### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name:** Opera® Fungicide  
**Product Code:** 5189  
**Product Type:** Group 3 and 11 Fungicide  
**Company Name:** NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)  
**Address:** 103-105 Pipe Road Laverton North  
Victoria 3026  
Australia  
**Emergency Tel.:** 1800 033 498 (24hr Australia)  
**Telephone/Fax Number:**  
Tel: +61 3 9282-1000  
Fax: +61 3 9282-1001  
**Recommended Use:** For the control of a broad range of fungal diseases in wheat, barley and oat/oaten hay as specified in the Directions for Use table on the label.  
**Other Information:** This MSDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

### 2. HAZARDS IDENTIFICATION

**Hazard Classification:** Classified as hazardous  
HAZARDOUS SUBSTANCE.  
NON-DANGEROUS GOODS.  
Hazard classification according to the criteria of NOHSC.  
Dangerous goods classification according to the Australia Dangerous Goods Code.  
**Risk Phrase(s):**  
R20/22 Harmful by inhalation and if swallowed.  
R38 Irritating to skin.  
R40 Limited evidence of a carcinogenic effect.  
R43 May cause sensitization by skin contact.  
R62 Possible risk of impaired fertility.  
R63 Possible risk of harm to the unborn child.  
**Safety Phrase(s):**  
S13 Keep away from food, drink and animal feeding stuffs.  
S2 Keep out of reach of children.  
S3/36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
S46 If swallowed, seek medical advice immediately and show this container or label.  
**Other Information:** Poisons Schedule S5

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Characterization</th>
<th>Name</th>
<th>CAS</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td>Pyraclostrobin</td>
<td>175013-18-0</td>
<td>85 g/L</td>
</tr>
<tr>
<td></td>
<td>Epoxiconazole</td>
<td>106325-08-0</td>
<td>62.5 g/L</td>
</tr>
<tr>
<td></td>
<td>Water</td>
<td></td>
<td>30-60 %</td>
</tr>
<tr>
<td></td>
<td>Solvent naphtha</td>
<td>64742-94-5</td>
<td>10-30 %</td>
</tr>
<tr>
<td></td>
<td>Liquid</td>
<td>64742-94-5</td>
<td>10-30 %</td>
</tr>
<tr>
<td></td>
<td>Hydrocarbon</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>fatty alcohol</td>
<td>-</td>
<td>0-10 %</td>
</tr>
<tr>
<td></td>
<td>ethoxylate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other ingredients</td>
<td>(non-hazardous)</td>
<td>0-5 %</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**Inhalation:** Remove affected person to fresh air until recovered.  
If symptoms develop or persist, seek medical advice.  
**Ingestion:** Rinse mouth and then drink plenty of water.
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Issued by NUFARM

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Classified as hazardous

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media
If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material.

Hazards from Combustion Products
If involved in a fire, the dehydrated components may emit oxides of carbon, oxides of nitrogen, hydrogen chloride and hydrogen fluoride.

Special Protective Equipment for Firefighters
Breathable air apparatus should be worn when fighting a fire in which this product is involved.

Emergency Action in case of Fire
If exposed to fire, keep container cool by spraying with water.

STOP FIRE WATER FROM ENTERING DRAINS OR WATER BODIES.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal
Containing spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Collect spilled material and waste in sealable open-top type containers for disposal.

Personal Protection
For appropriate personal protective equipment (PPE), refer Section 8.

Environmental Precautions
Prevent from entering drains, waterways or sewers. Use earthen bunds or absorbent bunding to prevent spreading of spillage.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Do NOT contaminate dams, rivers or streams, or any other water bodies with chemical or used containers.

Conditions for Safe Storage
Store in the closed, original container in a dry, cool well ventilated area out of direct sunlight.

Other Information
Always read the label and any attached leaflet before use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards
The manufacturer of the solvent has recommended an occupational exposure limit of 100 mg/m³; 15ppm TWA, as total hydrocarbon.

Engineering Controls
Handle in well ventilated areas, generally natural ventilation is adequate.

Personal Protective Equipment
When opening the container, preparing the spray and using the prepared spray wear protective waterproof clothing, elbow-length PVC gloves, water resistant footwear and full-facepiece respirator (or goggles and half facepiece respirator).

Re-entry period: Do not enter treated area until spray has dried.

Hygiene Measures
After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

After each day's use, wash contaminated clothing and safety equipment.

Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form
Liquid

Appearance
Off white liquid.
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Odour Slight aromatic odour.
Solubility in Water Disperses in water.
Specific Gravity 1.04
Vapour Pressure <0.01 mPa @ 20°C for epoxiconazole and pyraclostrobin
Volatile Component 50%
Octanol/Water Partition Coefficient Kow Log P is 3.99 (pH7) for pyraclostrobin; 3.44 (pH7) for epoxiconazole.
Flammability Not flammable
Auto-Ignition Temperature 475°C

10. STABILITY AND REACTIVITY
Chemical Stability Stable under normal conditions.
Hazardous Reactions Keep away from strong oxidising agents.
Hazardous Polymerization Hazardous polymerisation is not possible.

11. TOXICOLOGICAL INFORMATION
Toxicology Information No harmful effects are expected if the precautions on the label and this MSDS are followed.
Inhalation Breathing in high concentrations of vapours or aerosols of this material may cause headache, nausea, dizziness and weakness.
Ingestion Low toxicity. However, swallowing large amounts of concentrate may cause nausea and vomiting.
Skin Prolonged contact with the concentrate may cause irritation.
Eye Will irritate the eyes.
Reproductive Toxicity Regarded as causing developmental toxicity in humans based on strong presumption from studies on rats and rabbits.
Carcinogenicity Worksafe Australia has classified epoxiconazole in the occupational environment as a Carcinogen Category 3 substance. This means that the substance is not classifiable as to carcinogenicity to humans.
Acute Toxicity - Oral LD50 (rat) 200 - 2000 mg/kg for the formulation
Acute Toxicity - Dermal LD50 (rat) >4000 mg/kg for the formulation
Acute Toxicity - Inhalation LC50 (rat) (4hr) 3.22 mg/l for the formulation
Eye Irritation The product is an eye irritant.
Skin Irritation Mild skin irritant.
Skin Sensitisation Product is a skin sensitisier.

Other Information
The Australian Acceptable Daily Intake (ADI) for pyraclostrobin for a human is 0.03 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 3 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing Office of Chemical Safety, 'ADI List', December 2008).
ADI for epoxiconazole is 0.01 mg/kg/day, NOEL 1 mg/kg/day.

12. ECOLOGICAL INFORMATION
Known Harmful Effects on the Environment The product is a marine pollutant for sea transport.
Other Precautions Do not contaminate dams, waterways or sewers with this product or the
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Environ. Protection

Containers which have held this product.

Spray drift can cause damage, read the label for more information.

Acute Toxicity - Fish

The following data is for the product:

Toxic to fish. LC50 (96hr) for rainbow trout is 0.074 mg/l.
EC50 (48hr) is 0.14 mg/l.

Acute Toxicity - Daphnia

EC50 (72hr) for Pseudokirchneriella subcapitata 5.05 mg/l.

Acute Toxicity - Algae

EC50 (72hr) is 0.14 mg/l.

Acute Toxicity - Other Organisms

The following data is for the product:

Birds: Not toxic to birds. LD50 for quail is >2000 mg/kg

Bees: Not toxic to bees. LD50 >100 µg/bee.

13. DISPOSAL CONSIDERATIONS

Product Disposal

On site disposal of the concentrated product is not acceptable.

Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).

Do not use this container for any other purpose.

Container Disposal

Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations.

drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMUSTER symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program.

If on-site container disposal is necessary, triple rinse empty container with water, add rinsate to the spray tank. Puncture top, sides and bottom, crush and bury in an approved landfill or bury with at least 500 mm of soil cover away from pasture and crop areas, water supplies and houses.

Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

Transport Information

It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.

Considered non dangerous for road and rail transport (in packaging, including IBCs not greater than 3000 Lt each) by the Australian Code for the Transport of Dangerous Goods by Road and Rail. Ref: ADG7; SP No. AU01.

For bulk shipments as Class 9, use UN 3082, HazChem code 2Z.

UN Number (Sea Transport) 3082

IMO Class/Packing Group Class 9

IMO Marine Pollutant Marine Pollutant

IMO Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

15. REGULATORY INFORMATION

Poisons Schedule S5

Packaging & Labelling

CAUTION

KEEP OUT OF REACH OF CHILDREN

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Hazard Category Harmful, Irritant

AICS (Australia) All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

Print Date: 2/07/2010
Material Safety Data Sheet

Infosafe No™ 3NULO  Issue Date: July 2010  ISSUED by NUFARM

Product Name Opera® Fungicide

Classified as hazardous

Date of preparation or last revision of MSDS: 02/07/2010

Contact
- Normal Hours: Mrs Kathleen Marsh  Phone: +61 3 9282 1000
- After Hours:  Shift Supervisor  Phone: 1800 033 498

Revisions
- First Issue

Highlighted

Other Information
- © Registered trademark of BASF

...End Of MSDS...