



Material Safety Data Sheet
RAXIL® MD EXTRA FUNGICIDE

MSDS Number: 102000013085
 MSDS Version 2.1
 Revision Date: 05/14/2008

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name RAXIL® MD EXTRA FUNGICIDE
MSDS Number 102000013085
EPA Registration No. 264-976

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	0.43
Metalaxyl	57837-19-1	0.58
Imazalil	35554-44-0	1.00

SECTION 3. HAZARDS IDENTIFICATION

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

Emergency Overview Caution! Harmful if absorbed through skin. Causes eye irritation. Avoid contact with skin, eyes and clothing.

Physical State liquid

Odor weak characteristic

Appearance red

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

Immediate Effects

Eye Causes eye irritation. Avoid contact with eyes.

Skin Harmful if absorbed through skin. May cause slight irritation. Avoid contact with skin and clothing.

Ingestion Do not take internally.

Inhalation Do not breathe vapours or spray mist.



Material Safety Data Sheet
RAXIL® MD EXTRA FUNGICIDE

MSDS Number: 102000013085
 MSDS Version 2.1

Chronic or Delayed Long-Term	This product or its components may have target organ effects. This product or its components may have long term (chronic) health effects. This product contains ingredients that are considered to be probable or suspected human carcinogens (see Section 11 - Chronic).
Potential Environmental Effect	Toxic to fish, aquatic invertebrates and marine/estuarine organisms.

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



Material Safety Data Sheet
RAXIL® MD EXTRA FUNGICIDE

MSDS Number: 102000013085
 MSDS Version 2.1

Fire Fighting Instructions 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 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.

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.



Material Safety Data Sheet
RAXIL® MD EXTRA FUNGICIDE

MSDS Number: 102000013085
 MSDS Version 2.1

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.
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
Ethanediol	107-21-1	ACGIH	Ceiling	100 mg/m3
		OSHA Z1A	Ceiling	50 ppm
		US CA OEL	Ceiling	40 ppm
		TX ESL	ST ESL	100 ppm
		TX ESL	ST ESL	100 ppm
		TX ESL	AN ESL	10 ppm
		TX ESL	AN ESL	10 ppm

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	red
Physical State	liquid
Odor	weak characteristic
pH	5.0 - 8.0 (100 %)
Density	approx. 1.08 g/cm ³ at 20 °C
Melting / Freezing Point	-19.4 °C / -2.9 °F
Water solubility	miscible
Viscosity	<= 20 mPa.s

SECTION 10. STABILITY AND REACTIVITY

Conditions to Avoid	Heat, flames and sparks.
----------------------------	--------------------------



Material Safety Data Sheet

RAXIL® MD EXTRA FUNGICIDE

MSDS Number: 102000013085
MSDS Version 2.1

Incompatibility	Oxidizing agents
Hazardous Reactions	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 ingredients, tebuconazole, metalaxyl and imazalil.

Acute Oral Toxicity	rat: LD50: > 5,000 mg/kg
Acute Dermal Toxicity	rat: LD50: > 2,000 mg/kg
Acute Inhalation Toxicity	rat: LC50: > 2.05 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. highest concentration tested No deaths
	rat: LC50: > 8.2 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: Mild eye irritation.
Sensitization	guinea pig: Non-sensitizing.
Chronic Toxicity	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. Imazalil caused thyroid and/or liver effects in chronic studies in rats, mice and 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.

Imazalil was classified by EPA as "Likely to be carcinogenic in humans" based on thyroid and/or liver tumors in rats and mice.



Material Safety Data Sheet
RAXIL® MD EXTRA FUNGICIDE

MSDS Number: 102000013085
MSDS Version 2.1

ACGIH
None.
NTP
None.
IARC
None.
OSHA
None.

Reproductive & Developmental Toxicity

REPRODUCTION:

Tebuconazole is not considered a primary reproductive toxicant in rats. Reproductive effects (e.g., smaller litters) were observed at the highest concentration but were considered secondary to maternal toxicity.

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

Imazalil caused toxicity in offspring at doses producing systemic toxicity in adult 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.

Imazalil is not considered a primary developmental toxicant in rats, mice and rabbits. Developmental effects were observed 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.

Imazalil was not mutagenic in a battery of in vitro and in vivo tests.

SECTION 12. ECOLOGICAL INFORMATION



Material Safety Data Sheet
RAXIL® MD EXTRA FUNGICIDE

MSDS Number: 102000013085
 MSDS Version 2.1

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.

SECTION 14. TRANSPORT INFORMATION

TRANSPORTATION CLASSIFICATION:
 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. 264-976

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

Imazalil

35554-44-0

1.0%

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



Material Safety Data Sheet
RAXIL® MD EXTRA FUNGICIDE

MSDS Number: 102000013085
MSDS Version 2.1

harm.

US State Right-To-Know Ingredients

Imazalil 35554-44-0 NJ

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.

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 2 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

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.