

MATERIAL SAFETY DATA SHEET

Spectrum Ethers Private Limited

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product name	Profenofos
CAS No	41198-08-7

Manufacturer Spectrum Ethers Private Limited
Gat no. 367, Rasegaon Village, Tal.Dindori
Dist. Nashik-422202, Maharashtra, India

Emergency telephone number 02557-228000

Recommended uses and restrictions on use For Industrial use only. Insecticide

Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4
Serious eye damage/eye irritation	Category 2B
Skin sensitization	Category 1
Specific target organ toxicity (single exposure) Category 2 nervous system	Category 2
Short-term (acute) hazardous to the aquatic environment	Category 1
Long-term (chronic) hazardous to the aquatic environment	Category 1

Pictograms



Signal word

Warning

Hazard statements

- H320 - Causes eye irritation
- H302 - Harmful if swallowed
- H332 - Harmful if inhaled
- H312 - Harmful in contact with skin
- H400 - Very toxic to aquatic life
- H410 - Very toxic to aquatic life with long lasting effects
- H371 - May cause damage to the following organs: nervous system

Precautionary statements-(Prevention)

- Wash face, hands and any exposed skin thoroughly after handling

- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Contaminated work clothing should not be allowed out of the workplace
- Do not breathe dust/fume/gas/mist/vapors/spray
- Avoid release to the environment
- Keep away from heat/sparks/open flames/hot surfaces. — No smoking
- Keep container tightly closed
- Ground/bond container and receiving equipment
- Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements-(Response)

- IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- If skin irritation or rash occurs: Get medical advice/attention
- Wash contaminated clothing before reuse.
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a POISON CENTER or doctor/physician if you feel unwell.
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth.
- Collect spillage

Precautionary statements-(Storage)

- Store locked up.
- Store in a well-ventilated place. Keep cool

Precautionary statements-(Disposal)

- Dispose of contents/container to an approved waste disposal plant

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Substance

Formula C11H15BrClO3PS

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Profenofos	95.0	373.63	N/A	N/A	41198-08-7

Impurities and/or Additives : Not applicable

Section 4: FIRST AID MEASURES

Inhalation

Remove to fresh air. If symptoms persist, call a physician.

Skin contact

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

Ingestion

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Protection of first-aiders

Use personal protective equipment as required.

4.2 Most important symptoms /effects, acute and delayed

Excerpt from ERG Guide 152[Substances –Toxic (Combustible)]: Highly toxic, may be fatal if inhaled, swallowed or absorbed through skin. Contact with molten substance may cause several burns to skin and eyes. Avoid skin contact. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. (ERG, 2016)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Basic treatment: Establish a patent airway. Suction if necessary. Aggressive airway control may be needed. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by non re-breather 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. For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport. Do not use emetics. For 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/Organophosphates and related compounds/Atropine Injection.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media

Water spray (fog), Carbon dioxide (CO₂), Foam, Extinguishing powder, Sand

Unsuitable extinguishing media

No information available

Specific hazards arising from the chemical product

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Vapors may form explosive mixtures with air

Special extinguishing

method No information

available **Special protective**

actions for

fire-fighters

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for contaminant and methods and materials for cleaning up

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE

Handling

Technical measures

Highly flammable. Avoid contact with high temperature objects, spark, and strong oxidizing agents. Use with local exhaust ventilation.

Precautions

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2. Safety

Handling precautions

Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Storage

Safe storage conditions

Storage conditions

Store in cool place. Keep container tightly closed in a dry and well-ventilated place..

Incompatible substances

Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Personal protective equipment

Respiratory protection gas mask for organic gas
Hand protection Impermeable protective gloves
Eye protection protective eyeglasses or chemical safety goggles
Skin and body protection Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form

Physical state	Amber colored oily liquid or pale yellow liquid
Appearance	liquid
Odor	Garlic like odor
Melting point/freezing point	No data available
Boiling point, initial boiling point and boiling range	100 ^o C (1.80 Pa)
Flammability	No data available
Upper/lower flammability or Flash point	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
pH	4.4
Dynamic viscosity	No data available
Solubility	In water 28 mg/L (25 ^o C) Readily miscible with most organic solvents
n-Octanol/water partition coefficient:(log Pow)	No data available
Vapour pressure	1.24 x 10 ⁻¹ mPa (25 ^o C)
Specific Gravity / Relative density	1.455
Vapour density	No data available
Particle characteristics	No data available

Section 10: STABILITY AND REACTIVITY

Stability

Reactivity	No data available
Chemical stability	May be altered by light. Unstable under alkaline condition.
Hazardous reactions	None under normal processing
Conditions to avoid	Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	Carbon monoxide (CO), Carbon dioxide (CO ₂), Halides, Phosphorus oxide, Sulfur oxides (SO _x)

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50

Profenofos	358 mg/kg (Rat) 510 mg/kg (Rat)	> 4000 mg/kg (Rat) 1610 mg/kg (Rat) 192 mg/kg (Rabbit)	3 g/m ³ (Rat) 4 h
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Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
Profenofos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
Profenofos	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Skin irritation/corrosion

Chemical Name	Skin corrosion/irritation source information
Profenofos	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
Profenofos	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
Profenofos	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagenicity source information
Profenofos	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
Profenofos	Based on the NITE GHS classification results.

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Profenofos	Based on the NITE GHS classification results.

STOT-single exposure

Chemical Name	STOT -single exposure- source information
Profenofos	Based on the NITE GHS classification results.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
Profenofos	Based on the NITE GHS classification results.

Aspiration hazard

Chemical Name	Aspiration Hazard source information
Profenofos	Based on the NITE GHS classification results.

Section 12: ECOLOGICAL INFORMATION

Birds Acute oral LC50 (8 d, Japanese quail) >1000 mg/kg bw LC50 (8 d, Bobwhite quail) 70-200 mg/kg diet LC50 (8 d, mallard ducks) 150-612 mg/kg diet

Fish LC50 (96 h) for Rainbow trout 0.08 mg/l,
Crucian Carp 0.09 mg/l
Bluegill sunfish 0.3 mg/l

Bees LD50 (contact, 48 h) 0.102 μ g/bee

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated container and contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

ADR/RID

UN number	UN3018
Proper shipping name:	Organophosphorus pesticide, liquid, toxic
UN classification	6.1
Subsidiary hazard class	
Packing group	III
Marine pollutant	Yes

IMDG

UN number	UN3018
Proper shipping name:	Organophosphorus pesticide, liquid, toxic
UN classification	6.1
Subsidiary hazard class	
Packing group	III
Marine pollutant (Sea)	Yes

IATA

UN number	UN3018
Proper shipping name:	Organophosphorus pesticide, liquid, toxic
UN classification	6.1
Subsidiary hazard class	
Packing group	III
Environmentally Hazardous Substance	Yes

Section 15: REGULATORY INFORMATION

EU- Classification Hazard Symbol	Xn	Harmful
Special Risks (R-Phrases)	R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
Safety Advice (S- Phrases)	S2 S36/37	Keep out of the reach of children Wear suitable protective clothing and gloves.
International WHO Toxicity	II	Moderately toxic

Section 16: OTHER INFORMATION

Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

Disclaimer

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