Azamethiphos -MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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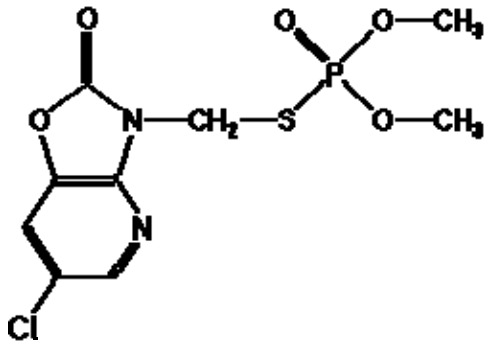
1. IDENTIFICATION OF THE SUBSTANCE

Common name: Azamethiphos

Empirical formula: $C_9H_{10}ClN_2O_5PS$

Molecular weight :324.68

Structural formula:



Chemical name: *S*-6-chloro-2,3-dihydro-2-oxo-1,3-oxazolo[4,5-*b*]pyridin-3-ylmethyl *O,O*-dimethyl phosphorothioate

Form: Crystalline solid

Color: White

Odor: Special foul odor.

CAS No: 35575-96-3

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Concentration(% by weight)
Azamethiphos	35575-96-3	98.0

Others		2.0

3. HAZARD IDENTIFICATION

WARNING:

May be fatal if swallowed. Harmful if absorbed through skin. Cause substantial but temporary eye injury.

Health Hazards:

Eyes: A moderate eye irritant.

Skin: A mild skin irritant.

Ingestion: Highly toxic.

Inhalation: Highly toxic.

Environmental Hazards:

Azamethiphos is dangerous to many organisms. The fastest and therefore most important detoxification mechanism in coastal waters is dilution which is increased by water movements, including the flushing effect of sea tides.
Azamethiphos is dangerous to fish and other aquatic organisms in the concentrated form or improper use dilutions. Do not contaminate ponds, streams, or inlets with product or used packaging.

4. FIRST AID MEASURES

General information

If you have breathing problems or if you have felt persistently unwell after using a product containing an organophosphorus compound, you should consult your doctor before working with Azamethiphos. In case of accident or if you feel unwell, seek medical advice immediately. Tell the doctor you have been using Azamethiphos which contains azamethiphos, an organophosphorus compound.
Ingestion: In the case of ingestion, gastric aspiration followed by lavage should be preferably performed within 1 hour of ingestion. Activated charcoal may be effective for organophosphorus pesticides.
Inhalation: In massive overdoses, acute respiratory failure may occur. It is important to keep the airway open and to prevent spiration if nausea and vomiting occur. Oxygen should be administered early if necessary. The patient must be watched constantly and respiratory support should be instituted if necessary.
Eye Contact: Wash eyes for 15 to 20 minutes with running water. And then go to see the doctor immediately.
Skin Contact: The area should be washed carefully with soap and water. First-aid personnel should wear rubber or plastic gloves to avoid contamination, which should be changed frequently.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Specific Hazard(s): Emits toxic fumes under fire conditions.

Specials protective equipment for firefighters:

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Procedure(s) of personal precaution(s) ：

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for cleaning up：

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7. HANDLING AND STORAGE

Handling: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage: Store in a cool, dry place. Do not contarminate water, food or feed by storage or disposal. By preference, all chemicals should be stored in a locked shed, out of the reach of children and animals. Chemicals should also be kept away from work areas and separate from other stored materials such as animal foods. Always leave chemicals in their original containers. If they must be transferred to another container, ensure that it is one not normally used for food or drink. This secondary container should be labelled properly and be of a variety that is not likely to leak.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering Controls:

Safety shower and eye bath. Mechanical exhaust required.

General hygiene measures:

Wash thoroughly after handling.

Personal protection equipment:

Wear suitable protective clothing (waterproof coveralls), suitable protective gloves (heavy duty gauntlet style nitrile or chemical-resistant gloves at least 300 mm in length and 0.5 mm thick are recommended), and face protection (face shield) when mixing and handling this product and when applying the diluted chemical to the pen. Renew protective clothing and gloves regularly and certainly when cracking or damage has occurred.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White crystalline solid

Odor: Special foul.

Boiling point: Not available

Melting point: 88 - 93℃

Vapor Pressure: $0.0049*10^{-3}$pa(20℃)

Specific gravity: 1.60 g/cm^3

Solubility in water: 1.1g/kg at 20℃

pH: Not applicable .

10. STABILITY AND REACTIVITY

Stability: Stable at room temperature.

Hazardous polymerization: Will not occur.

Conditions to avoid: Oxidizing agents.

Combustion products of dry material: Thermal decomposition may produce carbon monoxide, carbon dioxide, and nitrogen oxides, Hydrogen chloride gas, Sulfur oxides, Hydrogen sulfide gas,

Phosphorous oxides.

11. TOXICOLOGICAL INFORMATION

Acute studies

Oral Rat LD50： 1180 mg/kg

Skin Rat LD50： > 2150 mg/kg

Sign and syptoms of exposure：The chemical, physical, and toxicological properties of this product have not been thoroughly investigated.

Route of exposure：

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity (Technical Grade).

Mammals - Acute oral LD50:1180mg/kg

Fish-Acute LC_{50}: 0.115 mg/L

Birds-Acute LD_{50}:30.2mg/kg

Rats LC_{50}(28 days): 3000ppm(top dose level)

Aquatic invertebrates-AcuteEC50:0.00067mg/L

Honeybees - LD50:0.1ug/bee

Shrimp EC_{50} (48 h): 50mg/L.

Female lobster EbC_{50} (96 h): 5-10mg/L(spawing)

13. DISPOSAL CONSIDERATIONS

Disposal: Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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.