



Material Safety Data Sheet

United Phosphorus, Inc.

NFPA	PPE		

Issued Date 05-Mar-2013

Revision Date 29-Jul-2013

Revision Number: 1

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	R&D Technical Service	484-804-6974	8:00 am to 5:00 pm EST
Product Name	Elixir		
EPA Reg #	70506-298		
Recommended Use	fungicide		
Product Code	RD-ELIX		

2. HAZARDS IDENTIFICATION

Emergency Overview

Toxic by inhalation
Irritating to eyes
May cause sensitization by skin contact

WARNING!

Appearance yellow-green.

Physical State Solid. Granular.

Odor Woody.

Potential Health Effects

Acute Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Repeated exposure may cause allergic skin reaction.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients Name

Chemical Name	CAS-No	Weight %	OSHA PEL
Mancozeb	8018-01-7	62.5	N/A
Chlorothalonil	1897-45-6	12.5	N/A

4. 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	Take off contaminated clothing Rinse skin immediately with plenty of water for 15-20 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 Have person sip a glass of water if able to swallow Do not induce vomiting unless told to do so by a poison control center or doctor Never give anything by mouth to an unconscious person
Notes to Physician	No information available

5. FIRE-FIGHTING MEASURES

Flammable Explosive Properties

Flash Point	Not available		
Autoignition Temperature	Not available		
Flammability Limits in Air	Not available		
Extnguishing Media	Water spray, Carbon dioxide (CO2), Dry powder, Foam		
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.		
Hazardous Combustion Products	Elevated temperatures can cause decomposition to potentially toxic gases.		
NFPA	Health 2	Flammability 0	Instability 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid contact with the skin and the eyes. Ensure adequate ventilation. Use personal protective equipment.
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 for Clean-up	Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Handling	Avoid breathing dust. Avoid contact with skin and eyes. In case of insufficient ventilation, wear suitable respiratory equipment.
Storage	Keep tightly closed in a dry and cool place. Keep out of the reach of children.

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	Where there is potential for eye contact have eye flushing equipment available. Use eye protection to avoid eye contact.
Skin Protection	Long sleeved clothing. Long pants. Chemical resistant gloves. 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. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	yellow-green	Odor	Woody
Physical State	Solid Granular	pH	(1% solution); approx 7

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	no data available	Percent Solids	Not available
Percent Volatiles	Not available		

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions
Conditions to Avoid	Excessive heat and open flame
Incompatible Materials	No materials to be especially mentioned
Hazardous Decomposition Products	None under normal use
Possibility of Hazardous Polymerization	None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information	The following relates to the active ingredient(s): Mancozeb: Acute oral LD50 (rat) = >5.0 g/kg Acute dermal LD50 (rabbit) = >2.0 g/kg Acute Inhalation LC50 (rat) = >5.2 mg/L - 4 hr
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Chronic Toxicity

Carcinogenicity

Mancozeb:

The effects in animals from repeated high inhalation dose of mancozeb dust equivalent to 150 -250 times the AEL include reduced body weight, inflammation of the lungs, and abnormal thyroid function.

Toxic effects in animals from repeated ingestion of high doses of Mancozeb include reduced body weight and thyroid effects. In a different study, repeated dosing caused toxic and neuropathological effects in male and female rats which included compound-related mortality, decreased body weight, impaired hind limb motor activity and histopathological evidence of nerve damage. The no-observable effect level was 125 ppm.

Increased incidences of thyroid tumors and ocular lesions were observed in rats administered 750 ppm (equivalent to approximately 35 mg/kg/day) of mancozeb in their diet for two years. Mancozeb is considered to show weak carcinogenic activity. Tests in some animals indicate that mancozeb may produce embryo and fetal toxicity, but only at maternally toxic doses. Multi-generation studies in animals demonstrate no reproductive toxicity. Chlorothalonil:

No evidence of carcinogenicity in dogs after administration for up to one year. Squamous cell adenomas were observed in the forestomach of both rats and mice. This observation is not relevant to humans as humans have no anatomical equivalent of a forestomach. Comprehensive dietary and worker exposure studies have shown exposure levels for humans to be well below these threshold levels - in addition surveillance of chlorothalonil plant workers for many years has not demonstrated any increase in oncogenic potential to humans.

Chemical Name	ACGIH	IARC	NTP	OSHA
Chlorothalonil		Group 2B		X

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.

Chlorothalonil:

Bees LC50/EC50 = >181 ug/bee

Invertebrates (Water flea) LC50/EC50 = 0.068 ppm

Fish (trout) LC50/EC50 = 0.04 ppm

Birds (8 day dietary- Bobwhite quail) LC50/EC50 = >5,200 ppm.

13. DISPOSAL CONSIDERATIONS

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

Empty containers should be taken for local recycling, recovery or waste disposal. Refer to product label.

14. TRANSPORT INFORMATION

DOT

When shipped domestically by highway in non-bulk containers this product can be shipped as not regulated. When shipped in bulk, by vessel, or internationally use the IMDG shipping description:

Proper Shipping Name Environmentally hazardous substances, solid, n.o.s. mancozeb
Hazard Class 9
UN-No UN3077
Packing Group PG III
Marine pollutant Y.

ICAO

UN-No UN3077
Proper Shipping Name Environmentally hazardous substance, solid, n.o.s mancozeb
Hazard Class 9
Packing Group PG III

IATA

UN-No UN3077
Proper Shipping Name Environmentally hazardous substances, solid, n.o.s. mancozeb
Hazard Class 9
Packing Group PG III
ERG Code 9L

IMDG/IMO

Proper Shipping Name Environmentally hazardous substances, solid, n.o.s. (Mancozeb)
Hazard Class 9
UN-No UN3077
Packing Group PG III
EmS No. F-A, S-F
Marine pollutant yes

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS/ ELINCS	ENCS	CHINA	KECL	AICS
Mancozeb					(2)-2127 (2)-1841	X	KE-13636	X
Chlorothalonil	Present	X		X	(3)-1805	X	KE-33285	X

USA

Federal Regulations

SARA 313

Y

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values
Chlorothalonil	1897-45-6	12.5	0.1

SARA 311/312 Hazardous Categorization

RD-ELIX
Elixir

-

Chronic Health Hazard	Yes
Acute Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

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	62.5				

CERCLA

RCRA

Pesticide Information

Component	FIFRA - Restricted Use	FIFRA - Pesticide Product Other Ingredients	FIFRA - Listing of Pesticide Chemicals	California Pesticides - Restricted Materials
Mancozeb 8018-01-7 (62.5)			X	
Chlorothalonil 1897-45-6 (12.5)			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	
Chlorothalonil	1897-45-6	Carcinogen	Carcinogen	

State Right-to-Know

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Mancozeb				X	
Chlorothalonil	X	X	X		

International Regulations

Mexico - Grade

Mexico - Grade

Component	Category	Carcinogen Status	Exposure Limits
Mancozeb 8018-01-7 (62.5)	Carcinogen		
Chlorothalonil 1897-45-6 (12.5)	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

16. OTHER INFORMATION

Revision Date 29-Jul-2013

Revision Summary
Add to system

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End of MSDS