



Material Safety Data Sheet
ROVRAL® RX FUNGICIDE

MSDS Number: 102000012056
MSDS Version 2.2
Revision Date: 01/17/2008

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name ROVRAL® RX FUNGICIDE
MSDS Number 102000012056
PCP Registration No. 24378

Registered to: Bayer CropScience Inc
#100 - 3131 - 114th Avenue SE
Calgary, AB T2Z 3X2
Canada

Distributed by: Monsanto Canada, Inc.
900 – One Research Road
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. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Iprodione	36734-19-7	23.30
1,2-Propanediol	57-55-6	

SECTION 3. 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. Irritating to eyes, respiratory system and skin.

Physical State liquid suspension

Odor aromatic

Appearance white to light beige

Routes of Exposure Eye contact, Inhalation, Skin contact

Immediate Effects

Eye May cause eye irritation. Do not get in eyes.

Skin May cause skin irritation. Harmful if absorbed through skin.

Inhalation Harmful if inhaled. May cause upper respiratory tract irritation.



Material Safety Data Sheet

ROVRAL® RX FUNGICIDE

MSDS Number: 102000012056
MSDS Version 2.2

Chronic or Delayed Long-Term	This product is not listed by NTP, IARC or regulated as a carcinogen by OSHA. 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.

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	There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5. FIRE FIGHTING MEASURES

Flash point	65.5 °C / 149.9 °F
Autoignition Temperature	no data available
Lower Flammability Limit	2.6 %(V)
Upper Flammability Limit	12 %(V)



Material Safety Data Sheet

ROVRAL® RX FUNGICIDE

MSDS Number: 102000012056
MSDS Version 2.2

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 (CO ₂), Foam, Water spray
Fire Fighting Instructions	<p>Keep out of smoke. Fight fire from upwind position. Evacuate personnel to safe areas. Do not allow run-off from fire fighting to enter drains or water courses.</p> <p>Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.</p>
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). 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	Do not allow product to contact vegetation. Contact Bayer for further assistance if necessary. Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

SECTION 7. HANDLING AND STORAGE

Handling Procedures	<p>Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.</p> <p>Keep away from heat and sources of ignition.</p>
Storing Procedures	Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed.
Work/Hygienic Procedures	Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.



Material Safety Data Sheet
ROVRAL® RX FUNGICIDE

MSDS Number: 102000012056
MSDS Version 2.2

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection	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	36734-19-7	OES BCS*		2 mg/m3
1,2-Propanediol	57-55-6	CAD ON OEL	TWA	10 mg/m3
		Form of exposure	Aerosol.	
		CAD ON OEL	TWA	50 ppm 155 mg/m3
		Form of exposure	Total vapor and aerosol.	
		CAD ON OEL	TWA	50 ppm 155 mg/m3
		Form of exposure	Total vapor and aerosol.	

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white to light beige
Physical State	liquid suspension
Odor	aromatic
pH	4.0 - 7.5
Vapor Pressure	no data available
Vapor Density (Air = 1)	no data available
Density	1.03 g/cm ³ at 20 °C
Evaporation rate	no data available



Material Safety Data Sheet

ROVRAL® RX FUNGICIDE

MSDS Number: 102000012056
MSDS Version 2.2

Boiling Point	100 °C / 212 °F
Melting / Freezing Point	no data available
Water solubility	dispersible
Minimum Ignition Energy	no data available
Decomposition Temperature	no data available
Partition coefficient: n-octanol/water	no data available

SECTION 10. STABILITY AND REACTIVITY

Conditions to Avoid	Heat, flames and sparks. Static electricity.
Incompatibility	Strong bases Strong acids Strong oxidizing agents
Hazardous Decomposition Products	Thermal decomposition Nitrogen oxides (NO _x) Sulphur oxides Hydrogen chloride (HCl)
Hazardous Reactions	No hazardous reactions known. 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



Material Safety Data Sheet

ROVRAL® RX FUNGICIDE

MSDS Number: 102000012056
MSDS Version 2.2

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 (actual) 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. (actual)
Skin Irritation	rabbit: Slight irritation.
Eye Irritation	rabbit: Minimally irritating.
Sensitization	guinea pig: Non-sensitizing.
Chronic Toxicity	Iprodione caused effects in the liver, adrenal, ovary and/or testes in chronic feeding studies in rats and dogs.

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

None.

IARC

None.

OSHA

None.

Reproductive & Developmental Toxicity	REPRODUCTION: Iprodione did not cause reproductive toxicity in multi-generation studies in rats. DEVELOPMENTAL TOXICITY: Iprodione was not a primary developmental toxicant as only minor delays or variations in fetal development were observed only at doses that caused maternal toxicity.
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.



Material Safety Data Sheet
ROVRAL® RX FUNGICIDE

MSDS Number: 102000012056
MSDS Version 2.2

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.

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. Consult state and local regulations regarding the proper disposal of container.

SECTION 14. TRANSPORT INFORMATION

TDG (Canada):
Not regulated for road or rail.

SECTION 15. REGULATORY INFORMATION

PCP Registration No. 24378

US Federal Regulations

TSCA list

1,2-Propanediol 57-55-6

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



Material Safety Data Sheet
ROVRAL® RX FUNGICIDE

MSDS Number: 102000012056
MSDS Version 2.2

1,2-Propanediol 57-55-6 MN, RI

Canadian Regulations

Canadian Domestic Substance List

1,2-Propanediol 57-55-6

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)

1,2-Propanediol 57-55-6

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Reactivity - 0 Others - none

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

Reason to Revise: Updated Section 3: HAZARDS IDENTIFICATION; Updated Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION; Updated Section 11: TOXICOLOGICAL INFORMATION.

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

Revision Date: 01/17/2008

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.