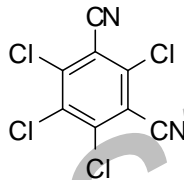


Material Safety Data Sheet

Product Name: Chlorothalonil 50%SC

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: Chlorothalonil
Formulation: 50%SC
CAS: 1897-45-6
Chemical Name: 2,4,5,6-tetrachloro-1,3-benzenedicarbonitrile
Molecular Weight: 265.9
Chemical Formulation: C₈Cl₄N₂
Chemical Structure:



Uses: Control of many fungal diseases in a wide range of crops, including pome fruit, stone fruit, citrus fruit, bush and cane fruit, cranberries, strawberries, pawpaws, bananas, mangoes, coconut palms, oil palms, rubber, pepper, vines, hops, vegetables, cucurbits, tobacco, coffee, tea, rice, soya beans, peanuts, potatoes, sugar beet, cotton, maize, ornamentals, mushrooms, and turf.

Manufacturer: Nanjing Essence Fine-Chemical Co., Ltd
Address: 9th Floor, Nanhu Road 58#, Nanjing, China
Telephone Number: +86 25 86518999
Fax Number: +86 25 86455985
Website: www.essencechem.com

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average by Weight</u>
Chlorothalonil	1897-45-6	50%

SECTION 3. HAZARDS IDENTIFICATION

Eye Contact: 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.

Skin Contact:

Rinse skin immediately with plenty of water for 15-20 minutes.

Inhalation:

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

Risk phrases:

Harmful by inhalation and if swallowed. Harmful: may cause lung damage if swallowed.

SECTION 4. FIRST AID MEASURES

Skin Contact:

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes.

Eye Contact:

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.

Inhalation:

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.

Swallowing:

Call a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. 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 or convulsing person.

Note to physician:

Probable mucosal damage may contraindicate the use of gastric lavage. No specific antidote is available. All treatments should be based on observed signs and symptoms of distress in the patient. Overexposure to materials other than this product

may have occurred. Persons having temporary skin irritation may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

SECTION 5. FIRE FIGHTING MEASURES

Safeguards: Wear full protective clothing and self-contained breathing apparatus.

Extinguishing Media: Carbon dioxide, water, foam, dry chemical, earth or sand

Protection against fire: May decompose under fire conditions emitting gases and vapors (i.e. hydrogen chloride) which may be toxic and irritating to the respiratory tract.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Safeguards: Wear full protective clothing and self-contained breathing apparatus.

Clean-up Procedure: This product is toxic to fish. Keep out of lakes, streams or ponds. Contain spill. Remove as much as possible with applicable methods. Shovel up and sweep up small spills, place in closed labeled containers and store in safe place out of doors to await proper disposal. Re-use spilled material if possible, otherwise dispose in accordance with all Federal, State and local health and pollution regulations.

SECTION 7. HANDLING AND STORAGE

Handling: Do not ingest. Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as acids.

Storage: Store in original sealed containers in a cool dry area not accessible to children or unauthorized personnel.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Ensure adequate ventilation. Avoid raising a dust cloud.

Personal Protection: May irritate the eyes. When opening the container and mixing, wear face shield or goggles. If product in eyes, wash it out immediately with water. Wash hands after use. After each days use, wash face shield or goggles.

Workers should NOT enter treated areas until spray has dried. When prior entry is necessary, wear cotton overalls buttoned to the neck and wrist and a washable hat and chemical resistant gloves. Clothing must be laundered after each day's use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Off-white liquid
Odor:	Faint sulfur odor
A. I. Content:	50%
Flash Point:	N/A
Water Solubility:	<1.2 ppm (considered insoluble)
PH:	6.0-8.0

SECTION 10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions
Conditions to avoid:	Open flame. Sparks. Overheating.
Hazardous decomposition:	Thermal decomposition generates hydrogen chloride and oxides of nitrogen, sulfur and carbon.
Hazardous reaction:	Alkaline materials, oxidizing agents, lime sulfur, Bordeaux
Incompatibility:	mixture, copper compounds

SECTION 11. TOXICOLOGICAL INFORMATION

Oral:	Not expected to present a significant eye contact hazard under anticipated conditions of normal use.
Skin:	Not expected to present a significant eye contact hazard under anticipated conditions of normal use.
Rat oral LD50:	>5000mg/kg
Inhalation:	LC50 (1 h) for rats >4.7 mg/l air; (4 h) for rats (nominal concentration) 0.6 mg/l air; (4 h) for rats (actual) 0.10 mg/l air.
Chronic:	Repeated excessive dermal exposure may cause marked skin irritation. Studies on rats and mice have suggested that technical chlorothalonil (97%), when feed at high levels in the diet, may have oncogenic potential to these laboratory animals. However, neither chlorothalonil nor its metabolites interact with DNA. In addition, numerous mutagenicity studies have been conducted which further demonstrate that these

compounds are not mutagenic. Tumor formation has been related to a non-genotoxic mechanism of action for 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 over twenty years has not demonstrated any increase in oncogenic potential to humans.

SECTION 12. ECOLOGICAL INFORMATION

This product is toxic to fish, aquatic invertebrates, and marine/estuarine organisms. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters. Do not apply when weather conditions favor drift from treated areas. Apply only to areas specified on label.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Suggestion: Improper disposal of excess pesticide, spray mixture or rinsate is a violation of federal law. If these wastes cannot be disposed of by intended use according to label instructions, contact the appropriate agency in your state or the nearest EPA Regional Office for guidance.

SECTION 14. TRANSPORT INFORMATION

DOT Hazard Classification:	Non-regulated
UN Identified Number:	N/A
NOT Packing Group:	N/A
Reportable quantity:	5.6lb
Hazardous substance:	N/A
NOT Label Requirements:	N/A
IATA(air):	Non-regulated
IMO(water):	Non-regulated

SECTION 15. REGULATORY INFORMATION

EPA SARA Title III Data:	Positive rating for acute hazard
Section 302 substances:	N/A
RCRA Waste Number:	Chlorothalonil – NA, Thiophanate methyl - U409
Section 311/312 Hazardous categories:	N/A
Immediate health:	Yes
Delayed health:	Yes
Fire:	No
Sudden Pressure:	No
Reactivity:	No
Section 313 toxic chemicals:	Chlorothalonil and thiophanate methyl
CERCLA RQ:	Chlorothalonil – NA, Thiophanate methyl - 1 lb.
California Prop 65:	N/A This product contains the following chemicals subject to SARA Section 313 reporting requirements. Chlorothalonil and Thiophanate-methyl. Note: When this product is used in accordance with the label directions, exposure and thus risk is below the level which requires a Prop 65 warning.
NFPA Ratings:	Health: 3 Flammability: 0 Reactivity: 0

SECTION 16. OTHER INFORMATION

Clearly Chemical Corp. believes that the information and recommendations contained herein are accurate as of the date hereof. The information provided herein applies only to the specific product designated and may not be valid where said product is used in combination with any other material or in any process. It is the users' responsibility to determine the suitability of the information for their purposes. No warranty of fitness for any particular purpose, warranty of merchantability, or any other warranty, expressed or implied, is made concerning the information provided.