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Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)
Classifications according to Regulation (EC) No 1272/2008.
Printdate 20 Jan 2023

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

1.1. Product name:

Phorate

1.1. Catalog No.:

675219

1.2. Relevant identified uses of the substance or mixture

Identified uses: Laboratory chemical
R&D

1.3. Uses advised against:

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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
-

3.1.1. Formula

C7H17O2PS3

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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

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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!