



Malathion-d₇ (dimethyl-d₆; 3-d₁)

Section 1. Chemical product and company identifications

Product code: D-5178

Chemical formula: C₁₀H₁₂D₇O₆PS₂

CAS: 352438-94-9

CAS (unlabelled): 121-75-5

Synonyms: S-[1,2-Bis(ethoxycarbonyl)ethyl]-O,O-dimethylphosphorodithioate

Supplier / Manufacturer:

C/D/N Isotopes Inc.

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In case of emergency:

TOXYSKAN HOTLINE: 1-855-780-0599




Section 2. Hazards identifications

GHS (Globally Harmonized System of Classification and Labelling of Chemicals):

GHS Classification:

- Acute toxicity, Oral (Category 3)
- Skin sensitization (Category 1)
- Carcinogenicity (Category 1B)

GHS Label elements:

- Pictograms:   
- Signal word: Danger

Hazards statement:

- H301 Toxic if swallowed.
- H317 May cause an allergic skin reaction.
- H350 May cause cancer.

Precautionary statement:

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
- P302 + P350 IF ON SKIN: Wash with plenty of soap and water.
- P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.
- P362 + P364 Take off contaminated clothing and wash it before reuse.
- P405 Store locked up.
- P501 Dispose of contents/ container to an approved waste disposal plant.

Section 3. Composition and information on ingredients

<u>Name</u>	<u>CAS</u>	<u>Concentration %</u>
Malathion-d ₇	352438-94-9	> 95

Section 4. First aid measures

Eye contact: Flush eyes with water as a precaution.

Skin contact: Wash off with soap and plenty of water. Consult a physician.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Indication of immediate medical attention and special treatment needed, if necessary: May cause sensitization in susceptible persons. Treat symptomatically.

Most important symptoms and effects, both acute and delayed: Itching. Rashes. Hives.

Section 5. Firefighting measures

Flammability of the product: Combustible at high temperature.

Products of combustion: Hazardous decomposition products formed under fire conditions: Carbon oxides, sulphur oxides, phosphorus oxides.

Firefighting media and instructions: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Section 6. Accidental release measures

Personal precautions: Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Environmental precautions: Do not let product enter drains. Discharge into the environment must be avoided.

Methods for cleaning up: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

Section 7. Handling and storage

Handling: Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Provide appropriate exhaust ventilation.

Storage: STORE FROZEN. Adequate ventilation.

Section 8. Exposure Controls, Personal Protections

Engineering controls: Use mechanical exhaust or laboratory fumehood to avoid exposure.

Eyes: Safety glasses with side-shields conforming to NIOSH (US) or EN 166 (EU).

Respiratory: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US).

Hands: Handle with gloves. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Skin/body: Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Section 9. Physical and chemical properties (unlabelled)

Molecular weight: 330.36 g/mol

Physical status: Liquid

Color: Colorless to yellow

Odour: Heavy characteristic odor

Density: 1.230 g/cm³

Melting point: 3 °C (37 °F)

Boiling point: 156 - 157 °C (313 - 315 °F) at 1 hPa (0.75 mmHg)

Vapour pressure: No data available

Vapour density: No data available

Partition coefficient (octanol/water): log Pow: 2.36

Water solubility: 143 mg/L

Lower explosion limit: No data available.

Upper explosion limit: No data available.

Auto-ignition temperature: No data available.

Flash point: 163 °C (325 °F)

Section 10. Stability and reactivity

Stability and reactivity: Stable under recommended storage conditions.

Incompatibility: Strong oxidizing agents.

Products of combustion: Hazardous decomposition products formed under fire conditions: Carbon oxides, sulphur oxides, phosphorus oxides.

Reactivity conditions: No data available.

Section 11. Toxicological information (unlabelled)

Toxicological data: Malathion

Information on ingredients:

<u>Name</u>	<u>CAS</u>	<u>LD₅₀</u>	<u>LC₅₀</u>
Malathion	121-75-5	Oral - Rat - 290 mg/kg Dermal - Rabbit - 4,100 mg/kg	Inhalation - Rat - 4 h - 43.8 mg/m ³

Potential acute effects

- **Eyes:** No data available.
- **Skin:** May cause an allergic skin reaction.
- **Inhalation:** No data available.
- **Ingestion:** Toxic if swallowed.

Potential chronic effects

- **Carcinogenic effects:** This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification. IARC: 2A - Group 2A: Probably carcinogenic to humans (Malathion). ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- **Mutagenic effects:** Genotoxicity in vitro - Human - leukocyte. Cytogenetic analysis. Genotoxicity in vitro - Human - lymphocyte. Cytogenetic analysis. Genotoxicity in vitro - Human - lymphocyte. DNA inhibition. Genotoxicity in vitro - Human - fibroblast. Other mutation test systems. Genotoxicity in vitro - Human - leukocyte. Sister chromatid exchange. Genotoxicity in vitro - Human - fibroblast. Sister chromatid exchange. Genotoxicity in vitro - Hamster - ovary. Cytogenetic analysis. Genotoxicity in vitro - Hamster - Lungs. Cytogenetic analysis. Genotoxicity in vitro - Hamster - Lungs. Sister chromatid exchange. Genotoxicity in vitro - Hamster - ovary. Sister chromatid exchange. Genotoxicity in vitro - Human - lymphocyte. Unscheduled DNA synthesis. Genotoxicity in vitro - Human - lymphocyte. Micronucleus test. Genotoxicity in vivo - Mouse - Oral. Cytogenetic analysis. Genotoxicity in vivo - Mouse - Skin. Cytogenetic analysis. Genotoxicity in vivo - Mouse - Intraperitoneal. Cytogenetic analysis. Genotoxicity in vivo - Hamster - Intraperitoneal. Cytogenetic analysis.
- **Teratogenic effects:** Developmental Toxicity - Rat - Oral. Specific Developmental Abnormalities: Urogenital system. Developmental Toxicity - Rabbit - Oral. Effects on Embryo or Fetus: Other effects to embryo.
- **Medical conditions aggravated by overexposure:** No data available.

Section 12. Ecological information

Ecological data:

<u>Name</u>	<u>Results</u>	<u>Species</u>	<u>Period</u>
Malathion	0.046 mg/l LC50	Lepomis macrochirus	96 h
	0.002 mg/l EC50	Daphnia magna	48 h
	4.06 mg/l EC50	Pseudokirchneriella subcapitata	72 h

Effects on environment: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Mobility: No data available.

Environmental precautions: No data available.

Persistence and degradability: No data available.

Bioaccumulative potential: Oryzias latipes - 168 h - 12.8 µg/l. Bioconcentration factor (BCF): 12.

Section 13. Disposal considerations

Waste disposal: Contact a licensed professional waste disposal service to dispose of this material.

Section 14. Transportation information

Classification DOT/IMDG/IATA label:

Shipping name: Organophosphorus pesticide, liquid, toxic (Malathion)

UN number: UN3018

Class: 6.1

Packaging group: I

Additional information: None

Section 15. Regulatory information

UNITED STATES: NFPA classification



Health: 2
Flammable: 1
Reactivity: 0
Special conditions: None

Legend: 4: Severe, 3: High, 2: Moderate, 1: Slightly, 0: Not hazardous

U.S. Federal regulations:

California proposition 65 requirements : Listed

SARA section 313 (specific toxic chemical listings) : Listed

CERCLA reportable quantity : Listed

Sections 302-304 reportable quantity : Listed

Community Right-to-Know (Sections 311 and 312) : Listed

Section 16. Additional information

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Elaborated by: Toxyscan Inc., 1-866-780-0599

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This safety data sheet has been prepared in accordance with the OSHA (USA), WHMIS (Canada) / GHS classification rules in effect at the time of writing.