



**Material Safety Data Sheet**  
**ROVRAL® BRAND 4 FLOWABLE FUNGICIDE**

MSDS Number: 102000012421  
 MSDS Version 1.0  
 Revision Date: 06/11/2007

**SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION**

**Product Name** ROVRAL® BRAND 4 FLOWABLE FUNGICIDE  
**MSDS Number** 102000012421  
**EPA Registration No.** 264-482

Bayer CropScience  
 2 T.W. Alexander Drive  
 Research Triangle PK, NC 27709  
 USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)  
 For Product Information call: 1-866-99BAYER (1-866-992-2937)

**SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Iprodione	36734-19-7	41.60
Dodecylbenzene sulphonate, isopropylamine salt	26264-05-1	4.00
Polyoxyethylene-nonylphenyl-ether-phosphate	68412-53-3	3.00
Isodecyl poly(ethyleneoxy)ethanol	78330-20-8	1.00
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 or absorbed through skin. Moderate eye irritation. Avoid contact with skin, eyes and clothing.

**Physical State** liquid

**Appearance** white to off-white

**Routes of Exposure** Eye contact, Skin Absorption, Inhalation, Ingestion

**Immediate Effects**

**Eye** Moderate eye irritation. Causes irritation, redness. Avoid contact with eyes.

**Skin** Slight irritation. Harmful if absorbed through skin. Avoid contact with skin and clothing.

**Ingestion** May cause nausea, vomiting, abdominal pain, loss of coordination. 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 does not contain any ingredients designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.
<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 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.
<b>Ingestion</b>	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.
<b>Inhalation</b>	If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Move to fresh air.
<b>Notes to Physician Hazards</b>	Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.
<b>Treatment</b>	There is no specific antidote. Treat symptomatically. Medical supervision for minimum 48 hours.

**SECTION 5. FIRE FIGHTING MEASURES**

<b>Flash point</b>	> 65.6 °C / 150.1 °F
<b>Fire and Explosion Hazards</b>	In the event of fire the following can be released: carbon monoxide (CO) hydrogen chloride (HCl) nitrogen oxides (NOx)
<b>Suitable Extinguishing Media</b>	Water spray, Carbon dioxide (CO2), Foam, Dry powder



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**Fire Fighting Instructions**

Extinguishing measures to suit surroundings. Keep out of smoke. Fight fire from upwind position. Cool closed containers/ tanks 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.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions**

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

**Methods for Cleaning Up**

Recover the product by pumping, suction or absorption using a dry and inert absorbent clay. Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

**Additional Advice**

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

**SECTION 7. HANDLING AND STORAGE**

**Handling Procedures**

Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

**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. Store in original container and out of the reach of children, preferably in a locked storage area.

Keep away from food, drink and animal feedingstuffs.

**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



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	PPE separately from other laundry.
<b>Eye/Face Protection</b>	Safety glasses with side-shields
<b>Hand Protection</b>	Chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)
<b>Body Protection</b>	Wear long-sleeved shirt and long pants and shoes plus socks.
<b>Respiratory Protection</b>	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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	white to off-white
<b>Physical State</b>	liquid
<b>pH</b>	4.0 - 6.5 (100 %)
<b>Density</b>	approx. 1.135 g/cm <sup>3</sup> at 20 °C
<b>Viscosity</b>	400 - 2,000 mPa.s

**SECTION 10. STABILITY AND REACTIVITY**

<b>Conditions to Avoid</b>	Freezing
<b>Incompatibility</b>	Strong acids Strong bases Strong oxidizing agents
<b>Hazardous Decomposition Products</b>	Thermal decomposition nitrogen oxides (NO <sub>x</sub> ) hydrogen chloride (HCl) Carbon monoxide
<b>Hazardous Reactions</b>	No hazardous reactions when stored and handled according to prescribed instructions. Stable under normal conditions.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Only acute toxicity studies have been performed on the formulated product. The non-acute information pertains to the technical-grade active ingredient, iprodione.



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<b>Acute Oral Toxicity</b>	male/female combined rat: LD50: 1,170 mg/kg
<b>Acute Dermal Toxicity</b>	rabbit: LD50: > 2,000 mg/kg
<b>Acute Inhalation Toxicity</b>	male/female combined rat: LC50: 3.7 mg/l Exposure time: 4 h Determined in the form of liquid aerosol.
	male/female combined rat: LC50: 14.8 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50.
<b>Skin Irritation</b>	rabbit: Slight irritation.
<b>Eye Irritation</b>	rabbit: Mild eye irritation.
<b>Sensitization</b>	guinea pig: Non-sensitizing.
<b>Chronic Toxicity</b>	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.

<b>Reproductive &amp; Developmental Toxicity</b>	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.
<b>Neurotoxicity</b>	Iprodione is not considered to be a neurotoxicant.
<b>Mutagenicity</b>	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**



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**Toxicity to Fish** Rainbow trout (*Oncorhynchus mykiss*)  
LC50: 4.1 mg/l  
Exposure time: 96 h  
The value mentioned relates to the active ingredient.

**Toxicity to Aquatic Plants** Algae  
IC50: 1.8 mg/l  
Exposure time: 72 h  
The value mentioned relates to the active ingredient.

**Acute Toxicity to Aquatic Invertebrates** Daphnia  
EC50: 0.25 mg/l  
Exposure time: 48 h  
The value mentioned relates to the active ingredient.

**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. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**General Disposal Guidance** Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.

**Container Disposal** Triple rinse containers. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke. Follow advice on product label and/or leaflet.

**SECTION 14. TRANSPORT INFORMATION**

DOT TRANSPORT CLASSIFICATION:  
Not Regulated for Domestic Surface Shipment

FREIGHT CLASSIFICATION:  
Insecticide or Fungicide, N.O.I.; other than poison

**SECTION 15. REGULATORY INFORMATION**

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**US Federal Regulations**

**TSCA list**

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Polyoxyethylene-nonylphenyl-ether-phosphate	68412-53-3
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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 contains a chemical known to the State of California to cause cancer.  
 Iprodione 36734-19-7

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

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

1,2-Propanediol	57-55-6	MN, RI
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**Canadian Regulations**

**Canadian Domestic Substance List**

Dodecylbenzene sulphonate, isopropylamine salt	26264-05-1
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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)**

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**SECTION 16. OTHER INFORMATION**

NFPA 704 (National Fire Protection Association):

Health - 1      Flammability - 2      Reactivity - 0      Others - none

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

Reason to Revise: New Material Safety Data Sheet.

Revision Date: 06/11/2007

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