

Distributed by: Monsanto Canada Inc.  
Registered to: Bayer CropScience



## Material Safety Data Sheet

### ROVRAL® RX FUNGICIDE

MSDS Number: 102000012056

MSDS Version 3.0

Revision Date: 02/01/2011

Print Date: 02/25/2011

## 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.

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<b>Chronic or Delayed Long-Term</b>	This product or its components may have target organ effects.
<b>Medical Conditions Aggravated by Exposure</b>	Skin contact may aggravate existing skin disease. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis.
<b>Potential Environmental Effect</b>	Toxic to invertebrates.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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

### SECTION 4. FIRST AID MEASURES

<b>General</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Eye</b>	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.
<b>Skin</b>	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.
<b>Ingestion</b>	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.
<b>Inhalation</b>	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.
<b>Notes to physician Hazards</b>	Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.
<b>Treatment</b>	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.



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**SECTION 5. FIRE FIGHTING MEASURES**

<b>Flash point</b>	No flash point - Determination conducted up to the boiling point.
<b>Autoignition temperature</b>	no data available
<b>Lower Flammability Limit</b>	2.6 %(V)
<b>Upper Flammability Limit</b>	12 %(V)
<b>Explosiveness</b>	no data available
<b>Fire and Explosion Hazards</b>	Dangerous gases are evolved in the event of a fire.
<b>Suitable extinguishing media</b>	Dry chemical, Carbon dioxide (CO <sub>2</sub> ), Foam, Water spray
<b>Fire Fighting Instructions</b>	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.
<b>Dust Explosion Class</b>	Not applicable.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

<b>Personal precautions</b>	Avoid contact with spilled product or contaminated surfaces. Isolate hazard area. Keep unauthorized people away.
<b>Methods for cleaning up</b>	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.
<b>Additional advice</b>	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**

<b>Handling procedures</b>	Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.
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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

Iprodione Distillates (petroleum), solvent-refined light paraffinic	36734-19-7	OES BCS*	TWA	2 mg/m3
		64741-89-5	CAD AB OEL	TWA
			CAD AB OEL	STEL
			CAD BC OEL	TWA
1,2-Propanediol	57-55-6		CAD BC OEL	TWA
		CAD ON OEL	TWAEV	50 ppm
		CAD ON OEL	TWAEV	10 mg/m3

\*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"



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#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	white to light beige
<b>Physical State</b>	liquid suspension
<b>Odor</b>	aromatic
<b>pH</b>	4.0 - 7.5 (100 %)
<b>Vapor Pressure</b>	no data available
<b>Vapor Density (Air = 1)</b>	no data available
<b>Density</b>	1.03 g/cm <sup>3</sup> at 20 °C
<b>Evaporation rate</b>	no data available
<b>Boiling Point</b>	100 °C / 212 °F
<b>Melting / Freezing Point</b>	no data available
<b>Water solubility</b>	dispersible
<b>Minimum Ignition Energy</b>	no data available
<b>Decomposition temperature</b>	no data available
<b>Partition coefficient: n-octanol/water</b>	no data available

#### SECTION 10. STABILITY AND REACTIVITY

<b>Conditions to avoid</b>	Heat, flames and sparks. Static electricity.
<b>Incompatibility</b>	Strong bases Strong acids Strong oxidizing agents
<b>Hazardous Decomposition Products</b>	Thermal decomposition nitrogen oxides (NO <sub>x</sub> ) Sulphur oxides Hydrogen chloride (HCl)



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**Hazardous reactions** No hazardous reactions known.  
**Chemical Stability** Stable under recommended storage conditions.

**SECTION 11. TOXICOLOGICAL 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.



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**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)**

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#### 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.

## SECTION 15. REGULATORY INFORMATION

PCP Registration No. 24378

### US Federal Regulations

#### TSCA list

Distillates (petroleum), solvent-refined light paraffinic	64741-89-5
1,2-Propanediol	57-55-6
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#### 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 States Regulatory Reporting

#### CA Prop65

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.

#### 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
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#### 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

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

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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