



Material Safety Data Sheet

PRO-GRO®

Version: 1.2

Revision Date: 10/10/2013

Print Date: 11/01/2013

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: PRO-GRO®

Product Use Description: Plant protection agent

Chemical nature: Fungicide

Company: Chemtura Corporation
199 Benson Road
Middlebury, CT
06749
United States of America

Telephone: (US) +1 866-430-2775

Emergency telephone number: CHEMTREC: (24 hours) 800-424-9300
:
Chemtura Corporation Emergency Response: CHEMTURA : 800-292-5898

For additional emergency telephone numbers see section 16 of the Safety Data Sheet.

Prepared by Product Safety Department
10/10/2013 (US) +1 866-430-2775

MSDSRequest@chemtura.com

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER!

Form: solid Colour: off-white Odour: slight musty

Hazard Summary : Irritating to eyes.
May cause sensitization by skin contact.
May cause cancer.
May be harmful if absorbed through skin.
Consumption of alcoholic beverages increases the toxic effects of this chemical (Thiram).

OSHA Hazards : THIS MATERIAL IS HAZARDOUS UNDER THE CRITERIA OF THE FEDERAL
OSHA HAZARD COMMUNICATION STANDARD 29CFR 1910.1200.



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Potential Health Effects

Primary Routes of Entry : Skin contact
Inhalation
Eye contact

Target Organs : Liver
Kidney
Central nervous system
Lungs

Inhalation : May cause respiratory tract irritation.

Skin : May cause skin irritation.
May be harmful if absorbed through skin.

Eyes : Irritating to eyes.

Ingestion : May be harmful if swallowed.

Chronic Exposure : Long term inhalation of crystalline silica dusts may cause lung disease (silicosis).
Long term inhalation exposure may cause effects in the following:
Cancer

Carcinogenicity:
IARC

Group 1: Carcinogenic to humans
kaolin (Particulates) 1332-58-7

Carcinogenicity:

Group 2B: Possibly carcinogenic to humans
titanium dioxide 13463-67-7

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

Known to be human carcinogen
kaolin (Particulates) 1332-58-7

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Component / CAS-No.	Weight percent
thiram (Dust) 137-26-8	50 %
carboxin 5234-68-4	30 %
titanium dioxide 13463-67-7	0.1 - < 1 %



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quartz (SiO₂)
14808-60-7

0.1 - < 1 %

SECTION 4. FIRST AID MEASURES

First aid procedures

- Inhalation : Remove to fresh air.
If not breathing, give artificial respiration.
Obtain medical attention.
- Skin contact : Remove contaminated clothing and shoes.
Wash off with warm water and soap.
If symptoms persist, call a physician.
Wash clothing before reuse.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Obtain medical attention.
- Ingestion : Do NOT induce vomiting.
Rinse mouth with water.
Obtain medical attention.

SECTION 5. FIREFIGHTING MEASURES

Flammable properties

- Flash point : 234 °F (112 °C)
- Ignition temperature : Remarks: not determined
- Lower explosion limit : Remarks: no data available
- Upper explosion limit : Remarks: no data available

Fire fighting

- Suitable extinguishing media : Extinguishing media - large fires
Alcohol-resistant foam
(on small fires)
Carbon dioxide (CO₂)
Dry chemical
Water spray
- Unsuitable extinguishing media : Water spray jet
- Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system.

Protective equipment and precautions for firefighters

- Special protective equipment for firefighters : Body covering protective clothing, full "turn-out" gear.
Self-contained breathing apparatus (EN 133)



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SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Wear suitable protective equipment.
Avoid contact with skin and eyes.
- Environmental precautions : Do not allow contact with soil, surface or ground water.
Do not flush into surface water or sanitary sewer system.
- Methods for containment /
Methods for cleaning up : Pick up and arrange disposal without creating dust.

SECTION 7. HANDLING AND STORAGE

Handling

- Handling procedures : Use plant protection products safely. Always read the label and product information before use.
Handle in accordance with good industrial hygiene and safety practice.
Avoid contact with skin, eyes and clothing.
Wear personal protective equipment.
Use with adequate ventilation.
Avoid dust formation.
Keep away from sources of ignition - No smoking.
May form explosive dust-air mixture.
Take precautionary measures against static discharges.

Storage

- Requirements for storage areas and containers : Store in original container.
Keep tightly closed in a dry, cool and well-ventilated place.
- Other data : Stable under recommended storage conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Components with workplace control parameters

Components / CAS-No.	Value / Basis / Update	Control parameters	Further information
thiram (Dust) 137-26-8	TWA ACGIH 2008-01-01	0.05 mg/m3	
	TWA OSHA Z-1 1997-08-04	5 mg/m3	
	TWA OSHA P0	5 mg/m3	



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	1989-01-19		
	TWA NIOSH REL 2005-09-01	5 mg/m3	
titanium dioxide 13463-67-7	TWA ACGIH 2007-01-01	10 mg/m3	
	TWA OSHA P0 1989-01-19	10 mg/m3	
	TWA OSHA Z-1 2011-07-01	15 mg/m3	
quartz (SiO2) 14808-60-7	TWA ACGIH 2007-01-01	0.025 mg/m3	
	TWA OSHA Z-3 2011-07-01	30 mg/m3/%SiO2+2	
	TWA OSHA Z-3 2011-07-01	250 mppcf/%SiO2+5	
	TWA OSHA Z-3 2011-07-01	10 mg/m3/%SiO2+2	
	TWA OSHA P0 1989-01-19	0.1 mg/m3	
	TWA NIOSH REL 2005-09-01	0.05 mg/m3	

Engineering measures



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Personal protective equipment

- Eye protection : Safety glasses with side-shields
- Hand protection : Impervious gloves
- Skin and body protection : impervious clothing
- Respiratory protection : Wear a NIOSH/MSHA approved dust respirator if dusting occurs, or there is potential for airborne exposures to exceed established threshold values.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

- Form : solid
- Colour : off-white
- Odour : slight
musty

Safety data

- Flash point : 234 °F (112 °C)
- Ignition temperature : Remarks: not determined
- Lower explosion limit : Note: no data available
- Upper explosion limit : Note: no data available
- Melting point/range : Note: no data available
- Boiling point/boiling range : Note: not applicable
- Vapour pressure : not applicable
- Water solubility : Note: no data available
- Partition coefficient: n-octanol/water : Note: no data available
- Viscosity, kinematic : Note: not applicable

SECTION 10. STABILITY AND REACTIVITY

- Materials to avoid : Remarks: Oxidizing agents
Strong acids and strong bases
- Hazardous decomposition products : Note: Carbon oxides
nitrogen oxides (NOx)



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Hazardous reactions : Hazardous polymerisation does not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50: 1,326 mg/kg
Species: rat

Acute inhalation toxicity : LC50: > 5.8 mg/l
Species: rat

Acute dermal toxicity : LD50: > 2,000 mg/kg
Species: rabbit

Skin irritation : Species: rabbit
Result: No skin irritation

Eye irritation : Species: rabbit
Result: Severe irritation

Sensitisation : Species: guinea pig
Result: Did not cause sensitization on laboratory animals.

Repeated dose toxicity
thiram (Dust) : Species: rat
Application Route: Oral
Exposure time: (90 d)
NOEL: 2.5 mg/kg

Species: rabbit
Application Route: Dermal
Exposure time: (21 d)
NOEL: 300 mg/kg

carboxin : Species: rat, male
Application Route: Dermal
Exposure time: (28 d)
NOEL: 30 mg/kg

Species: rat, male
Application Route: Oral
Exposure time: (90 d)
NOEL: 5.5 mg/kg

CMR effects
thiram (Dust) : Carcinogenicity: negative
Mutagenicity: negative



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	Reproductive toxicity: negative
carboxin	: Carcinogenicity: negative Mutagenicity: negative Teratogenicity: negative Reproductive toxicity: negative
titanium dioxide	: Carcinogenicity: Not classifiable as a human carcinogen. Mutagenicity: Animal testing did not show any mutagenic effects. Carcinogenicity: Limited evidence of carcinogenicity in animal studies, Tumors were noticed after prolonged inhalation toxicity testing on rats., Considered carcinogenic to animals in certain countries.
quartz (SiO ₂)	: Carcinogenicity: Human carcinogen. Mutagenicity: Animal testing did not show any mutagenic effects.

12. ECOLOGICAL INFORMATION

Toxicity to fish thiram (Dust)	: LC50: 0.046 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) static test
carboxin	: LC50: 2.3 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) flow-through test
titanium dioxide	: LC0: 1,000 mg/l Exposure time: 48 h Species: Leuciscus idus (Golden orfe) static test LC50: 240 - 370 mg/l Exposure time: 96 h Species: Cyprinodon variegatus (sheepshead minnow)
Toxicity to daphnia and other aquatic invertebrates thiram (Dust)	: EC50: 0.011 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test
carboxin	: EC50: > 57 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) flow-through test
Toxicity to algae thiram (Dust)	: EC50: 0.065 mg/l



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carboxin : Exposure time: 120 h
Species: Pseudokirchneriella subcapitata (green algae)
static test
: EC50: 0.48 mg/l
Exposure time: 5 d
Species: Pseudokirchneriella subcapitata (green algae)
static test

Toxicity to fish (Chronic toxicity)
carboxin : NOEC: 0.32 mg/l
Exposure time: 21 d
Species: Cyprinus carpio (Carp)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
thiram (Dust) : 0.008 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

carboxin : NOEC: 0.32 mg/l
Exposure time: 17 d
Species: Daphnia magna (Water flea)

Biodegradability
thiram (Dust) : Result: Not readily biodegradable.

carboxin : Result: Not readily biodegradable.

Further information on ecology

Results of PBT assessment
thiram (Dust) : This substance is not considered to be persistent, bioaccumulating
nor toxic (PBT).

carboxin : This substance is not considered to be persistent, bioaccumulating
nor toxic (PBT).

Additional ecological
information : There is no data available for this product.
Avoid release to the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Further information : In accordance with local and national regulations.

SECTION 14. TRANSPORT INFORMATION

DOT

UN number : 3077
Description of the goods : Environmentally hazardous substances, solid, n.o.s.
(thiram, carboxin)
Class : 9
Packing group : III
ERG Code : 171



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IATA

UN number : 3077
Description of the goods : Environmentally hazardous substance, solid, n.o.s.
(thiram, carboxin)
Class : 9
Packing group : III
Labels : 9
Environmentally hazardous : yes

IMDG

UN number : 3077
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.
(thiram, carboxin)
Class : 9
Packing group : III
EmS Number 1 : F-A
EmS Number 2 : S-F
Marine pollutant : yes
thiramcarboxin
Environmentally hazardous : yes
thiram carboxin

SECTION 15. REGULATORY INFORMATION

OSHA Hazards : This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

CERCLA Reportable Quantity : 20 lbs
thiram (Dust) 137-26-8 10 lbs

SARA 302 Reportable Quantity :

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO - KNOW

SARA 302 Reportable Quantity :

SARA 304 Components : This material does not contain any components with a section 304 EHS RQ.

SARA 313 Components : thiram (Dust) 137-26-8



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carboxin 5234-68-4

California Prop. 65 Components

: WARNING! This product contains a chemical known to the State of California to cause cancer.

kaolin (Particulates)

1332-58-7 kaolin (Particulates)

titanium dioxide

13463-67-7 titanium dioxide

quartz (SiO₂)

14808-60-7 quartz (SiO₂)

naphthalene

91-20-3 naphthalene (Vapour and gas)

SECTION 16. OTHER INFORMATION

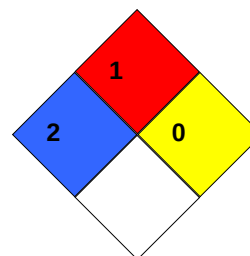
Further information

HMIS Classification

: Health hazard: 2
Chronic Health Hazard: *
Flammability: 1
Reactivity: 0
PPI: Ask supervisor or safety specialist for handling instructions

NFPA Classification

: Health hazard: 2
Fire Hazard: 1
Reactivity Hazard: 0





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Other Emergency Phone Number

<u>Latin America:</u>	Brazil	+55 113 711 9144
	All other countries	+44 (0) 1235 239 670
<u>Mexico:</u>		+52 555 004 8763

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.