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

PRODUCT INFORMATION

Product name : ACTELlic 50 EC
Design Code : A5832C
Use : Insecticide

Company : Syngenta SA (Pty) Ltd
          PO Box 1044
          No 4 Krokodildrift Avenue
          BRITS 0250 South Africa

Telephone : +27 (0) 12 2502 120
Telefax : +27 (0) 12 2503 125
Emergency telephone : +27 (0) 83 1233 911

2. HAZARDS IDENTIFICATION

Flammable liquid and vapour
Harmful if swallowed.
May be fatal if swallowed and enters airways.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause drowsiness or dizziness.
Very toxic to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Symbol(s)</th>
<th>R-phrase(s)</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>pirimiphos-methyl</td>
<td>29232-93-7</td>
<td>249-528-5</td>
<td>Xn, N</td>
<td>R22, R50/53</td>
<td>50 % W/W</td>
</tr>
<tr>
<td>solvent naphtha (petroleum), light arom.</td>
<td>64742-95-6</td>
<td>265-199-0</td>
<td>Xn, N</td>
<td>R10, R37, R51/53, R65, R66, R67</td>
<td>40 - 50 % W/W</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

General advice: Have the product container, label or Material Safety Data Sheet with you when calling the Syngenta emergency number, a poison control center or physician, or going for treatment.

Inhalation: Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or Poison Control Centre immediately.

Skin contact: Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician. Wash off immediately with plenty of water.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Ingestion: If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.

Symptoms: The symptoms are of cholinesterase inhibition

Medical advice: Call Syngenta at the emergency number shown in this document, a poison control center or doctor immediately for treatment advice. Consider taking venous blood for determination of blood cholinesterase activity (use heparin tube). Administer atropine sulfate, either by intramuscular or intravenously, dependant on severity of poisoning. Specific antidotes are oximes (e.g. Pralidoxime) or Toxogonin.
5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Alcohol-resistant foam

Extinguishing media which shall not be used for safety reasons: Do not use a solid water stream as it may scatter and spread fire.

Specific hazards during fire fighting: As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health. Flash back possible over considerable distance.

Special protective equipment for fire-fighters: Wear full protective clothing and self-contained breathing apparatus.

Further information: Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Refer to protective measures listed in sections 7 and 8. Keep people away from and upwind of spill/leak. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Remove all sources of ignition. Pay attention to flashback.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

Methods for cleaning up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Additional advice: If the product contaminates rivers and lakes or drains inform respective authorities.
7. HANDLING AND STORAGE

HANDLING
Advice on safe handling: Avoid contact with skin and eyes. When using, do not eat, drink or smoke. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. For personal protection see section 8.

STORAGE
Requirements for storage areas and containers: Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. Keep away from heat and sources of ignition. Keep away from combustible material. Keep in an area equipped with sprinklers. No smoking.

Other data: Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>Exposure limit(s)</th>
<th>Type of exposure limit</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>pirimiphos-methyl</td>
<td>3 mg/m3</td>
<td>8 h TWA</td>
<td>SYNGENTA</td>
</tr>
<tr>
<td>solvent naphtha (petroleum), light arom.</td>
<td>100 mg/m3</td>
<td>8 h TWA</td>
<td>SUPPLIER</td>
</tr>
</tbody>
</table>

ENGINEERING MEASURES

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

If airborne mists or vapors are generated, use local exhaust ventilation controls.

Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.

Where necessary, seek additional occupational hygiene advice.

PERSONAL PROTECTIVE EQUIPMENT

Protective measures

The use of technical measures should always have priority over the use of personal protective equipment.

When selecting personal protective equipment, seek appropriate professional advice.

Personal protective equipment should be certified to appropriate standards.

Respiratory protection

A gas and vapor filter respirator may be necessary until effective technical measures are installed.

Protection provided by air-purifying respirators is limited.

Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

Hand protection

Chemical resistant gloves should be used.

Gloves should be certified to an appropriate standard.

Gloves should have a minimum breakthrough time that is appropriate to the duration of exposure.

The breakthrough time of gloves varies according to the thickness, material and manufacturer.

Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Suitable material

Nitrile rubber

Eye protection

If eye contact is possible, use tight-fitting chemical safety goggles and a face shield.
Skin and body protection: Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation / penetration characteristics of the clothing material. Wash with soap and water after removing protective clothing. Decontaminate clothing before re-use, or use disposable equipment (suits, aprons, sleeves, boots, etc.) Wear as appropriate: impervious protective suit

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: clear liquid
Colour: light brown
Flash point: 48 °C
Autoignition temperature: > 400 °C
Oxidizing properties: not oxidizing
Explosive properties: Not explosive
Density: 1.02 g/ml at 20 °C
Solubility in other solvents: Miscible in Water
Surface tension: 35.3 mN/m at 25 °C

10. STABILITY AND REACTIVITY

Hazardous decomposition products: Combustion or thermal decomposition will evolve toxic and irritant vapors.
Hazardous reactions: None known. Hazardous polymerization does not occur. Stable under normal conditions.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity: LD50 female Rat, 300 - 2,000 mg/kg
GHS-Classification Category 4

Aspiration toxicity: Aspiration hazard if swallowed - can enter lungs and cause damage.
GHS-Classification Category 1
Derived from components.
Acute inhalation toxicity : Vapours may cause drowsiness and dizziness. 
GHS-Classification 
Category 3 
Derived from components.

Acute dermal toxicity : LD50 male and female Rat, > 2,000 mg/kg 
GHS-Classification 
None 

Skin irritation : Rabbit: Mildly Irritating 
GHS-Classification 
None 

Eye irritation : Rabbit: Moderately irritating 
GHS-Classification 
Category 1 

Sensitisation : guinea pig: A skin sensitizer in animal tests. 
GHS-Classification 
Category 1 

Long term toxicity pirimiphos-methyl : Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.

12. ECOLOGICAL INFORMATION

ELIMINATION INFORMATION (PERSISTENCE AND DEGRADABILITY)
Bioaccumulation : Pirimiphos-methyl has high potential for bioaccumulation

Stability in water : Pirimiphos-methyl is not persistent in water.

Stability in soil : Pirimiphos-methyl is not persistent in soil.

Mobility : Pirimiphos-methyl has low mobility in soil.

ECOTOXICITY EFFECTS
Toxicity to fish : LC50 Cyprinus carpio (Carp), 6.2 mg/l , 96 h 
GHS-Classification 
Category 2 

Toxicity to daphnia and other aquatic invertebrates. : EC50 Daphnia magna (Water flea), 0.48 µg/l , 48 h 
GHS-Classification 
Category 1 

Toxicity to algae : EbC50 Pseudokirchneriella subcapitata (green algae), 3.07 mg/l , 72 h
13. DISPOSAL CONSIDERATIONS

**Product**
- Do not contaminate ponds, waterways or ditches with chemical or used container.
- Do not dispose of waste into sewer.
- Where possible recycling is preferred to disposal or incineration.
- If recycling is not practicable, dispose of in compliance with local regulations.

**Contaminated packaging**
- Empty remaining contents.
- Triple rinse containers.
- Empty containers should be taken to an approved waste handling site for recycling or disposal.
- Do not re-use empty containers.

14. TRANSPORT INFORMATION

**Land transport**

*ADR/ RID:*
- UN-Number: 1993
- Class: 3
- Labels: 3
- Packaging group: III
- Proper shipping name: FLAMMABLE LIQUID, N.O.S. (SUBSTITUTED BENZENOID HYDROCARBONS AND PIRIMIPHOS-METHYL )

**Sea transport**

*IMDG:*
- UN-Number: 1993
- Class: 3
- Labels: 3
- Packaging group: III
- Proper shipping name: FLAMMABLE LIQUID, N.O.S. (SUBSTITUTED BENZENOID HYDROCARBONS AND PIRIMIPHOS-METHYL )
Air transport

**IATA-DGR**

UN-Number: 1993  
Class: 3  
Labels: 3  
Packaging group: III  
Proper shipping name: **FLAMMABLE LIQUID, N.O.S. (SUBSTITUTED BENZENOID HYDROCARBONS AND PIRIMIPHOS-METHYL)**

### 15. REGULATORY INFORMATION

**Labelling according to EC Directives**

Hazardous components which must be listed on the label:

- pirimiphos-methyl
- solvent naphtha (petroleum), light arom.

<table>
<thead>
<tr>
<th>Symbol(s)</th>
<th>R-phrase(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>: Xn N</td>
<td>: R10 Flammable,</td>
</tr>
<tr>
<td></td>
<td>R22 Harmful if</td>
</tr>
<tr>
<td></td>
<td>swallowed.</td>
</tr>
<tr>
<td></td>
<td>R37 Irritating</td>
</tr>
<tr>
<td></td>
<td>to respiratory</td>
</tr>
<tr>
<td></td>
<td>system.</td>
</tr>
<tr>
<td></td>
<td>R41 Risk of</td>
</tr>
<tr>
<td></td>
<td>serious damage</td>
</tr>
<tr>
<td></td>
<td>to eyes.</td>
</tr>
<tr>
<td></td>
<td>R43 May cause</td>
</tr>
<tr>
<td></td>
<td>sensitisation</td>
</tr>
<tr>
<td></td>
<td>by skin contact.</td>
</tr>
<tr>
<td></td>
<td>R50/53 Very</td>
</tr>
<tr>
<td></td>
<td>toxic to</td>
</tr>
<tr>
<td></td>
<td>aquatic</td>
</tr>
<tr>
<td></td>
<td>organisms,</td>
</tr>
<tr>
<td></td>
<td>may cause</td>
</tr>
<tr>
<td></td>
<td>long-term</td>
</tr>
<tr>
<td></td>
<td>adverse effects</td>
</tr>
<tr>
<td></td>
<td>in the aquatic</td>
</tr>
<tr>
<td></td>
<td>environment.</td>
</tr>
<tr>
<td></td>
<td>R65 Harmful:</td>
</tr>
<tr>
<td></td>
<td>may cause lung</td>
</tr>
<tr>
<td></td>
<td>damage if</td>
</tr>
<tr>
<td></td>
<td>swallowed.</td>
</tr>
<tr>
<td></td>
<td>R67 Vapours</td>
</tr>
<tr>
<td></td>
<td>may cause</td>
</tr>
<tr>
<td></td>
<td>drowsiness and</td>
</tr>
<tr>
<td></td>
<td>dizziness.</td>
</tr>
</tbody>
</table>
S-phrase(s)  :  
S 2  Keep out of the reach of children.
S 13  Keep away from food, drink and animal feedingstuffs.
S 20/21  When using do not eat, drink or smoke.
S 26  In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 35  This material and its container must be disposed of in a safe way.
S 36/37/39  Wear suitable protective clothing, gloves and eye/face protection.
S 57  Use appropriate container to avoid environmental contamination.
S 62  If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Note  :  The product is classified and labelled in accordance with Directive 1999/45/EC.

Special labelling of certain preparations  :  To avoid risks to man and the environment, comply with the instructions for use.

GHS-Labelling

Globally Harmonized System of Classification and Labelling of Chemicals (GHS), 2nd revised edition

Pictogram

Signal Word  :  Danger

Hazard Statements  :  
H 226  Flammable liquid and vapour
H 302  Harmful if swallowed.
H 304  May be fatal if swallowed and enters airways.
H 317  May cause an allergic skin reaction.
H 318  Causes serious eye damage.
H 336  May cause drowsiness or dizziness.
H 410  Very toxic to aquatic life with long lasting effects.

Precautionary Statements  :  
P 102  Keep out of reach of children.
P 210  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P 261  Avoid breathing dust/fume/gas/mist/vapours/spray.
P 270  Do no eat, drink or smoke when using this product.
P 280  Wear protective gloves/protective
clothing/eye protection/face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P331 Do NOT induce vomiting.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P391 Collect spillage.
P501 Dispose of contents/container to .?

Remarks: Classified using all GHS hazard classes and categories. Where the GHS contains options, the most conservative option has been chosen. Regional or national implementations of GHS may not implement all hazard classes and categories.

Hazardous components which must be listed on the label:
- pirimiphos-methyl
- solvent naphtha (petroleum), light arom.

16. OTHER INFORMATION

Further information

Text of R-phrases mentioned in Section 3:

R10 Flammable.
R22 Harmful if swallowed.
R37 Irritating to respiratory system.
R37/38 Irritating to respiratory system 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.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

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Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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