

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Date of issue:** May 2015  
**Product Name:** Dithane M-45  
**EPA Reg. No.** 829-286  
**Recommended Use:** Fungicide  
**Restrictions on Use:** See label directions  
**Company:** Southern Agricultural Insecticides, Inc  
P.O. Box 218  
Palmetto, FL 34220  
(941) 722-3285

**Emergency Telephone Numbers:** Chemtrec (800) 424-9300 (24 hour transportation spill response)  
Medical: Rocky Mountain Poison Control Center (866) 673-6671 (24hrs)

**2. HAZARDS IDENTIFICATION**

**Emergency Overview:** Mild eye irritation  
Harmful by inhalation, in contact with skin and if swallowed

**Signal Word:** CAUTION

**Potential Health Effects:** - Inhalation, - Skin contact

**Eyes:** May cause slight irritation.

**Skin:** Irritating to skin.

**Inhalation:** Slightly toxic if inhaled.

**Ingestion:** May be harmful if swallowed.

**Precautionary Statements:** Avoid contact with skin, eyes, or clothing. Wear protective gloves / protective clothing. Wash hands and face thoroughly after handling.

**Emergency Overview:**

**Appearance:** Yellow

**Physical State:** Powder

**Odor:** Slight. Rotten egg-like.

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Ingredients Name**

<b>Chemical Name</b>	<b>CAS-No</b>	<b>Weight</b>	<b>OSHA PEL</b>
Sodium lauryl sulfate	151-21-3	5	N/A
Zinc manganese ethylenebis dithiocarbamate	8018-01-7	80	N/A
Ethylene thiourea	96-45-7	0-0.5	N/A

**4. FIRST AID MEASURES**

**Eye Contact:** Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye Call a poison control center or doctor for treatment advice.

**Skin Contact:** Take off contaminated clothing Rinse skin immediately with plenty of water for 15-20 minutes Call poison control center or doctor for treatment advice.

**Inhalation:** If breathing is irregular or stopped, administer artificial respiration. May cause allergic respiratory reaction. Call a poison control center or doctor for further treatment advice.

Ingestion: Call a physician or poison control center immediately. May produce an allergic reaction. Do not induce vomiting unless told to do so by a poison control center or doctor. Never give anything by mouth to an unconscious person.

## 5. FIRE-FIGHTING MEASURES

### Flammable Explosive Properties

**Flash Point:** Not available  
**Autoignition Temperature:** 152 C  
**Flammability Limits in Air** (Lower) 80 g/m<sup>3</sup> (for dust in air)  
**Extinguishing Media:** Use: Water spray, Carbon dioxide (CO<sub>2</sub>), Foam, Dry chemical.  
**Fire/Explosion Hazard:** Firefighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear and self-contained breathing apparatus. Fire fighting equipment should be thoroughly decontaminated after use.

### Hazardous Combustion

**Products:** Carbon disulfide, ethylene thiourea (ETU), If heated to decomposition (>235 F) flammable ethylene is produced.

**NFPA**            **Health 2**            **Flammability 0**            **Instability 0**

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid contact with skin, eyes and clothing. Avoid dust formation. Use personal protective equipment.

**Environmental Precautions:** Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Do not flush into surface water or sanitary sewer system.

**Methods for Clean-up:** Sweep up and shovel into suitable containers for disposal.

## 7. HANDLING AND STORAGE

**Handling:** Avoid dust formation. Avoid breathing dust. Keep out of reach of children. In case of insufficient ventilation, wear suitable respiratory equipment.

**Storage:** Keep tightly closed in a dry and cool place. If allowed to become wet the product will deteriorate and represent a fire hazard.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

#### Engineering Controls:

**Personal Protective Equipment:** Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

**Eye/face Protection:** Avoid contact with eyes. Goggles.

**Skin Protection:** Rubber gloves. Wear protective gloves/clothing.

**Respiratory Protection:** Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection programs must comply with 29 CFR 1910.134.

**General Hygiene Considerations:** Users should: \* Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. \* Remove clothing/PPE immediately if pesticide gets inside, then wash thoroughly and put on clean clothing. \* Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Yellow  
**Physical State** Powder  
**Boiling Point/Range:** Not Applicable  
**Specific Gravity:** (Water = 1) 0.35 to 0.50 g./cc.  
**Evaporation Rate:** Not available  
**Vapor Density:** Not available  
**Viscosity:** Not available  
**Bulk Density:** 0.59 g/ml  
**Percent Volatiles:** Not available  
**Odor:** Slight Rotten egg-like  
**pH:** (1 solution); approx 7  
**Melting Point/Range:** Decomposes before melting  
**Solubility:** Dispersible in water  
**Vapor pressure:** Not available  
**VOC Content:** Not available  
**Molecular Weight:** Not available

**10. STABILITY AND REACTIVITY**

**Stability:** Stable under recommended storage conditions  
**Conditions to Avoid:** Protect from water  
**Incompatible Materials:** Strong acids. Strong oxidizing agents. Water quaternary ammonium salts  
**Hazardous Decomposition Products:** Oxides of carbon and nitrogen  
**Possibility of Hazardous Polymerization:** Hazardous polymerisation does not occur

**11. TOXICOLOGICAL INFORMATION**

**Acute Toxicity**

**Product Information** Mancozeb 80:  
 Acute oral LD50 (rat) = > 5.0 g/kg  
 Acute dermal LD50 (rabbit) = >2.0 g/kg  
 Acute inhalation LC50 (rat)= >5.2 mg/L air 4 hr  
 Skin irritation (rabbit) = slightly irritating

**Chronic Toxicity**

**Carcinogenicity** The information below indicates whether any agency has listed any ingredient as a carcinogen.

<b>Chemical Name</b>	<b>ACGIH</b>	<b>IARC</b>	<b>NTP</b>	<b>OSHA</b>
Ethylene thiourea		Group 3	Reasonably Anticipated	x

**IARC: (International Agency for Research on Cancer)**

A trace contaminant, Ethylene thiourea (ETU) a breakdown product of Maneb, has been categorized as a probable humancarcinogen by NTP.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Chem Fate: No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method** Dispose of contents/container in accordance with local regulation. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or 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.

**Contaminated Packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. TRANSPORT INFORMATION

**DOT** When shipped domestically by highway in non-bulk containers this product can be shipped as not regulated. When shipped in bulk, by vessel, or internationally use the IMDG shipping description:

### ICAO

**UN-No** UN3077  
**Proper Shipping Name** Environmentally hazardous substance, solid, n.o.s mancozeb  
**Hazard Class** 9  
**Packing Group** PG III

### IATA

**UN-No** 3077  
**Proper Shipping Name** Environmentally hazardous substances, solid, n.o.s. mancozeb  
**Hazard Class** 9  
**Packing Group** PG III  
**ERG Code** 9L

### IMDG/IMO

**Proper Shipping Name** Environmentally hazardous substances, solid, n.o.s. (Mancozeb)  
**Hazard Class** 9  
**UN-No** 3077  
**Packing Group** PG III  
**Marine pollutant** This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

## 15. REGULATORY INFORMATION

### International Inventories

Chemical Name	TSCA	DSI	NDSI	EINECS/ ELINCS	ENCS	CHINA	KECI	AICS
Sodium lauryl sulfate	Present	X		X	(2)-1679 (2)-1675	X	KE-21884	X
Zinc manganese ethylenebis dithiocarbamate					(2)-2127 (2)-1841	X	KE-13636	X
Ethylene thiourea	Present	X		X	(5)-423	X	KE-20941	X

### USA

#### Federal Regulations

#### **SARA 313:**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) - Yes

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values
Ethylene thiourea	96-45-7	0-0.5	0.1

**SARA 311/312 Hazardous Categorization**

<b>Chronic Health Hazard</b>	Yes
<b>Acute Health Hazard</b>	Yes
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

**Clean Water Act****Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs:

<b>Chemical Name</b>	<b>CAS-No</b>	<b>Weight %</b>	<b>HAPS data</b>	<b>VOC Chemicals</b>	<b>Class 1 Ozone Depletors</b>	<b>Class 2 Ozone Depletors</b>
Zinc manganese ethylenebis dithiocarbamate	8018-01-7	80				
Ethylene thiourea	96-45-7	0-0.5				

**CERCLA**

<b>Component</b>	<b>RQ</b>
Ethylene thiourea 96-45-7 ( 0-0.5)	10lb

**RCRA**

<b>Component</b>	<b>RCRA - D Series Wastes</b>	<b>RCRA - P Series Wastes</b>	<b>IRCRA - U Series Wastes</b>
Ethylene thiourea 96-45-7 (0-0.5)			U116

**State Regulations****California Proposition 65**

This product contains the following Proposition 65 chemicals:

<b>Chemical Name</b>	<b>CAS-No</b>	<b>Category</b>	<b>California Prop. 65</b>
Zinc manganese ethylenebis dithiocarbamate	8018-01-7	Carcinogen	Carcinogen
Ethylene thiourea	96-45-7	Carcinogen	Carcinogen Developmental

**State Right-to-Know**

<b>Chemical Name</b>	<b>Massachusetts</b>	<b>New Jersey</b>	<b>Pennsylvania</b>	<b>Illinois</b>
Zinc manganese ethylenebis dithiocarbamate				X
Ethylene thiourea	X	X	X	X

**International Regulations****Mexico - Grade** Not available

<b>Component</b>	<b>Category</b>	<b>Carcinogen Status</b>	<b>Exposure Limits</b>
Zinc manganese ethylenebis dithiocarbamate 8018-01-7 ( 80 )	Carcinogen		
Ethylene thiourea 96-45-7 ( 0-0.5 )	Carcinogen		

**Canada**

This product has not been classified under the hazard criteria of the Controlled Products Regulations (CPR)

**WHMIS Hazard Class**

Not determined

## **16. OTHER INFORMATION**

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Southern Agricultural Insecticides, Inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Southern Agricultural Insecticides, Inc has been advised of the possibility of such damages.