Material Safety Data Sheet: BARITONE

1. Identification of the Substance/Preparation and Company/Undertaking

MAPP Number: MAPP 15910
Trade Name: Baritone
Recommended Uses: Fungicide for barley, combining peas, field beans and winter wheat
Manufacturer/Supplier: AgChemAccess Ltd
Cedar House
41 Thorpe road
Norwich
Norfolk
NR1 1ES
Telephone number: 0845 4599413
Fax Number: 020 71499815
E-mail: enquire@agchemaccess.com
Emergency Telephone Nos: 01865 407333 [Carechem]
0870-600-6266 [UK National Poisons Control Information Service (NPIS) Centre]
01-8379964/66 [Poisons Information Centre, Beaumont Hospital, Beaumont, Dublin 9, Ireland]

2. Hazards Identification

Health risks to human: Harmful by inhalation. Irritating to the respiratory system. Limited evidence of a carcinogenic effect. Risk of serious damage to eyes. May cause sensitisation by skin contact.

Environmental risks: Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

3. Composition/Information on Ingredients

Chemical nature:
A suspension concentrate containing 4% w/v cyproconazole and 37.5% w/v chlorothalonil

Hazardous components:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Reg. No.</th>
<th>EINECS ELINCS No.</th>
<th>Conc. % w/w</th>
<th>Risk Phrases*</th>
<th>Hazard Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>chlorothalonil</td>
<td>1897-45-6</td>
<td></td>
<td>31</td>
<td>26, 37, 40, 41, 43, 50/53</td>
<td>T+, N</td>
</tr>
<tr>
<td>cyproconazole</td>
<td>94361-06-5</td>
<td></td>
<td>3.3</td>
<td>22, 50/53, 63</td>
<td>N, Xn</td>
</tr>
</tbody>
</table>

For the full text of the R phrases mentioned in this section, see section 16.

4. First Aid Measures

General: Have the product container, label or Materials Safety Data Sheet with you when calling the Poisons Information Service, AgChemAccess, a physician or when going for medical treatment. Move out of contaminated area and place victim in the recovery position if necessary. Remove contaminated clothing and dispose of safely.

Inhalation: Remove 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 plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

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.

Advice for medical practitioners: There is no specific antidote available. Treat symptomatically.

Baritone MSDS Page 1
5. Fire-fighting Measures

Extinguishing media for fires:
Small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Large fires: Alcohol-resistant foam or water spray.

Extinguishing media which must 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.

Special protective equipment for fire-fighters: Special protective equipment for fire fighters: In the event of fire, wear 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 precautionary measures: Refer to protective measures listed in sections 7 and 8.

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

Procedures for cleaning/absorption: Methods for cleaning up: Contain and collect spillage 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: No special technical protective measures required. No special handling advice required. Avoid contact with skin and eyes. When using, do not eat, drink or smoke. For personal protection see section 8.

Storage: No special storage conditions required. 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 feed.

Additional information: The product is stable for at least two years when stored at ambient temperatures in the unopened container. Ensure temperature does not exceed 40 °C. Suitable storage containers are metal drums coated with epoxy resin, drums with a polyethylene liner or co-extruded polyethylene bottles.

8. Exposure Controls/Personal Protection

Engineering measures to reduce exposure:
Cyproconazole: 8hr TWA: 0.5 mg/m3
Chlorothalonil: 8hr TWA: 0.1 mg/m3

Engineering controls:
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 vapours are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Seek additional occupational hygiene advice.

Personal protective equipment:
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.

Eye protection: If eye contact is possible, use tight-fitting chemical safety goggles and a face shield.

Respiratory protection: A particulate filter respirator may be necessary unless 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.

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Grey to brown</td>
</tr>
<tr>
<td>Odour</td>
<td>Weak</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>ca -5 °C</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Density</td>
<td>ca 1.2 g/cm³(20 °C)</td>
</tr>
<tr>
<td>Surface Tension</td>
<td>58.8–60.4 mN/m (5.0 g/l; Suspension in distilled water; 20 °C)</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Miscible</td>
</tr>
<tr>
<td>Dynamic Viscosity</td>
<td>73.2–177 mPa.s (50–250 rps; 20 °C)</td>
</tr>
<tr>
<td>Dynamic Viscosity</td>
<td>58.1–159 mPa.s (50–250 rps; 40 °C)</td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

**Stability:** Stable under normal storage conditions.

**Conditions to avoid:** Extremes of temperature (below -10 °C or above 40 °C) and direct sunlight.

**Hazardous decomposition products:** Combustion or thermal decomposition will evolve toxic and irritant vapours.

**Materials to avoid:** None

**Hazardous reactions:** None known when stored or used as recommended.

11. Toxicological Information

**Toxicology data**

- **Acute Oral Toxicity LD50:** >5000 mg/kg (rat)
- **Acute Dermal Toxicity LD50:** >2000 mg/kg (rat)
- **Acute Skin Irritation:** Non-irritant (rabbit)
- **Acute Eye Irritation:** Highly irritant (rabbit)
- **Skin Sensitisation:** Sensitising (guinea pig)

**Other information**

Did not show mutagenic effects in animal experiments. Chlorothalonil causes kidney tumours in rats and mice via a non-genotoxic mode of action secondary to target organ toxicity. Did not show reproductive toxicity effects in animal experiments. Did not show teratogenic effects in animal experiments. This is not considered to be a risk to man when handled and used as directed on the label. This information refers to chlorothalonil.

12. Ecological Information

**Toxicology data**

- **Acute Toxicity to Fish LC50:** 0.16 mg/l (*Salmo trutta* (trout); 96 h) OECD 203
- **LC50:** 0.35 mg/l (*Cyprinus carpio* (Common carp); 96 h) OECD 203
- **Growth Inhibition, Algae ErC50:** 3.59 mg/l (*Selenastrum capricornutum* (green algae)) OECD 201
- **Toxicity to Aquatic Invertebrates EC50:** 0.14 mg/l (*Daphnia magna* (water flea); 48 h) OECD 202

**Elimination information (Persistence and degradability)**

- **Bioaccumulation:** Cyproconazole does not bioaccumulate. Chlorothalonil has low potential for bioaccumulation.
- **Stability in water:** Cyproconazole is not persistent in water. Chlorothalonil is not persistent in water.
- **Stability in soil:** Cyproconazole is moderately to very persistent in soil and chlorothalonil has low persistence in soil.
- **Mobility:** Cyproconazole has low to medium mobility in soil. Chlorothalonil has low to slight mobility in soil.

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 for local recycling or waste disposal. Do not re-use empty containers.

14. Transport Information

**Special information:** Use unbreakable containers, make sure they cannot fall, and label in accordance with regulations.

RAIL/ROAD/AIR (RID/ADR/IATA)
Class: 9
UN number: 3082
Packaging group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (CHLOROTHALONIL)

Sea (IMDG-Code)
Class: 9
UN number: 3082
Packaging group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (CHLOROTHALONIL 37.5%)
Marine pollutant: Yes

15. Regulatory Information

This product has been classified according to 'The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002: CHIP 3 and any subsequent amendments. Classification and labelling is according to EC Directive on dangerous preparations 1999/45/EC as amended.

Classifications/ Hazard symbols

\[
\begin{align*}
Xn & : \text{HARMFUL} \\
N & : \text{DANGEROUS FOR THE ENVIRONMENT}
\end{align*}
\]

Risk phrases (R)

20  Harmful by inhalation
37  Irritating to the respiratory system
40  Limited evidence of a carcinogenic effect
41  Risk of serious damage to eyes
43  May cause sensitisation by skin contact
50/53 Very toxic to aquatic organisms; May cause long-term adverse effects in the aquatic environment

Safety phrases (S)

2  Keep out of the reach of children
13  Keep away from food, drink and animal feeding stuffs
20/21 When using do not eat, drink or smoke
26  In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
35  This material and its container must be disposed of in a safe way
36/37/39 Wear suitable protective clothing, gloves and eye/face protection
45  In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
57  Use appropriate containment to avoid environmental contamination

Special label: To avoid risks to man and the environment, comply with the instructions for use

16. Other information:

Health and Environmental Hazards:

Text of R phrases mentioned in Section 2

Risk phrases (R)

R22  Harmful if swallowed
R26  Very toxic by inhalation
R37  Irritating to the respiratory system
R40  Limited evidence of a carcinogenic effect
R41  Risk of serious damage to eyes
R43  May cause sensitisation by skin contact
R50/53 Very toxic to aquatic organisms; May cause long-term adverse effects in the aquatic environment
R63  Possible risk of harm to the unborn child

Date of issue: December 2012

Disclaimer: The information contained in this MSDS is designed to give general health and safety guidance on the storage and transport of the substance/preparation to which it relates. Requirements arising from a Risk Assessment of the substance/preparation in a particular working environment should take precedence over any of the guidance contained in this MSDS where there is a difference in the information given. The information contained in this MSDS is accurate at the date of publication and will be updated as and when appropriate. Liability will not be
accepted for any injury, loss or damage resulting from any failure to take account of information or advice contained in this MSDS.