

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 720
Active Ingredient: Chlorothalonil (54%)
Chemical Name: Tetrachloroisophthalonitrile

II. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Compound	% by wt.	CAS No.
Chlorothalonil	54.0%	1897-45-6

III. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

KEEP OUT REACH OF CHILDREN

WARNING: May be fatal if inhaled. Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. **DO NOT** breathe spray mist.

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.

Chlorothalonil can contaminate surface water through spray drift. **DO NOT** apply when weather conditions favor drift from treated areas. 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. Chlorothalonil degradates are known to leach through soil into ground water under certain conditions as a result of label use. Use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

IV. FIRST AID MEASURES

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 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.

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

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
Fire and Explosion Hazard:	Material will not burn or explode under normal conditions. Dusts at sufficient concentrations could form explosive mixtures with air.
Firefighting Instructions:	Evacuate area and fight fire from a safe distance. Minimize the amount of water used for fire fighting. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Decontaminate personal protective equipment and fire fighting equipment before reuse.
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.

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.

Returnable Refillable Container: If CHLOROSEL PRO 720 FUNGICIDE 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 720 FUNGICIDE. **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 an organic vapor (OV) cartridge or canister with any N, R, P, or HE prefilter.
- Eye Protection: Chemical goggles or face shields
- Gloves: Chemical resistant gloves made of any waterproof material (some of the materials that are chemical-resistant to this product are barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyethylene, polyvinyl chloride, or viton; if you want more options follow the instructions for category A on an EPA chemical-resistance category selection chart).
- 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): 100°C (lowest boiling component)
Melting Point: Not Applicable
Freezing Point: -5°C
Specific Gravity (H₂O=1): 1.34
Vapor pressure: *5.72 x 10⁻⁷ @ 25°C
Vapor Density (Air-1): Not determined
Solubility in H₂O, % by Wt.: * 0.6-0.9 ppm. Formulation: dispersible in water

% Volatiles by Vol.: 45
Evaporation Rate (Butyl Acetate=1): Not Determined
Appearance and Odor: Liquid, white, slight odor
Density at 20°C: 11.15 lb/gal
pH: 6 to 9

*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 LD₅₀ (rat): 3,260 mg/Kg
Dermal LD₅₀ (rabbit): > 2,020 mg/Kg
Inhalation (4-hour) LC₅₀ (rat): 0.11 mg/L
Primary Dermal
Irritation Index (rabbit): Non-irritating (Draize 0.0/8.0) (U.S. EPA Category IV).
Primary Eye Irritation (rabbit): Eye irritant; reversible corneal, iridal and conjunctival effects in unwashed eyes; minimal 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. ECOLOGICAL INFORMATION

SUMMARY OF EFFECTS

Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Eco-Acute Toxicity:
(Chlorothalonil)

Green Algae 5day EC₅₀: 190 ppb
Invertebrates (Water Flea) 48-hour EC₅₀: 70 ppb
Fish (Rainbow trout) 96-hour LC₅₀: 47 ppb
Fish (Bluegill sunfish) 96-hour LC₅₀: 26.3 ppb
Birds (8-day dietary- Bobwhite quail) LC₅₀: 5200 ppm
Birds (9-day dietary- Mallard duck) LC₅₀: >10,000 ppm

Eco-Chronic Toxicity:
(Chlorothalonil) Bees 48 – hour LC₅₀: > 181 ug/bee
Bobwhite quail reproduction 21-week LOEL: 250 ppm
Mallard duck reproduction 19-week LOEL: 100 ppm
Fathead Minnow 168-day LOEC: 6.5 ppb

Environmental Fate (Chlorothalonil): The information presented here is for the active ingredient, chlorotalonil. Low bioaccumulation potential. Not persistent in soil or water. Low mobility in soil. Sinks in water (after 24 hours).

XIII. 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.

XIV. 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	No
DOT (Land)	Yes	No

Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (chlorothalonil), 9, UN3082, PG III, ERG #171
Special Provisions: Marine pollutant
Freight class: NMFC Item #102100

XV. REGULATORY INFORMATION

SARA Title Information
313 Inventory Ingredients: Chlorothalonil (54% wt/wt)
312 Hazards Classification: Acute and Chronic Health (See Section III for Hazard Information)

XVI. 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.