

MATERIAL SAFETY DATA SHEET

PHYTOKLOR 82.5 WP FUNGICIDE

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT : PHYTOKLOR 82.5 WP FUNGICIDE
Active Ingredient (%) : Chlorothalonil 82.5%
Chemical Name : Tetrachloroisophthalonitrile
Chemical Class : Chlorinated Benzonitrile Fungicide

COMPANY IDENTIFICATION:

PT. Nufarm Indonesia
Plaza Aminta Suite 802, 8th Floor
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2. HAZARDS IDENTIFICATIONS

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

Note to user : This product may produce mild bronchial
irritation and temporary irritation of the skin characterized by
redness or rash on exposed skin areas. Affected persons should
consult a physician.

- Primary Routes of Exposure** : Inhalation, ingestion, skin and eye contact.
- Symptoms of Acute Exposure** : An extremely severe irritant to eyes. May cause skin irritation and contact dermatitis. Allergic skin reactions are possible. May cause irritation to the digestive tract following ingestion of large amounts.
- Hazardous Decomposition Product** : May decompose under fire conditions emitting gases and vapors (e.g., hydrogen), which may be toxic and irritating to the respiratory tract.

3. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS NO	% BY WEIGHT	Exposure Limits
Chlorothalonil	1897-45-6	82.5	OSHA PEL : NE ACGIH TLV: NE NIOSH REL : NE OTHER : 0.1 mg/m ³
Other Ingredients	-	17.5	-

NE : Not Established

IARC Group 2B : The agents is possibly carcinogenic to humans

4. FIRST AID MEASURES

- If in Eyes** : • Hold eye open and rinse slowly and gently with water for 15 to 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 an ambulance, then give artificial respiration, preferably 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 person sip a glass of water if able to swallow. Call a poison control center or doctor for further
• 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 to 20 minutes.
• Call a poison control center or doctor for treatment advice.
- Note To Physician** : Persons having temporary irritation may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

5. FIRE FIGHTING MEASURES

- Flash Point** : Not applicable
- Flammable Limits** : LFL/UFL: Not applicable
- Extinguishing Media** : Dry chemical, water spray, foam, CO₂.
- Hazardous Decomposition Products** : May decompose under fire conditions emitting gases and vapors (e.g., hydrogen), which may be toxic and irritating to the respiratory tract.
- Fire-Fighting Procedures** : If product is involved in a fire, wear positive-pressure, self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

- Action To Take For Spills/Leaks** : This product is toxic to fish. Keep out of lakes, streams or ponds. Contain spill. Remove as much as possible by absorbing with inert material. Remove any contaminated soil. Place in closed, labeled containers and store in a safe place until disposed. Do not contaminate water while cleaning equipment or disposing of wastes. Persons performing this work should wear adequate personal protective equipment and clothing.

7. HANDLING AND STORAGE

- Handling** : 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.
- Storage** : Store in a cool place. Protect from excessive heat. Store product in original container only away from water, food, or feed.
- Storage Temperature (Min/Max)** : Normal ambient temperatures.

Do not contaminate water, food or feed by storage or disposal.

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 application and/or on-farm applications consult the product label.

- Eye Protection** : Protective eyewear (e.g., chemical splash goggles or full-face shield).
- Skin Protection** : Long-sleeved shirt, long pants and shoes plus socks.
- Hand Protection** : Chemical-resistant gloves, e.g., nitrile, neoprene.
- Respirator Requirements** : Atmospheric levels should be maintained below the exposure guidelines. For most conditions, no respiratory protection should be needed; however, if handling without sufficient ventilation, use NIOSH-approved air-purifying respirator with N, P or R 95 class filter and an organic vapor cartridge.
- Additional Protective Measures** : Discarded clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

- Users Should** : • 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Brown to dark granules
Odor	: Slight
Flash Point	: Not applicable
pH	: 8.8 - 10
Boiling Point	: > 662° F (>350° C)
Solubility in H₂O	: Dispersible
Specific Gravity	: Not determined
Vapor Pressure	: 5.72 x 10 ⁻⁷ torr @ 25° C
Bulk Density	: 0.662 g/mL @ 24° C
Molecular weight	: 265.9

10. STABILITY AND REACTIVITY

Stability	: Stable under normal use and storage conditions.
Materials to Avoid	: Avoid high alkaline conditions.
Hazardous Polymerization	: Not applicable
Instability Conditions	: None known.
Hazardous Decomposition Product	: May decompose under fire conditions emitting gases and vapors (e.g., hydrogen), which may be toxic and irritating to the respiratory tract.
Flash Point	: Not flammable
Flammable Point	: Not Flammable

11. TOXICOLOGICAL INFORMATION

Acute

Oral Toxicity	: LD ₅₀ rat > 5,000 mg/kg
Dermal Toxicity	: LD ₅₀ rabbit > 5,000 mg/kg
Inhalation Toxicity	: LC ₅₀ rat (4 hour) 0.1 mg/L
Eye Irritation	: Corrosive (rabbit)
Skin Irritation	: Moderate skin irritant (rabbit)
Skin Sensitization	: Evidence in humans of contact dermatitis with repeated exposure
Subchronic	: NDA
Chronic Toxicity	: In animal studies chronic administration of Chlorothalonil caused liver and kidney damage. Repeated exposure to this product may cause allergic disorders
Carcinogenicity	: The International Agency for Research on Cancer (IARC) has classified Chlorothalonil in Group 2B – Possible carcinogenic to humans.
Mutagenicity	: Not mutagenic
Developmental Toxicity	: Not teratogenic
Reproduction	: Did not produce reproductive effects in animal studies.
Neurotoxicity	: NDA

12. ECOLOGICAL INFORMATION

This product is very toxic to fish and aquatic organisms. It has low toxicity to birds, bees and earthworms. Do not contaminate stream, rivers or waterways with the product or used containers.

Environmental Fate and Distribution : Chlorothalonil has low mobility or is immobile in soil. In aerobic and anaerobic soil studies the DT₅₀ was 0.3 to 28 days (20°C). Stable to hydrolysis. Degradation is faster in biotic aquatic systems.

Aquatic Organism Toxicity (based on technical material)

Rainbow Trout (*O.mykiss*) 96 hr LC₅₀ : 47 µg/L
Bluegill sunfish (*L.macrochirus*) 96 hr LC₅₀ : 59 µg/L



Daphnid duck (*D.magna*) 48 hr EC₅₀ : 70 µg/L

Avian Toxicity (based upon technical material)

Mallard duck (*A.platyrhinchus*) Oral LD₅₀ > 4,620 mg/kg b.w

Other Non-Target Toxicity : NDA (No Data Available)

13. DISPOSAL CONSIDERATIONS

End Users Must Dispose of Any Unused Product as per the Label Recommendations

Product Disposal : Do not contaminate water, food or feed by disposal. Improper disposal of excess pesticide, pesticide spray or rinsate is a violation of Federal law. Wastes resulting from the use of this product that cannot be used according to the label instructions or chemically reprocessed may be disposed on site or at a landfill or waste disposal facility approved for waste disposal, or in accordance with all applicable Federal, state or local regulations.

Container Disposal : Dispose of product containers, waste containers, and residues according to label instructions and local, state and federal health and environmental regulations.

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA
Not regulated

Water Transport – International

Proper Shipping Name : Environmentally Hazardous Substance, Solid, N.O.S
(Chlorothalonil), Marine Pollutant

Hazard Class : Class 9

Identification Number : UN 3077

Packing Group : PG III

Air Transport

Proper Shipping Name : Environmentally Hazardous Substance, Solid, N.O.S
(Chlorothalonil)



Hazard Class : Class 9
Identification Number : UN 3077
Packing Group : PG III

15. REGULATORY INFORMATION

Sara Title III Classification

Section 302 : Not applicable.
Section 311/312 : Acute health hazard (immediate)
Delayed health hazard (chronic)
Section 313 : Chlorothalonil (82.5%) CAS# 1897-45-6

CA Proposition 65 : This product contains a chemical (chlorothalonil) that is known to the State of California to cause cancer.

Cerla RQ : Not applicable

RCRA Classification : Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

TSCA Status : The ingredients of this product are listed on the TSCA inventory or are exempt.

16. OTHER INFORMATION

Hazard Ratings	NFPA	
Health	3	0 = MINIMAL
Flammability	1	1 = SLIGHT
Reactivity	0	2 = MODERATE
		3 = HIGH
		4 = SEVERE

The information herein is given in good faith, but no warrant, express or implied, is made.