



Safety Data Sheet

United Phosphorus, Inc.

Preparation Date 01-May-2015

Revision date 25-Mar-2016

Revision Number: 2

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

Product identifier

Product Description: Manzate Max T & O Fungicide

Other means of identification

Item#: 12-394XX
Synonyms Not Available
Registration number(s) 70506-194

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

United Phosphorus Inc.
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 - Inhalation (Vapors)	Category 3
Skin sensitization	Category 1
Reproductive Toxicity	Category 1B

Label elements

EMERGENCY OVERVIEW

DANGER

hazard statements

Toxic if inhaled
May cause an allergic skin reaction
May damage fertility or the unborn child



appearance Yellow Green**Physical state** liquid**Odor** pungent**Precautionary Statements - Prevention**

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
 Use only outdoors or in a well-ventilated area
 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
 If skin irritation or rash occurs: Get medical advice/attention
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

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
1,2-Benzisothiazolin-3-one (Proxel GXL)	2634-33-5	0.16	
Zinc manganese ethylenebis dithiocarbamate	8018-01-7	37	
Ethylene thiourea	96-45-7	0-0.5	

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	Remove and wash contaminated clothing before re-use. Wash off immediately with soap and plenty of water for at least 15 minutes. Call poison control center or doctor for treatment advice.
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	Call a physician or poison control center immediately. Do not induce vomiting without

medical advice. Never give anything by mouth to an unconscious person.

Protection of First-aiders Use personal protective equipment.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects No information available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media

Carbon dioxide (CO₂).

Use: Dry chemical. Water spray. alcohol-resistant foam.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapours.

Hazardous combustion products Carbon disulfide, ethylene thiourea (ETU).

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 Soak up with inert absorbent material. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling

Handling Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes. Wear personal protective equipment. Do not breathe vapours or spray mist. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use.

Conditions for safe storage, including any incompatibilities

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

incompatible materials Strong oxidizing agents.

8. Exposure Controls/Personal Protection

Exposure guidelines	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
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. Face-shield.
Skin protection	Long sleeved clothing. Chemical resistant gloves. Chemical resistant footwear plus socks.
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	liquid	Odor	pungent
appearance	Yellow Green		
color	No information available		

<u>Property</u>	<u>VALUES</u>	<u>Remarks/ • Method</u>
pH	8	
Melting point/freezing point	9 °C / 48 °F	
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	1.27-1.33	
Water solubility	No information available	
Solubility in Other Solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	No information available	
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	1270 kg/m ³

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.

Hazardous polymerization Hazardous polymerisation does not occur.

Conditions to avoid

No information available.

incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

Carbon oxides.

11. Toxicological Information

Information on Likely Routes of Exposure

Product information	Manzate Max= Acute oral LD50 = >5,000 mg/kg Acute dermal LD50 = >5,000 mg/kg Acute inhalation LC50 = >2.02 mg/L Eye irritation = Slight Dermal irritation = Slight Skin sensitizer = Not a sensitizer
Inhalation	Harmful by inhalation.
Eye contact	May cause slight irritation.
Skin contact	May be harmful if absorbed through the skin.
Ingestion	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

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

Chronic toxicity Avoid repeated exposure.
Aspiration hazard No information available.

Numerical Measures of Toxicity - Product information

LD50 Oral > 5000 mg/kg (rat)
LD50 Dermal > 5000 mg/kg (rat)
LC50 Inhalation: > 2.02 mg/l

12. Ecological Information**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

Does not bioaccumulate.

Chemical name	Log Pow
1,2-Benzisothiazolin-3-one (Proxel GXL) 2634-33-5	1.3

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

14. Transport Information**DOT**

Not regulated when shipped domestically by highway in non-buk containers as per 49 CFR 171.4 When shipped in bulk, by vessel, or internationally use the IMDG shipping description:

IATA

UN-No	UN3082
Proper shipping name	Environmentally hazardous substances, liquid, n.o.s (Mancozeb)
Hazard class	9
Packing group	PG III
Description	Marine pollutant

IMDG/IMO

UN-No	UN3082
Proper shipping name	Environmentally hazardous substances, liquid, n.o.s (Mancozeb)
Hazard class	9
Packing group	PG III
Marine Pollutant	Marine Pollutant

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 swallowed. Harmful if inhaled or absorbed through skin. Toxic to fish and aquatic organisms.

International Inventories

USINV	Not determined
DSL/NDSL	Not determined
EINECS/ ELINCS	Does not comply
ENCS	Does not comply
China	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
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 (0-0.5)	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 (0-0.5)			U116

Pesticide Information

State Regulations

Component	CAS-No	CATEGORY	California Prop. 65	Non-additive, corrosive chemical type
Zinc manganese ethylenebis dithiocarbamate 8018-01-7 (37)	8018-01-7	Carcinogen	Carcinogen	
Ethylene thiourea 96-45-7 (0-0.5)	96-45-7	Carcinogen	Carcinogen Developmental	

State Right-to-Know

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Zinc manganese ethylenebis dithiocarbamate				X	
Ethylene thiourea	X	X	X	X	

International regulations

U.S. EPA Label information

EPA Pesticide registration number 70506-194

16. Other Information

NFPA HEALTH 1 flammability 0 Instability 0 Physical hazard -

Preparation Date 01-May-2015

Revision date 25-Mar-2016

Revision Summary

Update section 14

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End of MSDS