**MATERIAL SAFETY DATA SHEET**
ALPHA - CHLORPYRIFOS 48 EC**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

Product name : ALPHA - CHLORPYRIFOS 48 EC
Chemical name of active ingredient(s) : O,O-Diethyl O-3,5,6-trichloro-2-pyridyl phosphorothioate.
Chemical formula : Chlorpyrifos: C₉H₁₁Cl₃NO₃PS.
EU Cat. No. : Chlorpyrifos: 015-084-00-4.
Aromatic solvent (C-9): 649-356-00-4.
Code no. : R-7882.G
Supplier : Makhteshim Agan (UK) Limited
Unit 16, Thatcham Business Village Colthrop Way
Thatcham
Berkshire RG19 4LW
Tel No: 01635 860555 Fax No: 01635 861555
Emergency telephone number : National Chemical Emergency Centre
Tel: 01865 407333.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation : Preparation.

Information on hazardous ingredients *

| Common name | CAS No. | % | EC Number | Symbol | R-Phrases |
|------------------------|------------|---------|-----------|--------|--------------|
| Chlorpyrifos | 2921-88-2 | 480 g/l | 220-864-4 | T, N | R24/25-50/53 |
| Aromatic solvent (C-9) | 64742-95-6 | 450 g/l | 265-199-0 | T | R22: 45 |

* Occupational Exposure Limit(s), if available, are listed in section 8

3. HAZARDS IDENTIFICATION

Most important hazards : THIS COMPOUND INHIBITS CHOLINESTERASE
Physical/chemical hazards : Flammable.
Human health hazards : Harmful by inhalation and if swallowed.
Irritating to eyes and skin.
May cause sensitization by skin contact.
May cause cancer.
Environmental hazards : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST-AID MEASURES

Effects and symptoms : Exposure may result in excessive sweating, weakness, salivation, nausea, bradycardia, tachycardia, bronchorrhea, cough, bronchospasm, lung oedema, small pupils, central nervous depression, fasciculation and convulsions, headache, faintness and giddiness.
Inhalation : May result in systemic poisoning.
Ingestion : May result in systemic poisoning.
Skin contact : May result in systemic poisoning.

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| | |
|---------------------------|--|
| Eye contact | : Redness, tears. |
| First-aid measures | |
| Inhalation | : Remove victim to fresh air. Keep victim warm and at rest. If breathing is difficult: give oxygen. If not breathing: apply artificial respiration. Immediately get medical attention. |
| Ingestion | : Induce vomiting only if victim is conscious. Never give anything by mouth to an unconscious person. Wash out mouth with water. If breathing is difficult: give oxygen. If not breathing: apply artificial respiration. Immediately get medical attention. |
| Skin contact | : Remove contaminated clothing. Wash off with plenty of water and soap. Get medical attention. |
| Eye contact | : Wash off with plenty of water for at least 15 minutes. Immediately consult an eye specialist. |
| Notes to a physician | : Antidote 1: Atropine sulfate. Antidote 2: Obidoxime chloride or Pralidoxime (PAM). Suggest serum and/or RBC cholinesterase determination. If ingested perform gastric lavage and administer activated charcoal. |

5. FIRE-FIGHTING MEASURES

| | |
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| Extinguishing media | |
| Suitable | : In case of a small fire: dry chemical, carbon dioxide. In case of a large fire: water spray or alcohol resistant foam. |
| Special fire-fighting procedures | : Fight fires from a protected location. Dike fire control water for later disposal. Keep container cool by spraying with water. |
| Hazardous thermal (de)composition products | : CO, CO ₂ , SO _x , NO _x , PO _x , HCl, Chlorides, and Sulfides. |
| Protection of fire-fighters | : Wear suitable protective clothing. Self-contained breathing apparatus. |

6. ACCIDENTAL RELEASE MEASURES

| | |
|---------------------------|--|
| Personal precautions | : Use appropriate protection (see section 8). During cleaning activity, shut off ignition sources. |
| Environmental precautions | : Dispose of this material and its container at hazardous or special waste collection point, in accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities. Contaminated soil layers have to be dug out. |
| Methods for cleaning up | : In the event of minor spillage: Absorb in sand or other inert material. Use appropriate containment to avoid environmental contamination. In the event of major spillage: Collect and contain as much free liquid as possible. Dike spills using absorbent or impervious materials such as sand or clay for later disposal. |

7. HANDLING AND STORAGE

| | |
|----------|--|
| Handling | : Do not breathe fumes. Avoid contact with skin and eyes. |
| Storage | : Keep locked up. Keep container tightly closed. Keep only in the original container in a cool, well-ventilated place. Keep container dry. Keep away from strong bases. Keep away from sources of ignition - No smoking. |

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Acute toxicity - Dermal : LD₅₀ > 2000 mg/kg (rat).
 Acute toxicity - Inhalation : LC₅₀ = 2.62 mg/l, 4 hours (rat).
 Skin irritation : Severely irritating (rabbit).
 Eye irritation : Irritating to eyes (rabbit).
 Sensitization : Guinea pig maximization test: sensitizer.

Common name : Chlorpyrifos
 Carcinogenicity : Not carcinogenic.
 Mutagenicity : Not mutagenic.
 Reproduction toxicity : Not teratogenic in animal experiments.
Common name : Aromatic solvent (C-9)
 Carcinogenicity : May cause cancer

12. ECOLOGICAL INFORMATION

Common name : Chlorpyrifos
 Mobility : Not mobile.
 Persistence/degradability : Half-life time (t_{1/2}): 80-279 days, (soil) .
 Bioaccumulative potential : Chlorpyrifos does not bioaccumulate in aquatic organisms
 Ecotoxicity : LD₅₀ = 476 mg/kg, (birds).
 LC₅₀ = 7.1 µg/l, 96 hours, (rainbow trout).
 Toxic to bees

13. DISPOSAL CONSIDERATIONS

Methods of disposal : Disposal according to the local legislation.

14. TRANSPORT INFORMATION

International transport regulations

UN number : 3017

Land - Road/Railway

Proper shipping name : Organophosphorus pesticide, liquid, toxic, flammable, Chlorpyrifos.
 ADR/RID Class : 6.1
 ADR/RID Item number : 72^o(c)
 Packing group : III
 Hazard Identification Number : 63

Inland waterways

Proper shipping name : Organophosphorus pesticide, liquid, toxic, flammable, Chlorpyrifos.

Sea

Proper shipping name : Organophosphorus pesticide, liquid, toxic, flammable, Chlorpyrifos.
 IMDG Class : 6.1
 IMDG Page number : 6220, Marine pollutant.
 Packing group : III
 Medical First Aid Guide (MFAG) : 505
 Emergency Schedules (EmS) : 6.1-01

Air

Proper shipping name : Organophosphorus pesticide, liquid, toxic, flammable, Chlorpyrifos.

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UN/ID Number : 3017

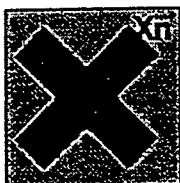
National transport regulations

No additional national transport regulations are known to the supplier

15. REGULATORY INFORMATION

Classification : This product is provisionally labelled by the supplier in accordance with the suppliers understanding of the EU regulations:

Hazard symbol(s) : Xn, N



HARMFUL (Xn)



DANGEROUS FOR THE ENVIRONMENT (N)

Risk phrases : R10: Flammable.
 R20/22: Harmful by inhalation and if swallowed.
 R36/38: Irritating to eyes and skin.
 R43: May cause sensitization by skin contact.
R45: May cause cancer.
 R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases : S01/02: Keep locked up and out of the reach of children.
 S13: Keep away from food, drink and animal feedingstuffs.
 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).
 S53: Avoid exposure - obtain special instructions before use.
 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.

Contains : 480 g/l Chlorpyrifos,
 Approximately 450 g/l Aromatic solvent (C-9).

16. OTHER INFORMATION

Recommended use : Insecticide.

The information contained in the Safety Data sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as a warranty or as a specification. The information relates only to the product specified and may not be suitable for combinations with other materials or in processes other than those specifically described herein.

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HISTORY

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