

COCREATE GLOBAL TECHNOLOGIES PRIVATE LIMITED

U21009KA2023PTC179006

Registered address: FFK Towers, #445, 2nd Floor, 17th Cross Road, Sector 4, HSR Layout, Bangalore, Bangalore South, Karnataka - 560102, India.

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SAFETY DATA SHEET
Profenofos 94% Technical

1. Identification of the Substance and Supplier

- **Product Name:** Profenofos 94% Technical
- **Chemical Name:** O-(4-Bromo-2-chlorophenyl) O-ethyl S-propyl phosphorothioate
- **CAS Number:** 41198-08-7
- **EC Number:** 255-891-8
- **Molecular Formula:** C₁₁H₁₅BrClO₃PS
- **Intended Use:** Broad-spectrum organophosphate insecticide and acaricide used primarily in agriculture for pest control
- **Formulation Type:** Technical Grade (94% Purity)
- **Manufacturer/Supplier:** Cocreate Global Technologies Private Limited

2. Hazard Identification

- **Classification (GHS):**
 - Acute Toxicity (Oral): Category 2
 - Acute Toxicity (Dermal): Category 3
 - Acute Toxicity (Inhalation): Category 3
 - Skin Irritation: Category 2
 - Eye Irritation: Category 2A
 - Hazardous to the Aquatic Environment (Acute): Category 1
 - Hazardous to the Aquatic Environment (Chronic): Category 1
- **Signal Word:** Danger
- **Hazard Statements:**
 - H300: Fatal if swallowed.

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- H311: Toxic in contact with skin.
- H331: Toxic if inhaled.
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long-lasting effects.

- **Precautionary Statements:**

- P261: Avoid breathing dust, fumes, gas, mist, vapors, or spray.
- P270: Do not eat, drink, or smoke when using this product.
- P280: Wear protective gloves, clothing, and eye protection.
- P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.
- P391: Collect spillage.
- P501: Dispose of contents/container in accordance with local regulations.

3. Composition/Information on Ingredients

Ingredient	CAS Number	Concentration (%)
Profenofos	41198-08-7	94%
Inert Ingredients -		≤ 6%

4. First-Aid Measures

- **Inhalation:** Move the person to fresh air. If breathing is difficult, administer oxygen and seek immediate medical attention.
- **Skin Contact:** Remove contaminated clothing. Wash skin thoroughly with soap and water. Seek medical attention if irritation or symptoms of poisoning occur.
- **Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present. Seek immediate medical attention.

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- **Ingestion:** Rinse mouth with water. Do not induce vomiting unless directed by medical personnel. Seek immediate medical attention.

Antidote: Administer **atropine sulfate** and **oxime therapy** under medical supervision in case of poisoning.

5. Fire-Fighting Measures

- **Extinguishing Media:** Use water spray, foam, dry chemical powder, or carbon dioxide.
- **Special Hazards:** Can release toxic fumes of phosphorus oxides, sulfur oxides, hydrogen chloride, and bromine compounds upon combustion.
- **Protective Equipment:** Wear self-contained breathing apparatus (SCBA) and full protective clothing.

6. Accidental Release Measures

- **Personal Precautions:** Use personal protective equipment (PPE) such as gloves, goggles, and a respirator. Avoid inhaling fumes and contact with skin.
- **Environmental Precautions:** Prevent spills from entering waterways or drains. Highly toxic to aquatic organisms.
- **Cleanup Methods:** Contain and collect spillage with absorbent materials like sand or soil. Place waste in properly labeled containers for disposal according to local regulations.

7. Handling and Storage

- **Handling:** Avoid inhalation, ingestion, and contact with skin and eyes. Wear appropriate PPE and ensure good ventilation in work areas.
- **Storage:** Store in a tightly closed container in a cool, dry, and well-ventilated area. Keep away from heat, open flames, strong oxidizers, and incompatible materials.

8. Exposure Controls / Personal Protection

- **Occupational Exposure Limits:** No specific exposure limits established for Profenofos.
- **Engineering Controls:** Ensure proper ventilation and use local exhaust systems to minimize exposure.

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- **Personal Protective Equipment (PPE):**

- **Respiratory Protection:** Use an approved respirator if exposure exceeds recommended limits.
- **Hand Protection:** Chemical-resistant gloves.
- **Eye Protection:** Safety goggles or a face shield.
- **Skin Protection:** Protective clothing and boots.

9. Physical and Chemical Properties

Property	Value
Appearance	Pale yellow to amber crystalline solid
Odor	Mild characteristic odor
pH (1% solution)	4.0–6.0
Melting Point	35–37°C
Boiling Point	Decomposes before boiling
Solubility in Water	28 mg/L at 25°C
Density	~1.4 g/cm ³
Vapor Pressure	1.5 × 10 ⁻³ Pa at 20°C
Partition Coefficient (log Kow)	4.8

10. Stability and Reactivity

- **Stability:** Stable under normal storage and handling conditions.
- **Incompatible Materials:** Strong acids, strong bases, and oxidizing agents.
- **Hazardous Decomposition Products:** Releases phosphorus oxides, sulfur oxides, bromine compounds, and hydrogen chloride upon combustion.
- **Conditions to Avoid:** Excessive heat, open flames, and direct sunlight.

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11. Toxicological Information

- **Acute Oral Toxicity (LD50):** 358 mg/kg (rat)
- **Acute Dermal Toxicity (LD50):** 600 mg/kg (rat)
- **Acute Inhalation Toxicity (LC50):** 0.05 mg/L (rat, 4 hours)
- **Skin Irritation:** Causes skin irritation
- **Eye Irritation:** Causes eye irritation
- **Sensitization:** May cause allergic skin reactions
- **Chronic Toxicity:** Long-term exposure can affect the nervous system due to cholinesterase inhibition

12. Ecological Information

- **Ecotoxicity:**
 - Fish (Rainbow Trout): LC50 = 0.12 mg/L (96 hours)
 - Daphnia magna: EC50 = 0.07 mg/L (48 hours)
 - Algae: EC50 = 0.003 mg/L (72 hours)
- **Persistence and Degradability:** Degrades slowly in soil and water.
- **Bioaccumulative Potential:** High potential (log Kow = 4.8)
- **Mobility in Soil:** Low due to high adsorption

13. Disposal Considerations

- **Waste Disposal:** Dispose of in accordance with local, regional, and national environmental regulations.
 - **Contaminated Packaging:** Dispose of packaging as hazardous waste according to regulatory guidelines.
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14. Transport Information

UN Number 3018

Proper Shipping Name Organophosphorus pesticide, liquid, toxic (Profenofos)

Transport Hazard Class 6.1 (Toxic substances)

Packing Group II

Environmental Hazards Marine pollutant

15. Regulatory Information

- **Regulatory Status:** Complies with international and local chemical safety regulations.
 - **GHS Label Elements:**
 - Hazard Pictograms:   
 - Signal Word: **Danger**
 - Risk Phrases: R25 (Toxic if swallowed), R43 (May cause sensitization by skin contact), R50/53 (Very toxic to aquatic organisms, may cause long-term adverse effects)
 - Safety Phrases: S28 (After contact with skin, wash immediately), S36/37/39 (Wear suitable protective clothing, gloves, and eye/face protection)
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16. Other Information

- **Disclaimer:** The information provided in this document is believed to be accurate as of the date of issue. No warranty is expressed or implied regarding its completeness or accuracy. Always refer to local regulations before handling or disposing of this product.