



Safety Data Sheet

Preparation Date 01-May-2015

Revision date 01-Aug-2025

Revision Number: 5

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

Identification of the product

Product Description Manzate® Pro-Stick™ Fungicide

Other means of identification

Internal SDS code 12-371AB

UN/ID no UN3077

Registration number(s) 70506-234

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.

PO Box 12219

Research Triangle Park, NC 27709-12219

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 and Drug Safety (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)

Skin sensitization	Category 1B
Carcinogenicity	Category 2
Reproductive Toxicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

EMERGENCY OVERVIEW

WARNING

Hazard Statements

May cause an allergic skin reaction

Suspected of damaging fertility or the unborn child

Suspected of causing cancer

May cause damage to organs through prolonged or repeated exposure

**Appearance** Granule**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 breathe dust/fume/gas/mist/vapors/spray

Do not eat, drink or smoke when using this product

Wash face, hands and any exposed skin thoroughly after handling

Contaminated work clothing should not be allowed out of the workplace

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 in accordance with local/national regulations

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

- Toxic to aquatic life

3. Composition/information on Ingredients

Chemical name	CAS No	Weight-%
Sucrose	57-50-1	7.3
Mancozeb	8018-01-7	75
Ethylene thiourea	96-45-7	0-0.1
Methenamine	100-97-0	1

*The exact percentage (concentration) 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

Wash off immediately with soap and plenty of water for at least 15 minutes. Call a 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.

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 data 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 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**

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/protective 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 (vacated) Ceiling: 5 mg/m ³
Mancozeb		
Methenamine	TWA: 1 mg/m ³ inhalable fraction and vapor	

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

9.1 Information on basic physical and chemical properties

Appearance	Granule	
Physical state	solid	
Odor	Slight Rotten egg-like	
color	Yellow	
<u>Property</u>	<u>VALUES</u>	<u>Remarks/ Method</u>
pH		None known
Melting point/freezing point		None known
Boiling Point/Range		None known
Flash Point	No information available	None known
Evaporation Rate		None known
Flammability (solid, gas)		None known
Specific gravity		None known
Bulk density	40-45 lb/cu ft	None known
Water solubility		None known
Solubility in Other Solvents	No information available	None known
Partition coefficient: n-octanol/water		None known
Autoignition temperature	205 C / 401 F °C	None known
Decomposition temperature		None known
Viscosity		None known

9.2 OTHER INFORMATION- NONE**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

Based on available data, the classification criteria are not met.

Eye contact

May cause irritation.

Skin contact

Based on available data, the classification criteria are not met. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Ingestion

Based on available data, the classification criteria are not met.

Information on Toxicological Effects**Symptoms**

No information available.

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

Repeated or prolonged contact may cause allergic reactions in very susceptible persons.

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

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.

Reproductive effects	Suspected of damaging fertility or the unborn child.
STOT - Single Exposure	no data available.
STOT - Repeated Exposure	May cause damage to organs through prolonged or repeated exposure.
Chronic toxicity	Avoid repeated exposure.
Target organ effects	Thyroid, Respiratory System.
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 (dust) (mist)

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 data available.

Bioaccumulation/ Accumulation

No information available.

Other Adverse Effects

no data available

13. Disposal Considerations**Waste Treatment Methods**

Waste Disposal Method	Pesticide wastes can be 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

<u>DOT</u>	Not regulated when shipped domestically by highway in non-bulk containers as per 49 CFR 171.4
UN/ID no	When shipped in bulk the following description must be used: UN3077
Proper shipping name	Environmentally hazardous substances, solid, n.o.s (Mancozeb)
Hazard class	9

Packing group	PG III
IMDG - Marine Pollutant	Marine Pollutant.
<u>TDG</u>	When shipped in Canada domestic highway non-bulk this product can be shipped as Not regulated as per TDG 1.45.1 In bulk, by vessel or internationally - use IMDG description
<u>IATA</u>	Single or inner packagings less than 5L (liquid) or 5kg net (solids) are excepted from the Dangerous Goods regulations (IATA Special provision A197)
UN/ID no	UN3077
Proper shipping name	Environmentally hazardous substances, solid, n.o.s (Mancozeb)
Hazard class	9
Packing group	PG III
Description	IMDG - Marine Pollutant
<u>IMDG</u>	Single or inner packaging less than 5L (liquid) or 5 kg net (solids) are excepted from the Dangerous Goods regulations (IMDG 2.10.2.7)
UN/ID no	UN3077
Proper shipping name	Environmentally hazardous substances, solid, 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 absorbed through the skin. Causes moderate eye irritation. Prolonged or frequent repeated skin contact may cause allergic reaction in some individuals. Toxic to aquatic organisms.

International Inventories

USINV	Not present
DSL/NDSL	Not present
EINECS/	Not Present
ELINCS	
ENCS	Not Present
China	Not Present
KECL	Not Present
PICCS	Not Present
AICS	Not 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 does not contain any 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 (0-0.1)	10 lb

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	
Methenamine 100-97-0 (1)			X	

State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

California Proposition 65			This product contains the following Proposition 65 chemicals:		
Component			California Prop. 65		
Mancozeb 8018-01-7 (75)			Carcinogen		
Ethylene thiourea 96-45-7 (0-0.1)			Carcinogen Developmental		
Chemical name		CAS No		CATEGORY	
Mancozeb		8018-01-7		Carcinogen	
Ethylene thiourea		96-45-7		Carcinogen	

Prop 65 Pictogram**Prop 65 Warning Statement
California Proposition 65****WARNING**

This product can expose you to chemicals 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

State Right-to-Know

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sucrose - 57-50-1	X		X		
Ethylene thiourea - 96-45-7	X	X	X	X	
Methenamine - 100-97-0		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-Aug-2025

Revision Summary

Update product name

Disclaimer

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End of SDS