

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)  
Classifications according to Regulation (EC) No 1272/2008.  
Printdate 02 Jun 2023

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product name:

Chlorethoxyfos

### 1.1. Catalog No.:

686401

### 1.2. Relevant identified uses of the substance or mixture

Identified: Laboratory chemical  
uses: R&D

### 1.3. Uses advised against:

HPC Standards GmbH  
Am Wieseneck 7

04451 Cunnersdorf  
Deutschland

Tel. +49 34291 3372-36  
Fax. +49 34291 3372-39  
contact@hpc-standards.com

### 1.4. Emergency telephone number

HPC Standards Tel. +49 34291 3372-36  
This number is only available during office hours.

## 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture  
Classification according to Regulation (EC) No 1272/2008  
Acute toxicity, Oral (Category 1), H300  
Acute toxicity, Inhalation (Category 1), H330  
Acute toxicity, Dermal (Category 1), H310  
Eye irritation (Category 2), H319  
Short-term (acute) aquatic hazard (Category 1), H400  
Long-term (chronic) aquatic hazard (Category 1), H410

### 2.2. Label elements

#### 2.2.1. Pictogram



#### 2.2.2.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram Signal word Danger

Hazard statement(s)

H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.

H319 Causes serious eye irritation.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

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

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing.

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

Rinse mouth.

P302 + P352 + P310 IF ON SKIN: Wash with plenty of water. Immediately call a

POISON CENTER/ doctor.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable

for breathing. Immediately call a POISON CENTER/ doctor.

Supplemental Hazard

Statements

none

Reduced Labeling (<= 125 ml)

Pictogram Signal word Danger

Hazard statement(s)

H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.

Precautionary statement(s)

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

P280 Wear protective gloves/ protective clothing.

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

Rinse mouth.

P302 + P352 + P310 IF ON SKIN: Wash with plenty of water. Immediately call a

POISON CENTER/ doctor.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable

for breathing. Immediately call a POISON CENTER/ doctor.

Supplemental Hazard

Statements

none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : (±)-O,O-Diethyl O-(1,2,2,2-tetrachloroethyl) phosphorothioate Formula : C<sub>6</sub>H<sub>11</sub>Cl<sub>4</sub>O<sub>3</sub>PS

Molecular weight : 336,00 g/mol

CAS-No. : 54593-83-8

Component Classification Concentration

(±)-O,O-Diethyl O-(1,2,2,2-tetrachloroethyl) phosphorothioate

CAS-No. 54593-83-8 Acute Tox. 1; Eye Irrit. 2;

Aquatic Acute 1; Aquatic

Chronic 1; H300, H330,

H310, H319, H400, H410

<= 100 %

#### 3.1.1. Formula

C<sub>6</sub>H<sub>11</sub>Cl<sub>4</sub>O<sub>3</sub>PS

**3.1.2. Molecular Weight (g/mol)**

336.00

**3.1.3. CAS-No.**

54593-83-8

**4. FIRST AID MEASURES**

4.1 Description of first-aid measures

General advice

Consult a physician. Show this material safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

**5. FIRE-FIGHTING MEASURES**

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Sulfur oxides

Oxides of phosphorus

Hydrogen chloride gas

Combustible 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

## 6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures  
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.  
For personal protection see section 8.
- 6.2 Environmental precautions  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- 6.3 Methods and materials for containment and cleaning up  
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.
- 6.4 Reference to other sections  
For disposal see section 13

## 7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling  
Advice on safe handling  
Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.  
Hygiene measures  
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.  
For precautions see section 2.2.
- 7.2 Conditions for safe storage, including any incompatibilities  
Storage conditions  
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.  
Storage stability  
Recommended storage temperature  
2 - 8 °C  
Storage class  
Storage class (TRGS 510): 6.1A: Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials
- 7.3 Specific end use(s)  
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 Information on basic physical and chemical properties
  - a) Appearance Form: liquid
  - b) Odor No data available
  - c) Odor Threshold No data available
  - d) pH No data available
  - e) Melting point/freezing point

110 - 115 °C at 10 hPa

f) Initial boiling point  
and boiling range

No data available g) Flash point 128 °C

h) Evaporation rate No data available

i) Flammability (solid,  
gas)

No data available

j) Upper/lower  
flammability or  
explosive limits

No data available

k) Vapor pressure No data available

l) Vapor density No data available

m) Density 1,41 g/cm<sup>3</sup> at 20 °C

Relative density No data available

n) Water solubility No data available

o) Partition coefficient:

n-octanol/water

log Pow: 4,59 at 25 °C

p) Autoignition

temperature

No data available

q) Decomposition

temperature

No data available

r) Viscosity Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

s) Explosive properties No data available

t) Oxidizing properties No data available

9.2 Other safety information

No data available

## 10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - female - 1,8 mg/kg

LD50 Oral - Rat - male - 4,8 mg/kg

LC50 Inhalation - Rat - 4 h - 0,008 mg/l

LD50 Dermal - Rabbit - female - 12,5 mg/kg

LD50 Dermal - Rabbit - male - 18,5 mg/kg

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

Eyes - Rabbit  
Result: Moderate eye irritation  
Respiratory or skin sensitization  
No data available  
Germ cell mutagenicity  
No data available  
Carcinogenicity  
No data available  
Reproductive toxicity  
No data available  
Specific target organ toxicity - single exposure  
No data available  
Specific target organ toxicity - repeated exposure  
No data available  
Aspiration hazard  
No data available  
11.2 Additional Information  
Highly toxic cholinesterase inhibitor.

## 12. ECOLOGICAL INFORMATION

12.1 Toxicity  
Toxicity to fish LC50 - *Oncorhynchus mykiss* (rainbow trout) - 0,1 mg/l - 96 h  
LC50 - *Lepomis macrochirus* (Bluegill sunfish) - 0,0023 mg/l - 96 h  
LC50 - *Cyprinodon variegatus* (sheepshead minnow) - 0,00047 mg/l - 96 h  
Toxicity to daphnia and other aquatic invertebrates  
LC50 - Daphnia - 0,00041 mg/l - 48 h  
12.2 Persistence and degradability  
No data available  
12.3 Bioaccumulative potential  
No data available  
12.4 Mobility in soil  
No data available  
12.5 Results of PBT and vPvB assessment  
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.  
12.6 Endocrine disrupting properties  
No data available  
12.7 Other adverse effects  
Very toxic to aquatic life with long lasting effects.

## 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods  
Product  
Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.  
Contaminated packaging  
Dispose of as unused product.

#### 14. TRANSPORT INFORMATION

14.1 UN number  
ADR/RID: 3278 IMDG: 3278 IATA: 3278  
14.2 UN proper shipping name  
ADR/RID: ORGANOPHOSPHORUS COMPOUND, LIQUID, TOXIC, N.O.S. ((±)-O,O-Diethyl O-(1,2,2,2-tetrachloroethyl) phosphorothioate)  
IMDG: ORGANOPHOSPHORUS COMPOUND, LIQUID, TOXIC, N.O.S. ((±)-O,O-Diethyl O-(1,2,2,2-tetrachloroethyl) phosphorothioate)  
IATA: Organophosphorus compound, liquid, toxic, n.o.s. ((±)-O,O-Diethyl O-(1,2,2,2-tetrachloroethyl) phosphorothioate)  
Passenger Aircraft: Not permitted for transport  
14.3 Transport hazard class(es)  
ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1  
14.4 Packaging group  
ADR/RID: I IMDG: I IATA: I  
14.5 Environmental hazards  
ADR/RID: no IMDG Marine pollutant: yes IATA: no  
14.6 Special precautions for user  
No data available

#### 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture  
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.  
National legislation  
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.  
: ACUTE TOXIC  
: ENVIRONMENTAL HAZARDS  
15.2 Chemical Safety Assessment  
For this product a chemical safety assessment was not carried out

#### 16. OTHER INFORMATION

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. For lab use only!