

Date: October 1, 1986
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Material Safety Data Sheet

The information provided herein is applicable only to GOLD CREST® C-100 INSECTICIDE EMULSIFIABLE CONCENTRATE as manufactured by/for Velsicol Chemical Corporation.

Velsicol Chemical Corporation

Product/Material GOLD CREST® C-100 INSECTICIDE EMULSIFIABLE CONCENTRATE

Manufacturer Address Velsicol Chemical Corporation
5600 N. River Road
Rosemont, IL 60018-5119

EMERGENCY PHONE 312/698-9700

I. Product Information

Trade Name GOLD CREST® C-100 INSECTICIDE EMULSIFIABLE CONCENTRATE

Synonyms Chlordane 8 EC, Chlordane 72C

Chemical Family Chlorinated bicyclic insecticide in kerosene

Chemical Formula Mixture

Active Ingredient Chlordane (60% Octachloro-4, 7-methanotetrahydroindane and 40% related compounds).

CAS Registry Number 57-74-9 (active ingredient)

DOT Hazard Class Combustible Liquid NA 1993

II. Health/Safety Alert

WARNING MAY BE FATAL IF SWALLOWED. DO NOT BREATHE VAPOR, FUMES, DUST OR SPRAY MIST. DO NOT GET ON SKIN OR CLOTHING.

III. First Aid Procedures

Eye Flush eyes with tap water for at least 15 minutes. Consult an ophthalmologist.

Skin Wash with mild soap and water. Rinse with copious amounts of water. Launder clothing thoroughly before reuse.

Ingestion Do not induce vomiting. Seek immediate medical attention. If no medical attention is available and the victim is conscious, induce vomiting by drinking one or two glasses of water and inserting a finger in the back of the throat. Get medical attention.

Inhalation Remove person to fresh air. Apply artificial respiration if necessary. Consult a physician.

IN ALL CASES OF EMERGENCY, CONTACT A PHYSICIAN

IV. Note to Physician

1. For ingestion, lavage stomach with 2-4 liters of tap water. Avoid aspiration of stomach contents into the lungs. Instill 30 gm of activated charcoal in 3-4 oz. of water. Sodium sulfate cathartic.
2. Use anticonvulsants in appropriate dosages repeated as necessary.
3. Watch breathing closely, aspirate, oxygen and/or ventilatory support if needed.
4. Avoid oils, oil laxatives, epinephrin (adrenalin) and sudden physical stimuli. Do not give stimulants.

V. Fire & Explosion Information

Explosive Limits	Not established for GOLD CREST® C-100. KEROSENE: Lower, 1%; Upper, 6%
Flammability	COMBUSTIBLE LIQUID
Flash Point	Pensky-Martin 100°F min.
Extinguishing Media	Fog or water spray, foam, dry chemical, carbon dioxide
Special Protective Equipment	In case of severe fire involving GOLD CREST® C-100, full protective clothing and self-contained breathing apparatus should be worn.
Special Fire Fighting Procedures	Use water to keep fire exposed containers cool. At first opportunity, remove from fire.
Products of Combustion	May yield HCl, organochloride products, oxides of nitrogen, carbon monoxide and carbon dioxide.
Unusual Fire and Explosion Hazards	None. Hazards are typical of drum fires.

VI. Spill Control & Cleanup

Steps to be taken	Keep away from spark and open flame. Contain spill. Absorb with clay granules, saw dust, soil or equivalent. Area can be washed down with water and detergent to remove remaining insecticide. DO NOT ALLOW WASHINGS IN SEWER.
Absorbents	Clay granules, sawdust or soil
Counteractants	None known
Incompatibles	Strong oxidizing agents
Reportable quantity	1 pound (0.45 kilogram) of Chlordane

VII. Product/Waste Disposal

GOLD CREST® C-100 is a hazardous waste under RCRA. Liquids containing GOLD CREST® C-100 should be incinerated in a U.S. EPA permitted incinerator. Solids containing GOLD CREST® C-100 should be disposed of within a U.S. EPA permitted landfill. See label for container disposal information.

VIII. Special Precautions

Storage Keep in an area suitable for insecticide storage. Store in a dry, well ventilated area, away from spark and open flame. Keep away from children, wildlife, domestic animals and pets.

IX. Health Hazard Information

Primary Route(s) of Entry **Oral:** No
Inhalation: Yes
Dermal/Eye: Yes

Not Listed as a Human Carcinogen by: NTP, IARC or OSHA

Signs and Symptoms of Acute Overexposure

Dr. Wayland J. Hayes Jr., a leading pesticide toxicologist, in his book "Pesticides Studied in Man" (Baltimore: Williams & Wilkins, 1982), has described the symptoms of chlordane poisoning in humans as follows:

"Chlordane has not been a common cause of poisoning. All established cases have been associated with gross exposure. In most instances, including those with full recovery, convulsions appeared within 0.5 to 3 hours after ingestion or after dermal exposure involving spillage.

Following ingestion, some patients have experienced nausea and vomiting before signs of central nervous system overactivity appeared. However, as often as not, convulsion was the first clear indication of illness. Convulsions often last about one minute and may occur at intervals of about 5 minutes. Convulsions usually are accompanied by confusion, incoordination, excitability, or, in some instances, coma."

Rats injected with large doses of chlordane showed mild tremors and disorientation, hypersensitivity to sound and touch, and increasingly rapid and deep breathing, which progressed to convulsions and loss of muscle coordination. It is not clear whether the early signs of acute chlordane poisoning in rats will be the same in humans, but certainly any person showing such signs should get medical advice quickly.

Acute Toxicity: **Oral** The acute oral toxicity (LD₅₀) in rats is 611 mg/kg.
Dermal The acute dermal toxicity (LD₅₀) in rabbits is greater than 2000 mg/kg of body weight.
Inhalation The acute inhalation toxicity (LC₅₀) (4 hour exposure) in rats is greater than 2 mg/l but less than 200 mg/l (nominal concentration).

Other Toxicological Information **Skin Irritation:** Not a primary skin irritant in rabbits.
Eye Irritation: Corrosive to the eyes of rabbits.

Technical chlordane and heptachlor have been studied in laboratory animals extensively to determine potential adverse human health effects. These studies included: short term and life time exposures, reproductive, teratogenic, mutagenic and oncogenic effects. The CNS and liver appear to be the target organs. Liver tumors were observed in certain strains of laboratory rodents. But, there were differences of opinion as to whether the observed lesions were carcinogenic. A National Academy of Science Committee states: "There are no adequate data to show that these compounds are carcinogenic in humans, but because of their carcinogenicity in certain mouse strains and the extensive similarity of the carcinogenic action of chemicals in animals and in humans, the Committee concluded that chlordane, heptachlor and/or their metabolites may be carcinogenic in humans."

Results of epidemiologic studies conducted on manufacturing workers potentially exposed to chlordane were negative for any disease, including cancer.

X. Recommended General Precautions

Personal Protective Equipment

Under normal conditions of use, respiratory protection is not required. In cases where inhalation is likely, a MSHA/NIOSH approved respirator for pesticides is recommended. In cases where eye and skin contact are likely, use of chemical safety goggles, impermeable gloves and clean, body-covering clothing is recommended.

XI. Product Information Hazardous Ingredients

NFPA Rating Health: 2, Fire: 2, Reactivity: 0
Special Properties: None

Exposure Limits OSHA PEL, ACGIH TLV, NIOSH LIMITS established

Hazardous Ingredients (As defined by OSHA) Technical Chlordane, 72%;
TLV: 0.5 mg/m³ (skin)

Deodorized Kerosene, 21%; TLV: 200 ppm

*Equivalent to 60.0%

Octachloro-4,7-methanotetrahydroindane and 40.0% related compounds.

XII. Physical and Chemical Information

Appearance and Odor Amber to dark solution, chlorine/hydrocarbon odor

Molecular Weight Not applicable

Boiling Point 350°F (deodorized kerosene)

Vapor Pressure Not available for the mixture
For chlordane 1×10^{-5} (25°C)

Vapor Density 12.11 (Air = 1)

Specific Gravity 1.322 (H₂O = 1)

Solubility Emulsifies in water

Evaporation Rate Solvent - 0.2 (n-butyl acetate = 1)

Stability Stable under normal conditions of storage

Reactivity Slowly dehydrohalogenates in the presence of alkali

Decomposition Products None known

XIII. Regulatory Status

Regulated by OSHA and EPA under FIFRA, Clean Water Act, RCRA, and CERCLA (Superfund).