

# 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: C<sub>9</sub>H<sub>11</sub>Cl<sub>3</sub>NO<sub>3</sub>PS.  
**EU Cat. No.** : Chlorpyrifos: 015-084-00-4.  
                                                           Aromatic solvent (C-9): 649-356-00-4.  
**Code no.** : R-7882.DPD  
**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	44.70	220-864-4	T, N	R24/25-50/53
Aromatic naphtha C <sub>9</sub>	90641-13-7	Approx. 40	292-637-8	Xn	R65
CaABS/n-butanol	-	> 1	-	Xi	R10-38-41-67
Nonyl-phenol ethoxylated	9016-45-9	> 1	-	Xn	R22-36/38

\* *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.  
                                                           Harmful: may cause lung damage if swallowed.  
**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.

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**Ingestion** : May result in systemic poisoning.  
**Skin contact** : May result in systemic poisoning.  
**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

### 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 containers cool by spraying with water.

**Hazardous thermal (de)composition products** : CO, CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>, PO<sub>x</sub>, 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.

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**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 and heat - No smoking

**Packaging materials**

**Suitable** : Multi-layer high density polyethylene extrusion blow containers. Drums with polyethylene liner.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Engineering measures** : Ventilation required. Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.

**Hygiene measures** : Wash hands thoroughly after handling. Wash clothing separately before re-use.

**Occupational Exposure Limits**

**Common name** : **Chlorpyrifos**  
**TLV (USA)** : 0.2 mg/m<sup>3</sup>; A4 skin (1999).

**Personal protective equipment**

**Respiratory system** : During spraying wear suitable respiratory equipment.  
**Skin and body** : Wear suitable protective clothing.  
**Hands** : Wear suitable gloves.  
**Eyes** : Safety goggles or face shield.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical state** : Liquid.  
**Colour** : Clear amber.  
**Odour** : Characteristic odour.  
**Molecular weight** : Chlorpyrifos: 350.62.  
**Melting point** : Chlorpyrifos: 41.5-43.5 (Pure).  
**Decomposition temperature** : Chlorpyrifos: Above 160°C (Pure).  
**Vapour pressure** : Chlorpyrifos: 2.4X10<sup>-5</sup> mm Hg at a temperature of 25°C (Pure).  
**Specific gravity (H<sub>2</sub>O=1)** : 1.075 - 1.080.  
**Solubility in water** : Emulsifiable.  
**Flash point** : 38°C (closed cup).  
**Explosion properties** : Chlorpyrifos: Not explosive.

**10. STABILITY AND REACTIVITY**

**Stability** : Stable under normal conditions.  
**Conditions to avoid** : Protect from (sun)light and excessive heat. Avoid temperatures above: 75°C.  
**Materials to avoid** : Strong oxidizing agents, strong acids, strong bases, .  
**Hazardous reactions** : Hazardous polymerization will not occur.  
**Hazardous decomposition products** : CO, CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>, PO<sub>x</sub>, HCl, Chlorides and Sulfides.

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**11. TOXICOLOGICAL INFORMATION**

**Acute toxicity - Oral** : LD<sub>50</sub> = 409 mg/kg (rat).  
**Acute toxicity - Dermal** : LD<sub>50</sub> > 2000 mg/kg (rat).  
**Acute toxicity - Inhalation** : LC<sub>50</sub> = 2.62 mg/l, 4 hours (rat).  
**Skin irritation** : Severely irritating (rabbit).  
**Eye irritation** : Severely irritating (rabbit).  
**Sensitization** : Guinea pig maximization test: sensitizer.

**Common name** : **Chlorpyrifos**  
**Carcinogenicity** : Not carcinogenic.  
**Mutagenicity** : Not mutagenic.  
**Reproduction toxicity** : Not teratogenic in animal experiments.

**12. ECOLOGICAL INFORMATION**

**Common name** : **Chlorpyrifos**  
**Mobility** : Not mobile.  
**Persistence/degradability** : Half-life time (t<sub>1/2</sub>): 80-279 days, (soil).  
**Bioaccumulative potential** : Chlorpyrifos does not bioaccumulate in aquatic organisms  
**Ecotoxicity** : LD<sub>50</sub> = 476 mg/kg (birds).  
 LC<sub>50</sub> = 7.1 µg/l, 96 hours (rainbow trout).  
 LC<sub>50</sub> = 0.1 µg/l, 48 hours (Daphnia) (MCW).  
 LC<sub>50</sub> = 1.7 µg/l, 48 hours (Daphnia) (Pesticide Manual).  
 NOEC > 0.4 mg/l (Selenastrum capricornutum) (Pesticide Manual).  
 Toxic to bees  
**Other information** : Biodegraded by microorganisms.

**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<sup>o</sup>(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.

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**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.  
**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.  
R65: Harmful: may cause lung damage if swallowed.  
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases** : S02: Keep out of the reach of children.  
S13: Keep away from food, drink and animal feedingstuffs.  
S20/21: When using do not eat, drink or smoke.  
S23: Do not breathe gas/fumes/vapour/spray.  
S24/25: Avoid contact with skin and eyes.  
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.  
S61: Avoid release to the environment. Refer to special instructions/Safety data sheets.  
S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

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**Contains** : Text of R-phrases in section 2

R10: Flammable  
R22: Harmful if swallowed  
R24/25: Toxic in contact with skin and if swallowed  
R36/38: Irritating to eyes and skin  
R41: Risk of serious damage to eyes  
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
R65: Harmful: may cause lung damage if swallowed  
R67: Vapours may cause drowsiness and dizziness

#### 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.

#### HISTORY

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