

Chemical Safety Data Sheet MSDS / SDS

AZINPHOS-METHYL

Revision Date:2026-05-31 Revision Number:1

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

Product name : AZINPHOS-METHYL
CBnumber : CB0204970
CAS : 86-50-0
EINECS Number : 201-676-1
Synonyms : Azinphos-methyl,guthion

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
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification**GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Danger

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Hazard statements

H311 Toxic in contact with skin
H317 May cause an allergic skin reaction
H410 Very toxic to aquatic life with long lasting effects

SECTION 3: Composition/information on ingredients

Substance

| | |
|--------------|---------------------------|
| Product name | : AZINPHOS-METHYL |
| Synonyms | : Azinphos-methyl,guthion |
| CAS | : 86-50-0 |
| EC number | : 201-676-1 |
| MF | : C10H12N3O3PS2 |
| MW | : 317.32 |

SECTION 4: First aid measures

First Aid Measures

General advice

Consult a physician if necessary. Remove to fresh air.

Eye contact

Wash with plenty of water.

Skin Contact

Wash skin with soap and water.

Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.

Ingestion

Never give anything by mouth to an unconscious person. Clean mouth with water.

Most important symptoms and effects, both acute and delayed

Symptoms

No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

SECTION 5: Firefighting measures

Suitable Extinguishing Media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical

No information available.

Hazardous combustion products

Carbon oxides. Nitrogen oxides (NO_x). Hydrogen sulfide.

Explosion data**Sensitivity to Mechanical Impact**

No information available.

Sensitivity to Static Discharge

No information available.

Protective equipment and precautions for firefighters**Protective equipment and precautions for firefighters**

As in any fire, wear self contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures**Personal precautions**

Ensure adequate ventilation, especially in confined areas.

Environmental precautions**Environmental precautions**

See Section 12 for additional Ecological Information. Prevent product from entering drains.

Should not be released into the environment.

Methods and material for containment and cleaning up**Methods for containment**

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly.

SECTION 7: Handling and storage

Precautions for safe handling**Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store at 4 °C.

Incompatible materials

None known based on information supplied.

SECTION 8: Exposure controls/personal protection

Control parameters

Exposure Guidelines

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Other Information

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

| Column 1 | Column 2 | Column 3 | Column 4 |
|-------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------|
| Azinphos-methyl 86-50-0 | TWA: 0.2 mg/m ³ inhalable fraction and vapor S* | TWA: 0.2 mg/m ³ (vacated) TWA: 0.2 mg/m ³ (vacated) S* S* | IDLH: 10 mg/m ³ TWA: 0.2 mg/m ³ |

NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Controls

Showers

Eyewash stations

Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and Body Protection

Wear protective gloves and protective clothing.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

| | |
|------------------------------|--------------------------|
| Physical State | Solid |
| Appearance | No information available |
| Odor | No information available |
| pH | No information available |
| Melting point/freezing point | 48 °C |
| Boiling point | 200 °C |
| Flash point | No information available |

| | |
|---------------------------------|---------------------------------|
| Liquid Density | No information available |
| Evaporation rate | No information available |
| Upper flammability limits | No information available |
| Lower flammability limit | No information available |
| Vapor pressure | 5.0×10^{-7} Pa (20 °C) |
| Vapor density | No information available |
| Specific gravity | No information available |
| Water solubility | 28 mg l ⁻¹ (20 °C) |
| Solubility in other solvents | No information available |
| Partition coefficient | No information available |
| Autoignition temperature | No information available |
| Decomposition temperature | No information available |
| Kinematic viscosity | No information available |
| Explosive properties | No information available |
| Oxidizing properties | No information available |
| Density and/or relative density | 1.44 g/cm ³ (20°C) |
| Colour | Crystals or brown, waxy solid |

SECTION 10: Stability and reactivity

Reactivity

Not applicable

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization

No information available.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

Strong oxidizing agents.

Hazardous Decomposition Products

Carbon oxides. Nitrogen oxides (NO_x). Hydrogen sulfide.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation

Classified based on available data. For more details, see section 2.

Eye contact

Classified based on available data. For more details, see section 2.

Skin Contact

Classified based on available data. For more details, see section 2.

Ingestion

Classified based on available data. For more details, see section 2.

Information on toxicological effects

Symptoms

Classified based on available data. For more details, see section 2.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity

May cause adverse effects on the bone marrow and blood-forming system. Target Organ Effects Blood, Central Vascular System (CVS), Central nervous system, Respiratory system. Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name ACGIH IARC NTP OSHA

Azinphos-methyl - Group

2A - X 86-50-0

Numerical measures of toxicity - Product Information

Unknown acute toxicity

Classified based on available data. For more details, see section 2

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)

5 mg/kg

ATEmix (dermal)

300 mg/kg

ATEmix (inhalation-dust/mist)

0 mg/l

SECTION 12: Ecological information

Ecotoxicity

| Chemical name | Algae/aquatic plants | Fish | Toxicity to Microorganisms | Crustacea |
|---------------|----------------------|------------------------------------------------|----------------------------|-----------|
| | | 0.05 - 0.083: 96 h Pimephales promelas mg/L | | |

| | | | |
|-------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Azinphos-methyl 86-50-0 | 7.15: 96 h Desmodesmus subspicatus mg/L EC50 | LC50 flow-through 0.028 - 0.05: 96 h Pimephales promelas mg/L LC50 static 0.0023 - 0.0037: 96 h Oncorhynchus mykiss mg/L LC50 static 0.63: 96 h Poecilia reticulata mg/L LC50 static 0.41 - 1.28: 96 h Cyprinus carpio mg/L LC50 static 0.0037 - 0.0045: 96 h Lepomis macrochirus mg/L LC50 static 0.0037 - 0.0067: 96 h Lepomis macrochirus mg/L LC50 flow-through 0.007 - 0.011: 96 h Oncorhynchus mykiss mg/L LC50 flow-through | 0.0011: 48 h Daphnia magna mg/L EC50 0.001 - 0.0013: 48 h Daphnia magna mg/L EC50 Static 0.0012 - 0.002: 48 h Daphnia magna mg/L EC50 semi-static 0.0039 - 0.0058: 48 h Daphnia magna mg/L EC50 Flow through |
| Azinphos-methyl 86-50-0 | 2.96 | | |

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Azinphos-methyl 7.15: 96 h Desmodesmus 0.05 - 0.083: 96 h -

0.0011: 48 h Daphnia

0.05: 96 h Pimephales

magna mg/L EC50 Static

0.0023 - 0.0037: 96 h

Daphnia magna mg/L EC50

Oncorhynchus mykiss mg/L

semi-static 0.0039 - 0.0058:

Poecilia reticulata mg/L

EC50 Flow through

LC50 static 0.41

1.28: 96 h

Cyprinus carpio mg/L

LC50

static 0.0037

0.0045: 96 h

Lepomis macrochirus mg/L

LC50 static 0.0037

0.0067: 96 h *Lepomis macrochirus*

0.007

0.011: 96 h

Oncorhynchus mykiss mg/L**LC50 flow**

through

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Azinphos

methyl 2.96 86-50-0

SECTION 13: Disposal considerations**Disposal of wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations. Should not be released into the environment.

Contaminated packaging

Do not reuse container.

California Hazardous Waste Status

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical name | California Hazardous Waste Status |
|-------------------------|-----------------------------------|
| Azinphos-methyl 86-50-0 | Toxic |

SECTION 14: Transport information**DOT****UN/ID no**

UN2811

Hazard Class

6.1

Packing Group

I

Proper shipping name

Toxic solids, organic, n.o.s. Reportable Quantity (RQ) (Azinphos-methyl: RQ (kg)= 0.454)

Description

UN2811, Toxic solids, organic, n.o.s. (Azinphos-methyl), 6.1, I Marine pollutant This product contains a chemical which is listed as a severe

marine pollutant according to DOT

Emergency Response Guide Number

154

IMDG

UN/ID no

UN2811

Hazard Class

6.1

Packing Group

I

Proper shipping name

Toxic solid, organic, n.o.s.

Description

UN2811, Toxic solid, organic, n.o.s. (Azinphos-methyl), 6.1, I, Marine pollutant

Special Provisions

274

EmS-No

F-A, S-A Marine pollutant This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

IATA

UN/ID no

UN2811

Hazard Class

6.1

Packing Group

I

Proper shipping name

Toxic solid, organic, n.o.s.

Description

UN2811, Toxic solid, organic, n.o.s. (Azinphos-methyl), 6.1, I

ERG Code

6L

SECTION 15: Regulatory information

International Inventories

All of the components in the product are on the following Inventory lists

Europe (EINECS/ELINCS/NLP) Australia (AICS) South Korea (KECL): Philippines (PICCS)

X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

| Chemical name | TSCA | DSL | NDSL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS | AICS |
|-----------------|------|-----|------|--------|--------|------|-------|------|-------|------|
| Azinphos-methyl | - | - | - | X | - | - | - | X | X | X |

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard

Yes

Chronic Health Hazard

No

Fire hazard

No

Sudden release of pressure hazard

No

Reactive hazard

No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

| Chemical name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|-------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Azinphos-methyl 86-50-0 | 1 lb | | | X |

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|-------------------------|------------|---------------|--------------|
| Azinphos-methyl 86-50-0 | X | X | X |

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

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

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.