Section 1. Chemical Product and Company Information

- **Product name**: ROVRAL® RX FUNGICIDE
- **MSDS Number**: 102000012056
- **PCP Registration No.**: 24378

Registered to: Bayer CropScience Inc

- #200, 160 Quarry Park Blvd, SE
- Calgary, Alberta T2C 3G3
- Canada

Distributed by: Monsanto Canada Inc

- 900 – One Research Rd
- Winnipeg, MB
- R3T 6E3

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-332-3111 (24 hours/day)
For Product Information call: 1-800-667-4944

Section 2. Hazards Identification

*NOTE: Please refer to Section 11 for detailed toxicological information.*

**Emergency Overview**

Caution! Harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin, eyes and clothing. Avoid breathing spray mist.

**Physical State**

- liquid suspension

**Odor**

- aromatic

**Appearance**

- white to light beige

**Exposure routes**

- Eye contact, Inhalation, Skin contact, Ingestion

**Immediate Effects**

**Eye**

- Causes eye irritation. Avoid contact with eyes.

**Skin**

- Harmful if absorbed through skin. Causes skin irritation. Avoid contact with skin and clothing.

**Ingestion**

- Harmful if swallowed. Do not take internally.

**Inhalation**

- Harmful if inhaled. May cause upper respiratory tract irritation. Avoid breathing spray mist.
Chronic or Delayed
Long-Term
This product or its components may have target organ effects.

Medical Conditions
Aggravated by Exposure
Skin contact may aggravate existing skin disease. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis.

Potential Environmental
Effect
Toxic to invertebrates.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Average % by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iprodione</td>
<td>36734-19-7</td>
<td>23.30</td>
</tr>
<tr>
<td>Distillates (petroleum), solvent-refined light paraffinic</td>
<td>64741-89-5</td>
<td></td>
</tr>
<tr>
<td>1,2-Propanediol</td>
<td>57-55-6</td>
<td></td>
</tr>
<tr>
<td>Nonylphenol ethoxylate, branched</td>
<td>68412-54-4</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

General
When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Eye
Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Skin
Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Ingestion
Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Inhalation
Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Notes to physician
Hazards
Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.

Treatment
Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.
SECTION 5. FIRE FIGHTING MEASURES

Flash point  
No flash point - Determination conducted up to the boiling point.

Autoignition temperature  
no data available

Lower Flammability Limit  
2.6 %(V)

Upper Flammability Limit  
12 %(V)

Explosiveness  
no data available

Fire and Explosion Hazards  
Dangerous gases are evolved in the event of a fire.

Suitable extinguishing media  
Dry chemical, Carbon dioxide (CO2), Foam, Water spray

Fire Fighting Instructions  
Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Dust Explosion Class  
Not applicable.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions  
Avoid contact with spilled product or contaminated surfaces. Isolate hazard area. Keep unauthorized people away.

Methods for cleaning up  
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations. Contaminated soil may have to be removed and disposed.

Additional advice  
Use personal protective equipment. Do not allow product to contact vegetation. Do not allow to enter soil, waterways or waste water canal.

SECTION 7. HANDLING AND STORAGE

Handling procedures  
Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.
Keep away from heat and sources of ignition.

**Storing Procedures**

Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

**Work/Hygienic Procedures**

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**General Protection**

Follow all label instructions. Train employees in safe use of the product.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

**Eye/Face Protection**

Safety glasses with side-shields

**Hand protection**

Chemical resistant nitrile rubber gloves

**Body Protection**

Wear long-sleeved shirt and long pants and shoes plus socks.

**Respiratory protection**

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

**Exposure Limits**

<table>
<thead>
<tr>
<th>Compound</th>
<th>CAS Number</th>
<th>OES BCS*</th>
<th>TWA</th>
<th>CAD AB OEL</th>
<th>CAD BC OEL</th>
<th>CAD BC OEL</th>
<th>CAD ON OEL</th>
<th>CAD ON OEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iprodione</td>
<td>36734-19-7</td>
<td>TWA</td>
<td>2 mg/m3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distillates (petroleum),</td>
<td>64741-89-5</td>
<td>TWA</td>
<td>5 mg/m3</td>
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<td></td>
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<td>solvent-refined light</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>paraffinic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,2-Propanediol</td>
<td>57-55-6</td>
<td>STEL</td>
<td>10 mg/m3</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>0.2 mg/m3</td>
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<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1 mg/m3</td>
<td></td>
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<td></td>
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<td>TWA</td>
<td>10 mg/m3</td>
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<td></td>
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</tr>
</tbody>
</table>

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Appearance</td>
<td>white to light beige</td>
</tr>
<tr>
<td>Physical State</td>
<td>liquid suspension</td>
</tr>
<tr>
<td>Odor</td>
<td>aromatic</td>
</tr>
<tr>
<td>pH</td>
<td>4.0 - 7.5 (100 %)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>no data available</td>
</tr>
<tr>
<td>Density</td>
<td>1.03 g/cm³ at 20 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>100 °C / 212 °F</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
<td>no data available</td>
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<tr>
<td>Water solubility</td>
<td>dispersible</td>
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<tr>
<td>Minimum Ignition Energy</td>
<td>no data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>no data available</td>
</tr>
</tbody>
</table>

SECTION 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions to avoid</td>
<td>Heat, flames and sparks.</td>
</tr>
<tr>
<td></td>
<td>Static electricity.</td>
</tr>
<tr>
<td>Incompatibility</td>
<td>Strong bases</td>
</tr>
<tr>
<td></td>
<td>Strong acids</td>
</tr>
<tr>
<td></td>
<td>Strong oxidizing agents</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Thermal decomposition</td>
</tr>
<tr>
<td></td>
<td>nitrogen oxides (NOx)</td>
</tr>
<tr>
<td></td>
<td>Sulphur oxides</td>
</tr>
<tr>
<td></td>
<td>Hydrogen chloride (HCl)</td>
</tr>
</tbody>
</table>
Hazardous reactions
No hazardous reactions known.

Chemical Stability
Stable under recommended storage conditions.

SECTION 11. TOXICOGICAL INFORMATION

Acute toxicity data has been bridged from a very similar formulation containing a similar percentage of the active ingredient, Iprodione. The non-acute information pertains to the technical-grade active ingredient.

Acute oral toxicity
male rat: LD50: > 5,000 mg/kg
female rat: LD50: 4,619 mg/kg

Acute dermal toxicity
male/female combined rat: LD50: > 2,000 mg/kg

Acute inhalation toxicity
male/female combined rat: LC50: > 0.8 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
Highest attainable concentration.
No deaths

male/female combined rat: LC50: > 3.2 mg/l
Exposure time: 1 h
Determined in the form of liquid aerosol.
Extrapolated from the 4 hr LC50.

Skin irritation
rabbit: slight irritation

Eye irritation
rabbit: Minimally irritating.

Sensitisation
guinea pig: Non-sensitizing.

Chronic toxicity
Iprodione caused effects in the liver, adrenal, ovary and testes in chronic feeding studies.

Assessment Carcinogenicity
Iprodione produced benign testicular tumors in rats and benign liver and ovary tumors in mice when tested at a maximum tolerated dose.

ACGIH
None.

NTP
Distillates (petroleum), solvent-refined light paraffinic 64741-89-5

IARC
Distillates (petroleum), solvent-refined light paraffinic 64741-89-5 Overall evaluation: 1

OSHA
None.
Reproductive toxicity

**REPRODUCTION:** Iprodione caused toxicity in offspring at doses producing systemic toxicity in adult rats.

**DEVELOPMENTAL TOXICITY:** Iprodione was not a primary developmental toxicant in rats and rabbits. Developmental effects were observed but were considered secondary to maternal toxicity.

Assessment neurotoxicity

Iprodione is not considered to be a neurotoxicant.

Mutagenicity

Iprodione was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

### SECTION 12. ECOLOGICAL INFORMATION

**Environmental precautions**

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not allow to get into surface water, drains and ground water. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Apply this product as specified on the label.

### SECTION 13. DISPOSAL CONSIDERATIONS

**General Disposal Guidance**

Do not contaminate water, food, or feed by disposal. Dispose in accordance with all local, state/provincial and federal regulations. Follow advice on product label and/or leaflet.

**Container Disposal**

Do not re-use empty containers. Triple rinse containers. Puncture container to avoid re-use. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke. Follow advice on product label and/or leaflet.

### SECTION 14. TRANSPORT INFORMATION

**TDG**

Not dangerous goods / not hazardous material

**CFR**

Not dangerous goods / not hazardous material

**IMDG**

**UN-Number** 3082  
**Class** 9  
**Packaging group** III  
**Marine pollutant** Marine Pollutant  
**Description of the goods** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IPRODIONE SOLUTION)
**IATA**

- **UN-Number**: 3082
- **Class**: 9
- **Packaging group**: III
- **Description of the goods**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IPRODIONE SOLUTION)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

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**SECTION 15. REGULATORY INFORMATION**

**US Federal Registration No.**

- 24378

**US Federal Regulations**

**TSCA list**

- Distillates (petroleum), solvent-refined light paraffinic: 64741-89-5
- 1,2-Propanediol: 57-55-6
- Nonylphenol ethoxylate, branched: 68412-54-4

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**

- None.

**SARA Title III - Section 302 - Notification and Information**

- None.

**SARA Title III - Section 313 - Toxic Chemical Release Reporting**

- None.

**US State Right-To-Know Ingredients**

- Distillates (petroleum), solvent-refined light paraffinic: 64741-89-5  CA, MA
- 1,2-Propanediol: 57-55-6  MN, RI

**Canadian Regulations**

**Canadian Domestic Substance List**

- Distillates (petroleum), solvent-refined light paraffinic: 64741-89-5
- 1,2-Propanediol: 57-55-6
- Nonylphenol ethoxylate, branched: 68412-54-4

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This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

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**Page 8 of 9**
Environmental

CERCLA

None.

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

International Regulations

European Inventory of Existing Commercial Substances (EINECS)

- Iprodione 36734-19-7
- Distillates (petroleum), solvent-refined light paraffinic 64741-89-5

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

- Health - 2
- Flammability - 2
- Reactivity - 1
- Others - none


- Health - 2
- Flammability - 2
- Physical Hazard - 1
- PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: The following sections have been revised: Section 3: Composition / Information on Ingredients. Section 8: Exposure Controls / Personal Protection. Section 14: Transport Information. Updated for general editorial purposes.

Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

Revision Date: 02/01/2011

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