MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : Methomyl 98% TECH
Product Information: 1-800-441-7515
Transport Emergency: CHEMTREC 1-800-424-9300
Medical Emergency: 1-800-441-3637

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
METHOMYL (S-METHYL-N- [(METHYLCARBAMOYL) OXY] THIO-ACETIMIDATE)	16752-77-5	98
INERT INGREDIENTS		10

3. HAZARDS IDENTIFICATION

#Emergency Overview

DANGER-POISON! FATAL IF SWALLOWED. MAY BE FATAL IF INHALED OR ABSORBED THROUGH EYES. HARMFUL IF ABSORBED THROUGH THE SKIN.

Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. Pilot should not assist in the mixing and loading operation.

Potential Health Effects

WARNING SYMPTOMS

Methomyl poisoning produces effects associated with anticholinesterase activity which may include weakness, blurred vision, headache, nausea, abdominal cramps, discomfort in the chest, constriction of pupils, sweating, slow pulse, muscle tremors.

Skin, eye, inhalation or ingestion exposure to Methomyl may cause acute cholinesterase depression characterized by nonspecific discomfort, such as nausea, headache, weakness, 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.

Skin contact with Methomyl may cause skin irritation with discomfort or rash. Evidence suggests that skin permeation can occur in amounts capable of producing the effects of systemic toxicity.

Eye contact with Methomyl may cause eye irritation with discomfort, tearing, or blurring of vision.

Individuals with preexisting diseases of the central nervous system or conditions which lower cholinesterase levels may have increased susceptibility 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.

4. FIRST AID MEASURES

#First Aid

EYE CONTACT

Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.

SKIN CONTACT

In case of contact, wash skin with plenty of soap and water. Get medical attention.

INGESTION

Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.

INHALATION

Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

ATROPINE IS AN ANTIDOTE—SEEK MEDICAL ATTENTION AT ONCE IN ALL CASES OF SUSPECTED POISONING.

Notes to Physicians

Atropine sulfate should be used for treatment. Administer repeated doses, 1.2 to 2.0 mg. intravenously every 10 to 30 minutes until full atropinization is achieved. Maintain atropinization until the patient recovers. Artificial respiration or oxygen may be necessary. Allow no further exposure to any cholinesterase inhibitor until recovery is assured.

Do not use 2-PAM for exposure to “Lannate” SP alone. However, for exposure to combinations of “Lannate” SP and organophosphorous insecticides, 2-PAM may be used as required to supplement the atropine sulfate treatment. Do not use morphine.

5. FIRE FIGHTING MEASURES

Flammable Properties

Flammable limits in Air, % by Volume

LEL: 0.096 g/L

Autodecomposition: 136 C (277 F)

Will ignite if exposed to intense heat or open flame. Dust forms explosive mixture with air. Fire and Explosion Hazards:

Fire or intense heat may cause violent rupture of packages. Heating can release vapors which can be ignited. 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.

Extinguishing Media

Water Spray, Water Fog, 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. Cool tank/container with water spray. Isolate area. Fight fire from maximum distance, use extreme caution as heat may decompose material and rupture containers. If area is exposed to fire and conditions permit, let fire burn itself out. Burning chemicals may produce

by-products more toxic than the original material. If product is on fire, wear self-contained breathing apparatus and full protective equipment. Use water spray. Control runoff.

6. ACCIDENTAL RELEASE MEASURES

#Safeguards (Personnel)

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

Emergency Response-Chemical resistant coveralls, waterproof gloves, waterproof boots and face/eye protection. If dusting occurs, use NIOSH approved respirator protection.

Initial Containment

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

Follow applicable Federal, State/Provincial and Local laws/regulations.

Prevent material from entering sewers, waterways, or low areas.

Accidental Release Measures

Contain spill. Shovel or sweep up powder. Use sawdust, sand, oil dry or other absorbent material as an aid to removing remaining traces of spilled material. Do not allow the material to enter sewers, waterways or low areas.

If product enters crevices and can not be removed, treat with a sodium hydroxide solution and allow to stand 4 hours.

NOTE: Sodium hydroxide is caustic and causes burns. Do not get in eyes, on skin, or on clothing. In case of contact, flush eyes or skin with plenty of water and call a physician. When handling, wear goggles in addition to boots and gloves.

7. HANDLING AND STORAGE

#Handling (Personnel)

Do not breathe vapor or mist. Do not get in eyes, on skin, or on clothing.

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#Handling (Physical Aspects)

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

Do not open, rip, tear, cut or perforate the inner water soluble bag.

Storage

Handle this package carefully to prevent breakage of inner bag when stored at low temperature. Allow to warm above 50 deg F for normal handling. Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#Engineering Controls

Use only with adequate ventilation. Keep container tightly closed.

Human flaggers must be in enclosed cabs. Pilot should not assist in the mixing and loading operation.

#Personal Protective Equipment

Applicators and other handlers must wear:

Long-sleeved shirt and long pants

Waterproof gloves

Shoes plus socks

Protective eyewear

For exposures in enclosed areas, a respirator with either an organic vapor-removing cartridge with a particulate prefilter, or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G). For exposures outdoors, use a particulate filtering respirator.

Discard clothing or 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/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

PPE required for early reentry to treated areas that is permitted under the Workers Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls

Waterproof gloves

Shoes plus socks

Protective eyewear

Cleaners and repairers of application equipment must wear:

Long-sleeved shirt and long pants

Chemical resistant gloves

Chemical resistant footwear

Protective eyewear

Respirator as outlined above

Chemical resistant apron

Exposure Guidelines

Applicable Exposure Limits

METHOMYL

PEL (OSHA): None Established

TLV (ACGIH): 2.5mg/m3, 8Hr. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Solubility in Water: 5.8WT% @ 25 C (77 F)

Odor: Slightly sulfurous

Form: Solid

Color: White

Specific Gravity: 1.2946 @ 25 C (77 F)

Bulk Density (Loose): 30-38 lb/cu ft

Bulk Density (Packed): 37-43 lb/cu ft

10. STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions.

Incompatibility with Other Materials

Incompatible with strong bases.

Polymerization

Polymerization will not occur.

Other Hazards

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

11. TOXICOLOGICAL INFORMATION

#Animal Data

Lannate SP

Lannate SP is not a skin irritant or a skin sensitizer, but is a slight eye irritant in animals

Methomyl

Inhalation 4 hour LC50: 0.258 mg/L in rats (Moderately toxic by inhalation)

Skin absorption LD50: ＞2.000 mg/kg in rabbits (Slightly toxic by contact)

Oral LD50: 34 mg/kg in male rats

Oral LD50: 30 mg/kg in female rats (Highly toxic by ingestion)

Methomyl is not a skin irritant or a skin sensitizer, but is a mild eye irritant in animals.

Effects of a single exposure inhalation exposure to Methomyl include weight loss, respiratory irritation diarrhea, lethargy, as well as temporary decreased plasma cholinesterase activity, abnormal gait, hyperactiveity and tremors. Corneal opacity was noted in one rat exposed to near-lethal concentrations. Repeated exposures at 15 mg/m3 produced no histopathological changes in lung, spleen, kidney, liver, brain, eyes or oral and nasal mucosa.

Effects of a single dermal exposure to Methomyl include rapid respiration, miosis and nervous system effects such as tremors. Repeated exposure produced respiratory irritation and labored breathing, and nervous system effects such as miosis and depression. A single ingestion exposure to Methomyl produced nervous system effects as described for inhalation and skin exposures. Repeated exposure at approximately 5 mg/kg produced signs of nervous system effects (mild tremors) without clinical or pathological signs of toxicity. Feeding studies in rats and mice produced only mild effects having no clear toxicological significance. Long-term feeding studies at dietary levels up to 1,000 ppm produced lowered red blood counts and hematocrit, indications of nervous system effects, and histopathological changes in kidneys, spleen, liver and bone marrow.

Ocular exposure with Methomyl caused pupillary constriction, incoordination, tremors, convulsions, profuse salivation, lethargy, rales, and/or fasciculations were also observed in rabbits approximately 1 and 20 minutes after treatment with 10 mg of methomyl. Pupillary constriction was still evident after 1 hour. These clinical signs are typical of anticholi anticholinesterase activity. These effects were not present the day after treatment. Tests in animals demonstrate no carcinogenic, developmental, or reproductive toxicity. (One test in mice reports abnormal sperm morphology).

12. ECOLOGICAL INFORMATION

#Ecotoxicological Information
AQUATIC TOXICITY:
METHOMYL
96 hour LC50-Bluegill sunfish: 0.72 mg/L.
MATC, fathead minnows: 104μ ug/L

13. DISPOSAL CONSIDERATIONS

#Waste Disposal
Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and local regulations. Do not contaminate water supply, food or feed by storage or disposal.
Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, 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.
Environmental Hazards
This pesticide is toxic to fish and wildlife. Drift and 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 washwaters.
This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.
#Container Disposal
Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORTATION INFORMATIN

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: Ⅱ

15. REGULATORY INFORMATION

U.S. Federal Regulations
TITLE III HAZARD CLASSIFICATIONS SECTIONS 311,312

Acute:	Yes
Chronic:	No

Fire:	No
Reactivity:	No
Pressure:	No

In the United States this product is regulated by the US Environmental protection Agency under the Federal Insecticide, Fungicide and Rodenticide Act. It is a violation of federal law to use this product in a manner inconsistent with its labeling.

EPA Reg. No. 352-342

ADDITIONAL REGULATORY INFORMATION

Section 302 Extremely Hazardous Substance:

Methomyl – Threshold Planning Quantity (TPQ) (500/10,000 lbs)

SARA/CERCLA Reportable Quantity:

Methomyl (100 lbs)

16. OTHER INFORMATION

NFPA, NPCA-HMIS

NFPA Rating

Health	2
Flammability:	1
Reactivity:	1

NPCA-HMIS Rating

Health	3
Flammability:	1
Reactivity:	1

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

Additional Information

RESTRICTED USE PESTICIDE

Due to High Acute Toxicity to Humans For retail sale and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator’s certification. Direct supervision for this product requires the certified applicator to review federal and supplemental label instructions with all personnel prior to application, mixing, loading, or repair or cleaning of application equipment.