Methamidophos -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

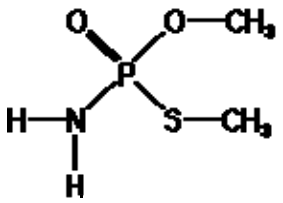
1. Chemical Product Identification

Product Name: Methamidophos

Molecular Formula: $C_2H_8NO_2PS$

Molecular Weight: 141.1

Structural Formula:



Chemical Name:

(*RS*)-*O,S*-dimethyl phosphoramidothioate (IUPAC);

Form: crystals

Color: Pale or pale yellow

Odor: Odorless

CAS No.: 10265-92-6

2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Methamidophos	10265-92-6	70.0
Other ingredients		30.0

3. Hazards Identification

More important danger for the man: None

Dangers for the environment: Methamidophos is toxic to aquatic organisms.

Physical-chemical dangers: decomposes on heating to emit phosphide, nitride, sulfide and carbon.

4. First Aid Measures

Skin: Wash thoroughly with soap and water

Eyes: Flush immediately with plenty of water. Remove contaminated clothing and shoes and launder begore resuse.

Inhalation: Remove to fresh air.

Ingestion: Contact physician before inducing vomiting. Take person and product container to nearest medical emergency treatment center.

Notes to physician: No specific antidote if ingested. Treat symptomatically.

5. Fire-Fighting Measures

Extinguishing media: Use National Fire Protection Association(NFPA) Class B estinguishers (carbon dioxide, dry chemical, halon, water spray of foam)

Unusual fire and explosion hazards: In common with many organic Chemicals, including the majonrity of dayes and pigments in powder form.

Special fire fighting procedures: Firefighters should be equipped with self contained breathing apparatus to protect from potentially toxic and irritating fumes.

6. Accidental Release Measures

Personal cautions: Safety glasses or goggles, rubber gloves, shoes plus socks, long-sleeved shirt, and long pants.

Environmental cautions

EX: prevent the contamination of the floor and beds of water.

7. Handling And Storage

Storage: Store in original container, prederably in a locked area, away from childern, food, feeed.

Other precautions: Do not take internally. Handle with due care. Avoid unnecessary contact.

8. Exposure Controls/Personal Protection

Eye/Face Protection : Chemical resistant goggles must be worn.

Hand Protection : Wear suitable gloves.

Body Protection : Wear long-sleeved shirt and long pants and shoes plus socks.

Respiratory Protection : When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

9. Physical and Chemical Properties

Color: off-white

Melting Point: 20－25℃

Vapor Pressure: 2.3mPa@20℃

Specific Gravity: 1.31 @ 20℃

Solubility in Water :>200g/l@ 20℃

Flash point: 93℃

KowlogP: －0.8

10. Stability and Reactivity

Conditions to avoid: None

Products to avoid: none.

Thermal decomposition: none

Hazardous decomposition products: hydrogen chloride, nitrogen oxides, phosphorous oxides and sulfur oxides.

Hazardous reaction: none

11. Toxicological Information

Acute toxicity: Methamidophos is highly toxic via oral, dermal and inhalation routes of exposure. The oral doses of methamidophos that resulted in the mortality of half of the test organisms (LD50 values) are 21 and 16 mg/kg body weight for male and female rats respectively, 30-50 mg/kg body weight in guinea pigs and 10-30 mg/kg body weight in rabbits. Dermal LD50 values include 50 mg/kg body weight in rats and 118 mg/kg body weight in rabbits. Inhalation LD50 values include 9 mg/kg in rats, and 19 mg/kg in mice.

Chronic toxicity:

Reproductive Effects: A two generation feeding study in rats showed a decrease in the percentage of females delivering offspring at all dose levels (0.15, 0.5, and 1.65 mg/kg/day). A systemic NOEL was 0.5 mg/kg/day based on reduced body weights during premating period. In humans, reduced sperm count and sperm viability were seen in men who were exposed to the product Tamaron in China.

Teratogenic Effects: Some fetal liver pathologic changes were observed when pregnant rabbits were exposed to methamidophos. In two teratology studies, no birth defects were observed at the highest levels tested (3 mg/kg/day in rats, and 2.5 mg/kg/day in rabbits). Decreased body weights were observed in offspring and mothers in the rat study at 3 mg/kg/day. In rabbits, a maternal low effect level (LEL) of 0.1 mg/kg/day (lowest dose tested) was observed based on low body weights.

Mutagenic Effects Methamidophos has tested positive for genotoxicity, or ability to induce changes in chromosomes, in some tests and negative in others. It may be weakly mutagenic.

Carcinogenic Effects: There is no evidence of carcinogenicity in tests with rats and mice.

12. Ecological And Ecotoxicological Information

Effects on Birds Methamidophos is very toxic to birds. Oral LD50 values were 8-11 mg/kg in tests with bobwhite quail.

Effects on Aquatic Organisms: Methamidophos is toxic to aquatic organisms. The concentration in water that is lethal to half of the test organisms (LC50) ranges from 25-51 mg/l in 96-hour tests with rainbow trout, 46 mg/l in guppies, 100 mg/l in carp and 100 mg/l in goldfish. Freshwater, estuarine and marine crustaceans are extremely sensitive to methamidophos. Concentrations as low as 0.22 ng/l (.00000022 mg/l) were lethal to larval crustaceans in 96-hour toxicity tests.

13. Disposal Considerations

Dispose of in accordance with local regulations. Do not put in cinerate closed containers

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.