

Chemical Safety Data Sheet MSDS / SDS

Methamidophos SDS

Revision Date:2024-04-25 Revision Number:1

Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8
Section 9	Section 10	Section 11	Section 12	Section 13	Section 14	Section 15	Section 16

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier**

Product name: Methamidophos

CAS: 10265-92-6

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

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SECTION 2: Hazards identification**Classification of the substance or mixture**

Acute toxicity - Category 2, Oral

Acute toxicity - Category 3, Dermal

Acute toxicity - Category 2, Inhalation
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1

GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H300 Fatal if swallowed
H311 Toxic in contact with skin
H330 Fatal if inhaled
H400 Very toxic to aquatic life

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P284 [In case of inadequate ventilation] wear respiratory protection.
P273 Avoid release to the environment.

Response

P301+P316 IF SWALLOWED: Get emergency medical help immediately.
P321 Specific treatment (see ... on this label).
P330 Rinse mouth.
P302+P352 IF ON SKIN: Wash with plenty of water/...
P316 Get emergency medical help immediately.
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P320 Specific treatment is urgent (see ... on this label).
P391 Collect spillage.

Storage

P405 Store locked up.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name: Methamidophos

Common names and synonyms: Methamidophos

CAS number: 10265-92-6

EC number: 233-606-0

Concentration: 100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Half-upright position. Refer for medical attention. See Notes.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention . See Notes.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Give a slurry of activated charcoal in water to drink. Rest. Refer for medical attention .

Most important symptoms/effects, acute and delayed

This material is harmful or fatal if swallowed, inhaled, or absorbed through the skin. (EPA, 1998)

Indication of immediate medical attention and special treatment needed, if necessary

Airway protection. Ensure that a clear airway exists. Intubate the patients and aspirate the secretions with a large-bore suction device if necessary. Administer oxygen by mechanically assisted pulmonary ventilation if respiration is depressed. Improve tissue oxygenation as much as possible before administering atropine, so as to minimize the risk of ventricular fibrillation. In severe poisonings, it may be necessary to support pulmonary ventilation mechanically for several days. Organophosphate pesticides

SECTION 5: Firefighting measures

Suitable extinguishing media

If material on fire or involved in fire: Do not extinguish fire unless flow can be stopped. Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use "alcohol" foam, dry chemical or carbon dioxide. Organophosphorus pesticides, liquid, flammable, toxic; Organophosphorus pesticides, liquid, toxic

Specific hazards arising from the chemical

Non-Specific -- Organophosphorus Pesticide, n.o.s.) Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. (Non-Specific -- Phosphoramidothioic Acid, O-Ethyl S-Methyl Ester) Emits very toxic fumes of nitrogen oxides, phosphorus oxides, and sulfur oxides when heated to decomposition. Stable at neutral pH. Avoid strong acids or alkalis. (EPA, 1998)

Special protective actions for fire-fighters

Use water spray, powder, alcohol-resistant foam, carbon dioxide.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully

collect remainder. Then store and dispose of according to local regulations.

Environmental precautions

Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT wash away into sewer. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

Methods and materials for containment and cleaning up

Environmental considerations: Air spill: Apply water spray or mist to knock down vapors. Organophosphorus pesticides, liquid, flammable, toxic; Organophosphorus pesticides, liquid, toxic; Organophosphorus pesticides, solid, toxic

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs. Dry. Keep in a well-ventilated room...Concentrates... should not be stored in mild steel containers.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

TLV BEI issued

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and

the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear face shield or eye protection in combination with breathing protection if powder.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use ventilation (not if powder), local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Methamidophos is a crystalline solid, technical product is off-white with a pungent odor. Used as an insecticide on a number of vegetables and on cotton. (EPA, 1998)
Colour:	Colorless crystals
Odour:	Mercaptan-like odor
Melting point/freezing point:	44.5°C
Boiling point or initial boiling point and boiling range:	208.7°C at 760 mmHg
Flammability:	Combustible under specific conditions. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit:	no data available

Flash point:	212°C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	Soluble in aliphatic chlorinated hydrocarbons, alcohols; slightly soluble in ether.
Partition coefficient n-octanol/water:	log Kow = -0.8 @ 20 deg C
Vapour pressure:	0.211mmHg at 25°C
Density and/or relative density:	1.286 g/cm ³
Relative vapour density:	no data available
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on heating and on burning. This produces toxic and irritating fumes including nitrogen oxides, phosphorus oxides and sulfur oxides. Attacks mild steel and copper-containing alloys (technical grade).

Chemical stability

Stable at ambient temp.

Possibility of hazardous reactions

Organophosphates, such as METHAMIDOPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic

phosphorus oxides. Avoid strong acids or alkalis. [EPA, 1998].

Conditions to avoid

no data available

Incompatible materials

Attacks mild steel and copper-containing alloys (technical grade).

Hazardous decomposition products

When heated to decomposition it emits very toxic fumes of /nitrogen, phosphorous and sulfur oxides/.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rabbit oral 10 mg/kg

Inhalation: no data available

Dermal: LD50 Rat percutaneous 50-110 mg/kg

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

Cancer Classification: Not Likely to be Carcinogenic to Humans

Reproductive toxicity

no data available

STOT-single exposure

The substance is irritating to the eyes. The substance may cause effects on the nervous system by a cholinesterase inhibiting effect. This may result in convulsions, respiratory failure, heart failure and death. The effects may be delayed. Medical observation is indicated.

STOT-repeated exposure

The substance may have effects on the nervous system. Cholinesterase inhibition. Cumulative effects are possible.

Aspiration hazard

A harmful concentration of airborne particles can be reached quickly when dispersed, especially if powdered.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50 Rainbow trout 25 ppm/96 hr, static

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: Half-lives in Mooretown, NJ loam, Florida sandy loam, and sandy loam were 0.583, 4.8, and 6.1 days under aerobic conditions(1).

Bioaccumulative potential

An estimated BCF of 3.1 was calculated for methamidophos(SRC), using a log Kow of -0.8(1) and a regression-derived equation(2).

According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

Mobility in soil

A Koc of 5 has been reported for methamidophos(1). According to a classification scheme(2), this Koc value suggests that methamidophos is expected to have very high mobility in soil.

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: UN2783 (For reference only, please check.)

IMDG: UN2783 (For reference only, please check.)

IATA: UN2783 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC (For reference only, please check.)

IMDG: ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC (For reference only, please check.)

IATA: ORGANOPHOSPHORUS PESTICIDE, SOLID, TOXIC (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.)

IMDG: 6.1 (For reference only, please check.)

IATA: 6.1 (For reference only, please check.)

Packing group, if applicable

ADR/RID: I (For reference only, please check.)

IMDG: I (For reference only, please check.)

IATA: I (For reference only, please check.)

Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Not Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Not Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:
http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:
<http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Other Information

Use of alcoholic beverages enhances the harmful effect. Depending on the degree of exposure, periodic medical examination is suggested. Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available. Isolate contaminated clothing by sealing in a bag or other container. Do NOT take working clothes home. If the substance is formulated with solvents also consult the ICSCs of these materials. Carrier solvents used in commercial formulations may change physical and toxicological properties. If the substance is present under the form of a formulation containing hydrocarbon solvents, vomiting may not be induced.

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any