

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

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 PRODUCT IDENTIFIER:

TRADE NAME: MALATHION 57 EC

1.2 RECOMMENDED USE: INSECTICIDE – NOT FOR HOME USE

1.3 SUPPLIER DETAILS:

LOVELAND PRODUCTS, INC.

P.O. Box 1286 • Greeley, CO 80632-1286

**1.4 24 Hour Emergency Phone: 1-800-424-9300 - Medical Emergencies: 1-866-944-8565 – Product Information: 1-888-574-2878 (LPI-CUST)
U.S. Coast Guard National Response Center: 1-800-424-8802**

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to 29 CFR 1910.1200

Acute Toxicity - Oral	Category 4	H302
Acute Toxicity - Dermal	Category 4	H312
Sensitization – Skin	Category 1	H317
Eye Damage/Irritation	Category 2B	H320
Specific Target Organ Toxicity (Single Exposure)	Category 2	H371
Specific Target Organ Toxicity (Repeated Exposure)	Category 2	H373
Aquatic Toxicity	Category 2	H401
Combustible Liquid	Category 4	H227

2.2 Label elements



Signal word: **WARNING**
 Hazard Statement: H302 – Harmful if swallowed.
 H312 – Harmful in contact with skin.
 H317 – May cause an allergic skin reaction.
 H320 – Causes eye irritation.
 H371 – May cause damage to organs.
 H373 – May cause damage to organs through prolonged or repeated exposure.
 H401 – Toxic to aquatic life.
 H227 – Combustible liquid.

Precautionary Statement: P260 – Do not breathe dust/fume/gas/mist/vapors/spray.
 P262 – Do not get in eyes, on skin, or on clothing.
 P264 – Wash thoroughly after handling.
 (Prevention): P270 – Do not eat, drink or smoke when using this product.
 P280 – Wear protective gloves/eye protection/face protection.
 P210 – Keep away from heat/sparks/open flames/hot surfaces – No smoking.
 P102 – Keep out of reach of children.

Precautionary Statement: P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 P330 – Rinse mouth.
 P302+P312: IF ON SKIN: Call a POISON CENTER or doctor/physician if you feel unwell.
 P352 – Wash with soap and water.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
 (Response): P101 – If medical advice is needed, have the product container or label at hand.
 P362 – Take off contaminated clothing and wash before reuse.
 P333+P313 – If skin irritation or rash occurs: Get medical advice/attention.
 P337 – If eye irritation persists: Get medical advice/attention.
 P363 – Wash contaminated clothing before reuse.
 P370 – In case of fire: Use dry chemical, carbon dioxide, foam, water spray or fog to extinguish.
 P391 – Collect spillage.



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Precautionary Statement:
(Storage): P403+P235 – Store in a well-ventilated place. Keep cool.

2.3 Other hazards
Cholinesterase inhibitor.

3. COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Substances

3.2 Mixtures

Classification according to 29 CFR 1910.1200

Chemical Name:	CAS No.	Concentration [%]
Malathion	121-75-5	57.00
*Other ingredients (contains Naphthalene)	n/a 91-20-3	43.00

*Ingredients not specifically listed are non-hazardous or are to be considered proprietary or confidential business information per 29 CFR 1910.1200(i)

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice: Get medical attention if symptoms occur.

- 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:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. 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 mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Eyes: Causes eye irritation.
Oral: Harmful if swallowed.
Dermal: Harmful in contact with skin.

4.3 Immediate Medical Attention and Special Treatment

Treatment: Treat symptomatically. Symptoms may be delayed.
FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565
Take container, label or product name with you when seeking medical attention.

NOTES 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.



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5. FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Use medium appropriate to surrounding fire. Dry chemical, carbon dioxide (CO₂), alcohol foam, foam, water spray or fog.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: Product will decompose rapidly when heated to temperatures at or over 280°F (140°C). Release of volatile, toxic compounds such as dimethyl sulfide, sulfur dioxide, carbon monoxide, and phosphorus pentoxide are possible.

5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special Protective Equipment for Firefighters: Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions: Avoid inhalation of vapors and spray mist and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions: 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.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up: Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to Remove residual contamination. Never return spills to original containers for re-use.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe 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 immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

7.2 CONDITIONS FOR SAFE STORAGE:

Requirements for Storage Areas and Containers: Product should be stored in the original unopened container in a secure dry place. Do not contaminate other pesticides or fertilizers. Product should never be heated above 55°C (131°F), and should not be stored for long periods of time at temperatures in excess of 25°C (77°F). Do not contaminate water, food or feed by storage or disposal.



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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROL PARAMETERS: OCCUPATIONAL EXPOSURE LIMITS

U.S. Workplace Exposure Level (ACGIH) TLVs

Components	Type	Value
Malathion	TLV	1 mg/m ³ (IFV: Measured as inhalable fraction and vapor)
	TLV	

U.S. Workplace Exposure Level (OSHA) PELs

Components	Type	Value
Malathion	TLV	15 mg/m ³ (Total dust), Skin

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Specimen
Acetylcholinesterase Inhibiting Pesticides	70% of individual's baseline	Cholinesterase activity in red blood cells

8.2 EXPOSURE CONTROLS:

Engineering Measures

Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and spray mists. Provide eyewash station and safety shower.

Individual Protection Measures:

Eye / Face Protection: Goggles or shielded safety glasses are recommended.

Skin Protection: Long-sleeved shirt and long pants. Chemical-resistant gloves. Shoes plus socks.

Respiratory Protection: In case of inadequate ventilation or risk of inhalation of mists or vapors, use suitable respiratory equipment such as MSHA/NIOSH TC-84A with NIOSH equipped N, R, or P class filter media. Wear respiratory protection during operations where spraying or misting occurs. If respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection standard. Wear air supplied respiratory protection if exposure concentrations are unknown.

9. PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 APPEARANCE : Liquid
- ODOR: Aromatic.
- ODOR THRESHOLD: No data available.
- COLOR: Straw to amber-colored.
- pH: 3.81
- MELTING POINT / FREEZING POINT: No data available
- BOILING POINT: No data available
- FLASH POINT: 160°F/ 71.1°C (TCC).
- FLAMMABILITY (solid, gas): No data available.
- UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: No data available.
- VAPOR PRESSURE: 0.366637 kPa @ 25°C.
- SOLUBILITY: Emulsifies.
- PARTITION CO-EFFICIENT, n-OCTANOL / WATER: Malathion: log_{KOW} = 2.75.
- AUTO-IGNITION TEMPERATURE: No data available.
- DECOMPOSITION TEMPERATURE: No data available.
- VISCOSITY: No data available.
- SPECIFIC GRAVITY (Water = 1): 1.07 g/ml
- DENSITY: 8.97 lbs./gal / 1.07 kg/L

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.



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10. STABILITY AND REACTIVITY

10.1 REACTIVITY

Stable

10.2 CHEMICAL STABILITY

Stable under normal temperature conditions

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No data available. Will not polymerize.

10.4 CONDITIONS TO AVOID

Keep away from heat or flame.

10.5 INCOMPATIBLE MATERIALS

Strong bases and oxidizers. This product can corrode iron, steel, tin plate and copper. Rapidly hydrolyzed at pH >7.0

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Volatile, toxic compounds such as dimethyl sulfide, sulfur dioxide, carbon monoxide, and phosphorus pentoxide may be released in a fire situation.

11 TOXICOLOGICAL INFORMATION

11.3 LIKELY ROUTES OF EXPOSURE

Eye contact. Skin absorption. Skin contact.

LC₅₀ (rat): > 5.1 mg/L (4 HR)

LD₅₀ Oral (rat): > 5,000 mg/kg

LD₅₀ Dermal (rat): > 5,000 mg/kg

Acute Toxicity Estimates: No data available

Skin Irritation (rabbit): Mild irritant.

Eye Irritation (rabbit): Causes moderate eye irritation.

Specific Target Organ Toxicity: Eyes, skin, respiratory system, liver, blood cholinesterase, CNS, CVS, GI tract.

Aspiration: May pose and aspiration pneumonia hazard.

Skin Sensitization (guinea pig): Sensitizer

Carcinogenicity: ACGIH TLV-A4 (Not Classifiable as a Human Carcinogen); IARC-3 (Unclassifiable as to Carcinogenicity in Humans).

Germ Cell Mutagenicity: No data available

Interactive Effects: None known

12 ECOLOGICAL INFORMATION

12.3 ECOTOXICITY

The product is toxic to fish and aquatic invertebrates. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Information below is based on the technical ingredient Malathion.

Ecotoxicological Data

	Species	Test Results
Malathion	Oncorhynchus mykiss	0.18 mg/L – 96-hour LC ₅₀
	Daphnia magna	0.72 µg/L – 96-hour EC ₅₀
	Bees	0.38 µg/bee – LD ₅₀ acute oral
	Bees	0.27 µg/bee – LD ₅₀ topical

Drift or runoff may adversely affect non-target plants.

Do not apply directly to water.

Do not contaminate water when disposing of equipment wash water.

Do not apply when weather conditions favor drift from target area.

12.2 PERSISTENCE AND DEGRADABILITY

Biodegradability: Malathion is biodegradable but does not fulfill criteria for being readily biodegradable.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: Bioconcentration potential is low (BCF 95).

12.4 MOBILITY IN SOIL

Malathion is of medium mobility in soil under normal conditions, but degrades rapidly.

12.5 OTHER ADVERSE EFFECTS

Assessment: No data available.



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13 DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Wastes may be disposed of on site or at an approved waste disposal facility. Triple rinse (or equivalent), adding rinse water to spray tank. Offer container for recycling or dispose of in a sanitary landfill or by other procedures approved by appropriate authorities. Recycling decontaminated containers is the best option of container disposal. The Agricultural Container Recycling Council (ACRC) operates the national recycling program. To contact your state and local ACRC recycler visit the ACRC web page at <http://www.acrecycle.org/>. Do not contaminate water, food or feed by storage or disposal.

14 TRANSPORT INFORMATION

14.3 LAND TRANSPORT

DOT Shipping Description: 19.5 GALLONS AND LESS: NOT REGULATED BY DOT

DOT Shipping Description: GREATER THAN 19.5 GALLONS: RQ UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (MALATHION), 9, III ERG GUIDE 171

U.S. Surface Freight Classification: INSECTICIDES, INSECT REPELLENTS, NOI, OTHER THAN POISON (NMFC 102120, CLASS: 60)

15 REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

NFPA & HMIS Hazard Ratings:

NFPA		HMIS			
2	Health	0	Least	2	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	<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%; Naphthalene (CAS: 91-20-3) 3.46% 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.

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

WARNING

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.

16 OTHER INFORMATION

SDS STATUS: Section 15 revised.

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental Health and Safety

EPA REG. NO.: 34704-108

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