



SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0
Creation Date: July 15, 2019
Revision Date: July 15, 2019

SECTION 1: Identification

1.1 GHS Product identifier

Product name Carbophenothion

1.2 Other means of identification

Product number -
Other names carbofenotion; (4-chlorophenyl)sulfanylmethylsulfanyl-diethoxy-sulfanylidene- λ^5 -phosphane; S-[[[4-chlorophenyl]thio]methyl] O,O-diethyl phosphorodithioate

1.3 Recommended use of the chemical and restrictions on use

Identified uses Industrial and scientific research use.
Uses advised against no data available

1.4 Supplier's details

Company Shanghai Yien Chemical Technology Co., Ltd
Address Building 6, 28 Yingong Road, Fengxian District, Shanghai Chemical Industry Zone, Shanghai, 201400, China
Telephone +86-400-133-2688

1.5 Emergency phone number

Emergency phone number +86-400-133-2688
Service hours Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

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

2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word Danger
Hazard statement(s) H301 Toxic if swallowed

| | |
|-----------------------------------|---|
| | H311 Toxic in contact with skin H410 Very toxic to aquatic life with long lasting effects |
| 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/... 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. 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. |

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

| Chemical name | Common names and synonyms | CAS number | EC number | Concentration |
|-----------------|---------------------------|------------|-----------|---------------|
| Carbophenothion | Carbophenothion | 786-19-6 | 212-324-1 | 100% |

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention .

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. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Rest. Refer for medical attention .

4.2 Most important symptoms/effects, acute and delayed

This material is highly toxic; the estimated fatal oral dose is 0.6 g for a 150 lb. (70 kg) person. It is an indirect cholinesterase inhibitor, meaning its effects are on the nervous system. (EPA, 1998)

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

Airway protection. Insure 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: Fire-fighting measures

5.1 Suitable extinguishing media

Non-Specific -- Organophosphorus Pesticide, Liquid, n.o. s) Stay upwind; keep out of low areas. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific - - Organophosphorus Pesticide, Liquid, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)

5.2 Specific hazards arising from the chemical

Non-Specific -- Organophosphorus Pesticide Liquid, n.o.s.) Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. (EPA, 1998)

5.3 Special protective actions for fire-fighters

Use water spray, foam, powder, carbon dioxide.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT wash away into sewer. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.2 Environmental precautions

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT wash away into sewer. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.3 Methods and materials for containment and cleaning up

Spills of pesticides at any stage of their storage or handling should be treated with great care. Liquid formulations may be reduced to solid phase by evaporation. Dry sweeping of solids is always hazardous: These should be removed by vacuum cleaning or by dissolving them in water or other solvent in the factory environment. In the field they may be washed away with water into a suitable soak-hole. Pesticides

SECTION 7: Handling and storage

7.1 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.

7.2 Conditions for safe storage, including any incompatibilities

Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs. Keep in a well-ventilated room.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 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.

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

Eye/face protection

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

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 | Carbophenothion is an off-white to amber liquid with a mild odor of rotten eggs. Used as an insecticide and acaricide, primarily for citrus crops and deciduous fruits and nuts. (EPA, 1998) |
| Colour | COLORLESS LIQ |
| Odour | MERCAPTAN-LIKE ODOR |
| Melting point/freezing point | no data available |
| Boiling point or initial boiling point and boiling range | 82(0.013kPa) |
| Flammability | Combustible. 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 | -18°C |
| Auto-ignition temperature | no data available |
| Decomposition temperature | no data available |
| pH | no data available |
| Kinematic viscosity | no data available |
| Solubility | Miscible with vegetable oils and most org solvents |
| Partition coefficient n-octanol/water | log Kow = 5.33 |
| Vapour pressure | 3e-07 mm Hg at 68° F (EPA, 1998) |
| Density and/or relative density | 1.29(20°C) |
| Relative vapour density (air = 1) | 11.8 |
| Particle characteristics | no data available |

SECTION 10: Stability and reactivity

10.1 Reactivity

Decomposes on heating and on burning. This produces toxic fumes including phosphorus oxides, sulfur oxides and hydrogen chloride.

10.2 Chemical stability

Relatively stable to hydrolysis and heat (less than 80 deg c).

10.3 Possibility of hazardous reactions

CARBOPHENOTHION is a halogenated organophosphate derivative. Organophosphates 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.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 Rat (male) oral 79.4 mg/kg
- Inhalation: no data available
- Dermal: LD50 Rabbit percutaneous 1850 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

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance may cause effects on the nervous system. This may result in convulsions and respiratory failure. Cholinesterase inhibition. Exposure could cause death. The effects may be delayed. Medical observation is indicated.

STOT-repeated exposure

Cholinesterase inhibition. Cumulative effects are possible. See Acute Hazards/Symptoms.

Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: LC50 *Lepomis cyanellus* (Green sunfish) 280 ug/l/96 hr at 18 deg C, wt 0.8 g (95% confidence limit 186-422 ug/l) /technical material, 95.3%/. Static bioassay without aeration, pH 7.2-7.5, water hardness 40-50 mg/l as calcium carbonate and alkalinity of 30-35 mg/l.
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: Carbophenothion may be susceptible to biodegradation in water; after 2 weeks, approximately 10% of an initial concn of 10 mg/l carbophenothion remained in raw river water samples(1). However, untreated and sterile sediment water systems retained 57% after 5 days and 51% after 7 days, respectively, suggesting that biological processes are not responsible for the degradation of carbophenothion(2).

12.3 Bioaccumulative potential

An estimated BCF of 2500 was calculated for carbophenothion(SRC), using a log Kow of 5.33(1) and a regression-derived equation(2). An average BCF of 950 was reported for carbophenothion(4). According to a classification scheme(3), these BCFs suggest the potential for bioconcentration in aquatic organisms is high to very high.

12.4 Mobility in soil

The Koc of carbophenothion is estimated as 19,000(SRC), using a log Kow of 5.33(1) and a regression-derived equation(2). Average Koc values of about 45,400(4) and 46,800(5) have been experimentally determined. According to a classification scheme(3), these Koc values suggest that carbophenothion is expected to be immobile.

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 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

14.1 UN Number

ADR/RID: UN2784 (For reference only, please check.)

IMDG: UN2784 (For reference only, please check.)

IATA: UN2784 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID:
ORGANOPHOSPHORUS
PESTICIDE, LIQUID,
FLAMMABLE, TOXIC,
flash point less than 23 °C
(For reference only, please check.)

IMDG:
ORGANOPHOSPHORUS
PESTICIDE, LIQUID,
FLAMMABLE, TOXIC,
flash point less than 23 °C
(For reference only, please check.)

IATA:
ORGANOPHOSPHORUS
PESTICIDE, LIQUID,
FLAMMABLE, TOXIC,
flash point less than 23 °C
(For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.)

IMDG: 3 (For reference only, please check.)

IATA: 3 (For reference only, please check.)

14.4 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.)

14.5 Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

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

| Chemical name | Common names and synonyms | CAS number | EC number |
|--|---------------------------|------------|-------------|
| Carbophenothion | Carbophenothion | 786-19-6 | 212-324-1 |
| 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) | | | Not Listed. |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS) | | | Not Listed. |
| Vietnam National Chemical Inventory | | | Listed. |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) | | | Not Listed. |
| Korea Existing Chemicals List (KECL) | | | Listed. |

SECTION 16: Other information

Information on revision

Creation Date July 15, 2019

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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

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. 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. Do NOT take working clothes home.

Any questions regarding this SDS, Please send your inquiry to sds@xixisys.com

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 damage resulting from handling or from contact with the above product.