Parathion-methyl -MATERIAL SAFETY DATA SHEET

Manufacturer/information service:
ZHEJIANG RAYFULL CHEMICALS CO., LTD
ADD: NO.113 PUXING ROAD, PUZHOU INDUSTRIAL PARK, LONGWAN DISTRICT, WENZHOU ZHEJIANG P.R. CHINA
Tel: +86-577-88905587           Fax: +86-577-88905567
Email: info@rayfull.com           sales@rayfull.com

1. Chemical Product Identification
   Product Name: Parathion-methyl
   Molecular Formula: C₈H₁₀NO₅PS
   Molecular Weight: 263.2
   Structural Formula:

   ![Structural Formula](image)

   Chemical Name: O,O-dimethyl-O-(4-nitrophenyl) phosphorothioate
   Form: Liquid
   Color: Clear brownish
   Odor: Aromatic
   CAS No.: 298-00-0

2. Composition / Information On Ingredients

<table>
<thead>
<tr>
<th>Composition</th>
<th>CAS No.</th>
<th>Content %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parathion-methyl</td>
<td>298-00-0</td>
<td>80.0</td>
</tr>
<tr>
<td>Other ingredients</td>
<td></td>
<td>20.0</td>
</tr>
</tbody>
</table>

3. Hazards Identification
   Very toxic if swallowed;
   Toxic in contact with skin;
Harmful by inhalation;
Irritating to skin.

4. First Aid Measures

Inhalation: If inhaled, remove to fresh air and keep at rest. Obtain urgent 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 urgent medical aid. Persons assisting the patient should protect themselves from contamination. If advised by doctor or Poisons Information Centre, atropine tablets may be administered.

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

Ingestion: Wash out mouth with water. Do not induce vomiting. Give a glass of water. Keep patient at rest and seek urgent medical advice as above. Transport patient to doctor or hospital quickly. If advised by doctor or Poisons Information Centre, atropine tablets may be administered. Do not attempt to give anything by mouth to a semi-conscious or unconscious person.

5. Fire-Fighting Measures

Extinguishing media: Waterspray, foam, dry chemical, carbon dioxide, sand.

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

Precautions for fire fighters: The product is a flammable liquid – flash point 26° C. Liquid and vapour of xylene are flammable and the vapour will form explosive mixtures with air. The vapour is heavier than air and may travel along the ground so that distant ignition is a possibility. Firefighters should wear full protective gear, including self-contained breathing apparatus. Keep unnecessary people away and move all other personnel to windward side of fire. Isolate hazard area and deny entry. Consider evacuation, taking all relevant factors into account. In case of doubt, evacuate immediate vicinity and request emergency services assistance. Use water spray to cool fire-exposed containers. Avoid spraying directly into containers due to danger of boilover. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of fire control water or other extinguishing agent and spillage safely later.

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 full body protective clothing and equipment as described in Section 8, with self-contained breathing apparatus. Keep people and animals
away and upwind. Consider evacuation and obtain assistance from emergency services if needed. Prevent spilled material from entering drains or watercourses. Contain spill and absorb with earth, sand, clay, or other absorbent material. Collect and store in properly labelled drums for safe disposal. Clean floor with a damp cloth and place cloth in drum. Cover and label drums for safe disposal. Thoroughly ventilate the area after cleanup. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority. Decontaminate tools and equipment used in the cleanup.

7. Handling And Storage

Handling: Keep out of reach of children. Very dangerous. Poisonous if absorbed by skin contact, inhaled or swallowed. Repeated minor exposures may have a cumulative poisoning effect. Avoid contact with eyes, skin and clothing. Do not inhale vapor or spray mist. If clothing becomes contaminated with product or wet with spray, remove clothing immediately. If product or spray on skin, immediately wash areas 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, goggles or face shield, respirator (if rubber, wash with detergent and warm water) 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. Store in a locked room or place away from children, animals, food, feedstuffs, seed and fertilisers.

8. Exposure Controls/Personal Protection

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

Personal Protective Equipment: Product is very dangerous – poisonous if absorbed by skin contact, inhaled or swallowed. Wear splash proof goggles or face shield; Wear full facepiece respirator with combined dust and gas cartridge. In enclosed spaces a respirator with an independent air supply should be worn. Wear protective waterproof clothing, cotton overalls buttoned to the neck and wrist, a washable hat and impervious footwear. Wear elbow-length PVC gloves.

9. Physical and Chemical Properties

PH: Approx. 6 (1% aqueous emulsion)

Melting point : 36°C

Vapour pressure: 0.2mPa (at 20°C)

Boiling point: 138 - 142°C (boiling point range of xylene)
Density: 1.36
Partition coefficient: KowlogP = 3.0
Solubility: in water 55mg/l @ 20°C
Soluble in many organic solvents
Flash Point: 46°C

10. Stability and Reactivity
Chemical stability: Stable under normal conditions of use.
Hazardous Polymerization: Will not polymerise.
Conditions to avoid: Heat, flames, sparks.
Incompatible materials: Strong acids, oxidising agents
Hazardous decomposition products: In a fire, hydrogen cyanide, carbon monoxide, phosphorus pentoxide, sulphur dioxide and nitrogen oxides may be formed.

11. Toxicological Information
Inhalation: Poisonous by inhalation. High vapour concentrations may be irritating to the respiratory tract and may cause headaches, dizziness, drowsiness, anaesthesia, and other central nervous system effects.
Skin contact: Poisonous if absorbed by skin contact. Will irritate the skin.
Eye contact: Irritating to the eyes.
Ingestion: Very dangerous. Poisonous if swallowed.

12. Ecological And Ecotoxicological Information
Fish toxicity: LD50: 6.9 mg/L (96 h); golden orfe (Leuciscus idus melanotus)
LC50: 2.7 mg/L (96 h); trout (Oncorhynchus mykiss)
Aquatic invertebrate toxicity: EC50: 0.0073 mg/L (48 h); Daphnia magna
Algae toxicity: IC50: 3.0 mg/L (96 h); green algae (Scenedesmus subspicatus)
Bird toxicity: LC50: 1044 mg/kg (5 day); mallard ducks (similar product)

13. Disposal Considerations
20, 200 L: 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 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.

1000 L: Empty contents fully into application equipment. Close all valves and return container to point of supply for refill or storage.

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.