



## SECTION 1 - PRODUCT & COMPANY IDENTIFICATION

ARYSTA LifeScience South Africa (Pty) Ltd  
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Substance: oxamyl  
Product Name: **OXADATE**  
Product Use: Fungicide  
Creation Date: Feb 2006  
Revision Date: August 2019

### 24 Hr Emergency Number:

#### In case of Poisoning:

Poisons Helpline 0861 555 777

#### In case of Spillage:

Spill Tech Oil & Chemical Pollution Control 086 100 0366 / 083 253 6618

## SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Common Name: oxamyl  
Chemical Name: *N,N*-dimethyl-2-methylcarbamoyloxyimino-2-(methylthio)acetamide (IUPAC)  
CAS No.: [23135-22-0]  
Chemical Family: Carbamate  
Chemical Formula: C<sub>7</sub>H<sub>13</sub>N<sub>3</sub>O<sub>3</sub>S  
Molecular weight: 219.3  
Use: Contact and systemic insecticide, acaricide, and nematicide. Absorbed by the foliage and roots, with translocation  
Formulation: Oxamyl: 310 g/l  
Soluble Concentrate (Liquid - SL)

### Hazardous Ingredient:

Inert:	concern:	% present:
oxamyl	very toxic	> 31 %
methanol	irritant, flammable	± 40 %
water	no risk	± 25 %

SYMBOLS: T, F, N

RISK-PHRASE(S): R10, R21, R26/28, R36/38, R51/53

## SECTION 3 - HAZARD IDENTIFICATION

### Toxicity class:

WHO (a.i.) Ia; EPA (formulation): I

### Main Hazard:

This compound inhibits cholinesterase enzyme activity in the nervous tissue and is toxic. The cholinesterase-inhibiting effects are short-term and reversible.

Very toxic by inhalation and if swallowed. Harmful in contact with skin.

### Fire and explosion hazard:

Product is flammable.

### Acute effects of overexposure:

May cause irritation to skin, eyes, nose, throat and respiratory tract.

Symptoms of exposure to the product include: headache, nausea, sweating, tearing, tremors and blurred vision.

## SECTION 4 - FIRST AID MEASURES AND PRECAUTIONS

### FIRST AID:

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The airway should be kept clear to maintain respiration, particularly when the patient is unconscious or has vomited. The mouth and pharynx should be cleared and dentures removed. The jaw should be supported and the patient placed in a face down position with the head down and turned to one side, with the tongue drawn forward. First aid should be performed by qualified medical personnel and should include, if necessary, mouth-to-nose respiration and cardiac massage.

**Inhalation:**

Immediately remove source of contamination or move patient to fresh air. Keep affected person warm and at rest. If breathing has stopped, perform artificial mouth-to-nose respiration and administer oxygen. **Obtain medical advice immediately.**

**Skin contact:**

Remove contaminated clothing, shoes and leather goods immediately. Gently wipe off excess chemical. Wash skin gently and thoroughly with clean water and non-abrasive soap or mild detergent until no evidence of chemical remains (approximately 15 to 20 minutes). Persons who become sensitised may require specialised medical management with anti-inflammatory agents. **Obtain medical advice immediately.**

**Eye contact:**

Flush eyes immediately with large amounts of gently flowing cold water, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). Obtain medical advice.

**Ingestion:**

**Obtain medical advice immediately** and make the container, or label or this Data Sheet available. Never give anything by mouth to a semi-conscious or unconscious person. **Do not induce vomiting**, unless advised by qualified medical personnel.

If vomiting occurs, take care to prevent vomit from being inhaled.

Establish and maintain airway. Treat respiratory difficulty with artificial respiration and oxygen.

**Advice to physician:**

This product contains a cholinesterase inhibitor carbamate.

The stomach should be emptied as soon as possible by careful gastric lavage.

Antidote: As early as possible, administer atropine sulfate to patients suffering from severe respiratory difficulties, convulsions and unconsciousness. The dose and frequency of atropine varies with each patient. The therapeutic objective is to achieve atropinization, as evidenced by dilation of the pupils, drying secretion, pulse rate of over 120/minute, and flushing skin. Maintain atropinization by repeated doses for 2 to 12 hours, or longer, depending on the severity of the poisoning.

Contra-indicated: Morphine, similar drugs, pralidoxime (2-PAM, Protopam) or obidoxime chloride and other oximes are contra-indicated. Avoid aminoglycosides and succinylcholine, which have a blocking effect on the neuromuscular junction.

## SECTION 5 - FIRE-FIGHTING MEASURES

**Flammable properties: Flammable.**

Flash point: 23 °C

**Extinguishing agents:**

Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray as a fog can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Contain water used for fire-fighting for later disposal. Avoid the accumulation of polluted run-off from the site, therefore minimize the use of water to prevent environmental contamination.

Do not use high volume water jet due to contamination risk.

**Fire fighting:**

Remove spectators from surrounding area. Remove container from fire area if possible without risk. Eliminate all ignition sources in immediate area. Fight fire from maximum distance. For massive fire, use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours. Keep upwind.

**Special Hazards:**

This product will emit toxic fumes when burned, including carbon oxides and nitrogen oxides. May produce irritating or poisonous mists or other products of combustion. Heating can release vapours that can ignite.

**Personal protective equipment:**

Fire-fighters and others that may be exposed should wear full protective impervious clothing, including gloves and eye protection, and self-contained breathing apparatus. Contact with the fumes and vapours should be avoided by staying upwind.

Clean all clothing before re-use. Severely contaminated clothing cannot be adequately decontaminated, and must be disposed as a hazardous waste. Shower with soap and water after contact with this product.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES (SPILLAGE)

**Personal precautions:**

Do not inhale fumes. Avoid contact with skin, eyes or clothes. Ventilate area of spill or leak, especially confined areas. For personal protection see Section 8.

**Environmental precautions:**

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Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

#### Occupational spill:

Keep out unprotected persons and animals. Do not touch spilled material; stop leak if you can do it without risk.

Earth all equipment used when handling the product. Do not touch or walk through spilled material. Stop leak if possible without risk. Avoid runoff of product into sewers, water systems, basements or confined areas as it may cause fire/explosion. Thoroughly wash body areas, which come into contact with the product.

**For small liquid spills:** Neutralize with sodium carbonate and allow to stand for 4 hours. Use clean, non-sparking tools to collect absorbed material. Soak up with absorptive material such as damp earth or sand or other suitable non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Prevent material from spreading by damming in with absorptive material. Do not flush spilled material into drains. Keep spectators away and upwind.

**For large spills:** Contact the supplier. In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains.

**To decontaminate** spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Label drums with its content and dispose it in accordance with local regulations.

Open burning or dumping of this material is prohibited.

## SECTION 7 - HANDLING AND STORAGE REQUIREMENTS

#### Handling:

Remove sources of naked flame or sparks. Very toxic by inhalation and if swallowed and harmful by skin contact. Avoid contact with eyes and skin and inhalation of fumes. Avoid exposure to spray. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the insecticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

#### Storage:

Store in its original container in isolated, dry, cool (avoid temperatures above 32 °C) and well-ventilated area. Avoid cross contamination with other pesticides and fertilizers. Keep under lock and key out of reach of unauthorised persons, children and animals. Store away from incompatible substances. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

Keep away from naked flames and other sources of ignition.

## SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

#### Engineering control measures:

It is essential to provide adequate ventilation. Ensure that control systems are properly designed and maintained. . Only spark-resistant equipment should be used. Comply with occupational safety, environmental, fire and other applicable regulations.

#### PERSONAL PROTECTIVE EQUIPMENT:

##### Respirator:

An approved full-face air-purifying respirator, equipped with organic vapour cartridges or canisters, suitable for protection from mists of pesticides is required. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

##### Clothing:

Employee must wear appropriate protective (impervious) clothing (long sleeved cotton overalls, apron, rubber boots, face shield and hat or cap) and equipment to prevent skin contact with the substance.

##### Gloves:

Employee must wear appropriate chemical resistant protective gloves (PVC or neoprene gloves) to prevent contact with this substance.

##### Eye protection:

Employee must wear splash-proof safety goggles and face-shield to prevent contact with this substance.

**Emergency eye wash:** Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** A clear green liquid.

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Issued by: Arysta Lifescience South Africa  
Poisons Helpline 0861 555 777

Phone: 031 514 5600  
Spillage Helpline (Spill Tech) 086 100 0366



**Flammability:** Flammable.  
**Flash point:** 23 °C  
**Specific gravity:** 0.996 ± 0.005 g/ml (20 °C)  
**Solubility in water:** Forms an emulsion in water. Miscible.

## SECTION 10 - STABILITY AND REACTIVITY

### Storage stability:

Stable for up to 2 years under normal warehouse conditions. Avoid very high temperature, above 32°C, and very, below -2°C. Avoid heat and sources of ignition. Heating can release vapours that can ignite.

### Hazardous decomposition:

Carbon oxides and nitrogen oxides.

### Stability:

Product is stable when diluted. Optimum pH of mixing water is pH 5 to 6. Avoid mixing water with pH above 7, buffer to pH 5 to 6.

## SECTION 11 - TOXICOLOGICAL INFORMATION

**Acute oral LD<sub>50</sub> rats:** *Technical:* 2.5 mg/kg

*Formulation calculated:* 16 mg/kg

**Acute dermal LD<sub>50</sub> rabbits:** *Technical:* > 2000 mg/kg

*Formulation calculated:* > 3000 mg/kg

**Inhalation LC<sub>50</sub> rats:** *Technical:* > 0,0562 mg/l air (4hours)

**Acute eye irritation:** Moderate irritant

**Acute skin irritation:** Moderate irritant

### Reproductive effects:

When pregnant rats were fed oxamyl, no effects were observed (relative to unexposed animals) on the number of implantation sites, resorptions, and live fetuses in rats fed. There were, however, dose-related decreases in maternal body weights and in food consumption rates.

Based on these and other studies, oxamyl is unlikely to cause reproductive effects in humans at expected exposure levels.

### Teratogenic effects:

No teratogenic effects were observed in the offspring of rabbits fed 2 and 4 mg/kg/day during days 6 to 19 of gestation. Oxamyl was not teratogenic or embryotoxic in the offspring of pregnant rats fed up to 15 mg/kg/day.

Thus, it appears that oxamyl does not cause teratogenic effects.

### Mutagenic effects:

Oxamyl was not mutagenic in several test systems.

### Carcinogenic effects:

In a study of mice fed up to 9 mg/kg/day, no carcinogenic effects were seen. In addition, no evidence of carcinogenic potential was seen following long-term dietary exposure of rats.

This indicates that oxamyl is not carcinogenic.

### Fate in humans and animals:

When oxamyl was administered to rats, most of the dose was rapidly eliminated in the urine and feces as breakdown by-products, or metabolites. Carbamates generally are excreted rapidly and do not accumulate in mammalian tissue.

**ADI:** 0.009 mg/kg/day.

## SECTION 12 - ECOLOGICAL INFORMATION

### Degradability:

Oxamyl is of low persistence in soil with reported field half-lives of 4 to 20 days. It does not readily bind, or "adsorb," to soil or sediments and it has been shown to leach in soil. Since oxamyl degrades relatively quickly in the presence of bacteria, it is more likely to be found in groundwater than in surface water.

In a river water study, oxamyl had a half-life of 1 to 2 days.

Oxamyl has a residual period in plants of approximately 1 to 2 weeks. It is considered non-toxic to plants. Plants take oxamyl up through both leaves and roots; it is translocated in treated plants. Oxamyl is metabolized rapidly by plants.

### ECOTOXICOLOGY:

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**Birds: Very highly toxic to birds.**

Oral LD <sub>50</sub> :	Mallard ducks:	3.16 – 3.83 mg/kg
	Northern bobwhite quail:	9.5 mg/kg
Dietary LC <sub>50</sub> (8 days):	Mallard ducks:	766 ppm
	Bobwhite quail:	340 ppm

**Fish: Moderately to slightly toxic to fish.**

LC <sub>50</sub> (96 hours):	rainbow trout:	4.2 mg/l
	bluegill sunfish:	5.6 mg/l

**Daphnia: Moderately toxic to Daphnia.**

LC <sub>50</sub> (48 hours):	<i>Daphnia magna</i>	0.319 mg/l
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**Bees: Very highly toxic to honeybees.**

LD <sub>50</sub> (48 hours, oral):		0.38 µg/bee
LD <sub>50</sub> (48 hours, contact):		0.47 µg/bee

<b>Algae:</b>	EC <sub>50</sub> (72 hours):	3.3 mg/l
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<b>Earthworms:</b>	LC <sub>50</sub> (14 days):	112 ppm
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**SECTION 13 - DISPOSAL CONSIDERATION****Pesticide disposal:**

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product that cannot be reused or reprocessed should be disposed of in a landfill approved for pesticide disposal. Do not contaminate rivers, dams or any other water sources with the product or used containers. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Comply with local legislation applying to waste disposal.

**Package product wastes:**

Emptied containers retain vapour and product residues. Observe all labelled safeguards. TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsings to the contents of the spray tank before destroying the container.

Destroy the emptied containers by perforation and flattening. Bury in an approved dump site. Do not re-use the empty container for any other purpose.

Comply with any local legislation applying to disposal.

**SECTION 14 - TRANSPORT INFORMATION**

**UN NUMBER:** 2991

Class: 6.1

Subsidiary Class: 3

Packing group: III

Shipping name: Carbamate pesticide, Liquid, Toxic, Flammable (oxamyl 310 g/l)

**MARINE POLLUTANT****SECTION 15 - REGULATORY INFORMATION**

**Symbol:** T, F, N

**Indication of Danger:** Toxic substance, Flammable, Environmentally Dangerous Substance

**Risk phrases:**

**R 10** Flammable.

**R 21** Harmful in contact with skin.

**R 26/28** Very toxic by inhalation and if swallowed.

**R 36/38** Irritating to eyes and skin.

**R 51/53** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases:**

**S 1/2** Keep locked up and out of reach of children.

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- S 3/9/14** Keep in a cool, well-ventilated place away from open flames and sparks.
- S 23** Do not breath fumes or vapour.
- S 24/25** Avoid contact with skin and eyes.
- S 27/28** After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and non-abrasive soap.
- S 36/37/39** Wear suitable protective clothing, gloves and eye/face protection.
- S 45** In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 61** Avoid release to the environment. Refer to special instructions / Safety data sheets.
- S 62** If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

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**SECTION 16 - OTHER INFORMATION**

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**Packing and Labelling**

Packed in 5, 10, 20 & 25 litre fluorinated plastic containers and labelled according to the South African regulations and guidelines.

**Disclaimer:**

The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

**MATERIAL SAFETY DATA SHEET**