



The MSDS format adheres to the standards and regulatory requirements of the United States and may not meet regulatory requirements in other countries.

DuPont
Material Safety Data Sheet

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DU005755 "LANNATE" 40 SP INSECTICIDE
Revised 10-AUG-2001

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"LANNATE" is a registered trademark of DuPont.

Company Identification

MANUFACTURER/DISTRIBUTOR

DuPont
1007 Market Street
Wilmington, DE 19898

PHONE NUMBERS

Product Information : 1-800-441-7515 (outside the U.S.
302-774-1000)
Transport Emergency : CHEMTREC 1-800-424-9300(outside U.S.
703-527-3887)
Medical Emergency : 1-800-441-3637 (outside the U.S.
302-774-1000)

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
METHOMYL (s-methyl-n-[(methylcarbamoyl)oxy]thio- acetimidate)	16752-77-5	40
INERT INGREDIENTS		60

HAZARDS IDENTIFICATION

Potential Health Effects

DANGER! POISON! May be fatal if swallowed. Poisonous if inhaled.

ANIMAL DATA:

Acute Oral: The LD50 for fasted male and female rats is 66 mg/kg. Product is considered to be moderately toxic by ingestion.

Dermal: The LD50 is >2000 mg/kg.

Irritation: Material is considered to be a mild or slight skin irritant under EPA guidelines and is classified as a

(HAZARDS IDENTIFICATION - Continued)

non-irritant under EEC Directive 83/467.

Acute Inhalation: The 4 hour LC50 is 0.66 mg/L. Considered moderately toxic by inhalation.

Eye Irritation: Excessive quantities of the unformulated methomyl powder were lethal via ocular exposure. This exposure was within the equivalent range that produced mortalities via oral administration. Both unformulated methomyl and various formulations caused pupillary constriction and other effects associated with anticholinesterase activity.

CHRONIC STUDIES - METHOMYL

2-year feeding study in rats: Feeding levels 0, 50, 100, 200 and 400 ppm; no effect level (NOEL) was 100 ppm based on slight hemolytic anemia and/or body weight effects observed at the higher dietary concentrations. No compound related neoplastic lesions were observed.

2-year feeding study in mice: Feeding levels 0, 50, 75, and 200 ppm; no compound related neoplastic or non-neoplastic histologic effects were found at any level. The NOEL was considered to be 50 ppm based on transient hemolytic anemia and increased mortality at the higher dietary concentrations.

2-year feeding study in dogs: Feeding levels 0, 50, 100, 400 and 1,000 ppm. The NOEL of 100 ppm was based on hemolytic anemia and non-neoplastic changes within the kidney and spleen at the higher dietary concentrations. There were no neoplastic effects at any dose.

REPRODUCTION

Three-generation rat reproduction study at dietary rates of 50 and 100 ppm showed no adverse effect upon fertility, and no compound related histological effect. A 2-generation rat study conducted at 75, 600, and 1,200 ppm in the diet showed similar results.

TERATOGENICITY

In rats, no embryotoxic or teratogenic effects were observed at levels up to 400 ppm (highest level fed). In rabbits, the highest dietary dose level (equivalent to 100 mg/kg/body wt.) did not cause any observed compound related abnormalities.

MUTAGENICITY

Methomyl was negative in numerous assays to evaluate mutagenicity and genotoxicity, including Ames test, Reverse Mutation Assay, Recessive Lethal Assay, three DNA damage studies, an unscheduled DNA Synthesis Assay, and in vitro and in vivo cytogenic assays.

(HAZARDS IDENTIFICATION - Continued)

HUMAN HEALTH EFFECTS OF OVEREXPOSURE TO METHOMYL:

Overexposure to methomyl by skin contact may initially include skin irritation with discomfort or rash. Evidence suggests that skin permeation can occur in amounts capable of producing the effects of systemic toxicity.

Overexposure by eye contact may initially include eye irritation with discomfort, tearing, or blurring of vision.

Skin, eye, inhalation or ingestion exposure may cause acute cholinesterase depression characterized by nonspecific discomfort, such as nausea, headache, weakness, adominal cramps, excessive sweating, salivation and tearing, constricted pupils, blurred vision; muscle twitching, and confusion.

Higher exposures may lead to loss of consciousness or convulsions and severe respiratory depression.

Individuals with preexisting diseases of the central nervous system or conditions which lower cholinesterase levels may have increased susceptability to the toxicity of excessive exposures.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES

First Aid

INHALATION

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

(FIRST AID MEASURES - Continued)

If swallowed, immediately give 2 glasses of water and induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Notes to Physicians

Methomyl is a cholinesterase inhibiting pesticide.

WARNING SYMPTOMS: Symptoms include weakness, headache, tightness in chest, blurred vision, non-reactive pin-point pupils, salivation, sweating, nausea, vomiting, diarrhea, and abdominal cramps. Incontinence, unconsciousness and convulsions indicate severe poisoning.

TREATMENT: Atropine is the specific therapeutic antagonist of choice against parasympathetic nervous stimulation. If there are signs of parasympathetic stimulation, atropine sulfate should be injected IV or IM at ten-to-fifteen minute intervals, in doses of 1 to 2 milligrams, until complete atropinization has occurred. In severely poisoned individuals, two or more times this dosage may be indicated. Watch for signs of atropine toxicity. MORPHINE AND 2-PAM ARE CONTRAINDICATED.

Do not use 2-PAM for exposure to LANNATE alone. However, for exposure to combinations of LANNATE and organophosphorous insecticides, 2-PAM may be used as required to supplement the atropine sulfate treatment. DO USE MORPHINE.

Clear chest by postural drainage. Oxygen administration may be necessary. Observe patient continuously for 48 hours. Repeated exposure to cholinesterase inhibitors may, without warning, cause prolonged susceptibility to very small doses of any cholinesterase inhibitor. Allow no further exposures until cholinesterase regeneration has been attained as determined by blood test.

FIRE FIGHTING MEASURES

Flammable Properties

Will ignite if exposed to intense heat or open flame.

Like most organic powders or crystals, under severe dusting conditions, this material may form explosive mixtures in air.

Fire and Explosion Hazards:

Hazardous gases produced in fire under conditions that produce incomplete combustion may consist of SO₂, NO₂, CO₂, HCN, CH₃NCO, CO, CS₂. Complete combustion greatly reduces the amounts of CS₂, CO, HCN and CH₃NCO generated.

(FIRE FIGHTING MEASURES - Continued)

Extinguishing Media

Water Spray, Water Fog, Foam, Dry Chemical, CO2.

Fire Fighting Instructions

Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment. Use water spray. Fight fire from maximum distance, use extreme caution as heat may decompose material and rupture containers. Runoff from fire control may be a pollution hazard.

If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus.

Initial Containment

Remove source of heat, sparks, flame, impact, friction or electricity.

HANDLING AND STORAGE

Handling (Personnel)

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Wash clothing after use. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

Handling (Physical Aspects)

Avoid dust generation. Keep away from heat, sparks and flames.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Use only with adequate ventilation.

Personal Protective Equipment

Eye/Face : Face Shield. Coverall chemical splash goggles.
Respirator : Wear a NIOSH or MSHA approved respirator.
Additional : Long sleeve shirt, long-legged pants, shoes and socks.
Protective Gloves : Chemical resistant gloves

Before removing gloves, wash them with soap and water.

Take off all work clothes and shoes. Shower using soap and water. DO NOT wear contaminated clothing. HEAVILY CONTAMINATED OR DRENCHED CLOTHING CANNOT BE ADEQUATELY DECONTAMINATED.

Exposure Guidelines

Applicable Exposure Limits

METHOMYL

PEL (OSHA) : None Established
TLV (ACGIH) : 2.5 mg/m³, 8 Hr. TWA, A4
AEL * (DuPont) : None Established

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Odor : Slightly sulfurous
Form : Solid
Color : White to yellowish-white
pH : 5-8

STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions.

Incompatibility with Other Materials

Incompatible with strong bases.

(STABILITY AND REACTIVITY - Continued)

Polymerization

Polymerization will not occur.

Other Hazards

Thermal decomposition and combustion will produce hazardous gases that may include sulfur oxides, methyl isocyanate and hydrogen cyanide.

ECOLOGICAL INFORMATION

Ecotoxicological Information

Aquatic Toxicity

The toxicity of the active ingredient methomyl is:
96 hour LC50, Rainbow Trout : 3.4 ppm
96 hour LC50, Bluegill Sunfish: 0.72 mg/L

DISPOSAL CONSIDERATIONS

Waste Disposal

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

TRANSPORTATION INFORMATION

Shipping Information

DOT/IMO
Proper Shipping Name : CARBAMATE PESTICIDE, SOLID, TOXIC
(METHOMYL)
Hazard Class : 6.1
UN No. : UN 2757
Special Information : MARINE POLLUTANT (WATER OR BULK)
Packing Group : III

REGULATORY INFORMATION

U.S. Federal Regulations

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute : Yes
Chronic : No
Fire : No
Reactivity : No

(REGULATORY INFORMATION - Continued)

Pressure : No

ADDITIONAL REGULATORY INFORMATION

Section 302 Extremely Hazardous Substance:
Methomyl - Threshold Planning Quantity (TPQ)
(500/10,000 lbs)SARA/CERCLA Reportable Quantity:
Methomyl (100 lbs)-----
OTHER INFORMATION

NFPA, NPCA-HMIS

NFPA Rating
Health : 2
Flammability : 1
Reactivity : 0NPCA-HMIS Rating
Health : 2
Flammability : 1
Reactivity : 0

Personal Protection rating to be supplied by user depending on use conditions.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.Responsibility for MSDS : DuPont Crop Protection
Address : Wilmington, Delaware 19898
Telephone : 1-888-638-7668

Indicates updated section.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

End of MSDS