



**PYRATE 480 EC**

**R-7882.USA**

**1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING**

**Trade name** : PYRATE 480 EC  
**Chemical formula** : Chlorpyrifos : C<sub>9</sub>H<sub>11</sub>Cl<sub>3</sub>NO<sub>3</sub>PS  
**Chemical description** : Chlorpyrifos : O,O-diethyl O-3,5,6-trichloro-2-pyridyl phosphorothioate  
**Use** : Insecticide  
**Company identification** : Makhteshim Chemical Works Ltd.  
PO Box 60  
Beer Sheva 84100 Israel.  
Fax : +972-8-6296848  
MSDS@ma-industries.com  
**Emergency phone nr** : 972-3-6106666 Subscription no. 36789 (Makhteshim)  
Inside the U.S.:  
For fire, spill, and/or leak emergencies  
contact Infotrac: Phone 1-800-535-5053  
For medical emergencies and health and safety inquiries,  
contact Prozar: Phone 1-877-250-9291

**2. HAZARDS IDENTIFICATION**

**Main 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 hazard** : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

This product is considered to be hazardous and contains hazardous components.

Substance name	Value(s)	CAS No	EC No	Index No	Classification
Chlorpyrifos (ISO)	44.7 %	2921-88-2	220-864-4	015-084-00-4	T; R25 N; R50-53
Kerosine : solvent naphta heavy aromatic	450 g/l	64742-94-5	265-198-5	649-424-00-3	Xn; R65

**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 .  
**Inhalation** : May result in systemic poisoning.  
**Ingestion** : May result in systemic poisoning.  
**Skin contact** : May result in systemic poisoning.  
**Eye contact** : May result in systemic poisoning.  
**First aid**  
**Inhalation** : Remove victim to fresh air. Keep victim warm and at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediately get medical attention.  
**Ingestion** : Do not induce vomiting. Wash out mouth with plenty of water. Never give anything by mouth to an unconscious person. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediately get medical attention.  
**Skin contact** : Remove contaminated clothing and shoes. Wash off with plenty of water and soap. Obtain medical attention.



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**4. FIRST AID MEASURES (continued)**

- Eye contact** : In case of eye contact, immediately rinse with clean water for 10-15 minutes. Immediately consult an eye specialist.
- Note to 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** : For small fire : dry chemical , carbon dioxide .  
For large fire: water spray , alcohol resistant foam .
- Special procedures** : Fight fires from a protected location . Dike fire control water for later disposal.  
Keep container cool by spraying with water .
- Special exposure hazards** : Thermal decomposition may generate : carbon dioxide , carbon monoxide ,  
nitrogen oxides , chlorides , sulfur oxide , sulfides , NO x , phosphorus oxides ,  
hydrogen chloride , chlorides .
- Protection against fire** : Wear proper protective equipment. 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.
- After spillage and/or leakage** : In the event of minor spillage: Absorb in sand or other inert material . Use  
appropriate container 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 heat , strong  
bases . Keep away from sources of ignition - No smoking
- Packing** : Multi-layer high density polyethylene extrusion blow containers . Drums with  
polyethylene liner.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

- Industrial hygiene** : Ventilation required. Facilities storing or utilizing this material should be equipped  
with an eyewash facility and safety shower . Wash hands thoroughly after  
handling. Wash clothing before re-using.
- Personal protection**
- **Respiratory protection** : During spraying wear suitable respiratory equipment. .
  - **Skin protection** : Wear suitable protective clothing .
  - **Hand protection** : Wear suitable gloves.
  - **Eye protection** : Chemical goggles or face shield.
- Occupational Exposure Limits**
- TLV-TWA [mg/m3]** : Chlorpyrifos : (USA) 0.2, A4 skin (1999).

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state	: Liquid
Colour	: Clear - amber
Odour	: characteristic
Specific gravity	: 1.075-1.080
Molecular weight	: Chlorpyrifos : 350.62
Melting point [°C]	: Chlorpyrifos : 41.5-43.5 (Pure)
Decomposition point [°C]	: Chlorpyrifos : Above 160 ( Pure )
Vapour pressure mm/Hg	: Chlorpyrifos : 2.4 x (10) <sup>-5</sup> ( Pure ) (25 °C )
Solubility in water	: Emulsifiable
Flash point [°C]	: 38 ( Closed cup )
Explosion limits	: Chlorpyrifos : Not explosive

**10. STABILITY AND REACTIVITY**

Physico-chemical stability	: Stable under normal conditions.
Hazardous decomposition products	: Thermal decomposition may generate : carbon monoxide , carbon dioxide , sulfur oxide , sulfides , nitrogen oxides , phosphorus oxides , hydrogen chloride , chlorides .
Hazardous reactions	: Avoid contact with : strong oxidizing agents , strong acids , strong bases .
Hazardous Polymerization	: Will not occur.
Conditions to avoid	: Protect from (sun)light and excessive heat . Avoid temperatures above 75°C.

**11. TOXICOLOGICAL INFORMATION**

Rat oral LD50 [mg/kg]	: 409
Rat dermal LD50 [mg/kg]	: > 2000
Rat inhalation LC50 [mg/l/4h]	: 2.62
Dermal irritation (rabbit)	: Severely irritating
Eyes irritation (rabbit)	: Severely irritating
Sensitization	: Guinea pig maximization test: Sensitizer
Carcinogenicity	: Chlorpyrifos : Not carcinogenic
Mutagenicity	: Chlorpyrifos : Not mutagenic
Reproductive toxicity	: Chlorpyrifos : Not teratogenic in animal experiments

**12. ECOLOGICAL INFORMATION**

Ecological effects information	: The data below are for Chlorpyrifos 100%; Toxic to bees
96 H-LC50 - Rainbow trout [µg/l]	: 7.1
48 H-LC50 - Daphnia magna [µg/l]	: 1.7 (Pesticide Manual) 0.1 (MCW)
LD50 Birds [mg/kg]	: 476
Persistence and degradability	: Half-life time (t1/2) : 80-279 days, (soil)
Mobility	: Not mobile
Bioaccumulative potential	: Chlorpyrifos does not bioaccumulate in aquatic organisms
Other information	: Biodegraded by microorganisms .



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**13. DISPOSAL CONSIDERATIONS**

**Disposal** : Avoid release to the environment.  
Dispose in a safe manner in accordance with local/national regulations.

**14. TRANSPORT INFORMATION**

- **UN No.** : 3017  
- **Proper shipping name** : ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE (44.7% Chlorpyrifos)  
- **Packing group** : III  
- **Class** : 6.1  
- **H.I. nr** : 663  
- **IMDG-Marine pollution** : YES

**15. REGULATORY INFORMATION**

**EU Classification** : This product is provisionally labelled by the supplier in accordance to the EU regulations:

**Symbol(s)**



**R Phrase(s)** : Xn: Harmful.  
N: Dangerous for the environment.  
R10 - Flammable.  
R20/22 - Harmful by inhalation and if swallowed.  
R36/38 - Irritating to eyes and skin.  
R43 - May cause sensitization by skin contact.  
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.

**S Phrase(s)** : 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.

**16. OTHER INFORMATION**

**Recommended uses and restrictions** : None.  
*Text of R-phrases in heading 3 :* : R25 - Toxic if swallowed.  
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.

**Print date** : 22 / 6 / 2009

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MAKHTESHIM  
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# MATERIAL SAFETY DATA SHEET

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Revised edition no : 2

Date : 22 / 6 / 2009

Supersedes : 24 / 4 / 2006

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## 16. OTHER INFORMATION (continued)

only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

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**Makhteshim Chemical Works Ltd.**

PO Box 60 Beer Sheva 84100 Israel.

Fax : +972-8-6296848

MSDS@ma-industries.com