



**Material Safety Data Sheet**  
**RAXIL® MD FUNGICIDE**

MSDS Number: 102000013084  
 MSDS Version 2.1  
 Revision Date: 05/14/2008

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

**Product Name** RAXIL® MD FUNGICIDE  
**MSDS Number** 102000013084  
**EPA Registration No.** 264-967

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>
Tebuconazole	107534-96-3	0.48
Metalaxyl	57837-19-1	0.63

**SECTION 3. HAZARDS IDENTIFICATION**

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

<b><u>Emergency Overview</u></b>	Caution! Avoid contact with skin, eyes and clothing. Avoid inhalation of vapour or mist.
<b>Physical State</b>	liquid
<b>Odor</b>	weak characteristic
<b>Appearance</b>	red
<b>Routes of Exposure</b>	Ingestion, Inhalation, Eye contact, Skin contact
<b>Immediate Effects</b>	
<b>Eye</b>	May cause mild irritation to eyes. Avoid contact with eyes.
<b>Skin</b>	Avoid contact with skin and clothing.
<b>Ingestion</b>	Do not take internally. Harmful if swallowed.
<b>Inhalation</b>	May cause respiratory tract irritation. Avoid inhalation of vapour or mist.
<b>Chronic or Delayed Long-Term</b>	This product or its components may have target organ effects. This product or its components may have long term (chronic) health effects.



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**Potential Environmental Effect** Toxic to fish, aquatic invertebrates and marine/estuarine organisms.

**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 Treatment</b>	There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

**SECTION 5. FIRE FIGHTING MEASURES**

<b>Flash point</b>	> 100 °C / 212 °F
<b>Fire and Explosion Hazards</b>	In the event of fire the following can be released: Carbon monoxide (CO) Carbon dioxide (CO2) Nitrogen oxides (NOx)
<b>Suitable Extinguishing Media</b>	Foam, Carbon dioxide (CO2), Dry chemical, Water spray
<b>Fire Fighting Instructions</b>	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.



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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal Precautions**      Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
  
- 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.
  
- Additional Advice**              Use personal protective equipment. 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. Maintain exposure levels below the exposure limit through the use of general and local 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 pesticides, 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**                      Tightly fitting safety goggles
  
- Hand Protection**                              Chemical resistant nitrile rubber gloves
  
- Body Protection**                              Wear long-sleeved shirt and long pants and shoes plus socks.



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**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**

Tebuconazole	107534-96-3	OES BCS*		0.2 mg/m3
Metalaxyl	57837-19-1	TX ESL	ST ESL	50 ug/m3
		TX ESL	AN ESL	5 ug/m3
1,2-Propanediol	57-55-6	WEEL	TWA	10 mg/m3
		TX ESL	ST ESL	20 ug/m3
		TX ESL	ST ESL	500 ppm
		TX ESL	AN ESL	2 ug/m3
		TX ESL	AN ESL	50 ppm

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

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	red
<b>Physical State</b>	liquid
<b>Odor</b>	weak characteristic
<b>pH</b>	6.5 - 8.5 (100 %) (undiluted)
<b>Density</b>	1.03 g/cm <sup>3</sup> at 20 °C
<b>Melting / Freezing Point</b>	-10 °C / 14 °F
<b>Water solubility</b>	miscible
<b>Viscosity</b>	4 - 20 mPa.s

**SECTION 10. STABILITY AND REACTIVITY**

<b>Conditions to Avoid</b>	Heat, flames and sparks.
<b>Incompatibility</b>	Oxidizing agents
<b>Hazardous Reactions</b>	Stable under normal conditions.



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**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 ingredients, tebuconazole and metalaxyl.

<b>Acute Oral Toxicity</b>	rat: LD50: > 5,050 mg/kg
<b>Acute Dermal Toxicity</b>	rabbit: LD50: > 5,050 mg/kg
<b>Acute Inhalation Toxicity</b>	rat: LC50: > 2.8 mg/l Exposure time: 4 h Determined in the form of liquid aerosol.
	rat: LC50: > 11.2 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50.
<b>Skin Irritation</b>	rabbit: No skin irritation.
<b>Eye Irritation</b>	rabbit: Minimally irritating.
<b>Sensitization</b>	guinea pig: Non-sensitizing.
<b>Chronic Toxicity</b>	Tebuconazole caused liver, spleen, adrenal and/or eye effects at high doses in chronic studies in rats and dogs.
	Metalaxyl caused liver effects in chronic studies in mice, rats and/or dogs.

**Assessment Carcinogenicity**

Tebuconazole is classified by EPA as a Group C carcinogen (possible human carcinogen) based on liver tumors in mice and no evidence of carcinogenicity in rats. As the liver tumors were seen only at a dose exceeding a Maximum Tolerated Dose (MTD), no significant carcinogenic risk is posed for human exposure.

Metalaxyl was not carcinogenic in lifetime feeding studies in rats and mice.

- ACGIH**  
None.
- NTP**  
None.
- IARC**  
None.
- OSHA**  
None.

<b>Reproductive &amp; Developmental Toxicity</b>	<b>REPRODUCTION:</b> Tebuconazole is not considered a primary reproductive toxicant in rats. Reproductive effects (e.g., smaller litters) were observed at the highest
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concentration but were considered secondary to maternal toxicity.

Metalaxyl did not cause reproductive toxicity in a multi-generation study in rats.

**DEVELOPMENTAL TOXICITY:**

Tebuconazole is not considered a primary developmental toxicant in laboratory animals. Developmental effects were observed only at doses that caused maternal toxicity.

Metalaxyl is not considered a primary developmental toxicant in laboratory animals. Developmental effects were observed only at doses that caused maternal toxicity.

**Neurotoxicity**

Tebuconazole caused only transient neurobehavioral effects (e.g., decreased motor activity) in acute, subchronic and/or developmental neurotoxicity studies in rats.

Metalaxyl neurotoxicity studies are not required at this time.

**Mutagenicity**

Tebuconazole was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Metalaxyl 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. Apply this product as specified on the label.

**Ecological Information**

Exposed treated seed may be hazardous to birds.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**General Disposal Guidance**

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. Open dumping is prohibited.

**Container Disposal**

Do not re-use empty containers. 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.



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**SECTION 14. TRANSPORT INFORMATION**

**TRANSPORTATION CLASSIFICATION(US):**  
Not regulated for shipment by any mode of transportation

**FREIGHT CLASSIFICATION:**  
Insecticides or Fungicides, N.O.I.; other than poison

**SECTION 15. REGULATORY INFORMATION**

**EPA Registration No.** 264-967

**US Federal Regulations**

**TSCA list**

None.

**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**

None.

**Canadian Regulations**

**Canadian Domestic Substance List**

None.

**Environmental**

**CERCLA**

None.

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.



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**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 11: Toxicological Information.

Revision Date: 05/14/2008

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