



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" C-LV INSECTICIDE/NEMATICIDE  
M0000454 Revised 1-MAR-2007  
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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.

Tradenames and Synonyms

DPX-D1410  
OXAMYL TECH 42

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-[(METHYLCARBAMOYL)- OXY]-1-THIOOXAMIMIDATE)	23135-22-0	42
INERT INGREDIENTS (INCLUDES PERCENTAGES OF THE FOLLOWING:)		58
CYCLOHEXANONE	108-94-1	25-29

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HAZARDS IDENTIFICATION  
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Emergency Overview

DANGER-POISON! Fatal if swallowed. Corrosive. Causes irreversible eye damage. May be fatal if inhaled. Do not breathe vapor. Do not get in eyes or on clothing. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash

## (HAZARDS IDENTIFICATION - Continued)

clothing before reuse.

## Potential Health Effects

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

Skin permeation may occur in amounts capable of producing the effects of systemic toxicity.

## OXAMYL

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, tearing, constricted pupils, blurred vision, muscle twitching and confusion. Higher exposures may lead to loss of consciousness, convulsions, or severe respiratory depression.

## CYCLOHEXANONE

Cyclohexanone is a skin irritant and a severe eye irritant. Exposure to high concentrations may result in temporary central nervous system depression with symptoms of dizziness, headache, confusion, incoordination and loss of consciousness.

## Carcinogenicity Information

The following components are listed by IARC, NTP, OSHA or ACGIH as carcinogens.

Material	IARC	NTP	OSHA	ACGIH
CYCLOHEXANONE				A3

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FIRST AID MEASURES  
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## First Aid

CONTAINS AN N-METHYL CARBAMATE THAT INHIBITS CHOLINESTERASE.

IF SWALLOWED: Call a 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.

## (FIRST AID MEASURES - Continued)

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 symptoms appear (see SYMPTOMS), get medical attention.

Have the product container or label 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.

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

## Notes to Physicians

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 C-LV alone. However, for exposure to combinations of VYDATE C-LV 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 : 51.7 C (125.1 F)  
Method : Closed Cup

Heating can release vapors which can be ignited.

## Extinguishing Media

Water Spray, Dry Chemical.

## 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. Runoff from fire control may be a pollution hazard.

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.

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

## Initial Containment

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

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

## (ACCIDENTAL RELEASE MEASURES - Continued)

## 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.

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HANDLING AND STORAGE  
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## Handling (Personnel)

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)

Combustible. Keep container closed. Use with adequate ventilation. Do not use or store near heat or open flame.

## Storage

Do not contaminate water, food or feed in storage.

Do not subject to temperatures below 32°F. 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.

Keep out of reach of children.

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EXPOSURE CONTROLS/PERSONAL PROTECTION  
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## Engineering Controls

Human flaggers must be in enclosed cabs.

Pilots must use an enclosed cockpit in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Pilots must not assist in the mixing and loading operations.

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR part 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

## (EXPOSURE CONTROLS/PERSONAL PROTECTION - Continued)

Refer to the product label for additional Engineering Controls instructions.

## 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 B on an EPA chemical-resistance category selection chart.

Mixers, loaders, applicators and other handlers must wear:

- Coveralls over long-sleeved shirt and long pants.
- Chemical-resistant gloves, such as barrier laminate or butyl rubber.
- Chemical-resistant footwear plus socks.
- Protective eyewear.
- Chemical-resistant headgear for overhead exposure.
- Chemical-resistant apron when mixing, loading, or cleaning equipment.
- 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 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.
- Chemical-resistant gloves, made of any waterproof material.
- Shoes and socks.

## 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

## CYCLOHEXANONE

PEL (OSHA) : 50 ppm, 200 mg/m<sup>3</sup>, 8 Hr. TWA  
TLV (ACGIH) : 20 ppm, 8 Hr. TWA, Skin, A3  
STEL 50 ppm, Skin, A3  
AEL \* (DuPont) : 25 ppm, 8 & 12 Hr. TWA  
STEL 50 ppm, 15 minute TWA

\* 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

Vapor Pressure : 14.1 mm Hg @ 20 C (68 F)  
Solubility in Water : Miscible  
Odor : Aromatic  
Form : Liquid  
Color : Blue  
Specific Gravity : 1.082 @ 25C (77F)

## Physical Hazards

Keep container closed. Use with adequate ventilation. Do not use or store near heat or open flame.

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STABILITY AND REACTIVITY  
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## Chemical Stability

Stable at normal temperatures and storage conditions.

## Incompatibility with Other Materials

None reasonably foreseeable.

## Polymerization

Polymerization will not occur.

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TOXICOLOGICAL INFORMATION  
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## Animal Data

## Vydate C-LV

Inhalation 4 hour LC50: 0.11 mg/L in rats  
(Highly toxic)  
Ingestion LD50: 9.1 mg/kg in rats  
(Highly toxic)  
Skin absorption LD50: >5,000 mg/kg in rabbits  
(Slightly toxic)

Vydate C-LV is an eye irritant, but is not a skin irritant or skin sensitizer in animals.

Single exposure to Vydate C-LV by ingestion, inhalation, and eye contact caused signs of cholinesterase inhibition, including salivation, tremors, convulsions, and mortality. Cholinesterase inhibition effects at non-lethal concentrations were rapidly reversible.

## OXAMYL

Repeated or long-term oral exposure to Oxamyl caused non-specific effects such as weight loss, irritation and liver enzyme changes, as well as signs of cholinesterase inhibition.

Tests in animals demonstrate no carcinogenic activity. Oxamyl did not produce birth defects in developmental studies in rats and rabbits. There was no indication of increased fetal susceptibility to Oxamyl in these studies. Tests in animals demonstrate no effect on reproductive indices (mating, fertility, or gestation). There was no indication of increased offspring susceptibility in a two-generation reproduction study.

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

## CYCLOHEXANONE

Repeated and long term oral exposure to Cyclohexanone caused decreased weight gain.

Repeated inhalation exposure caused conjunctival irritation, salivation, narcosis, slight degenerative changes in the liver and kidneys, effect on sense of smell and non-specific effects such as weight loss.

In some animals Cyclohexanone may have elicited a weak carcinogenic response. Animal data show fetotoxicity but only at exposure levels producing other toxic effects in the adult animal. Reversible depression of fertility was observed in second generation male rats. Cyclohexanone produces genetic damage in bacterial and mammalian cell cultures. Animal data indicate that Cyclohexanone does not

## (TOXICOLOGICAL INFORMATION - Continued)

cause genetic damage in animals nor permanent genetic damage in reproductive cells of mammals (does not cause heritable genetic damage).

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ECOLOGICAL INFORMATION  
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## Ecotoxicological Information

## AQUATIC TOXICITY:

## OXAMYL

- 96 hour LC50 - Rainbow trout: 4.2 mg/L.
- 96 hour LC50 - Sheepshead minnow: 2.6 mg/L.
- 96 hour LC50 - Fathead minnows: 193 mg/L.

## CYCLOHEXANONE

- 96 hour LC50 - Fathead minnows: 527 mg/L.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow to drift to blooming crops or weeds if bees are visiting the treatment area.

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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.

## ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic organisms (fish and invertebrates) and extremely toxic to birds and mammals. Cover or disc spill areas. Birds and mammals in treated areas may be killed. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment waste waters.

This product can contaminate surface water through ground spray applications.

## (DISPOSAL CONSIDERATIONS - Continued)

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow to drift to blooming crops or weeds if bees are visiting the treatment area.

GROUND WATER ADVISORY -- Residues can seep or leach through soil and can contaminate ground water which may be used for drinking. Users are advised not to apply this product where the water table is close to the surface and where soils are very permeable, i.e. well-drained soils such as loamy sands.

Refer to the product label for additional application instructions relating to Environmental Precautions.

Always read and follow the product label.

## Container Disposal

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

Container Refilling and Disposal (For Containers up to 250 gal): Refer to the product label for instructions.

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TRANSPORTATION INFORMATION  
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## # Shipping Information

## DOT/IMO

Proper Shipping Name	: CARBAMATE PESTICIDE, LIQUID, TOXIC FLAMMABLE (OXAMYL, CYCLOHEXANONE)
Hazard Class	: 6.1
UN No.	: UN 2991
Marine Pollutant	: MARINE POLLUTANT (42% Oxamyl)-Water or Bulk
Subsidiary Hazard Class	: 3
Packing Group	: II
Reportable Quantity	: Yes (if 5,000 or more pounds Cyclohexanone 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

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. 352-532

## 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.

## ADDITIONAL REGULATORY INFORMATION

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

SARA/CERCLA Reportable Quantity (RQ):  
Oxamyl - (100 lbs.)  
Cyclohexanone - (5,000 lbs.)

RCRA Hazardous Waste: Oxamyl (P194)

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OTHER INFORMATION  
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## NFPA, NPCA-HMIS

NFPA Rating  
Health : 2  
Flammability : 2  
Reactivity : 0

NPCA-HMIS Rating  
Health : 3  
Flammability : 2  
Reactivity : 0

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

(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, DE 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