



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

Page 1

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DuPont "VYDATE L" INSECTICIDE/NEMATICIDE  
M0000057 Revised 25-SEP-2003  
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CHEMICAL PRODUCT/COMPANY IDENTIFICATION  
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Material Identification

"Vydate" is a registered trademark of DuPont.

DuPont is a trademark of DuPont.

Corporate MSDS Number : DU002105

Tradenames and Synonyms

Vydate L

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)

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COMPOSITION/INFORMATION ON INGREDIENTS  
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Components

Material	CAS Number	%
OXAMYL (METHYL N'N'-DIMETHYL-N-[(METHYL CARBAMOYL)- OXY]-1-THIOOXAMIMIDATE)	23135-22-0	24
INERT INGREDIENTS (INCLUDES PERCENTAGES OF THE FOLLOWING:)		76
*METHYL ALCOHOL	67-56-1	35-45

\* Disclosure as a toxic chemical is required under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

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HAZARDS IDENTIFICATION  
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## Emergency Overview

DANGER! POISON! Contains methanol. May be fatal or cause blindness if swallowed. May be fatal if absorbed through skin or inhaled.

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

## WARNING SYMPTOMS (All Oxamyl Products)

Oxamyl 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.

## Potential Health Effects

## SUPPLEMENTAL INFORMATION

## METHANOL

Methanol is a skin, eye, and upper respiratory tract irritant. Inhalation, ingestion, or skin absorption may initially include: visual disturbances including blindness; temporary nervous system depression with anaesthetic effects such as dizziness, headache, confusion, incoordination, and loss of consciousness; nonspecific discomfort, such as nausea, headache, or weakness; acidosis; irritation of the upper respiratory passages; or fatality from gross overexposure.

Individuals with preexisting diseases of the retina or liver may have increased susceptibility to methanol toxicity.

Based on animal data, eye contact with Vydate L may cause eye irritation with discomfort, tearing, or blurring of vision.

Based on animal data, skin contact with Oxamyl may cause dermatitis with itching or rash. Skin permeation may occur in amounts capable of producing the effects of systemic toxicity.

Based on animal data, skin contact, eye contact, inhalation or ingestion exposures to Oxamyl may cause acute cholinesterase depression characterized by weakness, nausea, headache, abdominal cramps, excessive salivation, salivation, tearing, constricted pupils, blurred vision, muscle twitching and confusion. Higher exposures may lead to loss of consciousness, convulsions, or severe respiratory depression.

## (HAZARDS IDENTIFICATION - Continued)

Individuals with pre-existing diseases of the central nervous system or conditions which lower cholinesterase levels may have increased susceptibility to the toxicity of excessive exposure.

Effects that may occur due to the other components include the following:

Short-term overexposure by inhalation may cause non-specific effects such as headache, nausea, and weakness, and irritation of the upper respiratory passages with coughing and discomfort.

## 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.

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FIRST AID MEASURES  
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## First Aid

CONTAINS AN N-METHYL CARBAMATE THAT INHIBITS CHOLINESTERASE.

IF SWALLOWED: Call poison control center or doctor immediately for treatment advice. 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 person.

IF IN EYES: 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.

IF INHALED: 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 ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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

If warning symptoms appear (see WARNING SYMPTOMS), get medical attention. Have the product container or label

## (FIRST AID MEASURES - Continued)

with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

## Notes to Physicians

**WARNING SYMPTOMS:** Oxamyl 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.

**TREATMENT:** 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 VYDATE L alone. However, for exposure to combinations of VYDATE L and organophosphorous insecticides, 2-PAM may be used as required to supplement the atropine sulfate treatment. Do not use morphine.

For medical emergencies involving this product, call toll free 1-800-441-3637.

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FIRE FIGHTING MEASURES  
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## Flammable Properties

Flash Point : 23 C (73 F)  
Method : Closed Cup

May be ignited by heat, sparks, or open flame.

Flammable liquid. Vapor forms explosive mixture with air. Heating can release vapors which can be ignited.

## Extinguishing Media

Water Spray, 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. Shut off source of fuel, if possible and without risk. Use water spray. Cool tank/container with water spray. Runoff from fire control may be a pollution hazard.

## (FIRE FIGHTING MEASURES - Continued)

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.

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ACCIDENTAL RELEASE MEASURES  
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## 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. Keep upwind of leak - evacuate until gas has dispersed.

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

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

## Spill Clean Up

Soak up with sawdust, sand, oil dry or other absorbent material. Shovel or sweep up. Never return to container for reuse. Scoop into bags or boxes with plastic or aluminum shovel.

Neutralize with solid sodium hydroxide at rate of 3 lb per gallon spilled.

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HANDLING AND STORAGE  
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## Handling (Personnel)

Do not breathe vapor or mist. 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.

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

## (HANDLING AND STORAGE - Continued)

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)

Keep away from heat, sparks and flames.

## Storage

Store above 0 C (32 F). Store product in original container only. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Do not contaminate water, other pesticides, fertilizer, food or feed in storage.

Not for use or storage in or around the home.

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EXPOSURE CONTROLS/PERSONAL PROTECTION  
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## Engineering Controls

Use only with adequate ventilation.

## Personal Protective Equipment

Some materials that are chemical resistant to this product are listed below. If you want more options follow the instructions for Category C on the EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

Coveralls over short-sleeved shirt and short pants.  
Chemical-resistant gloves, such as barrier laminate or butyl rubber or neoprene rubber or polyvinyl chloride (PVC) or viton or nitrile rubber.  
Chemical-resistant footwear, plus socks.  
Protective eyewear.  
Chemical-resistant headgear for overhead exposure.  
Chemical-resistant apron when cleaning equipment, mixing or loading.

A respirator with an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C) or a canister approved for pesticides (MSHA/NIOSH approval number prefix (TC-14G) or a NIOSH-approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE prefilter.

Discard clothing or other absorbent materials that have been

## (EXPOSURE CONTROLS/PERSONAL PROTECTION - Continued)

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 entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls over short-sleeved shirt and short pants.  
Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or polyvinyl chloride or viton or neoprene rubber.  
Chemical-resistant footwear plus socks.  
Protective eyewear.  
Chemical-resistant headgear for overhead exposure.

## # Exposure Guidelines

## Applicable Exposure Limits

## OXAMYL

PEL (OSHA) : None Established  
TLV (ACGIH) : None Established  
AEL \* (DuPont) : 0.05 mg/m<sup>3</sup>, 8 & 12 Hr. TWA

## METHYL ALCOHOL

PEL (OSHA) : 200 ppm, 260 mg/m<sup>3</sup>, 8 Hr. TWA  
TLV (ACGIH) : 200 ppm, 8 Hr. TWA, Skin  
STEL 250 ppm  
AEL \* (DuPont) : 200 ppm, 8 & 12 Hr. TWA, Skin

\* 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.

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PHYSICAL AND CHEMICAL PROPERTIES  
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## Physical Data

Solubility in Water : Soluble  
Odor : Slightly sulfurous  
Form : Liquid  
Color : Green, blue, or colorless depending on region  
Density : 0.97-0.98 g/cc

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STABILITY AND REACTIVITY  
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## Chemical Stability

Stable at normal temperatures and storage conditions.

## Incompatibility with Other Materials

Incompatible with strong acids or bases (slowly hydrolyzes).

## Decomposition

Decomposition will not occur.

## Polymerization

Polymerization will not occur.

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TOXICOLOGICAL INFORMATION  
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## Animal Data

## Vydate L

Inhalation 4 hour LC50:	0.3 mg/L in rats (Highly toxic)
Ingestion LD50:	10 mg/kg in male rats
Ingestion LD50:	9 mg/kg in female rats (Highly toxic)
Skin absorption LD50:	> 5000 mg/kg in rats (Slightly toxic)

Vydate L is a slight eye irritant, but is not a skin irritant or skin sensitizer in animals.

## OXAMYL

Single or repeated skin contact with Oxamyl caused mild skin irritation and cholinesterase inhibition (tremors, salivation, watery eyes).

Single exposure to Oxamyl by ingestion caused signs of cholinesterase inhibition, reduced weight gain, and temporary alterations in clinical chemistry including liver enzymes and glucose levels. Repeated or long-term exposure caused nonspecific effects such as weight loss and irritation, as well as signs of cholinesterase inhibition. Changes in liver enzyme levels have been reported, but the structure of the liver itself appeared normal. In an acute neurotoxicity study there was unequivocally decreased blood and brain cholinesterase activity. The NOEL in this study was 0.1 mg/kg.

## (TOXICOLOGICAL INFORMATION - Continued)

Single exposure to 0.024 mg/L of Oxamyl by inhalation caused tremors and lethargy. These signs were not observed in a group exposed to 0.0049 mg/L. Plasma, red blood cell and brain cholinesterase activity were decreased in rats exposed to 0.024 mg/L and to a lesser extent in rats exposed to 0.0049 mg/L.

Tests in animals demonstrate no carcinogenic activity. Tests in some animals indicate that Oxamyl may have developmental toxicity, but only at doses close to those which cause maternal toxicity. The only reported effects were slightly reduced fetal weights and fewer implantations. Tests in animals demonstrate no effect on reproductive indices (mating, fertility, or gestation). Reductions in litter size, pup weight and survival occurred only at dose levels that also caused toxicity in the parental animals.

Oxamyl does not produce genetic damage in bacterial cell or mammalian cultures, but has not been tested in animals.

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ECOLOGICAL INFORMATION  
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## Ecotoxicological Information

## Aquatic Toxicity

"Vydate" L  
96 hour LC50, rainbow trout: 12.4 ppm

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DISPOSAL CONSIDERATIONS  
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## Waste Disposal

Treatment, storage, transportation, and disposal must be in accordance with applicable federal, state/provincial, and local regulations. Do not flush to surface water or sanitary sewer system. Do not contaminate water, 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.

## (DISPOSAL CONSIDERATIONS - Continued)

## Container Disposal

For Metal Containers (non aerosol): Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by the State and local authorities.

For Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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TRANSPORTATION INFORMATION  
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## Shipping Information

DOT/IMO  
Proper Shipping Name : CARBAMATE  
PESTICIDE, LIQUID, TOXIC, FLAMMABLE  
(Oxamyl, Methanol)  
Hazard Class : 6.1  
UN No. : UN 2991  
Packing Group : I  
Subsidiary Hazard Class : 3  
Marine Pollutant : MARINE POLLUTANT (24% Oxamyl)-Water or  
Bulk  
  
Reportable Quantity : Yes (if 5,000 or more pounds  
methanol in a single container)

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REGULATORY INFORMATION  
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## U.S. Federal Regulations

## TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

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

## (REGULATORY INFORMATION - Continued)

## ADDITIONAL REGULATORY INFORMATION

Section 302 Extremely Hazardous Substance:  
Oxamyl - Threshold Planning Quantity (TPQ)  
(100/10,000 lb)

SARA/CERCLA Reportable Quantity:  
Oxamyl (1 lb)  
Methyl alcohol (5000 lb)

RCRA Hazardous Waste: Oxamyl (P194)

## REGULATORY CONTROLS

This product is registered under EPA/FIFRA regulations. It is a violation of Federal Laws to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

EPA Reg. No. 352-372.

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OTHER INFORMATION  
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## NFPA, NPCA-HMIS

NFPA Rating	
Health	: 2
Flammability	: 3
Reactivity	: 0

NPCA-HMIS Rating	
Health	: 3
Flammability	: 3
Reactivity	: 0

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

## Additional Information

## RESTRICTED USE PESTICIDE

Due to Acute Toxicity and Toxicity to Birds and Mammals. For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

(Continued)

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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