

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)
Classifications according to Regulation (EC) No 1272/2008.
Printdate 06 Feb 2026

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

1.1. Product name:

Phorate

1.1. Catalog No.:

694292

1.2. Relevant identified uses of the substance or mixture

Identified: Laboratory chemical
uses: R&D

1.3. Uses advised against:

HPC Standards GmbH
An der Laakenwiese 7

04838 Jesewitz
Deutschland

Tel. +49 34241 54 990
Fax. +49 34241 54 9999
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 [EU-GHS/CLP]

Acute toxicity, Dermal (Category 1)

Acute toxicity, Oral (Category 2)

Acute aquatic toxicity (Category 1)

Chronic aquatic toxicity (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Very toxic in contact with skin and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

2.2.1. Pictogram



2.2.2.

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)

P264 Wash hands thoroughly after handling.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing. P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/

physician.

P302 + P350 IF ON SKIN: Gently wash with plenty of soap and water.

P310 Immediately call a POISON CENTER or doctor/ physician.

Supplemental Hazard

Statements

none

According to European Directive 67/548/EEC as amended.

Hazard symbol(s) R-phrase(s)

R27/28 Very toxic in contact with skin and if swallowed.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S28 After contact with skin, wash immediately with plenty of soap and water.

S36/37 Wear suitable protective clothing and gloves.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S60 This material and its container must be disposed of as hazardous waste.

S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : O,O-Diethyl S-(ethylthiomethyl) phosphorodithioate

Formula : C7H17O2PS3

Molecular Weight : 260,38 g/mol

Component Concentration

Phorate

CAS-No.

EC-No.

Index-No.

298-02-2

206-052-2

015-033-00-6

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3.1.1. Formula

C7H17O2PS3

3.1.2. Molecular Weight (g/mol)

260.38

3.1.3. CAS-No.

298-02-2

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this 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

Flush eyes with water as a precaution.

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

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated

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, Sulphur oxides, Oxides of phosphorus

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting 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.

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

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. 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.

Recommended storage temperature: 2 - 8 °C

7.3 Specific end use(s)

no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands. Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance Form: liquid

- b) Odour no data available
 - c) Odour Threshold no data available
 - d) pH no data available
 - e) Melting point/freezing point
no data available
 - f) Initial boiling point and boiling range
125 - 127 °C at 3 hPa
 - g) Flash point no data available
 - h) Evaporation rate no data available
 - i) Flammability (solid, gas) no data available
 - j) Upper/lower flammability or explosive limits
no data available
 - k) Vapour pressure no data available
 - l) Vapour density no data available
 - m) Relative density 1,156 g/cm³ at 25 °C
 - n) Water solubility no data available
 - o) Partition coefficient: noctanol/water
log Pow: 3,56
 - p) Auto-ignition temperature
no data available
 - q) Decomposition temperature
no data available
 - r) Viscosity 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
no data available
- 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
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

- 11.1 Information on toxicological effects
 - Acute toxicity
 - LC50 Inhalation - rat - 1 h - 11 mg/m³
 - Skin corrosion/irritation
no data available
 - Serious eye damage/eye irritation
no data available
 - Respiratory or skin sensitization

no data available
Germ cell mutagenicity
Genotoxicity in vitro - Hamster - ovary
Cytogenetic analysis
Genotoxicity in vitro - Hamster - ovary
Sister chromatid exchange
Genotoxicity in vitro - Human - lymphocyte
Sister chromatid exchange
Genotoxicity in vivo - rat - Intraperitoneal
Cytogenetic analysis
Genotoxicity in vivo - rat - Intraperitoneal
Micronucleus test
Genotoxicity in vivo - mouse - Intraperitoneal
Micronucleus test
Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity Reproductive toxicity - Gerbil - Intraperitoneal
Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).
Paternal Effects: Testes, epididymis, sperm duct.
Specific target organ toxicity - single exposure
no data available Specific target organ toxicity - repeated exposure
no data available
Aspiration hazard
no data available
Potential health effects
Inhalation May be fatal if inhaled. May cause respiratory tract irritation.
Ingestion May be fatal if swallowed.
Skin May be fatal if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.
Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Additional Information
RTECS: TD9450000

12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available
Toxicity to fish LC50 - *Lepomis macrochirus* (Bluegill) - 0,002 mg/l - 96,0 h
Toxicity to daphnia and other aquatic invertebrates
EC50 - *Daphnia magna* (Water flea) - 0,018 mg/l - 48 h
12.2 Persistence and degradability
Biodegradability Result: - According to the results of tests of biodegradability this product is not readily biodegradable.
12.3 Bioaccumulative potential
no data available
12.4 Mobility in soil
no data available
12.5 Results of PBT and vPvB assessment
no data available
12.6 Other adverse effects
Very toxic to aquatic life

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN number
ADR/RID: 2810 IMDG: 2810 IATA: 2810
14.2 UN proper shipping name
ADR/RID: TOXIC LIQUID, ORGANIC, N.O.S. (Phorate)
IMDG: TOXIC LIQUID, ORGANIC, N.O.S. (Phorate)
IATA: Toxic liquid, organic, n.o.s. (Phorate)
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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available
15.2 Chemical Safety Assessment
no data available

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!