MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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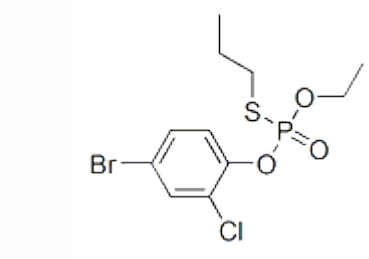
1. Chemical Product Identification

Product Name: profenfos 500 EC
Chemical Name: profenfos 500g/L EC
Empirical Formula: C11H15BrClO3PS
Molecular Weight: 373.6
Structural Formula:



Chemical Name: O-(4-Bromo-2-chlorophenyl)-O-ethyl-S-propyl phosphorothioate
CAS No.: 41198-08-7
UN No.: 2810

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	CAS Number	%
profenfos	41198-08-7	50%
Other ingredients		50%

3.Hazards Identification

Profenofos can cause cholinesterase inhibition in humans; that is, it can stimulate the nervous system causing nausea, dizziness, confusion and at very high exposures (e.g., accidents or major spills), respiratory paralysis and death.

4. First Aid Measures

Eye:
Flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport to medical facility

Skin:
Flush exposed area with water, wash with soap and water. Monitor for symptoms.
Ingestion:
Rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal .
Inhalation:
Establish a patient airway. Suction if necessaryAggressive airway control may be needed. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary. Monitor for shock and treat if necessary Anticipate seizures and treat if necessary .
Note to Physician:
All treatment should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.
If emesis has not occurred, the stomach should be emptied by gastric lavage. This product is a cholinesterase inhibitor. Severe symptoms and signs include diarrhea, pinpoint and no-reactive pupils, respiratory difficulty, pulmonary edema, cyanosis, loss of sphincter control, convulsions, and coma.
Support respiration as needed. Measures should include removal of secretions, maintenance of patent airway, and, if necessary, artificial ventilation.

5. Fire-Fighting Measures

terase inhibitor. Severe symptoms and signs include diarrhea, pinpoint and no-reactive pupils.

6. Accidental Release Measures

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

7. Handling and Storage

Keep tightly closed. Store at 2-8 C

8. Exposure Controls / Personal Protection

Personal Protection

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Respirators

Wear positive pressure self-contained breathing apparatus (SCBA).

Exposure Effects

Harmful by inhalation, in contact with skin and if swallowed. Readily absorbed through skin. Target organ(s): Blood. Heart.

9. Physical and Chemical Properties

Appearance

Pale yellow liquid with garlic-like odor.

Solubility in water

28 mg/L (25 C)

Boiling Point

402

Vapor Pressure

2.7E-6 (25 C)

Heat Of Vaporization

62.8 kJ/mol

10. Stability and Reactivity

Incompatibilities

Alkaline conditions. Oxidizing and reducing agents.

Stability

Stable under normal temperatures and pressures.

Decomposition

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.

Combustion Products

Sulfur oxides, phosphorus oxides, hydrogen bromide and hydrogen chloride.

11. Toxicological Information

Acute oral toxicity : LD50 Rat, 916 mg/kg
Acute inhalation toxicity : LC50 Rat, 4,447 mg/m3, 4 h
LC50 Rat, 8,894 mg/m3, 1 h

Acute dermal toxicity : LD50 Rat, > 4,600 mg/kg
SAFETY DATA SHEET according to EC directive 2001/58/EC
Skin irritation : Rabbit: highly irritant
Eye irritation : Rabbit: Irritant
Sensitization : guinea pig
Sensitizing
Long term toxicity
Did not show mutagenic or teratogenic effects in animal experiments.
In a rat inhalation study with naphthalene, tumurs were observed in the respiratory tract at all doses.

12. Ecological and Ecotoxicological Information

ELIMINATION INFORMATION (PERSISTENCE AND DEGRADABILITY)
Bioaccumulation : Profenofos has high bioaccumulation potential
Stability in water : Profenofos is not persistent in water
Stability in soil : Profenofos is not persistent in soil.
Mobility : Profenofos has low mobility in soil.
ECOTOXICITY EFFECTS
Toxicity to fish : LC50 Salmo trutta (trout), 0.19 mg/l , 96 h
: LC50 Cyprinus carpio (Common carp), 0.083 mg/l , 96 h
: LC50 Ameiurus nebulosus (Catfish), 0.044 mg/l , 96 h
: LC50 Bluegill sunfish, 0.28 mg/l , 96 h
: LC50 Leuciscus idus (goldorfe), 0.022 mg/l , 96 h
Toxicity to aquatic invertebrates
: EC50 Daphnia magna (Water flea), ca. 0.002 mg/l , 48 h
Toxicity to algae : EC50 scenedesmus subspicatus, ca. 2 mg/l , 72 h
Toxicity to other organisms
: LC50 Peking duck, > 60 mg/kg , 8 d
: LC50 Japanese quail, 2,738 mg/kg , 8 d

13. Disposal Considerations

Product : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.
Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken for local recycling or waste

disposal.
Do not re-use empty containers.

14. Transport Information

land transport
ADR/ RID:
UN-No: 1993
Class: 3
Danger Label Number : 3
Packaging group III
Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(ISOBUTANOL AND PROFENOFOS)
Sea transport
IMDG:
UN-No: 1993
Class: 3
Danger Label Number : 3
Packaging group: III
Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(ISOBUTANOL AND PROFENOFOS)
Marine pollutant : Marine pollutant
Air transport
IATA-DGR
UN-No: 1993
Class: 3
Danger Label Number : 3
Packaging group: III
Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(ISOBUTANOL AND PROFENOFOS)

15. Regulatory Information

US Federal
EPA Registration No. 264-458
TSCA list
NAPHTHALENE 91-20-3
TSCA 12b export notification
None
SARA Title III-section 302 – notification and information
ETHOPROP 13194-48-4
SARA Title II – section 313 – toxic chemical release reporting
ETHOPROP 13194-48-4
NAPHTHALENE 91-20-3
US States Regulatory
CA Prop65

This product contains a chemical known to the state of California to cause cancer.

ETHOPROP 13194-48-4

US State right-to-know ingredients

ETHOPROP 13194-48-4

NAPHTHALENE 91-20-3

Canadian Regulations

Canadian Domestic Substance List

NAPHTHALENE 91-20-3

Environmental

CERCLA

NAPHTHALENE 91-20-3

Clean Water Section 307 Priority Pollutants

NAPHTHALENE 91-20-3

Safe Drinking Water Act Maximum Contaminant Levels

NAPHTHALENE 91-20-3

International Regulations

EU Classification

NAPHTHALENE 91-20-3

16. Other Information

Further information
Text of R phrases mentioned in Section 2:

R10 Flammable.
R20 Harmful by inhalation.
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R22 Harmful if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.
R37/38 Irritating to respiratory system and skin.
R38 Irritating to skin.
R40 Limited evidence of a carcinogenic effect.
R41 Risk of serious damage to eyes.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapors may cause drowsiness and dizziness.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage,

transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
A vertical bar in the left margin indicates an amendment from the previous version.