

Chemical Safety Data Sheet MSDS / SDS

IODOFENPHOS

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

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

Product identifier

Product name : IODOFENPHOS
CBnumber : CB5670282
CAS : 18181-70-9
EINECS Number : 242-069-1
Synonyms : Iodofenphos,jodfenphos

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

Classification of the substance or mixture

Acute toxicity - Category 3, Dermal
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1

Label elements**Pictogram(s)**

☐

Signal word : Danger

Hazard statement(s)

H311 Toxic in contact with skin
H400 Very toxic to aquatic life

Precautionary statement(s)

P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P273 Avoid release to the environment.

Response

P302+P352 IF ON SKIN: Wash with plenty of water/...

P316 Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P361+P364 Take off immediately all contaminated clothing and wash it before reuse.

P391 Collect spillage.

Storage

P405 Store locked up.

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

no data available

SECTION 3: Composition/information on ingredients

Substance

Product name	: IODOFENPHOS
Synonyms	: Iodofenphos,jodfenphos
CAS	: 18181-70-9
EC number	: 242-069-1
MF	: C8H8Cl2IO3PS
MW	: 413

SECTION 4: First aid measures

Description of first aid measures

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately.

Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

no data available

Indication of any immediate medical attention and special treatment needed

A comatose patient who is diaphoretic, has pinpoint pupils and the odor of an insecticide on clothing or breath, and is noted to have muscle fasciculations represents the classic presentation of organophosphate poisoning. ... Specific steps in management include the following. 1. Decontamination. ... 2 Airway. Establish an airway if necessary. ... 3. Respiratory Status. Respiratory distress, in fact, is commonly found in these patients from multiple causes. ... 4. Cardiac Monitoring. ... 5. Cholinesterase Level. ... 6. Pralidoxime. Pralidoxime is the treatment of choice for organophosphate poisoning and should be used for nearly all patients with clinically significant organophosphate poisoning, particularly those patients with muscular fasciculations and weakness. ... 7. Atropine. Atropine is the physiologic antidote for organophosphate poisoning. A trial dose of atropine should be instituted on clinical ground when one suspects organophosphate intoxication.

Organophosphate poisoning

SECTION 5: Firefighting measures

Extinguishing media

If material on fire or involved in fire: Do not extinguish fire unless flow can be stopped. 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, carbon dioxide or dry chemical. Organophosphorus pesticides, liquid, NOS

Specific Hazards Arising from the Chemical

no data available

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

SECTION 7: Handling and storage

Precautions for safe handling

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

Must be stored in its sealed original containers, in well-aired, fresh & dry storehouses or in shaded & possibly well-aired places. it is recommended that the product's temp ... not exceed 25-30 deg c, & keep ... away from sources of heat, free flames, or spark-generating equipment. containers must be stacked in such a way as to permit free circulation of air ... at bottom & inside of piles. storage areas must be located at suitable distance from inhabited buildings, animal shelters, & food stores; moreover, they must be inaccessible to unauthorized persons, children, & domestic animals.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

Exposure 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

Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Physical state	solid
Colour	COLORLESS CRYSTALS
Odour	MILD ODOR
Melting point/freezing point	72-73 DEG C
Boiling point or initial boiling point and	375.7°C at 760mmHg

boiling range	
Flammability	no data available
Lower and upper explosion limit/flammability limit	no data available
Flash point	181°C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	AT 20 DEG C: <2 MG/L WATER; 450 G/L ACETONE, TOLUENE; 810 G/L DICHLOROMETHANE; 30 G/L METHANOL, OCTAN-1-OL
Partition coefficient n-octanol/water	log Kow = 5.51
Vapour pressure	1.65E-05mmHg at 25°C
Density and/or relative density	1.871g/cm3
Relative vapour density	no data available
Particle characteristics	no data available

SECTION 10: Stability and reactivity

Reactivity

no data available

Chemical stability

Jodfenfos is relatively stable in neutral or weakly acidic or alkaline media but unstable in concentrated acids & alkalis.

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

When heated to decomposition, it emits highly toxic fumes of /hydrogen chloride, hydrogen iodide, phosphorus oxides, & sulfur oxides/.
parathion

SECTION 11: Toxicological information

Acute toxicity

- Oral: no data available

- Inhalation: no data available
- Dermal: no data available

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

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50 Rainbow trout 0.016 mg/l/96 hr @ 12 deg C (95% confidence limit 0.012-0.023 mg/l, wt 0.7 g)

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

Iodofenphos had measured half-lives of 70.5 and 85.1 days in illuminated and non-illuminated soil, respectively(1). The main degradation product was 2,5-dichloro-4-iodophenol indicating that the main decomposition reaction was the cleavage of the aryl ester bond(1).

Degradation was due to both abiotic and biotic reactions.

Bioaccumulative potential

An estimated BCF value of 9000 was calculated for iodofenphos(SRC), using a measured log Kow of 5.51(1) and a recommended regression-

derived equation(2). Guppies, *Poecilia reticulata*, exposed to a mixture of cyanophos, methylparathion, ronnel, fenitrothion, dicapthon, and iodofenphos had a bioconcentration factor of 48,000 for iodofenphos; an elimination rate constant of 0.36/day was observed for the same compound(3). According to a recommended classification scheme(4), these values indicate a very high BCF, and that short-term bioaccumulation will occur(SRC) based on a measured elimination rate in aquatic organisms(3).

Mobility in soil

The Koc of iodofenphos is estimated as approximately 24,000(SRC), using a measured log Kow of 5.51(1) and a regression-derived equation(2,SRC). According to a recommended classification scheme(3), this estimated Koc value suggests that iodofenphos will be immobile in soil(SRC).

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: UN2811 (For reference only, please check.)

IMDG: UN2811 (For reference only, please check.)

IATA: UN2811 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: TOXIC SOLID, ORGANIC, N.O.S. (For reference only, please check.)

IMDG: TOXIC SOLID, ORGANIC, N.O.S. (For reference only, please check.)

IATA: TOXIC SOLID, ORGANIC, N.O.S. (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

Not Listed.

New Zealand Inventory of Chemicals (NZIoC)

Not Listed.

PICCS

Not Listed.

Vietnam National Chemical Inventory

Not Listed.

IECSC

Not Listed.

Korea Existing Chemicals List (KECL)

Not 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?pagelD=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/>

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