

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.2  
Creation Date: July 15, 2019  
Revision Date: August 08, 2025

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name Chlormephos

### 1.2 Other means of identification

Product number CCPD100200

Other names Phosphorodithioic acid,S-(chloromethyl) O,O-diethyl ester; Chlormephos; Dotan

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.

Uses advised against no data available

### 1.4 Supplier's details

Company CATO Research Chemicals Inc.

Address 3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou

Telephone +86-20-81960175

### 1.5 Emergency phone number

Emergency phone number +86-20-81960175

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 2, Oral

Acute toxicity - Category 1, 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)

H300 Fatal if swallowed

H310 Fatal 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.

P262 Do not get in eyes, on skin, or on clothing.

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 |
|---------------|---------------------------|------------|-----------|---------------|
| Chlormephos   | Chlormephos               | 24934-91-6 | 246-538-1 | 100%          |

# SECTION 4: First-aid measures

## 4.1 Description of necessary first-aid measures

### If inhaled

Fresh air, rest. Artificial respiration may be needed. Refer immediately for medical attention.

### Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer immediately for medical attention. Wear protective gloves when administering first aid.

### 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. Refer immediately for medical attention.

## 4.2 Most important symptoms/effects, acute and delayed

Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) This material is poisonous; it may be fatal if inhaled, swallowed, or absorbed through the skin. (EPA, 1998)

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

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: Fire-fighting measures

## 5.1 Suitable extinguishing media

For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam.

## 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 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: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable plastic 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: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable plastic 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

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

## 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. Well closed. Store in an area without drain or sewer access. Rooms used for storage only should be soundly constructed & fitted with secure locks. Floors should be kept clear & pesticides clearly identified. If repacking is carried out in storage rooms, adequate light should be available; floors should be impervious & sound. Pesticides

## 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 local exhaust or breathing protection.

#### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

|                                                                 |                                                                                                                      |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Physical state</b>                                           | Chlormephos is a colorless liquid. Used as a soil insecticide. Not registered as a pesticide in the U.S. (EPA, 1998) |
| <b>Colour</b>                                                   | Colorless liquid                                                                                                     |
| <b>Odour</b>                                                    | no data available                                                                                                    |
| <b>Melting point/freezing point</b>                             | 53-54°C                                                                                                              |
| <b>Boiling point or initial boiling point and boiling range</b> | 249.5°C at 760mmHg                                                                                                   |
| <b>Flammability</b>                                             | Combustible. Gives off irritating or toxic fumes (or gases) in a fire.                                               |
| <b>Lower and upper explosion limit/flammability limit</b>       | Combustible.                                                                                                         |
| <b>Flash point</b>                                              | 104.7°C                                                                                                              |
| <b>Auto-ignition temperature</b>                                | no data available                                                                                                    |
| <b>Decomposition temperature</b>                                | no data available                                                                                                    |
| <b>pH</b>                                                       | no data available                                                                                                    |
| <b>Kinematic viscosity</b>                                      | no data available                                                                                                    |
| <b>Solubility</b>                                               | 60 mg/l water at 20 deg C                                                                                            |
| <b>Partition coefficient n-octanol/water</b>                    | 3.0 (estimated)                                                                                                      |
| <b>Vapour pressure</b>                                          | 0.0362mmHg at 25°C                                                                                                   |
| <b>Density and/or relative density</b>                          | 1.295g/cm <sup>3</sup>                                                                                               |
| <b>Relative vapour density</b>                                  | no data available                                                                                                    |
| <b>Particle characteristics</b>                                 | no data available                                                                                                    |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Decomposes on burning. This produces toxic and corrosive fumes including phosphorus oxides and sulfur oxides. Attacks some metals.

### 10.2 Chemical stability

Stable in neutral and weakly acidic media at room temp, but hydrolyzed by dilute acids and alkalis at 30 deg C. Rapidly hydrolyzed in alkaline media.

### 10.3 Possibility of hazardous reactions

Organophosphates, such as CHLORMEPHOS, 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 oral 7 mg/kg
- Inhalation: no data available
- Dermal: LD50 Rat percutaneous 27 mg ai/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

Cholinesterase inhibition. The substance may cause effects on the nervous system. This may result in convulsions and respiratory depression. 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

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached.

---

## SECTION 12: Ecological information

### 12.1 Toxicity

- Toxicity to fish: no data available
- 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

no data available

### 12.3 Bioaccumulative potential

An estimated BCF of 120 was calculated for chlormephos(SRC), using an estimated log Kow of 3.0(2,SRC) and a recommended regression-derived equation(2). According to a classification scheme(3), this BCF suggests that bioconcentration in aquatic organisms is high(SRC).

### 12.4 Mobility in soil

The Koc of chlormephos is estimated as approximately 1100(SRC), using an estimated log Kow of 3.0(1) and a regression-derived equation(2,SRC). According to a recommended classification scheme(3), this estimated Koc value suggests that chlormephos is expected to have low mobility in soil(SRC).

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

### 14.2 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.)

### 14.3 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.)

### 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   |
|--------------------------------------------------------------------------|---------------------------|------------|-------------|
| Chlormephos                                                              | Chlormephos               | 24934-91-6 | 246-538-1   |
| 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                                      |                           |            | Not 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  
Revision Date August 08, 2025

#### 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](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. Do NOT take working clothes home. Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available. Carrier solvents used in commercial formulations may change physical and toxicological properties.

**Any questions regarding this SDS, Please send your inquiry to [info@cato-chem.com](mailto:info@cato-chem.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.*