

TechPac, LLC.  
P.O. Box 24830 Lexington, KY 40504

**Material Safety Data Sheet**

**GardenTech Daconil Fungicide Concentrate**  
The product is used by Homeowners and Professionals  
October 2004 Product Code(s): 2105 Page 1 of 7

Section 1 - Product Identification

Product Name: GardenTech Daconil Fungicide Concentrate  
EPA Signal Word: WARNING  
Active Ingredient(%): Chlorothalonil (29.6%) CAS No. 1897-45-6  
Chemical Name: Tetrachloroisophthalonitrile  
Chemical Class: Chlorinated Benzonitrile Fungicide  
EPA Registration No.: 67572-82-71004

Section 2 - Composition/Information On Ingredients

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Surfactant	N/E	N/E	N/E	No
Propylene Glycol	N/E	N/E	50 ppm TWA AIHA WEEL****	No
Chlorothalonil (29.6%)	N/E	N/E	0.1 mg/m <sup>3</sup> TWA (skin sensitizer; possible respiratory sensitizer)***	IARC Group 2B

N/E = Not established

\*\*\* Syngenta Occupational Exposure Limit (OEL)

\*\*\*\* Recommended by AIHA (American Industrial Hygiene Association)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

Section 3 - Hazards Identification

Symptoms of Acute Exposure

An extremely severe irritant to eyes. May cause severe skin irritation and contact dermatitis. Allergic skin reactions are possible.

Hazardous Decomposition Products

Can decompose at high temperature forming toxic gases.

Physical Properties

Appearance: Liquid  
Odor: Not determined

Unusual Fire, Explosion, and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Material Safety Data Sheet

GardenTech Daconil Fungicide Concentrate  
The product is used by Homeowners and Professionals  
October 2004 Product Code(s): 2105 Page 2 of 7

Section 4 – First Aid Measures

Have the product container, label or Material Safety Data Sheet with you when calling Prosar (800)-420-9347, a poison control center or doctor, or going for treatment.

- Ingestion:** If swallowed: Call Prosar (800-420-9347), a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling 800-420-9347 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
- Eye Contact:** If in eyes: 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 eyes. Call Prosar (800-420-9347), a poison control center or doctor for treatment advice.
- Skin Contact:** If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 – 20 minutes. Call Prosar (800-420-9347), a poison control center or doctor for treatment advice.
- Inhalation:** Inhaled: 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 Prosar (800-420-9347), a poison control center or doctor for further treatment advice.

**Notes to Physician:**

There is no specific antidote if this product is ingested.

Treat symptomatically.

Persons having a temporary allergic reaction may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

**Medical Conditions Likely To Be Aggravated By Exposure:**  
None known.

Section 5 – Fire Fighting Measures

**Fire and Explosion:**

Flash Point (Test Method):  
Flammable Limits(% in Air):  
Autoignition Temperature:  
Flammability:

Not available  
Lower: % Not available  
Not available  
Not available

Upper: % Not available

**Usual Fire, Explosion and Reactivity Hazards:**

During a fire, irritating and possible toxic gases may be generated by thermal decomposition or combustion.

**In Case of Fire:**

Use dry chemical, foam or CO2 extinguishing media. Wear full protection clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

TechPac, LLC.  
P.O. Box 24830 Lexington, KY 40504  
Material Safety Data Sheet

GardenTech Daconil Fungicide Concentrate  
The product is used by Homeowners and Professionals  
October 2004 Product Code(s): 2105 Page 3 of 7

### Section 6 – Accidental Release Measures

#### In Case of Spill or Leak:

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions in Protective Equipment Section. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container, and arrange for disposition.

### Section 7 – Handling and Storage

Store the material in a well-ventilated, secure area out of the reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco usage, and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

### Section 8 – Exposure Controls/Personal Protection

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS, AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

- Ingestion:** Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.
- Eye Contact:** Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- Skin Contact:** Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.
- Inhalation:** Use process enclosure, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator, with an N, P, or R 95 or HE class filter and an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

### Section 9 – Physical and Chemical Properties

- Appearance:** Liquid
- Odor:** Not determined
- Melting Point:** Not Available
- Boiling Point:** Not Available

Material Safety Data Sheet

GardenTech Daconil Fungicide Concentrate  
The product is used by Homeowners and Professionals  
October 2004 Product Code(s): 2105 Page 4 of 7

Section 9 – Physical and Chemical Properties - Continued

Specific Gravity/Density: 1.17 g/ml

pH: 6-8

Solubility in H<sub>2</sub>O

Chlorothalonil: 0.81 mg/l @ 77°F (25°C)

Vapor Pressure

Chlorothalonil: 5.7 x 10<sup>(-7)</sup> mmHg @ 77°F (25°C)

Section 10 – Stability and Reactivity

Stability: Stable under normal use and storage conditions.

Hazardous Polymerization: Material is not known to polymerize.

Conditions to Avoid: None known.

Materials to Avoid: None known.

Hazardous Decomposition Products: Can decompose at high temperatures forming toxic gases.

Section 11 – Toxicological Information

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion: Not Available  
Oral (LD50 Rat) : Not Available

Dermal: Not Available  
Dermal (LD50 Rabbit) : Not Available

Inhalation: Not Available  
Inhalation (LC50 Rat) : Not Available

Eye Contact: Not Available

Skin Contact: Not Available

Skin Sensitization: Not Available

Reproductive/Developmental Effects

Chlorothalonil: No evidence of adverse developmental effects in rabbit and rat studies.

Chronic/Subchronic Toxicity Studies

Chlorothalonil: In Dogs, 1 years administration caused a significant decrease in body weight gain and increases in absolute liver and kidney weights.  
Neurotoxicity: No evidence in regulatory studies.

Material Safety Data Sheet

GardenTech Daconil Fungicide Concentrate  
The product is used by Homeowners and Professionals  
October 2004 Product Code(s): 2105 Page 5 of 7

Section 11 – Toxicological Information - Continued

Carcinogenicity  
Chlorothalonil:

No evidence of carcinogenicity in dogs after administration for up to one year. Treatment related increases in the incidence of renal tubular and carcinoma were observed in rats and male mice. Squamous cell adenomas and carcinomas were also observed in the forestomach of both species. The forestomach tumors seen in rodent studies are not relevant to human health, as humans do not possess an anatomical equivalent of the rodent forestomach. The relevance of renal tumors to human health is unclear, although metabolism data suggest that the dog, a species that is resistant to chlorothalonil-induced renal injury, may be more representative of humans than the rat. IARC identifies chlorothalonil as a 2B carcinogen (possibly carcinogenic to humans).

Other Toxicity Information

Studies on rats and mice have suggested that technical chlorothalonil (97%), when fed at high levels in the diet, may have oncogenic potential to these laboratory animals. However, neither chlorothalonil nor its metabolites interact with DNA and thus are not mutagenic. Tumor formation has been related to a non-genotoxic mechanism of action for which threshold levels have been established in rats and mice. 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 over twenty years has not demonstrated any increase in oncogenic potential to humans.

May cause sensitization by skin contact. Exposure of the skin to chlorothalonil may result in weak contact dermatitis.

Toxicity of Other Components

Propylene Glycol

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Also cyc irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.

Surfactant

Prolonged exposure may result in temporary irritation of the eyes. Repeated skin contact may result in slight, temporary irritation. Ingestion of large amounts will result in diarrhea and weakness. Inhalation overexposure will not occur during normal use.

Target Organs

Active Ingredients

Chlorothalonil: Lung, eye, kidney

Inert Ingredients

Propylene Glycol: CNS, skin, eye, kidney, liver  
Surfactant: Eye, skin

Section 12 – Ecological Information

Summary of Effects

Chlorothalonil:  
Toxic to fish.

Eco-Acute Toxicity

Chlorothalonil: Bees LC50/EC50 > 181 ug/bcc  
Invertebrates (Water Flea) LC50/EC50 0.068 ppm  
Fish (Trout) LC50/EC50 0.04 ppm  
Fish (Bluegill) LC50/EC50 0.06 ppm

TechPac, LLC.  
P.O. Box 24830 Lexington, KY 40504  
Material Safety Data Sheet

GardenTech Daconil Fungicide Concentrate  
The product is used by Homeowners and Professionals  
October 2004 Product Code(s): 2105 Page 6 of 7

Section 12 – Ecological Information - Continued

Birds (8-day dietary – Bobwhite Quail) LC50/EC50 > 5,200 ppm  
Birds (8-day dietary – Mallard Duck) LC50/EC50 > 5,200 ppm

Eco-Chronic Toxicity

Chlorothalonil: Not Available

Environmental Fate

Chlorothalonil:

No data available for the formulation. The information presented here is for the active ingredient, chlorothalonil.  
A thorough review of environmental information is not possible in this document.  
Low bioaccumulation potential. Not persistent in soil or water. Low mobility in soil. Sinks in water (after 24h).

Section 13 – Disposal Considerations

Disposal

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

Section 14 – Transport Information

DOT Classification

Tank Truck Only: Environmentally Hazardous Substance, Liquid, N.O.S. (Chlorothalonil), 9, UN3082, PGIII, Marine Pollutant

B/L Freight Classification

Fungicides, NOIBN, o/t poison

Comments

None

Section 15 – Regulatory Information

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard  
Chronic Health Hazard

Section 313 Toxic Chemicals: Chlorothalonil (29.6%) (CAS No. 1897-45-6)

California Proposition 65

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

CERCLA/SARA 302 Reportable Quantity (RQ)

None

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TechPac, LLC.  
P.O. Box 24830 Lexington, KY 40504  
Material Safety Data Sheet

GardenTech Daconil Fungicide Concentrate  
The product is used by Homeowners and Professionals  
Product Code(s): 2105 October 2004      Product Code(s): 2105      Page 7 of 7

Section 15 – Regulatory Information - Continued

TSCA Status

Exempt from TSCA, subject to FIFRA

Section 16 – Other Information

<u>NFPA Hazard Ratings</u>		<u>HMIS Hazard Ratings</u>		
Health:	2	Health	2	0 Minimal
Flammability:	1	Flammability	1	1 Slight
Instability:	0	Reactivity:	0	2 Moderate
				3 Serious
				4 Extreme

For non-emergency questions about this product call:

1-800-334-9481

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.