



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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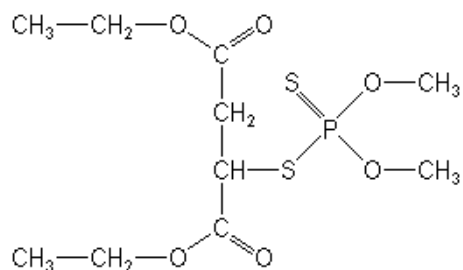
1. Chemical Product Identification

Product Name: Malathion

Molecular Formula: C₁₀H₁₉O₆PS₂

Molecular Weight: 330.3 g/mol

Structural Formula:



Chemical Name: Diethyl (dimethoxy thiophosphorylthio) succinate

Form: Liquid

Colour: Pale Yellow To colourless transparent

Odour: Garlic-like odour

CAS No.: 121-75-5

2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Malathion	121-75-5	95.0
Other ingredients		5.0



3. Hazards Identification

May irritate eyes and skin. Not flammable. Not classified as hazardous according to the criteria of Work safe Australia

4. First Aid Measures

If poisoning occurs, immediately contact a doctor or Poisons Information Centre, and follow the advice given. Show this Material Safety Data Sheet to a doctor.

Swallowed: If swallowed, immediately contact a doctor or Poisons Information Centre, and follow the advice given. Keep under medical supervision.

Eye: Rinse immediately with clean water, including under eyelids, for at least 15 minutes and obtain medical advice.

Skin: Remove contaminated clothing. Wash affected areas with plenty of soap and water.

Inhaled: If inhaled, remove to fresh air and obtain medical advice.

5. Fire-Fighting Measures

Fire Fighting Procedures: Firefighters should wear full protective gear, including self-contained breathing apparatus. If possible and without risk, remove intact containers from exposure to fire. Otherwise, spray unopened containers with water to keep cool. Whenever possible, contain fire-fighting water by bunding area with sand or earth to prevent it entering any bodies of water.

Extinguishing Media: Carbon dioxide, water spray, dry agent, foam.

Stability and Reactivity: Stable under normal conditions of use. No dangerous reaction known under normal conditions of use. Avoid extreme heat and fire. Toxic thermal decomposition products may include oxides of carbon, sulphur and nitrogen and compounds of chlorine and fluorine.

6. Accidental Release Measures

Dealing with spills and disposal may result in the potential for increased personal exposure. During such operations it is recommended that the following protective clothing is worn: Cotton overalls buttoned to the neck and wrist Waterproof gloves Contain spill, sweep up or shovel and place in properly labelled sealed drums for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses etc. is unavoidable, warn the local water authority.



7. Handling and Storage

Handling: Keep out of reach of children. Avoid contact with eyes, skin and clothing. Wear long sleeved overalls and gloves while handling. After handling and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

Storage: Store in the closed original container in a cool, well ventilated, locked place out of the reach of children. Do not store in direct sunlight.

8. Exposure Controls/Personal Protection

Exposure standards: No occupational exposure standards have been established for the product or its ingredients.

Engineering controls: Control process conditions to avoid contact.

Personal Protective Equipment:

Eyes: Not normally required. Avoid touching eyes while handling product.

Clothing: Avoid skin contact; full-length work clothes should be worn when using this product.

Gloves: Avoid contact with skin; wear waterproof gloves.

Respiratory: Not required.

9. Physical and Chemical Properties

Appearance: Pale Yellow To colourless transparent liquid

Acidity as H₂SO₄: ≤0.5 %

Acetone insolubles: ≤0.5%

Melting Point: 2.85°C

Boiling Point: 155-157°C

Density: 1.23 (25°C)

Water solubility: 145 mg/l (25°C);

Other solubility: Miscible with most organic solvents, e.g. alcohols, esters, ketones, ethers, aromatic hydrocarbons. Slightly soluble in petroleum ether and some types of mineral oil;

Vapor Pressure: 5.3 mPa @ 30°C

Partition Coefficient: 2.7482

Adsorption Coefficient: 1800



10. Stability and Reactivity

Chemical stability: Stable under normal conditions of use. No dangerous reaction known under normal conditions.

Hazardous polymerisation: None

Conditions to avoid: Extreme heat and fire

Incompatible materials: None known

Hazardous decomposition products: Thermal decomposition may produce toxic by-products of carbon and nitrogen.

11. Toxicological Information

Acute oral LD₅₀(rat) : 1375-2800 mg/kg

Acute dermal LD₅₀(rabbit) : 4100 mg/kg

Acute inhalation LC₅₀(rat, 4h): >5.0 mg/l air

Skin irritation: Mildly irritating to rabbit skin

Eye irritation: Slightly irritating to rabbit eyes

Skin Sensitization: Not a Sensitizer (Guinea Pig)

12. Ecological And Ecotoxicological Information

Effect on birds: Acute oral LD₅₀ for Bobwhite quail is 359 mg/kg.

Effect on fish: Acute LC₅₀ (96 h) for Rainbow trout is 0.018 mg/l.

Effects on aquatic invertebrates: Acute EC₅₀ (48 h) for Daphnia magna is 0.0007 mg/l.

Effects on algae: Acute EC₅₀ (72 h) for Raphidocelis subcapitata is 13 mg/l.

Effects on bees: Contact acute (48 h) LD₅₀ is 0.16 µg/bee, Oral acute (48 h) LD₅₀ is 0.40 µg/bee.

Effects on earthworms: Acute 14 day LC₅₀ is 306 mg/kg.

13. Disposal Considerations

Triple or (preferably) pressure rinse containers before disposal. Add rinsings to the spray tank. Do not dispose of undiluted chemicals on-site. If recycling replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and



product should not be burnt.

14. Transport information

Not Applicable

15. Regulatory Information

Not Applicable

16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.