

1. PRODUCT AND COMPANY IDENTIFICATION

Date of issue: May 2015
Revised: June 2018
Product Name: Malathion 50 % EC
EPA Reg. No. 829-282
Formula: C₁₀H₁₉O₇PS
Recommended Use: Insecticide
Restrictions on Use: See label directions
Company: Southern Agricultural Insecticides, Inc
P.O. Box 218
Palmetto, FL 34220
(941) 722-3285

Emergency Telephone Numbers: Chemtrec (800) 424-9300 (24 hour transportation spill response)
Medical: Rocky Mountain Poison Control Center (866) 673-6671 (24hrs)

This product is an EPA FIFRA registered pesticide. Some of the classifications on this SDS are not the same as the FIFRA label. Certain sections of this SDS are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15: REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

(As defined by the OSHA Hazard Communication Standard, 29)

GHS Classification:

Health hazards:	Acute toxicity - oral	Category 4
	Skin irritation	Category 2
	Eye irritation	Category 2B
	Aspiration hazard	Category 1
	Specific target organ toxicity -single exposure)	Category 1
	Specific target organ toxicity -repeated exposure)	Category 2
	Aquatic acute toxicity	Category 1
	Aquatic chronic toxicity	Category 1

GHS label elements:

Signal word: DANGER



Hazard statements: Harmful if swallowed.
Harmful if inhaled.
Causes eye irritation.
May be fatal if swallowed and enters airways.
Causes damage to nervous system.
May cause damage to nervous system through prolonged or repeated exposure.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention: Wash thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear protective gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Neoprene, Nitrile/butadiene rubber ("nitrile" or "NBR") or Polyvinyl chloride ("PVC" or "vinyl"). Wear eye protection/face protection (see Section 8). Wash face and hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in well-ventilated area. Prevent from entering into sewers, waterways and/or groundwater. See Section 12: Ecological Information. Keep only in original container.

Response: If swallowed: Immediately call a poison control center/doctor. Rinse mouth. Do NOT induce vomiting. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If exposed: Call poison center/doctor. Specific treatment see Note to Physician, Section 4: First-Aid Measures. Absorb spillage to prevent material damage.

Storage: Store locked up in corrosive resistant container (high density polyethylene).

Disposal: Disposal of contents/container must be in accordance with your local or area regulatory authorities.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Components</u>	<u>CAS NO:</u>	<u>% By Wt.</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Active Ingredient:				
Malathion	121-75-5	55	N/A	10 mg/rn ³
Solvent naphtha (Petroleum), Heavy Aromatic *	64742-94-5	40	N/A	N/A

*As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

4. FIRST AID MEASURES

Eye Contact: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes for at least 10 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Rinse mouth with water, 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. Have product label with you when calling a poison control center or doctor.

Skin Contact: Immediately flush skin with water for 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Destroy contaminated leather items such as shoes, belts and watchbands.

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.

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.

5. FIRE FIGHTING MEASURES

Fire Hazards:	Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Material will decompose rapidly when exposed to heat (>212°F/100°F) and flame, increasing the risk of explosion. Thermal decomposition during a fire can produce fumes and irritating gases.
Flammability classification (OSHA 29 CFR 1910.1200):	Flammable liquid - category 3.
Flash point:	121° F
Lower flammable limit (by volume):	N/A
Upper flammable limit (by volume):	N/A
Fire Fighting Procedures:	Keep people away. Isolate fire and deny unnecessary entry. Evacuate the area and fight the fire from upwind at a safe distance to avoid hazardous vapors or decomposition products. Dike and collect fire-extinguishing water to prevent environmental damage and excessive waste runoff.
Firefighting media:	Use dry foam, dry chemical, carbon dioxide, or water fog when fighting fires involving this product. Do not use water jet, as this may spread burning material. Minimize the use of water to avoid environmental contamination. Contain all runoff.
Special Protective Equipment for Firefighters:	Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). Use full face shield and operate in positive pressure mode. Avoid contact with this material during firefighting operations. If contact is likely, change to full chemical resistant firefighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.
Hazardous Combustion Products:	Oxides of sulfur and phosphorus-containing compounds. Incomplete combustion may lead to formation of carbon monoxide and/or other asphyxiants.

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken if Material is Released or Spilled:

- Contain spilled material if possible. Small spills: Contain and absorb spilled material with inert, non-combustible absorbent material, sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Southern Agricultural Insecticides, Inc. for clean-up assistance. See Section 13: Disposal Considerations, for additional information.

Personal Precautions:

- Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Spilled material may cause a slipping hazard. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8: Exposure Controls and Personal Protection.

Environmental Precautions: Prevent spilled material from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12: Ecological Information.

7. HANDLING AND STORAGE

KEEP OUT OF REACH OF CHILDREN

- Handling:** **General Handling:** Avoid contact with eyes, skin, and clothing. Wash thoroughly with soap and water after handling. Do not swallow. Avoid breathing vapor. Use with adequate ventilation. Wear chemical protective equipment when handling. Keep away from heat, sparks and flame. See Section 8: Exposure Controls and Personal Protection.
- Storage:** Store locked up in a cool, dry, well-ventilated area designated specifically for pesticides and away from heat sources. Keep in original containers and keep containers closed when not in use. Never heat above 131°F (55°C), and do not store for long periods of time at a temperature in excess of 77° F (25°C). Do not store near children, food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits: (8-Hour TWA): Malathion 15 mg/m³ (Skin); 1 mg/m³ (Inhalable)

Personal Protection:

Eye/Face Protection: Wear safety glasses with side shields or chemical splash goggles to prevent vapors or mists from entering the eyes. If using a full face shield, always use safety glasses or goggles along with the face shield to ensure adequate protection of the eyes.

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Neoprene, Nitrile/butadiene rubber (“nitrile” or “NBR”) or Polyvinyl chloride (“PVC” or “vinyl”).

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. When handling in enclosed areas, when large quantities of mists are generated or prolonged exposure is possible in excess of the 8-hour TWA, use a respirator with either an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C) or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G).

Ingestion: Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating.

Engineering Controls:

Ventilation: When handling this product proper ventilation is required to maintain exposure below the 8-hour TWA. Ventilate all transport vehicles prior to unloading. Facilities storing or utilizing this material should be equipped with and eyewash facility and safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Color: Golden
Odor: Aromatic solvent
Flash Point: 121°F
Vapor Pressure (mmHg): <24.8
Boiling Point: >300°F

Vapor Density (air = 1):	N/A
Bulk Density (H2O = 1):	8.83 lbs./gal.
Freezing Point:	N/A
Solubility in water (wt. - weight):	Emulsifies
pH:	3.9 (5 solution)
Viscosity:	N/A

10. STABILITY AND REACTIVITY

Stability/Instability:	Thermally stable if handled at typical use temperatures and in closed containers.
Conditions to Avoid:	Avoid heat of open flame. Avoid high temperatures above 130°F (54.4°C). Avoid reducing agents
Incompatible Materials:	Malathion may corrode iron, steel, tin plate and copper.
Hazardous Polymerization:	Will not occur
Thermal Decomposition:	Can include oxides of sulfur and phosphorus-containing compounds. Incomplete combustion may lead to formation of carbon monoxide and/or other asphyxiants.

11. TOXICOLOGICAL INFORMATION

Information provided for the active ingredient Malathion:

Acute Toxicity:

Ingestion:	Oral, LD ₅₀ , (rat):	>550 mg/kg
Dermal:	Dermal, LD ₅₀ , (rabbit):	>2,000 mg/kg
Inhalation:	Inhalation, 4 h, LC ₅₀ ,(rat):	>5.2 mg/l
Eye Irritation:	Slightly irritating (rabbit)	
Skin Irritation:	Slightly irritating (rabbit)	
Sensitization Skin:	Non-sensitizer (guinea pig)	

Chronic Toxicity: None known

Carcinogenicity: Not listed as carcinogenic by ACGIH, IARC, OSHA or NTP

Teratogenicity, mutagenicity, and other reproductive effects: None known

Information provided for the solvent naphtha (Petroleum), Heavy Aromatic (Data submitted for solvent represents 2.5 times the amount contained in this product.)

Acute Toxicity:

Ingestion:	Oral, LD ₅₀ , (rat):	>5000 mg/kg
Dermal:	Dermal, LD ₅₀ , (rabbit):	>2,000 mg/kg
Inhalation:	Inhalation, 4 h, LC ₅₀ , (rat):	>4688 mg/m ³ (vapor) Minimally toxic
Eye Irritation:	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.	
Skin Irritation:	Slightly irritating, may dry skin causing discomfort	
Sensitization Skin:	Not expected to be a skin sensitizer. Based on test data for structurally similar materials.	

Other Toxicity Information:

Solvent contains Naphthalene

Acute Toxicity:

Inhalation	4 h, LC ₅₀ ,	Rat	> 0.4mg/l (Max. attainable vapor conc.)
Oral Lethality:	LD ₅₀	Mouse	533 mg/kg

The following ingredient is cited on the lists below:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Citations</u>
Naphthalene	91-20-3	NTP SUS IARC 2B

12. ECOLOGICAL INFORMATION

The Information presented here is for the active ingredient Malathion.

ENVIRONMENTAL FATE:

- This product is toxic to birds, fish, aquatic invertebrates, aquatic life, and stages of amphibians and highly toxic to bees.

Persistence and Degradability:

- Medium mobility, readily biodegradable

Aquatic Toxicity:

- Daphnia magna, 48 h, EC 0: 0.72 mg/L
- Green Algae, 72 h, LC₅₀: 4.06 mg/L
- Rainbow Trout, 96 h, LC₅₀: 0.18 mg/kg

Bird Toxicity:

- Bobwhite Quail, LD₅₀: 359 mg/kg
- Mallard Duck, LD₅₀: 1485 mg/kg

The Information presented here is for the solvent naphtha (Petroleum), Heavy Aromatic.

ENVIRONMENTAL FATE

- Expected to be toxic to aquatic organisms.

Persistence and Degradability:

- Expected to be inherently biodegradable

Aquatic Toxicity - Acute

- Daphnia magna, 48 h, EL50 >=3-,=10 mg/L

Persistence, Degradability and Bioaccumulation Potential

<u>Media</u>	<u>Test Type</u>	<u>Duration</u>	<u>Test Results</u>
Water	Ready Biodegradability	28 days	Percent Degraded 57.95

Other Information

VOC (EPA Method 24): 7.477 lbs/gal.

13. DISPOSAL CONSIDERATIONS

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

14. TRANSPORT INFORMATION

US DOT 49 CFR Information:

- **For non-bulk shipments(<19.5 gals):** This material is not regulated for transport.
- **For non-bulk Shipments (>19.5 gals, <119 gals):** UN1993, Combustible liquid, n.o.s. (Malathion), PG-III, RQ (Malathion = 100 lb.)
- **For bulk shipments (>119 gals) by all modes of transportation:** UN 1993, Combustible liquid, n.o.s. (Malathion), PGIII, RQ (Malathion = 100 lb.) Minimum Flash Point 66° C. Marine Pollutant.

IMDG/IMO (vessel): UN 1993, Combustible liquid, n.o.s. (Malathion), PGIII, Minimum Flash Point 66° C. Marine Pollutant.

IATA/ICAO (air): UN 1993, Combustible liquid, n.o.s. (Malathion), PGIII, Minimum Flash Point 66° C. Marine Pollutant

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material

15. REGULATORY INFORMATION**OSHA Hazard communication Standard:**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

EPA:

- **EPA FIFRA INFORMATION:** 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 chemical. The hazard information required on the pesticide label is listed out below. The pesticide label also includes other important information, including directions for use.
- **EPA/CERCLA Reportable Quantity:** Malathion: (CAS: 121-75-5): 100 pounds

SARA/TITLE III:

- **Section 302. Extremely Hazardous Substance Notification:** This material is not known to contain any Extremely Hazardous Substances.
- **Section 311/312. Hazard Categories:** Fire Hazard
Immediate health hazard
Chronic health hazard
- **Section 313. (Toxic chemicals):** Acute Malathion (CAS: 121-75-5)
- **RCA Waste Code:** Not applicable

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986):

- This product is listed.

Toxic Substances Control Act (TSCA):

- All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

16. OTHER INFORMATION

Disclaimer: Southern Agricultural Insecticides, Inc. recommends that each customer or recipient of this SDS study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date. However, no warranty, express or implied, is given.

Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that this activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific SDSs, we are not and cannot be responsible for SDSs obtained from any source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version.