Fenthion -MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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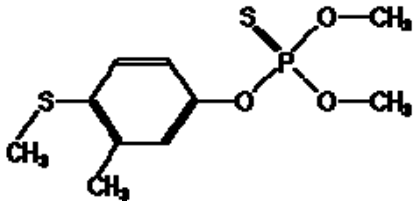
1. Chemical Product Identification

Product Name: Fenthion

Molecular Formula: $C_{10}H_{15}O_3PS_2$

Molecular Weight: 278.33

Structural Formula:



Chemical Name: O, O-dimethyl O-4-methylthio-m-tolyl phosphorothiaote

Form: Liquid

Color: Clear brown

Odor: Aromatic, chemical

CAS No.: 55-38-9

2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Fenthion	55-38-9	90.0
Other ingredients		10.0

3. Hazards Identification

Toxic if swallowed. Harmful by inhalation and in contact with skin. Toxic: danger of serious damage to health by prolonged exposure if swallowed. Possible risks of irreversible effects.

4. First Aid Measures

Inhalation: If inhaled, remove to fresh air and keep at rest. Obtain medical advice. If breathing stops or shows signs of failing, start artificial respiration. If advised by doctor or Poisons Information Centre, atropine tablets may be administered.

Skin contact: Immediately remove contaminated clothing. Wash affected areas with soap and water. Seek medical aid. If advised by doctor or Poisons Information Centre, atropine tablets may be administered.

Eye contact: Rinse eyes immediately with clean water for at least 15minutes and obtain medical aid.

Ingestion: Wash out mouth with water. Do not induce vomiting. Give a glass of water. Keep patient at rest and seek medical advice immediately, as above. Transport patient tablets may be administered.

5. Fire-Fighting Measures

Extinguishing media: Water spray, foam, dry chemical, carbon dioxide,sand.

Hazards from combustion products: In a fire, carbon monoxide, phosphorus pentoxide and sulphur dioxide may be formed.

6. Accidental Release Measures

Avoid contact with the spilled material or contaminated surfaces. Extinguish or remove all possible sources of ignition. Do not smoke, eat or drink during the cleanup process. Personnel involved in cleanup should wear protective clothing and spilled material from entering drains or watercourses.

7. Handling and Storage

Handing: Keep out of reach of children. Product is poisonous if absorbed by skin contact, inhaled or swallowed. Avoid contact with eyes, skin and clothing. Do not inhale spray mist. If product on skin , immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day’s use, wash gloves, face shield or goggles and contaminated clothing. Keep away from excessive heat, open flames and other sources of ignition.

Storage: Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Keep away from excessive heat, open flames and other sources of ignition.

8. Exposure Controls/Personal Protection

Engineering controls: Control process conditions to avoid contact. Use local exhaust ventilation and spark proof equipment during manufacture. Use in a well-ventilated area only.

Personal Protective Equipment: Product is harmful if absorbed by skin contact, inhaled or swallowed. Please wear face shield or splash proof goggles. If inhalation is likely wear an respirator. Wear cotton overalls buttoned to the neck and wrist, a washable hat and impervious footwear. Wear elbow-length PVC gloves.

During post harvest dipping operation wear a full-length waterproof apron as well.

9. Physical and Chemical Properties

Melting point: 7.5℃

Boiling point: 87℃@1.4Pa

Vapor pressure: 0.37mPa@20℃

0.74mPa@25℃

5.1mPa@40℃

Density: 1.246@20℃

Solubility: in water 4.2mg/l@20℃

PH: 4.9 to 5.9 (1% in water)

Partition coefficient: Log P_{ow} =4.84 at 20℃

10. Stability and Reactivity

Chemical stability: Stable under normal conditions of use.

Incompatible materials: Avoid iron and strong oxidizing agents. Avoid highly alkaline conditions.

Hazardous decomposition products: In a fire, carbon monoxide, phosphorus pentoxide and sulphur dioxide may be formed.

11. Toxicological Information

Acute:

Oral toxicity: LD_{50} rat: 309 –474 mg/kg

Dermal toxicity: LD_{50} rat>5000 mg/kg

Inhalation toxicity: LC50(4h)rat: approximately 0.5 mg/L air

Skin irritation: Slightly irritating(rabbit)

Irritation to mucous membranes: Slightly irritating(rabbit)

12. Ecological and Ecotoxicological Information

Do not contaminate streams, rivers or waterways with the chemical or used containers.

Fish toxicity: LC50: 2.7 mg/L(96h)

LC50: 0.83 mg/l(96h)

Aquatic invertebrate toxicity: EC50:0.0057 mg/L(48h)

Algae toxicity: IC50:1.79 mg/L(96h)

13. Disposal Considerations

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers in local authority landfill. If no landfill is a 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. Dispose of water product as hazardous waste via a licensed disposal contractor to an approved landfill. Do not discharge into drains or sewers.

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.