

MATERIAL SAFETY DATA SHEET

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General Information No.
In Case of Emergency, Call

1-877-AGRISEL (247-4735)
1-877-854-2494

I. PRODUCT IDENTIFICATION

Product Name: Chlorosel Pro DF Fungicide
Active Ingredient: Chlorothalonil (82.5%)
Chemical Name: Tetrachloroisophthalonitrile

II. COMPOSITION/INFORMATION ON INGREDIENTS

The substances listed below are those identified as hazardous chemicals under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Chemical Compound	% by wt.	CAS No.	OSHA PEL	ACGIH TLV
Chlorothalonil	82.5%	1897-45-6	Not Established	Not Established

III. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
KEEP OUT REACH OF CHILDREN

WARNING: Causes substantial but temporary eye injury. Do not get in eyes or on clothing. May be fatal if inhaled. Do not breathe dust or spray mist. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid prolonged contact with skin. Do not take internally.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates and wildlife. DO NOT apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high-water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. DO NOT contaminate water when disposing of equipment washwater or rinsate.

This chemical is known to leach through soil into groundwater under certain conditions as a result of labeled use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

This chemical can contaminate surface water through spray drift. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

IV. FIRST AID MEASURES

If in Eyes:

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

If Inhaled: 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.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have a 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. Do not give anything by mouth to an unconscious person.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor immediately for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Persons having a temporary allergic reaction respond to treatment with antihistamines of steroid creams and/or systemic steroids.

V. FIRE FIGHTING MEASURES

Flashpoint (method used): Non-flammable
Autoignition Temperature: Not Applicable
Flammable Limits (LFL-UFL): Noncombustible
Unusual Fire and Explosion Hazards: May decompose under fire conditions emitting toxic and irritant gases (i.e. hydrogen chloride) to the respiratory tract.
Extinguishing Media: Carbon dioxide, foam, dry chemical or water
Special Fire Fighting Procedures: Self-contained breathing apparatus should be provided for firefighters.

VI. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken If Material Is Released Or Spilled:
This product is toxic to fish. Keep out of lakes, streams or ponds. Contain spills. Remove as much as possible by shoveling and sweeping. Place contaminated materials in closed, labeled containers and store in a safe place to await proper disposal. Do not contaminate water while cleaning equipment or disposing of wastes. Persons performing this work should wear adequate personal protective equipment and clothing.

VII. HANDLING AND STORAGE

DO NOT contaminate water, food or feed by storage or disposal. Open dumping is prohibited.
PESTICIDE STORAGE: Store in a cool place. Protect from excessive heat. Store product in original container only away from water, food, or feed. Keep container closed to prevent spills and contamination. Carefully open containers. After partial use, replace lid and close tightly. Do not put concentrate or diluted product into food or drink containers.
Returnable Refillable Container: If Chlorosel Pro DF is packaged in a returnable refillable container, then after use, do not rinse container. Return container intact to point of purchase. This container must only be refilled with Chlorosel Pro DF. DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE. Before refilling, inspect thoroughly for damage such as cracks, punctures, abrasions, and damaged or worn threads on closure devices. Check for leaks after refilling and before transport.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:	When handlers used closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.
Ventilation Requirements:	Good industrial hygiene practice dictates that indoor work areas be isolated and provided with adequate local exhaust ventilation. Work upwind in out-of-doors batch operations.
Specific Personal Protective Equipment:	
Respiratory:	NIOSH – approved dust respirators or pesticide respirators with any N, P, R, or HE filter.
Eye Protection:	Chemical goggles or face shields
Gloves:	Wear protective chemical-resistant gloves to minimize skin contact. Special precautions should be taken so product cannot get inside gloves.
Other Clothing and Equipment:	Protective clothing consisting of long sleeve shirt and long pants should be worn when handling this product. The clothing should be changed at least daily. Persons exposed routinely to this active material should shower prior to leaving work each day. Safety shower and eye-wash stations should be provided in all areas in which this product is stored and/or handled. Contaminated clothing should be removed and washed thoroughly before re-using.
User Safety Recommendations:	Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (760 mm Hg):	*>350°C
Melting Point:	Not Applicable
Freezing Point:	Not Applicable
Vapor pressure:	*5.72 x 10 ⁻⁷ torr @ 25°C
Vapor Density (Air-1):	Not determined
Solubility in H ₂ O, % by Wt.:	* 0.6-0.9 ppm. Formulation: dispersible in water
% Volatiles by Vol.:	Not Applicable
Evaporation Rate (Butyl Acetate=1):	Not Determined
Appearance and Odor:	Liquid brown granules, slight Pungent
Bulk Density at 20°C:	48 lbs./cu.ft.
pH:	6 to 8

*Denotes data developed from technical active ingredient.

X. STABILITY AND REACTIVITY

Conditions Contributing to Instability:	Under normal use conditions, this product is stable.
Incompatibility:	Not known.

Hazardous Decomposition Products:	May decompose under fire conditions emitting gases and vapors (i.e. hydrogen chloride) which may be toxic and irritating to the respiratory tract.
Conditions Contributing To Hazardous Polymerization:	Material not known to polymerize.

XI. TOXICOLOGICAL INFORMATION

Oral LD ₅₀ (rat):	5,050 mg/Kg (U.S. EPA Category IV)*
Dermal LD ₅₀ (rabbit):	> 2,020 mg/Kg (U.S. EPA Category III)*
Inhalation (4-hour) LC ₅₀ (rat):	0.051 mg/L of air (U.S. EPA Category II)*
Primary Dermal Irritation Index (rabbit):	Non-irritating (U.S. EPA Category IV).
Primary Eye Irritation (rabbit):	Irritant; irreversible corneal, iridal and conjunctival effects in unwashed eyes at least 21 days (U.S. EPA Category I)* No persistent irritation in washed eyes (U.S. EPA Category III)*
Dermal Sensitization:	Non-sensitizer*
Effects of Chronic Overexposure:	Repeated excessive dermal exposure may cause marked skin irritation and may increase the possibility of allergic reactions. Studies on rats and mice have suggested that technical chlorothalonil, 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 from which threshold levels have been established on 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 many years has not demonstrated any increase in oncogenic potential to humans.

XII. DISPOSAL CONSIDERATIONS

Waste Disposal Method:	Waste portions of this product and contaminated absorbent materials may be disposed of by incineration provided the following conditions are observed: Incinerate in a suitable oven fed by a mixture of air and methane, at 1100-1200°C temperature; the HCl which may form in the incinerator exhaust gas must be conveyed into an aqueous absorption system containing 18-20% of Ca(OH) ₂ .
PESTICIDE DISPOSAL:	Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use 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.
CONTAINER DISPOSAL:	DO NOT reuse empty container. Triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned stay out of smoke.

XIII. TRANSPORT INFORMATION

This product is regulated for transportation purposes as follows:

MODE	BULK (>119 GALLONS)	NON-BULK (<119 GALLONS)
IATA (Air)	Yes	No
IMO (Water)	Yes	Yes
DOT (Land)	Yes	No

Proper Shipping Name: Environmentally hazardous substance, solid, N.O.S. (chlorothalonil), 9, UN3077, PG III, ERG #171

Freight class: NMFC Item #102120

XIV. REGULATORY INFORMATION

SARA Title Information

313 Inventory Ingredients: Chlorothalonil (82.5% wt/wt)

312 Hazards Classification: Acute and Chronic Health (See Section III for Hazard Information)

NIOSH "Identification System for Occupationally Hazardous Materials" (1974)

1-Slight Health Hazard

0-Noncombustible

0-Nonreactive

XV. OTHER INFORMATION

DISCLAIMER: The information presented herein is based on available data from reliable sources and is correct to the best of Agrisel USA, Inc. knowledge. Agrisel USA, Inc. makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions.