



MATERIAL SAFETY DATA SHEET

United Phosphorus, Inc.

NFPA	PPE			

Issued Date 17-Sep-2010

Revision date 31-Mar-2014

Revision Number: 2

1. PRODUCT AND COMPANY IDENTIFICATION

UPI 630 Freedom Business Center Suite 402 King of Prussia, PA 19406	Emergency telephone number Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887 Medical: Rocky Mountain Poison Control Center (866) 673-6671 (24hrs)		
<u>Company Information</u>	<u>Contact Information</u>	<u>Phone number</u>	<u>Available Hrs</u>

UPI	Customer Service	1-800-438-6071	8:00 am to 5:00 pm EST
	R&D Technical Service	610-878-6100	8:00 am - 5:00 pm (EST)

Product name	Manzate Pro-Stick
EPA Reg #	PMRA # 28217
Recommended use	Fungicide
Product code	12-371CAN

2. Hazards Identification

EMERGENCY OVERVIEW
Vapours may be irritating to eyes, nose, throat, and lungs
Toxic if swallowed

DANGER WARNING		
appearance yellow.	Physical state solid.	Odor Slight. Rotten egg-like.
Potential health effects		

- Inhalation
 - Skin Contact
 - Repeated or long-term exposure may cause adverse effects on the thyroid.
- | | |
|-------------------|---|
| EYES | Contact with eyes may cause irritation. |
| skin | MAY CAUSE SKIN IRRITATION. |
| Inhalation | MAY CAUSE ALLERGIC RESPIRATORY REACTION. |
| Ingestion | Toxic if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

3. Composition/information on Ingredients

Ingredients Name

Component	CAS-No	Weight %	OSHA PEL
Mancozeb 8018-01-7 (75)	8018-01-7	75	N/A
Ethylene thiourea 96-45-7 (0-0.1)	96-45-7	0-0.1	N/A

4. First aid measures

Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes Keep eye wide open while rinsing If symptoms persist, call a physician
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes Immediate medical attention is not required If skin irritation persists, call a physician
Inhalation	Immediate medical attention is not required Move to fresh air in case of accidental inhalation of vapors or decomposition products If symptoms persist, call a physician
Ingestion	Never give anything by mouth to an unconscious person Do not induce vomiting without medical advice Consult a physician Clean mouth with water and drink afterwards plenty of water afterwards
Notes to physician	Treat symptomatically

5. Fire-fighting measures

Flammable Explosive Properties

flash point Autoignition temperature 205 C / 401 F	Not Available
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Flammability Limits in Air	0.29 g/L (% by volume in air)
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Extngushing Media	Use: Carbon dioxide (CO2) Foam Dry chemical If stored material becomes wetted or damp it can produce heat and deteriorate, over time, to become a fire hazard.
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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.
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Hazardous combustion products	Carbon disulfide, ethylene thiourea (ETU), Sulfur oxides, Oxides of nitrogen, Oxides of carbon.
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NFPA

HEALTH 2

flammability 1

Instability 1

6. Accidental release measures

Personal Precautions	Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
Methods for Clean-Up	Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers.

7. Handling and Storage

Handling	Wear personal protective equipment. Do not breathe vapours or spray mist. Use only in area provided with appropriate exhaust ventilation. Use product only in closed system.
Storage	Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat. Protect from light. Keep in properly labelled containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines

Engineering controls Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/Face Protection

Tightly fitting safety goggles. Face-shield.

Skin protection

Long sleeved clothing. Impervious butyl rubber gloves. Boots. Apron.

Respiratory protection

In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

General hygiene considerations

When using, do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing.

9. Physical and Chemical Properties

appearance	yellow	Odor	Slight Rotten egg-like
Physical state	solid	pH	No Data Available
Boiling Point/Range	Not Available	Melting Point/Range	Not Available
Specific gravity	Not Available	solubility	Not Available
evaporation rate	Not Available	vapor pressure	Not Available
vapor density	Not Available	VOC Content	Not Available
viscosity	Not Available	molecular weight	No Data Available
Bulk density	40-45 lb/cu ft	Percent Solids	Not Available
Percent Volatiles	Not Available		

10. Stability and Reactivity

stability	Stable under normal conditions
Conditions to avoid	To avoid thermal decomposition, do not overheat Keep

away from children

incompatible materials Strong oxidizing agents Acids

Hazardous decomposition products Oxides of carbon and nitrogen Hydrogen sulfide

Possibility of Hazardous Polymerization Hazardous polymerisation does not occur

11. Toxicological Information

Acute toxicity

Product information

Manzate Pro Stick :
Oral LD50 (rat) = >5,000 mg/kg
Dermal LD50 (rabbit) = > 2,000 mg/kg
Inhalation LC50 (rat) 4 hr = >5.4 mg/L

Mild to moderate eye irritant. Mild to slight skin irritant. Sensitizer .

Chronic toxicity

Carcinogenicity

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

Chemical name	ACGIH	IARC	NTP	OSHA
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 human carcinogen by NTP.

12. Ecological Information

ecotoxicity

Mancozeb: Aquatic toxicity: 96 hour LC50 = rainbow trout 0.73 mg/L 96 hour LC50 = fathead minnows 0.57 mg/L 96 hour LC50 = Bluegill sunfish 0.84 mg/L 72 hour EC50 = freshwater algae = 0.43 mg/L.

13. Disposal Considerations

Waste Disposal Method

Dispose of in accordance with local regulations.

Contaminated packaging

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

14. Transport Information

DOT

Proper shipping name
Hazard class
UN-No
Packing group
Marine Pollutant

Environmentally hazardous substances, solid, n.o.s Mancozeb
9
UN3077
PG III
yes. This product contains a chemical which is listed as a marine pollutant according to DOT.

ICAO

UN-No
Proper shipping name

UN3077
Environmentally hazardous substance, solid, n.o.s Mancozeb

**12-371CAN
Manzate Pro-Stick**

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

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

TDG

When shipped in Canada domestic highway non-bulk this product can be shipped as Not regulated as per TDG 4.22 and 1.45.1

Proper shipping name Environmentally hazardous substances, solid, n.o.s (Mancozeb)
Hazard class 9
UN-No 3077
Packing group PG III

15. Regulatory Information

International Inventories

Chemical name	TSCA	DSL	NDSL	EINECS/ ELINCS	ENCS	China	KECL	AICS
Mancozeb					Present	X	Present	X
Ethylene thiourea	Present	X		X	Present	X	Present	X

USA

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372:

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

SARA 311/312 Hazardous Categorization

Chronic health hazard yes
Acute health hazard yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard yes

Clean Water Act

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

This product contains the following HAPs:

Chemical name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Mancozeb	8018-01-7	75				
Ethylene thiourea	96-45-7	0-0.1				

**12-371CAN
Manzate Pro-Stick**

CERCLA

Component	RQ
Ethylene thiourea 96-45-7 (0-0.1)	10 lb

SARA Product RQ 0

RCRA

Component	RCRA - D Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ethylene thiourea 96-45-7 (0-0.1)			U116

Pesticide Information

Component	FIFRA - Restricted Use	FIFRA - Pesticide Product Other Ingredients	FIFRA - Listing of Pesticide Chemicals	California Pesticides - Restricted Materials
Mancozeb 8018-01-7 (75)			X	
Ethylene thiourea 96-45-7 (0-0.1)			X	

State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical name	CAS-No	CATEGORY	California Prop. 65	Non-additive, corrosive chemical type
Mancozeb	8018-01-7	Carcinogen	Carcinogen	
Ethylene thiourea	96-45-7	Carcinogen	Carcinogen Developmental	

State Right-to-Know

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Mancozeb				X	
Ethylene thiourea	X	X	X	X	

International regulations

Mexico - Grade Moderate risk, Grade 2

Component	CATEGORY	Carcinogen Status	Exposure limits
Mancozeb 8018-01-7 (75)	Carcinogen		
Ethylene thiourea 96-45-7 (0-0.1)	Carcinogen		

CANADA

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class

Not Determined

Chemical name	NPRI
Ethylene thiourea	X

Legend

NPRI - National Pollutant Release Inventory

The preparation is classified as dangerous in accordance with Directive 1999/45/EC

16. Other Information

Revision date 31-Mar-2014

Revision Summary
Update section 14

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End of MSDS