



MATERIAL SAFETY DATA SHEET

SERGEANT 400EC (PROFENOFOS 40% EC)

1. IDENTIFICATION OF PRODUCT AND COMPANY

| | |
|----------------------|--|
| Product Name | : SERGEANT 400EC PROFENOFOS 40% EC |
| Formulation | : Profenofos: 400 g/l Emulsifiable concentrate |
| Common Name | : Profenofos |
| Chemical Name | : 0-4-bromo-2-chlorophenyl, Oethyl,S-propyl phosphorothioate |
| CAS No. | : 41198-08-7 |
| Chemical Family | : Organophosphate |
| Chemical Formula | : C11H15BrClO3PS (Mol. wt.: 373.6) |
| Chemical class | : Insecticide / Acaricide |
| Supplier | : ANGLO GULF LIMITED |
| Address | : P.O. Box 16887, Jebel Ali, Dubai, U.A.E. |
| Tel | : +9714 8835039 |
| Fax | : +9714 8835853 |
| E-mail | : agadxgme@emiraes.net.ae |
| Website | : www.anglogulf.ae |
| Use / Mode of Action | : Non-systemic insecticide and Acaricide with contact and stomach action. Exhibits a translaminar effect. Have ovicidal properties. |

2. COMPOSITION / INFORMATION ON INGREDIENTS

| Ingredients | CAS No. | Concentration (w/v) |
|-------------------------|------------|---------------------|
| Profenofos | 41198-08-7 | 400 |
| Hydrocarbon solvent | 64742-94-5 | 480 |
| Non hazards ingredients | | 120 |

3. HAZARD IDENTIFICATION

Toxicity class WHO (a.i.) II; EPA (formulation) II

Main Hazards Profenofos inhibits cholinesterase enzyme activity in the nervous tissue. It is considered harmful. Contact with skin, inhalation of fume or spray, or swallowing may be harmful. Very toxic to fish, daphnia and algae. Very toxic to bees. Toxic to birds.

Fire and explosion hazard Product is flammable due to the solvent.

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Likely routes of exposure Skin and eye contact, ingestion and inhalation.

Eye contact Irritating to eyes.

Skin contact Harmful, due to possible absorption. Irritating to skin. May cause sensitization by skin contact.

Ingestion Harmful by ingestion.

Inhalation Harmful by inhalation.

4. FIRST AID MEASURES AND PRECAUTIONS

Profenofos is a organophosphate insecticide. Organophosphorus intoxication results from accumulation of acetylcholine at nerve endings. Symptoms of Profenofos intoxication can include headache, nausea, blurred vision, papillary constriction, tiredness, giddiness, cramps, diarrhea, and discomfort in the chest, nervousness, sweating, tearing, salivation, pulmonary oedema, convulsion, and coma. If swallowed and aspirated into the lungs, chemical pneumonia can occur.

Depending on severity of poisoning these symptoms become worse with the onset of vomiting, abdominal pain, diarrhea, sweating and salivation. Confusion, ataxia, slurred speech, loss of reflexes are some of the central nervous system effects may lead to misdiagnosis of acute alcoholism.

First Aid:

Inhalation

Immediately remove source of contamination or move victim to fresh air. If breathing has stopped, perform artificial respiration and administer oxygen. Keep person warm and at rest. Treat symptomatically and supportively as and when required. Avoid mouth-to-mouth resuscitation. Seek medical advice immediately.

Skin contact

Remove contaminated clothing, shoes and leather goods immediately. Gently wipe off excess chemical. Wash skin gently and thoroughly with non-abrasive soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 to 20 minutes). Seek medical advice if necessary.

Eye contact

Flush eyes immediately with large amounts of gently flowing cold water or normal saline solution, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). If irritation persists, get medical attention.

Ingestion

Have victim rinse mouth thoroughly with water. Do not induce vomiting, due to the aromatic solvent. Seek medical advice immediately. If the person is alert and respiration is not depressed, give large quantity of water to drink. Never give anything by mouth to an unconscious person. Establish and maintain airway. Treat respiratory difficulty with artificial respiration and oxygen. Qualified medical personnel must perform administration of oxygen and lavage.

Advice to physician

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This product contains Profenofos, an organophosphate insecticide.

Although atropine and 2-PAM are antidotal for most organophosphate insecticides, they may provide only slight therapeutic benefit in cases of Profenofos poisoning. An aqueous suspension of activated charcoal can be administered to absorb remaining toxicant.

Important Note: Because of their respiratory-depressant effects, morphine and similar drugs are contraindicated for patients poisoned with organophosphorus compounds. Avoid amino glycosides and succinylcholine, which have a blocking effect on the neuromuscular junction. Phenothiazines, reserving and theophylline are contraindicated in organophosphorus poisoning.

5. FIRE FIGHTING MEASURES

Fire and explosion hazard:

Flash point: > 48 OC.

This material is flammable.

Extinguishing agents

Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal.

Fire fighting

Remove spectators from surrounding area. Remove container from fire area if possible. Eliminate all ignition sources in immediate area. Fight fire from maximum distance. For massive fire, use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours. Keep upwind.

Personal protective equipment

Fire may produce irritating or poisonous vapours (toxic fumes of CO, CO₂, chloride and hydrogen bromide, phosphoric acid and phosphorus pent oxide), mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal precautions

Do not inhale fumes. Avoid contact with skin, eyes and clothes. Ventilate area of spill or leak, especially confined areas. For personal protection see Section 8.

Environmental precautions

Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

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Occupational spill

Earth all equipment used when handling the product. Do not touch or walk through spilled material. Stop leak if possible without risk. Avoid runoff of product into sewers, water systems, basements or confined areas as it may cause fire/explosion. Vapour-suppressing foam could be used to reduce vapours. Thoroughly wash body areas, which come into contact with the product. For small spills, soak up with sand or suitable noncombustible absorbent material, place into containers for subsequent disposal. Use clean, non-sparking tools to collect absorbed material. For large spills contact the manufacturer. Contain liquid far ahead of spill. Contain spillage and contaminated water for subsequent disposal. Do not flush spilled material into drains. Keep spectators away and upwind.

7. HANDLING AND STORAGE REQUIREMENTS

Handling

Remove sources of naked flame or sparks. Harmful by absorption, or if swallowed or inhaled. Avoid contact with eyes, prolonged contact with skin, and inhalation of mist and vapour. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Remove clothing immediately if the insecticide gets inside. Then wash skin thoroughly using a nonabrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Storage

The product must be kept under lock and key. Keep out of reach of unauthorized persons, children and animals. Store in its original labelled container in cool (avoid temperature above 40 OC), well-ventilated dry area, away from heat, sparks and other sources of ignition. Product hydrolyses rapidly in aqueous alkaline solutions. Avoid cross contamination with other pesticides and fertilizers. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

PERSONAL PROTECTIVE EQUIPMENT

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

Respirator

Wear an approved (NIOSH-approved) full-face respirator suitable for protection from mists of pesticides. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

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Clothing

Employee must wear appropriate long-sleeved protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with the substance. Heavy duty shoes or boots.

Gloves

Employee must wear appropriate chemical resistant protective gloves to prevent contact with this substance.

Eye protection:

Employee must wear splash-proof safety goggles and face-shield to prevent contact with this substance. *Emergency eyewash* Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|----------------------------|---|
| Appearance | : Clear to slightly clear yellowish to light brownish liquid. |
| Odour | : Pungent, like garlic or cooked onions. |
| Relative density | : 1,085 g/cm ³ ± 0,010 AT 20 °C |
| Boiling point | : >180 °C |
| Flashpoint | : > 48 OC |
| Flammability | : Flammable. |
| Solubility in water | : Perfectly miscible with water. Gives a stable emulsion. |
| pH | : 4,2 at 25 °C |

10. STABILITY AND REACTIVITY

Stability: Considered stable for a period of 2 years under recommended warehouse and light conditions. See section 7.

Incompatibility: Avoid moisture.

Hazardous decomposition:

Emits toxic fumes under fire conditions. CO, CO₂, chloride and hydrogen bromide, phosphoric acid and phosphorous pentoxide.

11. TOXICOLOGICAL INFORMATION

| | |
|------------------------------|------------------------------------|
| Acute oral LD50 | : 1500 mg/kg (rat.) |
| Acute dermal LD50 | : >2000 mg/kg (rat) |
| Acute inhalation LC50 | : LC50 (4h) for rats > 8 mg/l air. |

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| Acute skin irritation | : Mild skin irritant. |
| Acute eye irritation | : Moderately eye irritant. |
| Skin sensitization | : Weak skin sensitizer. Not a sensitizer. |
| Carcinogenicity | : Not carcinogenic |
| Teratogenicity | : Not Teratogenic |
| Mutagenicity | : No Mutagenicity was observed. |
| ADI | : 0.01 mg/kg |
| NOEL | : 0.3 mg a.i/kg diet – rats, 2 year study. |

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGY

| | |
|------------------|---|
| Birds | : Highly toxic. |
| LC50 (8 days) | : Bobwhite quail: 70 to 200 ppm |
| Mallard duck | : 150 to 612 ppm |
| Japanese quail | : >1000 ppm |
| Fish | : Highly toxic to aquatic organisms. |
| LC50 (96 hours) | : Rainbow trout: 0.08 mg/l |
| Bluegill sunfish | : 0.3 mg/l |
| Crucial carp | : 0.09 mg/l |
| Bees | : Toxic to bees. |
| Other | : Very toxic to crustaceans, algae and daphnia. |

13. DISPOSAL CONSIDERATION

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems.

Contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal.

Container disposal

Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

TRIPLE RINSE empty containers in the following manner:

Invert the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner. Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dumpsite. Prevent

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contamination of food, feedstuffs, drinking water and eating utensils. Comply with local legislation applying to waste disposal.

14. TRANSPORT INFORMATION

UN NUMBER : 3017
ADR/RID:
Substance ID NR : 3017
Hazard ID NR : 63
Class : 6.1
Subsidiary risk : 3
Name : Organophosphorus pesticide, liquid, toxic, flammable, (Profenofos).

AIR/IATA:
Class : 6.1
Subsidiary Risk : 3
Hazard Label : Toxic & flammable liquid
Packaging group : III
Passenger aircraft : Y611 (max 2 l) 611 (max 60 l)
Cargo aircraft : 618 (max 220 l)
IMDG/IMO:
Packaging group : III
Label of class : 6.1
Subsidiary Risk : 3 Marine Pollutants
Shipping Name : Organophosphorus pesticide, liquid, toxic, flammable, (Profenofos).

15. REGULATORY INFORMATION

Symbol : Xn

Indication of danger: Harmful

Risk phrases

- R 10 Flammable
- R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
- R 36/38 Irritating to eyes and skin.
- R 50 Very toxic to aquatic organisms.
- R 57 Toxic to bees.

Safety phrases

- S 1/2 Keep locked up and out of reach children.
- S 13 Keep away from food, drink and animal feeding stuffs.

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S 16 Keep away from source of ignition – No smoking.

S 20/21 When using do not eat, drink or smoke.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 46 If swallowed seek medical advice immediately and show this container or label.

S 61 Avoid release to the environment. Refer to special Instructions/safety data sheets.

S 62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

16. OTHER INFORMATION

Packing and Labeling

Packed in fluorinated 1l, 5l, 10l, 20l and 25l plastic and 200 liter MS drums containers and labelled according to South African regulations and guidelines.

Disclaimer

The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage use of the product. It is not applicable to unusual or nonstandard uses of the product nor where instructions or recommendations are not followed.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof

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