



Safety Data Sheet

United Phosphorus, Inc.

Preparation Date 01-May-2015

Revision date 01-May-2015

Revision Number: 1

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier

Product Description: Manzate Pro-Stick T&O Fungicide

Other means of identification

Item#: 12-371F
UN-No UN3077
Synonyms Not Available
Registration number(s) 70506-234

Recommended use of the chemical and restrictions on use

Recommended use Fungicide.
Uses advised against Activities contrary to label recommendation

Details of the Supplier of the Safety Data Sheet

Supplier Address

UPI
630 Freedom Business Center
Suite 402
King of Prussia, PA 19406

Emergency telephone number

Company Phone Number 1-800-438-6071
Emergency telephone number Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 673-6671 (24hrs)

2. Hazards Identification

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Dermal	Category 4
Skin sensitization	Category 1
Reproductive Toxicity	Category 2

Label elements

EMERGENCY OVERVIEW

WARNING

hazard statements

Harmful in contact with skin
May cause an allergic skin reaction
Suspected of damaging fertility or the unborn child



appearance yellow**Physical state** solid**Odor** Slight Rotten egg-like**Precautionary Statements - Prevention**

Do not handle until all safety precautions have been read and understood
 Do not handle until all safety precautions have been read and understood
 Wear cold insulating gloves/face shield/eye protection
 Do not get in eyes, on skin, or on clothing
 Contaminated work clothing should not be allowed out of the workplace
 Wear protective gloves

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 IF ON SKIN: Wash with plenty of soap and water
 Call a POISON CENTER or doctor if you feel unwell
 Wash contaminated clothing before reuse
 If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)**OTHER INFORMATION**

- Very toxic to aquatic life
- May be harmful in contact with skin

3. Composition/information on Ingredients

Chemical name	CAS-No	Weight %	Trade secret
Sucrose	57-50-1	7.3	
Mancozeb	8018-01-7	75	
Ethylene thiourea	96-45-7	0-0.1	

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES**General advice**

Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physician.

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

Wash off immediately with soap and plenty of water for at least 15 minutes. Call poison control center or doctor for treatment advice. Remove contaminated clothing and shoes.

Inhalation

Move person 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.

Ingestion

Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Call a physician or poison control center immediately.

Protection of First-aiders Use personal protective equipment.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects MAY CAUSE ALLERGIC SKIN REACTION.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media

Use: Dry chemical. Carbon dioxide (CO₂). Water spray. alcohol-resistant foam.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

No information available.

Hazardous combustion products Carbon disulfide, ethylene thiourea (ETU). Sulfur oxides. Oxides of nitrogen. Oxides of carbon.

Explosion data

Protective equipment and precautions for firefighters

Use personal protective equipment. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with the skin and the eyes. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling.

Environmental Precautions

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.

Methods and material for containment and cleaning up

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

7. Handling and Storage

Precautions for safe handling

Handling Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Keep out of reach of children. Wear protective gloves/clothing and eye/face protection.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a cool, well-ventilated place.

incompatible materials Strong oxidizing agents. Acids.

8. Exposure Controls/Personal Protection

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL
Sucrose	TWA: 10 mg/m ³	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction

Engineering controls

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.

Personal protective equipment**Eye/Face Protection**

Use eye protection to avoid eye contact. Where there is potential for eye contact have eye flushing equipment available. Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles.

Skin protection

Wear protective gloves/clothing. Long sleeved clothing. Socks and footwear.

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

Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state	solid	Odor	Slight Rotten egg-like
appearance	yellow		
color	No information available		

Property**VALUES****Remarks/ • Method**

pH	No information available	
Melting point/freezing point	No information available	
Boiling Point/Range	No information available	
Flash Point	No information available	
Evaporation Rate	No information available	
flammability (solid, gas)	No information available	
Flammability limit in air		
Upper Flammability Limit	No information available	
Lower Flammability Limit	No information available	
vapor pressure	No information available	
Vapor Density	No information available	
Specific gravity	No information available	
Water solubility	No information available	
Solubility in Other Solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	205 C / 401 F °C / 401 °F	
decomposition temperature	No information available	
Viscosity, kinematic	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

OTHER INFORMATION

Softening point No information available
molecular weight No information available
VOC Content No information available
density No information available
Bulk density 40-45 lb/cu ft

10. Stability and Reactivity

Reactivity
 no data available

Chemical stability
 Stable under normal conditions. Hazardous polymerisation does not occur.

Possibility of hazardous reactions
 None under normal processing.

Conditions to avoid
 To avoid thermal decomposition, do not overheat. Keep away from children.

incompatible materials
 Strong oxidizing agents. Acids.

Hazardous decomposition products
 Hydrogen sulfide. Ethylenethiourea. Carbon disulfide.

11. Toxicological Information

Information on Likely Routes of Exposure

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 .

Inhalation May be harmful if inhaled.

Eye contact May cause irritation.

Skin contact Slightly irritating.

Ingestion MAY BE HARMFUL IF SWALLOWED.

Information on Toxicological Effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

sensitization No information available.
Mutagenic effects No information available.
Carcinogenicity The information below indicates whether any agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Ethylene thiourea 96-45-7	-	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 catergorized as a probable human carcinogen by NTP.*

Reproductive effects Not Available.
STOT - Single Exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity Avoid repeated exposure.

Target organ effects Respiratory System, EYES.
Aspiration hazard No information available.

Numerical Measures of Toxicity - Product information

LD50 Oral > 5000 mg/kg (rat)
LD50 Dermal > 2000 mg/kg (rat)
LC50 Inhalation: LC50/inhalation/4h/rat = > 5.4 mg/l 0 ml/m³ (Vapor)

12. Ecological Information

Marine Pollutant.

ecotoxicity

Manzate:
 96 hr LC50
 Rainbow trout = 0.73 mg/L
 Fathead minnow = 0.57 mg/L
 Bluegill sunfish = 0.84 mg/L
 72 hr EC50
 Freshwater algae = 0.43 mg/L

Persistence/Degradability

No information available.

Bioaccumulation/ Accumulation

No information available.

Other Adverse Effects

No information available

13. Disposal Considerations

Waste Treatment Methods

Waste Disposal Method

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

Refer to product label.

Chemical name
 Ethylene thiourea

RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
U116	Included in waste streams: K123, K124, K125, K126		U116

14. Transport Information

DOT

UN-No UN3077
Proper shipping name Environmentally hazardous substances, solid, n.o.s Mancozeb
Hazard class 9
Packing group PG III
Marine Pollutant Marine Pollutant.

Marine Pollutant: Y or N [List This product contains a chemical which is listed as a marine pollutant according to TDG.

Ingredient(s) with %]**ICAO**

UN-No	UN3077
Proper shipping name	Environmentally hazardous substance, solid, n.o.s Mancozeb
Hazard class	9
Packing group	PG III
Description	Marine Pollutant

IATA

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

IMDG/IMO

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

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

signal word CAUTION

Ventilation Control PESTICIDE APPLICATORS & WORKERS THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

Keep out of Reach of Children. Harmful if inhaled or absorbed through skin. Harmful if swallowed. May irritate eyes, nose, throat and skin.

International Inventories

USINV	Not determined
DSL/NDSL	Not determined
EINECS/ ELINCS	Does not comply
ENCS	Does not comply
China	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply
TSCA	Does not comply

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

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	SARA 313 - Threshold Values
Ethylene thiourea - 96-45-7	0.1

SARA 311/312 Hazardous

Categorization

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

Chemical name	RQ	CERCLA EHS RQs	RQ
Ethylene thiourea 96-45-7	10 lb		RQ 10 lb final RQ RQ 4.54 kg final RQ

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

Component	CAS-No	CATEGORY	California Prop. 65	Non-additive, corrosive chemical type
Mancozeb 8018-01-7 (75)	8018-01-7	Carcinogen	Carcinogen	
Ethylene thiourea 96-45-7 (0-0.1)	96-45-7	Carcinogen	Carcinogen Developmental	

State Right-to-Know

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

International regulations

U.S. EPA Label information

EPA Pesticide registration number 70506-234

16. Other Information

NFPA

HEALTH 1

flammability 1

Instability 1

Physical hazard -

Preparation Date

01-May-2015

Revision date

01-May-2015

Revision Summary

Update to GHS format

End of MSDS