

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

Product identifier**Product Description:** Manzate Max Fungicide**Other means of identification****Product code** 12-394X
Registration number(s) 70506-194**Recommended use of the chemical and restrictions on use****Recommended use** Fungicides.
Uses advised against Activities contrary to label recommendation**Details of the Supplier of the Safety Data Sheet****Supplier Address**UPL NA 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-%
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

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 a 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 data 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 data 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 skin and eyes. Wear protective gloves/protective 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.
<u>Personal protective equipment</u>	
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 color	Yellow Green 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 data 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
Liquid Density No information available
Bulk density 1270 kg/m³

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= oral LD50 = >5,000 mg/kgdermal LD50 = >5,000 mg/kginhalation LC50 = >2.02 mg/L No deathsirritation = Slight irritation = Slightsensitizer = 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 data 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 data available.
STOT - Repeated Exposure no data 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 data available.

Bioaccumulation/ Accumulation

Bioaccumulative potential.

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

Other Adverse Effects

no data 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.

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/ID no.**

UN3082

Proper shipping name

Environmentally hazardous substances, liquid, n.o.s Mancozeb

Hazard class

9

Packing group

PG III

Description Marine pollutant

IMDG

UN/ID no. UN3082
Proper shipping name Environmentally hazardous substances, liquid, n.o.s (Mancozeb)
Hazard class 9
Packing group PG III
Environmental hazards IMDG - 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 Present
DSL/NDSL Not present
EINECS/ELINCS Not Present
ENCS Not Present
China Present
KECL Present
PICCS Present
AICS Present
TSCA Not Present

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 Title 40 of the Code of Federal Regulations, Part 372:

CERCLA

Not applicable

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
Zinc manganese ethylenebis dithiocarbamate 8018-01-7 (37)	8018-01-7	Carcinogen
Ethylene thiourea 96-45-7 (0-0.5)	96-45-7	Carcinogen

Prop 65 Pictogram



**Prop 65 Warning Statement
California Proposition 65**

WARNING!
This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

Component	California Prop. 65	Non-additive, corrosive chemical type
Zinc manganese ethylenebis dithiocarbamate 8018-01-7 (37)	Carcinogen	
Ethylene thiourea 96-45-7 (0-0.5)	Carcinogen Developmental	

State Right-to-Know

Not applicable

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 31-Dec-2018

Revision Summary

Update logo Update section 1 Update Section 16***

Disclaimer

UPL NA Inc. believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with other materials or in any process. Further, since the conditions and methods of use are beyond the control of UPL NA Inc. and UPL NA Inc. expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.

End of SDS