowed. Harmful if absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

This product is straw to amber colored liquid with a mild mercaptan odor.

## 3. COMPOSITION, INFORMATION ON INGREDIENTS

| <u>Chemical Ingredients:</u>                                                                     | <u>Percentage by Weight:</u> | <u>CAS No.</u> | <u>TLV (Units)</u>          |
|--------------------------------------------------------------------------------------------------|------------------------------|----------------|-----------------------------|
| Malathion                                                                                        | 57.00                        | 121-75-5       | 15 mg/m <sup>3</sup> (skin) |
| Inert Ingredients<br>(contains Naphthalene)                                                      | 43.00                        | 91-20-3        | 52 mg/m <sup>3</sup>        |
| This product is hazardous according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) |                              |                |                             |

## 4. FIRST AID MEASURES

**If in eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**If swallowed:** Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**NOTE TO PHYSICIAN:** This product may cause cholinesterase inhibition. Atropine is antidotal. 2-PAM may be effective as an adjunct to Atropine. May pose an aspiration pneumonia hazard. Contains petroleum distillate.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: **1-866-944-8565**. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

## 5. FIRE FIGHTING MEASURES

**FLASH POINT (°F/Test Method):** 155°F / 68.3°C (TCC)

**FLAMMABLE LIMITS (LFL & UFL):** None established

**EXTINGUISHING MEDIA:** Dry chemical, carbon dioxide, foam, water spray or fog.

**HAZARDOUS COMBUSTION PRODUCTS:** Thermal decomposition products include oxides of sulfur and phosphorus-containing compounds. Incomplete combustion may lead to formation of carbon monoxide and/or other asphyxiants.

**SPECIAL FIRE FIGHTING PROCEDURES:** Wear self-contained breathing apparatus with full protective clothing. Fight fire from upwind and keep all non-essential personnel out of area.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** If water is used to fight fire or cool containers, contain runoff by diking to prevent contamination of water supplies. Containers in fire may burst or explode from excessive heat. Stay well back from fire area.

## 6. ACCIDENTAL RELEASE MEASURES

### STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

For small spills, absorb with an absorbent material such as pet litter. Sweep up and transfer to containers for possible land application according to label use or for proper disposal. Check local, state and federal regulations for proper disposal. Flush the area with water to remove any residue.

**CAUTION:** Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

## 7. HANDLING AND STORAGE

**HANDLING:** 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 after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**STORAGE:** Malathion 57 EC should be stored in the original unopened container in a secure dry place. Do not contaminate with other pesticides or fertilizers. The product should never be heated above 55°C (131°F), and should not be stored for long periods of time at a temperature in excess of 25°C (77°F). Do not contaminate water, food or feed by storage or disposal.

**Personal Protective Equipment (PPE):** For all formulations and all use patterns – mixers, loaders, applicators, flaggers, and other handlers **must wear:** protective eyewear (goggles, faceshield, safety glasses), long sleeved shirt and long pants, shoes plus socks, and chemical-resistant gloves. Follow manufacturer's instructions for cleaning and maintaining PPE. If no instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. See Engineering Controls for additional requirements.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Pilots must use an enclosed cockpit in a manner that is consistent with the WPS for agricultural pesticides [40 CFR 170.240(d)(6)]. Pilots must wear the PPE required on product labeling for applicators.

**RESPIRATORY PROTECTION:** Not normally required, if vapors or mists exceed acceptable levels, wear a NIOSH approved pesticide respirator.

**EYE PROTECTION:** Chemical goggles or shielded safety glasses.

**SKIN PROTECTION:** Wear protective clothing: long-sleeved shirts and pants, hat, shoes with socks. Wear chemical-resistant gloves.

|                  | OSHA PEL 8 hr TWA                                                                       | ACGIH TLV-TWA         |
|------------------|-----------------------------------------------------------------------------------------|-----------------------|
| Malathion        | 15 mg/m <sup>3</sup> (Skin) - 1 mg/m <sup>3</sup> (Inhalable fraction of aerosol); BEI* |                       |
| Naphthalene      | 50 mg/m <sup>3</sup>                                                                    | 52 mg/m <sup>3</sup>  |
| Trimethylbenzene |                                                                                         | 123 mg/m <sup>3</sup> |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE AND ODOR:** Straw to amber liquid with mild petroleum odor.

**SPECIFIC GRAVITY (Water = 1):** 1.0768 g/ml

**VAPOR PRESSURE:** 28.4 mm/Hg @ 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.

**BULK DENSITY:** 8.99 lbs/gal.

**BOILING POINT:** >300°F/>148.9°C

**EVAPORATION RATE:** Not established

**SOLUBILITY:** Emulsifies

**pH:** 4.4 (5% solution)

## 10. STABILITY AND REACTIVITY

**STABILITY:** Stable

**CONDITIONS TO AVOID:** Excessive heat and ignition sources.

**INCOMPATIBILITY:** Chemical incompatibility of this product is likely to occur when the product is mixed or comes into contact with common oxidizing or reducing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of sulfur, oxides of nitrogen and phosphorus-containing compounds. Incomplete combustion may lead to formation of carbon monoxide and/or other asphyxiants.

**HAZARDOUS POLYMERIZATION:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute Oral LD<sub>50</sub> (rat):** 550 mg/kg (Technical)

**Eye Irritation (rabbit):** Slight irritation (Technical)

**Inhalation LC<sub>50</sub> (rat):** >5.2 mg/L (4 hr) (Technical).

**Acute Dermal LD<sub>50</sub> (rabbit):** > 2000 mg/kg (Technical)

**Skin Irritation (rabbit):** Slight irritation (Technical)

**Skin Sensitization (Guinea Pig):** Not a sensitizer (Technical).

**Carcinogenic Potential:** Naphthalene has been determined to be a possible human carcinogen (Group 2B) by IARC; not classifiable as a human carcinogen by ACGIH; and a possible human carcinogen with further research needed by US EPA.

## 12. ECOLOGICAL INFORMATION

This pesticide is toxic to aquatic organisms, including fish and invertebrates. This product may contaminate water through drift of spray in wind. This product has a high potential for runoff after application. Use care when applying in or to an area which is adjacent to any body of water, and do not apply when weather conditions favor drift from target area. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. This pesticide is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

**13. DISPOSAL CONSIDERATIONS**

**PESTICIDE DISPOSAL:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

**CONTAINER DISPOSAL: Nonrefillable container.** Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at [www.acrecycle.org](http://www.acrecycle.org). If not recycled, then puncture and dispose of in a sanitary landfill. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **For containers up to 5 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. **For containers greater than 5 gallons or 50 lbs: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. **For refillable containers:** Refill the container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**14. TRANSPORT INFORMATION**

**DOT Shipping Description:** LESS THAN 12.5 GALLONS NOT REGULATED BY USDOT.

**DOT Shipping Description:** 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**

|   |              |   |          |
|---|--------------|---|----------|
| 2 | Health       | 0 | Least    |
| 2 | Flammability | 1 | Slight   |
| 0 | Instability  | 2 | Moderate |
|   |              | 3 | High     |
|   |              | 4 | Severe   |

**HMIS**

|   |              |
|---|--------------|
| 2 | Health       |
| 2 | Flammability |
| 0 | Reactivity   |
| H | PPE          |

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

|           |          |          |          |                            |          |
|-----------|----------|----------|----------|----------------------------|----------|
| Immediate | <u>Y</u> | Fire     | <u>N</u> | Sudden Release of Pressure | <u>N</u> |
| Delayed   | <u>Y</u> | Reactive | <u>N</u> |                            |          |

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

**SARA, Title III, Section 313:** Malathion (CAS: 121-75-5) 57.0%; Naphthalene (CAS: 91-20-3) 3.46% maximum; 1,2-4 Trimethylbenzene (CAS: 95-63-6) 0.59% maximum

**RCRA Waste Code:** Not listed

**CA Proposition 65: WARNING:** This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

**16. OTHER INFORMATION**

**MSDS STATUS:** Sections 2, 3, 7, and 10 revised

**PREPARED BY:** Registrations and Regulatory Affairs

**REVIEWED BY:** Environmental/ Regulatory Services

\*ACGIH® has recommended a Biological Exposure Index for this substance: Acetylcholinesterase Inhibiting Pesticides

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