1. Identification of the substance / preparation and of the company / undertaking

Ref. n°: 25403032ID
Supplier: Agri Service International B.V.
P.O. Box 26
3930EA Woudenberg, The Netherlands
Phone: (+31) (0) 33 494 69 11
Fax: (+31) (0) 33 494 67 03

Identification of the product: Liquid.
Type of product: (EC) Emulsifiable concentrate.
Use: Insecticide.
Emergency phone number:
BE: (+32) (0) 70 245 245
DE: (+49) (0) 89 19 240
NL: (+31) (0) 30 274 88 88
SE: (+46) (0) 20 99 60 00

2. Composition / Information on ingredients

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Value(s)</th>
<th>CAS nr / EC nr / EC annex</th>
<th>Symbol(s)</th>
<th>R-Phrase(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorpyrifos (ISO)</td>
<td>44.7 %</td>
<td>2921-88-2 / 220-864-4 / 015-084-00-4</td>
<td>T N</td>
<td>25-50/53</td>
</tr>
<tr>
<td>Cracked kerosine</td>
<td>35 - 45%</td>
<td>90641-13-7 / 292-637-8 / 649-414-00-9</td>
<td>Xn</td>
<td>65</td>
</tr>
<tr>
<td>Ethoxylated nonylphenol</td>
<td>&gt; 1 %</td>
<td>9016-45-9 / ----- / -----</td>
<td>Xi</td>
<td>36-53</td>
</tr>
<tr>
<td>CaABS/n-butanol</td>
<td>&gt; 1 %</td>
<td>----- / ----- / -----</td>
<td>Xi</td>
<td>10-38-41-67</td>
</tr>
</tbody>
</table>

See heading 16, where the full text of each relevant R phrase shall be listed.

3. Hazards identification

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

Dangerous substances: Flammable.
Adverse human health effects: Cholinesterase inhibitor. May cause sensitization by skin contact. Irritating to eyes and skin. Harmful by inhalation and if swallowed.
Environmental hazard: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Symptoms relating to use: Sweating, dizziness, headache, stomach-ache, nausea, small pupils, decreased vision, muscle vibrations.

4. First Aid measures

- Inhalation:
  Remove victim to fresh air. Give oxygen or artificial respiration as needed.
  Seek medical attention immediately.

- Skin contact:
  Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
  Seek medical advice.

- Eye contact:
  In case of eye contact, immediately rinse with clean water for 20-30 minutes.
  Contact ophthalmologist immediately.

- Ingestion:
  DO NOT INDUCE VOMITING.
  Rinse mouth. Never give anything by mouth to an unconscious person. Give oxygen or artificial respiration as needed.
  Seek medical attention immediately.

Note to physician:
  Antidote 1: Atropine sulfate. Antidote 2: Obidoxime chloride or Pralidoxime (PAM).
  Serum and/or RBC cholinesterase determination. If ingested perform gastric lavage and administer activated charcoal.
  Gastric lavage indicated for complete emptying. Administer activated charcoal.
5. Fire-Fighting measures

Flammable class: This product is flammable.
Extinguishing media:
- Suitable: Small fire: dry chemical, carbon dioxide
  Large fire: water spray, foam
- Not to be used: Do not use a heavy water stream.
Surrounding fires: Use water spray or fog for cooling exposed containers.
Special exposure hazards: Thermal decomposition generates: carbon dioxide, sulfur oxides, nitrogen oxides, hydrogen chloride, phosphorus oxide, chlorides
Protection against fire: Use self-contained breathing apparatus when in close proximity to fire. Wear suitable protective clothing. Do not enter fire area without proper protective equipment, including respiratory protection.
Special procedures: Fight fire from safe distance and protected location. Avoid (reject) fire-fighting water to enter environment. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

6. Accidental release measures

Technical measures: Eliminate every possible source of ignition.
Personal precautions: Wear suitable protective clothing and gloves. See Heading 8.
Environmental precautions: Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.
After spillage and/or leakage: Dike for recovery or absorb with appropriate material. Clean up any spills as soon as possible, using an absorbent material to collect it. Use appropriate container to avoid environmental contamination. The evacuation of the contaminated soil may be necessary.

7. Handling and storage

Handling: Handle in accordance with good industrial hygiene and safety procedures. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin and eyes.
Storage: Keep container closed when not in use. Store in dry, cool, well-ventilated area. Keep in original containers.
Storage - away from: Keep away from sources of ignition
Packaging materials: Multi-layer high density polyethylene extrusion blow containers, Drums.

8. Exposure controls and personal protection

Personal protection:
- Respiratory protection: Good ventilation of the workplace required. (P2) Suitable respiratory equipment.
- Hand protection: Wear suitable gloves resistant to chemical penetration.
- Skin protection: Wear suitable protective clothing
- Eye protection: Chemical goggles or face shield with safety glasses.
Industrial hygiene: Provide local exhaust or general room ventilation to minimize dust and/or vapour concentrations. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Wash clothing before re-using.

Occupational Exposure Limits
TLV-TWA [mg/m3]: Chlorpyrifos 0.2 (skin)
MATERIAL SAFETY DATA SHEET

Pyrinex 48EC

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Amber</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Melting point [°C]</td>
<td>41.5-43.5 (Chlorpyrifos)</td>
</tr>
<tr>
<td>Density [kg/m³]</td>
<td>1075 - 1080</td>
</tr>
<tr>
<td>Vapour pressure [mm Hg]</td>
<td>2.4 x 10E-05</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Emulsifiable</td>
</tr>
<tr>
<td>Flash point [°C]</td>
<td>38 (closed cup)</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>160 °C (Chlorpyrifos)</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Stable under recommended storage and handling conditions.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Thermal decomposition generates: carbon dioxide, hydrogen chloride, nitrogen oxides, phosphorous oxide, sulfur oxides, chlorides</td>
</tr>
<tr>
<td>Hazardous reactions</td>
<td>None under normal conditions.</td>
</tr>
<tr>
<td>Hazardous Polymerization</td>
<td>Will not occur.</td>
</tr>
<tr>
<td>Materials to avoid</td>
<td>Strong oxidizing agents.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Strong acids, bases.</td>
</tr>
<tr>
<td></td>
<td>direct sunlight Temperature exceeding: 75 °C</td>
</tr>
</tbody>
</table>

11. Toxicological information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat oral LD50 [mg/kg]</td>
<td>409</td>
</tr>
<tr>
<td>Rabbit dermal LD50 [mg/kg]</td>
<td>&gt; 2000</td>
</tr>
<tr>
<td>Rat inhalation LC50 [mg/l/4h]</td>
<td>2.62</td>
</tr>
<tr>
<td>Dermal irritation (rabbit)</td>
<td>Severe skin irritant.</td>
</tr>
<tr>
<td>Eyes irritation (rabbit)</td>
<td>Severe eye irritant.</td>
</tr>
<tr>
<td>Chronic toxicity</td>
<td>Chlorpyrifos:</td>
</tr>
<tr>
<td>Sensitization</td>
<td>This material was found to be sensitizing in guinea pigs.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>No carcinogenic effect.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Non-mutagenic.</td>
</tr>
<tr>
<td>Teratogenicity</td>
<td>Not teratogenic (laboratory animals)</td>
</tr>
</tbody>
</table>

12. Ecological information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance</td>
<td>Chlorpyrifos:</td>
</tr>
<tr>
<td>Mobility</td>
<td>Not mobile</td>
</tr>
<tr>
<td>Ecotoxicity</td>
<td>Algae (Selenastrum capricomutun):</td>
</tr>
<tr>
<td></td>
<td>NOEC &gt; 0.4 mg/l (Pesticide Manual)</td>
</tr>
<tr>
<td></td>
<td>Daphnia magna: LC50 = 1.7 µg/l (Pesticide Manual)</td>
</tr>
<tr>
<td></td>
<td>Fish: LC50 = 7.1 µg/l (96h) Oncorhynchus mykiss</td>
</tr>
<tr>
<td></td>
<td>Birds: LD50 = 476 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Toxic to bees.</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>Half-life (days): 80 - 279, (Soil.)</td>
</tr>
</tbody>
</table>

13. Disposal considerations

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposal</td>
<td>Dispose in a safe manner in accordance with local/national regulations.</td>
</tr>
</tbody>
</table>
14. Transport information

Hazard Label(s)

Proper shipping name : UN 3017 ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE, (Chlorpyrifos), 6.1 (3), III

UN Number : 3017

H.I. nr : 63

Land transport

Land transport

ADR/RID : Class : 6.1
Group : III

Sea transport

- Class : 6.1 (3)

Packing group : III

EmS-Nr : F-E, S-D

IMDG-Marine pollution : Yes.

15. Regulatory information

Symbol(s)

: Harmful. Dangerous for the environment.

R Phrase(s)

: 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)

: S2 : 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 the gas, fumes, vapours, spray.
S24/25 : Avoid contact with skin and eyes.
S35 : This material and its container must be disposed of in a safe way.
S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.
S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible).
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

Full text R phrases under heading 2 :

: R10 : Flammable.
R25 : Toxic if swallowed.
R36 : Irritating to eyes.
R38 : Irritating to 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.
R53 : May cause long-term adverse effects in the aquatic environment.
R65 : Harmful : may cause lung damage if swallowed.
16. Other information (continued)

R67: Vapours may cause drowsiness and dizziness.

Literature:
- EU Directive 67/548/EC, including amendments.
- European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)
- International Maritime Dangerous Goods; 2004 edition; IMO

Prepared by: HPV

The contents and format of this MSDS according to Directive 2001/58/EC.

When this MSDS was formulated, the scientific and technical knowhow known to the supplier at that moment were used. The information given is designed only as a guidance for safe handling and is not to be considered a warranty or quality specification. Reference should be made to a Product Datasheet regarding the quality or specification of the product.

The supplier emphatically indicates that failure to follow the instructions given in the MSDS is entirely at the user’s risk. For the rest reference is made to the text of the “Veiligheidsinformatiebladenbesluit Wet milieugevaarlijke stoffen” (Decree on the Safety Datasheets, Law on substances that are dangerous to the environment) of april 29, 1993 as published under number 252 in the "Staatsblad"