



# MATERIAL SAFETY DATA SHEET

## GRAIN GUARD®

**Version:** 1.3  
**Date of Issue:** 09/19/2007  
**Date printed:** 09/20/2007

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### 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product name :** GRAIN GUARD®

**Chemical name:** Mancozeb (Active)

**Use of substance/preparation:** Fungicide

**Supplier:** Chemtura Corporation  
199 Benson Road  
Middlebury, CT 06749 USA

**Emergency telephone number:** CHEMTREC (24 hours) 800-424-9300, 703-527-3887  
Chemtura Corporation Emergency Response (24 hours) 800-292-5898

**Environmental, Health and Safety Department:** 866-430-2775

**Prepared by** Product Safety Department      Date of Issue: 09/19/2007  
(US) +1 866-430-2775  
(EU) +44 (0) 1753.603.000  
Email: MSDSRequest@chemtura.com

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### 2. HAZARDS IDENTIFICATION

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#### EMERGENCY OVERVIEW

#### CAUTION!

MAY BE IRRITATING TO RESPIRATORY SYSTEM, SKIN AND EYES.  
MAY BE HARMFUL IF INHALED, SWALLOWED, OR ABSORBED THROUGH SKIN.  
AVOID DISPERSION OF DUST IN AIR.

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

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INGREDIENT	% BY WEIGHT
Mancozeb CAS# 8018-01-7	50
Inerts CAS# -	50

Ingredients not precisely identified are non-hazardous and/or proprietary.



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### 4. FIRST AID MEASURES

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#### Swallowing

Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

#### Inhalation

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

#### Skin contact

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

#### Eye contact

Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lens, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.

#### Notes to physician

ROUTES OF ENTRY:

Skin  
Eyes  
Ingestion  
Inhalation

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### 5. FIRE-FIGHTING MEASURES

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Flammable limits

**Lower limit:** Not available  
**Upper limit:** Not available

**Autoignition temperature:** Not available

#### Hazardous combustion products

Irritating fumes.  
Oxides of carbon.

#### Special fire fighting procedures

Do not discharge extinguishing waters into streams, rivers and lakes.

#### Special protective equipment for firefighters

Body covering protective clothing, full "turn-out" gear.  
Self-contained breathing apparatus.

#### Extinguishing media

**Suitable:**           **Large fires:**  
                          - alcohol-type foam or universal-type foams  
                          **Small fires:**  
                          - CO2  
                          - dry chemical  
                          - water spray

**Unsuitable:**       - water jets

#### Unusual fire and explosion hazards

Avoid dispersion of dust in air to reduce potential for dust ignition/explosions.

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### 6. ACCIDENTAL RELEASE MEASURES

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#### Personal precautions

Evacuate unnecessary personnel., Avoid all contact with material., Wear suitable protective equipment.



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### Environmental precautions

Prevent from entering sewer system, surface water or soil.

### Methods for cleaning up

Sweep up and collect in a suitable container for disposal.  
Avoid dust formation.  
Observe government regulations.

## 7. HANDLING AND STORAGE

### HANDLING

#### Handling precautions

Wear recommended personal protection equipment., Warn personnel about the dangers of the product., Keep container tightly closed., Avoid dispersion of dust to reduce fire and explosion potential.

#### Other precautions

If fine dust is formed from this product, avoid dispersion of dust in air to reduce fire and explosion hazard. Do not store near food, feed or fertilizers. Do not contaminate ponds, lakes, streams, or any source of water. NOTE TO END-USERS: The employee protection recommendations on this MSDS may differ from those on the product label. For normal use of this product, always refer to the personal protective equipment requirements on the product label.

### STORAGE

#### Storage requirements

Store in a cool, dry place.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE LIMIT VALUES

<u>Component</u>	<u>Type</u>	<u>Value</u>	<u>Remark</u>
Particulates not otherwise regulated	TWA, OSHA	15.0 mg/m3	Total dust
	TWA, OSHA	5.0 mg/m3	Respirable fraction
	TWA - ACGIH	10.0 mg/m3	Total inhalable dust
	TWA - ACGIH	3.0 mg/m3	Respirable fraction

### PERSONAL PROTECTION

#### Respiratory protection

In the absence of engineering controls sufficient to maintain airborne concentrations below recommended occupational exposure limit values, appropriate respiratory protection should be utilized., The determination of appropriate respiratory protection is best performed, on a case by case basis, taking into consideration the exposure conditions of the particular operation.

The respirator manufacturer should be consulted to ensure that the air-purifying cartridges utilized will provide adequate protection for the exposure conditions and period of wear concerned.

For emergency conditions where the exposure limit may be greatly exceeded, use an approved positive-pressure self-contained breathing apparatus.

#### Hand protection / protective gloves

Chemical resistant protective gloves

#### Eye protection

Full face shield.

#### Skin protection

Chemical resistant protective clothing.



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Industrial hygiene measures

Before eating, drinking or smoking, wash hands and face thoroughly with soap and water.

ENGINEERING CONTROLS

Ventilation

Provide local exhaust or process enclosure ventilation system.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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APPEARANCE

Physical state	Powder
Color	Green
Odor	Sulfur
Odor threshold	Not available

OTHER PROPERTIES

Boiling point	Not available
Melting point	Not available
pH	Not available
Bulk density	~ 328.4 - 448.6 kg/m3 ~ 20.5 - 28 lb/ft3
Vapor pressure	
Solubility in water	Insoluble
Evaporation rate (Butyl Acetate=1)	Not available
Partitioning coefficient	Not available
Flash point	Not available
Autoignition temperature	Not available
Upper explosion limits	Not available
Lower explosion limits	Not available
Percent volatiles	Not available

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**10. STABILITY AND REACTIVITY**

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Stability: This product is stable under normal storage and handling conditions.

Incompatible materials:

Oxidizing agents.  
Strong acids.  
Strong bases.



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**Hazardous combustion products:**

Irritating fumes.  
Oxides of carbon.

**Hazardous polymerization:** Will not occur.

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**11. TOXICOLOGICAL INFORMATION**

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**SWALLOWING**

Test results  
Acute toxicity: LD50  
Result: 7,500 mg/kg

**SKIN ABSORPTION**

Test results  
Acute toxicity: LD50  
Remark: No data available.

**INHALATION**

Test results  
Acute toxicity: LC50  
Remark: Not available

**SKIN CONTACT**

Test results  
Skin irritation: Classification: Irritant

**EYE CONTACT**

Test results  
Eye irritation: Classification: Irritant

May cause:  
- headache  
- nausea  
- irritation of the nose and throat  
- eye irritation

**CARCINOGENICITY**

Assessment: Mancozeb was not a carcinogenic in a two-year feeding study in rats at 250 ppm. In long-term feeding studies, some dithiocarbamates have induced carcinogenicity and birth defects at high dietary intake levels.

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**12. ECOLOGICAL INFORMATION**

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Very toxic to aquatic organisms.

<u>Component ecotoxicology</u> Mancozeb <u>Chronic toxicity fish:</u>	LC50 - Bluegill ( <i>Lepomis macrochirus</i> ) Result: 1.0 mg/l Exposure time: 2 d
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**13. DISPOSAL CONSIDERATIONS**

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**General:** Dispose of in accordance with appropriate Federal, State, and local regulations., Do not discharge to sewers and natural waters.



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### 14. TRANSPORT INFORMATION

#### IMDG Classification

This product is not regulated by IMDG.

#### ICAO Classification

This product is not regulated by ICAO.

### 15. REGULATORY INFORMATION

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of hazardous substances equal to or greater than the reportable quantities (RO's) in 40CFR302.4.  
Components present in this product at a level which could require reporting under the statute are:

\*\*\*\* NONE \*\*\*\*

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPO's) and release reporting based on Reportable Quantities (RO's) in 40CFR355 (used for SARA 302 and 304).  
Components present in this product at a level which could require reporting under the statute are:

\*\*\*\* NONE \*\*\*\*

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40CFR372 (for SARA 313). This information must be included in MSDS's that are copied and distributed for this material.  
Components present in this product at a level which could require reporting under the statute are:

\*\*\*\* NONE \*\*\*\*

EPA Hazard Categories (SARA 311, 312): Immediate Health Hazard

### 16. OTHER INFORMATION

RECOMMENDED USES AND RESTRICTIONS: NOTE TO END-USERS: This MSDS is being provided to all interested persons in accordance with federal and state right-to-know laws. Precautionary Statements, First Aid Statements and Directions for Use of this product by end-users are contained on the product label and must be followed at all times.

#### HMIS RATING

Health: 2	Flammability: 0	Reactivity: 0	PPI: F
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STP	Standard temperature and pressure
W/W	Weight/Weight
	0 (HMIS)
1 (HMIS)	Slight hazard
2 (HMIS)	Moderate hazard
3 (HMIS)	Serious hazard
4 (HMIS)	Severe hazard
X (HMIS)	Personal protection rating to be supplied by user depending on use conditions

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