



**Material Safety Data Sheet**  
**RAXIL® T FLOWABLE FUNGICIDE**

MSDS Number: 102000012864  
 MSDS Version 1.4  
 Revision Date: 06/21/2010

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

**Product name** RAXIL® T FLOWABLE FUNGICIDE  
**MSDS Number** 102000012864  
**PCP Registration No.** 27566

Bayer CropScience Inc  
 #200, 160 Quarry Park Blvd, SE  
 Calgary, Alberta T2C 3G3  
 Canada

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)  
 For Product Information call: 1-888-283-6847

**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 breathing spray mist. Avoid contact with skin, eyes and clothing.

Toxic to fish.

**Physical State** liquid suspension

**Odor** characteristic

**Appearance** pink to red

**Exposure routes** Inhalation, Ingestion, Eye contact, Skin Absorption

**Immediate Effects**

**Eye** May cause eye irritation. Avoid contact with eyes.

**Skin** May cause skin irritation. Avoid contact with skin and clothing.

**Ingestion** Use of alcoholic beverages may enhance toxic effects. Harmful if swallowed. Do not take internally.

**Inhalation** May cause irritation of the mucous membranes. May cause respiratory tract irritation. Harmful if inhaled. Avoid breathing spray mist.



**Material Safety Data Sheet**

MSDS Number: 102000012864  
MSDS Version 1.4

**RAXIL® T FLOWABLE FUNGICIDE**

**Chronic or Delayed Long-Term**

This product is not listed as a carcinogen by ACGIH, NTP, IARC or OSHA. However, it may contain crystalline silica (quartz), a substance which has been listed as a carcinogen by ACGIH, NTP and IARC. Crystalline silica is a naturally-occurring mineral component of many sands and clays. Although the carcinogenic potential of crystalline silica in humans is controversial, it must be considered if it is inhaled under excessive exposure conditions. The respirable portion of the silica that may be contained in this product, however, is small, such that inhalation exposure during anticipated conditions of use is minimal.

This product or its components may have target organ effects. This product or its components may have long term (chronic) health effects.

**Medical Conditions Aggravated by Exposure**

Skin contact may aggravate existing skin disease. As with all materials which can cause upper respiratory tract irritation, persons with a history of asthma, emphysema, or hyperreactive airways disease may be more susceptible to overexposure. Pulmonary and respiratory diseases may be aggravated by exposure to respirable crystalline silica.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Tebuconazole	107534-96-3	0.61
Thiram	137-26-8	20.20
Attapulgate clay	12174-11-7	0.71
Quartz (Silica, Crystalline)	14808-60-7	
Crystalline quartz (respirable)		

**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



**Material Safety Data Sheet**  
**RAXIL® T FLOWABLE FUNGICIDE**

MSDS Number: 102000012864  
 MSDS Version 1.4

poison control center immediately.

**Notes to physician**  
**Signs and Symptoms**

Ingestion may provoke the following symptoms:  
 Nausea  
 Vomiting  
 breathing difficulties  
 More severe effects if alcohol is consumed.

**Hazards**

Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.

**Treatment**

Treat symptomatically. There is no specific antidote.

**SECTION 5. FIRE FIGHTING MEASURES**

**Flash point** > 100 °C / > 212 °F

**Autoignition temperature** no data available

**Lower Flammability Limit** no data available

**Upper Flammability Limit** no data available

**Fire and Explosion Hazards**

In the event of fire the following may be released:  
 Sulphur oxides  
 nitrogen oxides (NOx)  
 Hydrogen chloride (HCl)

**Suitable extinguishing media**

Foam, Carbon dioxide (CO2), Dry chemical, Water spray

**Fire Fighting Instructions**

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.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions**

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



**Material Safety Data Sheet**  
**RAXIL® T FLOWABLE FUNGICIDE**

MSDS Number: 102000012864  
 MSDS Version 1.4

**Methods for cleaning up** Collect and transfer the product into a properly labelled and tightly closed container. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations.

**Additional advice** Use personal protective equipment.

**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 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.

Wash thoroughly and put on clean clothing. Remove soiled clothing immediately and clean thoroughly before using again.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Wash thoroughly and put on clean clothing.

**Min/Max Storage Temperatures** Recommended minimum transport/storage temperature: -7 °C / 19 °F  
 Recommended maximum transport/storage temperature: 49 °C / 120 °F

**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 gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)

**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



**Material Safety Data Sheet**  
**RAXIL® T FLOWABLE FUNGICIDE**

MSDS Number: 102000012864  
 MSDS Version 1.4

actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

**Exposure Limits**

Ethanediol	107-21-1	CAD AB OEL	CEILING	100 mg/m3
		CAD BC OEL	TWA	10 mg/m3
		CAD BC OEL	CEILING	50 ppm
		CAD BC OEL	CEILING	100 mg/m3
		CAD BC OEL	STEL	20 mg/m3
		CAD ON OEL	CEV	100 mg/m3
		OES BCS*	TWA	10 ppm
		OES BCS*	TWA	10 mg/m3
		OEL (QUE)	CEILING	50 ppm
		CAD AB OEL	CEILING	100 mg/m3
Attapulgit clay	12174-11-7	OEL (QUE)	TWA	1 fibres/cm3 (non-asbestos fibres) -- size restrictions apply
				0.1 mg/m3
Quartz (Silica, Crystalline)	14808-60-7	OEL (QUE)	TWA	0.1 mg/m3
		CAD AB OEL	TWA	0.1 mg/m3
		CAD BC OEL	TWA	0.025 mg/m3
		CAD ON OEL	TWAEV	0.10 mg/m3
		OEL (QUE)	TWA	0.1 mg/m3
		CAD BC OEL	TWA	0.025 mg/m3
Tebuconazole Thiram	107534-96-3	OES BCS*	TWA	0.2 mg/m3
	137-26-8	OEL (QUE)	TWA	5 mg/m3
		CAD AB OEL	TWA	1 mg/m3
		CAD BC OEL	TWA	1 mg/m3
		CAD ON OEL	TWAEV	1 mg/m3
		OES BCS*	TWA	5 mg/m3
		OEL (QUE)	TWA	5 mg/m3
				0.5 mg/m3
		1.5 mg/m3		

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

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	pink to red
<b>Physical State</b>	liquid suspension
<b>Odor</b>	characteristic



**Material Safety Data Sheet**  
**RAXIL® T FLOWABLE FUNGICIDE**

MSDS Number: 102000012864  
 MSDS Version 1.4

<b>pH</b>	7.5 - 9.0 (100 %)
<b>Vapor Pressure</b>	no data available
<b>Vapor Density (Air = 1)</b>	no data available
<b>Specific Gravity</b>	1.10 at 20 °C
<b>Density</b>	1.10 g/cm <sup>3</sup> at 20 °C
<b>Evaporation rate</b>	no data available
<b>Boiling Point</b>	no data available
<b>Melting / Freezing Point</b>	no data available
<b>Minimum Ignition Energy</b>	no data available
<b>Partition coefficient: n-octanol/water</b>	no data available
<b>Viscosity</b>	50 - 120 mPa.s

**SECTION 10. STABILITY AND REACTIVITY**

<b>Conditions to avoid</b>	freezing Heat, flames and sparks.
<b>Incompatibility</b>	Copper Oxidizing agents Acids
<b>Hazardous Decomposition Products</b>	hydrogen sulfide carbon disulphide
<b>Chemical Stability</b>	Stable under recommended storage conditions.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Acute toxicity data have been bridged from a similar formulation containing similar percentages of the active ingredients, tebuconazole and thiram. The non-acute information pertains to the technical-grade active ingredients.

<b>Acute oral toxicity</b>	male/female combined rat: LD50: 3,910 mg/kg
<b>Acute dermal toxicity</b>	rabbit: LD50: > 2,020 mg/kg



**Material Safety Data Sheet**  
**RAXIL® T FLOWABLE FUNGICIDE**

MSDS Number: 102000012864  
 MSDS Version 1.4

**Acute inhalation toxicity** male/female combined rat: LC50: > 2.3 mg/l  
 Exposure time: 4 h  
 Determined in the form of liquid aerosol.

male/female combined rat: LC50: > 9.2 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** Tebuconazole caused liver, spleen, adrenal and/or eye effects at high doses in chronic studies in rats and dogs.

Thiram targeted the liver, blood and urinary system in chronic toxicity studies in laboratory animals.

**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.

Thiram did not demonstrate any biologically significant evidence of carcinogenic potential in rats and mice. EPA has classified thiram as "not likely to be carcinogenic to humans."

**ACGIH**

Thiram	137-26-8	Group A4
Quartz (Silica, Crystalline)	14808-60-7	Group A2

**NTP**

Crystalline quartz (respirable)

**IARC**

Thiram	137-26-8	Overall evaluation: 3
Thiram	137-26-8	Overall evaluation: 3
Attapulgate clay	12174-11-7	Overall evaluation: 2B
Attapulgate clay	12174-11-7	Overall evaluation: 3
Quartz (Silica, Crystalline)	14808-60-7	Overall evaluation: 1

**OSHA**

None.

**Reproductive 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.

DEVELOPMENTAL TOXICITY: Tebuconazole is not considered a primary developmental toxicant in laboratory animals. Developmental effects were



**Material Safety Data Sheet**  
**RAXIL® T FLOWABLE FUNGICIDE**

MSDS Number: 102000012864  
 MSDS Version 1.4

observed only at doses that caused maternal toxicity.

REPRODUCTION: Thiram was not a reproductive toxicant in multi-generation reproduction studies in rats.

DEVELOPMENTAL TOXICITY: Thiram is a developmental toxicant.

**Neurotoxicity**

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

Thiram caused neurotoxic effects (e.g. lethargy, reduced activity) in laboratory animals.

**Mutagenicity**

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

Thiram 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. 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**

Follow container label instructions for disposal of wastes generated during use in compliance with the product label.

**Container Disposal**

Follow advice on product label and/or leaflet.

**SECTION 14. TRANSPORT INFORMATION**

**TDG**

Not dangerous goods / not hazardous material

**49CFR**

UN-Number  
 Class  
 Packaging group  
 Marine pollutant  
 Description of the goods

**3082**  
 9  
 III  
 Marine Pollutant  
 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.



**Material Safety Data Sheet**  
**RAXIL® T FLOWABLE FUNGICIDE**

MSDS Number: 102000012864  
 MSDS Version 1.4

(THIRAM)

**IMDG**

UN-Number **3082**  
 Class 9  
 Packaging group III  
 Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
 (THIRAM SOLUTION)

**IATA**

UN-Number **3082**  
 Class 9  
 Packaging group III  
 Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
 (THIRAM 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.

Freight Classification: INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

**SECTION 15. REGULATORY INFORMATION**

PCP Registration No. 27566

**US Federal Regulations**

**TSCA list**

Thiram 137-26-8  
 Quartz (Silica, Crystalline) 14808-60-7

**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**

Thiram 137-26-8 1.0%

**US States Regulatory Reporting**

**CA Prop65**

This product contains a chemical known to the State of California to cause cancer.

Attapulgite clay 12174-11-7  
 Crystalline quartz (respirable)

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

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

Thiram	137-26-8	CA, CT, IL, MN, NJ, RI
Attapulgite clay	12174-11-7	CA
Quartz (Silica, Crystalline)	14808-60-7	IL, MA



**Material Safety Data Sheet**  
**RAXIL® T FLOWABLE FUNGICIDE**

MSDS Number: 102000012864  
MSDS Version 1.4

**Canadian Regulations**

**Canadian Domestic Substance List**

Thiram 137-26-8  
Quartz (Silica, Crystalline) 14808-60-7

**Environmental**

**CERCLA**

Thiram 137-26-8 10 lbs

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.

**International Regulations**

**European Inventory of Existing Commercial Substances (EINECS)**

Thiram 137-26-8  
Quartz (Silica, Crystalline) 14808-60-7

**SECTION 16. OTHER INFORMATION**

NFPA 704 (National Fire Protection Association):

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

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

Reason to Revise: Updated for general editorial purposes. The following sections have been revised: Section 8: Exposure Controls / Personal Protection.

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

Revision Date: 06/21/2010

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