



MATERIAL SAFETY DATA SHEET

PREVAIL®

Version: 1.4
Date of Issue: 09/19/2007
Date printed: 09/20/2007

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : PREVAIL®

Chemical name: Carboxin - PCNB - Metalaxyl (Actives)

Use of substance/preparation: Seed Treatment Fungicide

Supplier: Chemtura Corporation
199 Benson Road
Middlebury, CT 06749 USA

Emergency telephone number: CHEMTREC (24 hours) 800-424-9300, 703-527-3887
Chemtura Corporation Emergency Response (24 hours) 800-292-5898

Environmental, Health and Safety Department: 866-430-2775

Prepared by Product Safety Department Date of Issue: 09/19/2007
(US) +1 866-430-2775
(EU) +44 (0) 1753.603.000
Email: MSDSRequest@chemtura.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
CAUTION!
MAY BE HARMFUL IF ABSORBED THROUGH SKIN.
MAY BE HARMFUL BY INHALATION.
MAY CAUSE EYE AND SKIN IRRITATION.
CONTAINS CRYSTALLINE SILICA - SUSPECT CANCER HAZARD.

3. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	% BY WEIGHT
Kaolin CAS# 1332-58-7	<= 40
Amorphous silica CAS# Trade secret	<= 10
Carboxin CAS# 5234-68-4	15
Pentachloronitrobenzene CAS# 82-68-8	15



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Graphite <= 20
 CAS# 7782-42-5

Free Silica (Quartz) <= 1
 CAS# 14808-60-7

Metalaxyl 3.12
 CAS# 57837-19-1

Ethylene glycol <= 10
 CAS# 107-21-1

4. FIRST AID MEASURES

Swallowing

Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Inhalation

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Skin contact

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

Eye contact

Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lens, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.

Notes to physician

ROUTES OF ENTRY:

Inhalation

Skin

Eyes

Ingestion

Treat symptomatically.

This product contains ethylene glycol.

5. FIRE-FIGHTING MEASURES

Flammable limits

Lower limit: Not available

Upper limit: Not available

Autoignition temperature:

Not available

NFPA CLASSIFICATION

Health: 1	Flammability: 1	Reactivity: 0	Special provisions:
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Hazardous combustion products

Irritating fumes.

Oxides of carbon.

Special fire fighting procedures

Do not discharge extinguishing waters into streams, rivers and lakes.



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Special protective equipment for firefighters

Body covering protective clothing, full "turn-out" gear.
 Self-contained breathing apparatus.

Extinguishing media

Suitable: Large fires:
 - alcohol-type foam or universal-type foams
 Small fires:
 - CO2
 - dry chemical
 - water spray

Unsuitable: - water jets

Unusual fire and explosion hazards

Following products may be produced during a fire: Phosgene., Hydrogen chloride., Oxides of sulfur., Oxides of nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate unnecessary personnel., Avoid all contact with material., Wear suitable protective equipment.

Environmental precautions

Prevent from entering sewer system, surface water or soil.

Methods for cleaning up

Avoid dust formation.
 Sweep up and collect in a suitable container for disposal.

7. HANDLING AND STORAGE

HANDLING

Handling precautions

Wear recommended personal protection equipment., Warn personnel about the dangers of the product., Keep container tightly closed., Avoid dispersion of dust to reduce fire and explosion potential.

Other precautions

NOTE TO END-USERS: The employee protection recommendations on this MSDS may differ from those on the product label. For normal use of this product, always refer to the personal protective equipment requirements on the product label.

STORAGE

Storage requirements

Store in a cool, dry place.

Further information on storage

Do not store near food, feed or fertilizers., Keep at temperatures between -23°C (-10°F) and 49 °C (120°F).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Component	Country	Type	Value	Remark
Kaolin		ACGIH - respirable dust	2 mg/m3	8 hours
Amorphous silica	Ireland	OEL	6 mg/m3	



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Amorphous silica		ACGIH	10 mg/m3	
Amorphous silica		OSHA - total dust	15 mg/m3	
Pentachloronitrobenzene	USA	TWA-TLV, ACGIH	0.5 mg/m3	
Pentachloronitrobenzene	USA	ACGIH		Toxicity to reproduction/fertility: A4
Graphite	USA	TLV-TWA, ACGIH	2 mg/m3	respirable fraction, all forms except graphite fibers
Free Silica (Quartz)		ACGIH - respirable dust	0.05 mg/m3	Toxicity to reproduction/fertility: CANCER HAZARD A2
Free Silica (Quartz)		OSHA - respirable dust	0.1 mg/m3	TWA
Free Silica (Quartz)		OSHA - total dust	0.3 mg/m3	TWA
Ethylene glycol	USA	Ceiling, ACGIH	100 mg/m3	(aerosol)

PERSONAL PROTECTION

Respiratory protection

In the absence of engineering controls sufficient to maintain airborne concentrations below recommended occupational exposure limit values, appropriate respiratory protection should be utilized. The determination of appropriate respiratory protection is best performed, on a case by case basis, taking into consideration the exposure conditions of the particular operation.

The respirator manufacturer should be consulted to ensure that the air-purifying cartridges utilized will provide adequate protection for the exposure conditions and period of wear concerned.

For emergency conditions where the exposure limit may be greatly exceeded, use an approved positive-pressure self-contained breathing apparatus.

Hand protection / protective gloves

Chemical resistant protective gloves

Eye protection

Full face shield.

Skin protection

Chemical resistant protective clothing.

Industrial hygiene measures

Before eating, drinking or smoking, wash hands and face thoroughly with soap and water.

ENGINEERING CONTROLS

Ventilation

Provide local exhaust or process enclosure ventilation system.



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9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical state Powder
Color Gray
Odor Musty
Odor threshold Not available

OTHER PROPERTIES

Boiling point Not applicable
Melting point Not available
pH Not available
Density Not available
Bulk density 25.5 - 30 lb/ft³
Vapor pressure
Solubility in water Partially soluble
Solubility in organic solvents Insoluble
Partitioning coefficient Not available
Flash point Not applicable
Autoignition temperature Not available
Upper explosion limits Not available
Lower explosion limits Not available

10. STABILITY AND REACTIVITY

Stability: This product is stable under normal storage and handling conditions.

Incompatible materials:

Oxidizing agents.
Strong acids.
Strong bases.

Hazardous combustion products:

Irritating fumes.
Oxides of carbon.

Hazardous polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

SWALLOWING

Test results

Acute toxicity: LD50
Result: > 5,000 mg/kg



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SKIN ABSORPTION

Test results

Acute toxicity: LD50
Result: > 2,000 mg/kg

INHALATION

Test results

Acute toxicity: LC50
Result: > 1.13 mg/l
Exposure time: 4 h

SKIN CONTACT

Test results

Skin irritation: Result: Slight

EYE CONTACT

Test results

Eye irritation: Result: Mild irritation

SENSITIZATION

Test results:

Species: - Guinea pigs
Result: Negative

12. ECOLOGICAL INFORMATION

This product is not tested.

<u>Component ecotoxicology</u> Carboxin <u>Acute toxicity fish:</u>	LC50 - Rainbow trout (Oncorhynchus mykiss) Result: 2.3 mg/l Exposure time: 96 h
<u>Component ecotoxicology</u> Carboxin <u>Acute toxicity fish:</u>	LC50 - Bluegill (Lepomis macrochirus) Result: 3.6 mg/l Exposure time: 96 h
<u>Component ecotoxicology</u> Pentachloronitrobenzene <u>Acute toxicity fish:</u>	Acute toxicity fish LC50 - Bluegill (Lepomis macrochirus) Result: 0.1 mg/l Exposure time: 96 h
<u>Component ecotoxicology</u> Pentachloronitrobenzene <u>Acute toxicity fish:</u>	Acute toxicity fish LC50 - Rainbow trout (Oncorhynchus mykiss) Result: 0.55 mg/l Exposure time: 96 h
<u>Component ecotoxicology</u> Metalaxyl <u>Acute toxicity fish:</u>	LC50 - Rainbow trout (Oncorhynchus mykiss) Result: > 100 mg/l Exposure time: 96 h
<u>Component ecotoxicology</u> Ethylene glycol <u>Chronic toxicity fish:</u>	EC50 - Rainbow trout (Oncorhynchus mykiss) Result: 41,000 mg/l Exposure time: 4 d
<u>Component ecotoxicology</u> Ethylene glycol	Static LC50 - Rainbow trout (Oncorhynchus mykiss) Result: 40,761 mg/l



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Chronic toxicity fish:	Exposure time: 4 d
Component ecotoxicology Carboxin Aquatic toxicity to plants:	EC50 - Selenastrum capricornutum Result: 0.48 mg/l Exposure time: 120 h
Component ecotoxicology Metalaxyl Aquatic toxicity to plants:	IC50 - Green algae (Scenedesmus subspicatus) Result: 33 mg/l Exposure time: 5 d
Component ecotoxicology Ethylene glycol Microorganisms:	EC50 - Selenastrum capricornutum Result: 1,300 - 6,500 mg/l Exposure time: 96 h
Component ecotoxicology Ethylene glycol Microorganisms:	EC50 - Photobacterium phosphoreum: Result: 620 mg/l Exposure time: 0.5 h
Component ecotoxicology Carboxin Acute toxicity to aquatic invertebrates:	EC50 - Water flea (Daphnia magna) Result: > 57 mg/l Exposure time: 48 h
Component ecotoxicology Pentachloronitrobenzene Acute toxicity to aquatic invertebrates:	Acute daphnia toxicity LC50 - Water flea (Daphnia magna) Result: 0.77 mg/l Exposure time: 48 h
Component ecotoxicology Metalaxyl Acute toxicity to aquatic invertebrates:	EC50 - Result: > 28 mg/l Exposure time: 48 h

13. DISPOSAL CONSIDERATIONS

General: Dispose of in accordance with appropriate Federal, State, and local regulations., Do not discharge to sewers and natural waters.

14. TRANSPORT INFORMATION

DOT Classification

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Class: 9
UN ID #: UN3077
Packing group: III
marine pollutant: MARINE POLLUTANT

Not regulated by ground or rail if shipped or transported in container less than 400 kg.

IMDG Classification

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Class: 9
Subsidiary risk: marine pollutant
UN ID #: UN 3077
Packing group: III
Marpol: MARINE POLLUTANT



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ICAO Classification

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
 Class: 9
 UN ID #: UN 3077
 Packing group: III

Only regulated by air Into, Out of or Within the United States in containers 881.8 lbs (400 kg) or greater.

15. REGULATORY INFORMATION

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of hazardous substances equal to or greater than the reportable quantities (RQ's) in 40CFR302.4.

Components present in this product at a level which could require reporting under the statute are:

Chemical name	RQ	CAS#	Max weight %
Pentachloronitrobenzene	100 lbs for	82-68-8	<= 20.00
	PCNB		
Ethylene glycol	5000 pounds for	107-21-1	<= 10.00
	Ethylene glycol		

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40CFR372 (for SARA 313). This information must be included in MSDS's that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

Chemical name	CAS#	Max weight %
Carboxin	5234-68-4	<= 20.00
Ethylene glycol	107-21-1	<= 10.00

New Jersey Worker and Community Right-To-Know Act (Labeling Requirements)

Chemical name	CAS#	New Jersey TS Number
Kaolin	1332-58-7	
Carboxin	5234-68-4	
Pentachloronitrobenzene	82-68-8	
Graphite	7782-42-5	
Free Silica (Quartz)	14808-60-7	
Metalaxyl	57837-19-1	
Ethylene glycol	107-21-1	
Amorphous silica	Trade secret	NJTS# 136411-5668P

EPA Hazard Categories (SARA 311, 312): Immediate Health Hazard, Delayed Health Hazard

California Proposition 65

Contains crystalline silica - suspect cancer hazard.

CHEMICAL INVENTORY

United States: This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and is therefore exempt from TSCA Inventory listing requirements.



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16. OTHER INFORMATION

RECOMMENDED USES AND RESTRICTIONS: NOTE TO END-USERS: This MSDS is being provided to all interested persons in accordance with federal and state right-to-know laws. Precautionary Statements, First Aid Statements and Directions for Use of this product by end-users are contained on the product label and must be followed at all times.

HMIS RATING

Health: 1	Flammability: 1	Reactivity: 0	PPI: J
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STP	Standard temperature and pressure
W/W	Weight/Weight 0 (HMIS)
1 (HMIS)	Slight hazard
2 (HMIS)	Moderate hazard
3 (HMIS)	Serious hazard
4 (HMIS)	Severe hazard
X (HMIS)	Personal protection rating to be supplied by user depending on use conditions

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