

# OzCrop Methomyl 225 SL Insecticide **OzCrop Pty Ltd**

Chemwatch: 5360-27 Version No: 3.1.1.1

Safety Data Sheet according to WHS and ADG requirements

## Chemwatch Hazard Alert Code: 4

Issue Date: 01/11/2019 Print Date: 16/09/2020 S.GHS.AUS.EN

#### SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier	
Product name	OzCrop Methomyl 225 SL Insecticide
Synonyms	APVMA Number: 84035
Proper shipping name	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23°C
Other means of identification	Not Available

# Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses Insecticide.

## Details of the supplier of the safety data sheet

Registered company name	OzCrop Pty Ltd
Address	G13/25 Solent Circuit Norwest NSW 2153 Australia
Telephone	(02) 8123 0170
Fax	(02) 8123 0171
Website	http://www.ozcrop.com.au
Email	orders@ozcrop.com.au

## **Emergency telephone number**

Association / Organisation	In Transport Emergency DIAL 000
Emergency telephone numbers	1800 033 111 (24 hours - Australia wide)
Other emergency telephone numbers	Not Available

#### **SECTION 2 Hazards identification**

#### Classification of the substance or mixture

Poisons Schedule	S7	
Classification <sup>[1]</sup>	Flammable Liquid Category 2, Acute Toxicity (Oral) Category 2, Acute Toxicity (Dermal) Category 3, Acute Toxicity (Inhalation) Category 3, Acute Aquatic Hazard Category 1, Chronic Aquatic Hazard Category 1	
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI	

# Label elements

Hazard pictogram(s)







Signal word

Danger

# Hazard statement(s)

H225	Highly flammable liquid and vapour.
H300	Fatal if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H410	Very toxic to aquatic life with long lasting effects.

## Precautionary statement(s) Prevention

P210	Keep away from heat/sparks/open flames/hot surfaces No smoking.
P270	Do not eat, drink or smoke when using this product.

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P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing mist/vapours/spray.
P273	Avoid release to the environment.

# Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P321	Specific treatment (see advice on this label).
P322	Specific measures (see advice on this label).
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam for extinction.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P311	Call a POISON CENTER or doctor/physician.
P391	Collect spillage.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

# Precautionary statement(s) Storage

P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

# Precautionary statement(s) Disposal

P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

# **SECTION 3 Composition / information on ingredients**

# Substances

See section below for composition of Mixtures

# Mixtures

CAS No	%[weight]	Name
16752-77-5	10-30	methomyl
Not Available		(225g/L)

# **SECTION 4 First aid measures**

# Description of first aid measures

Eye Contact	If this product comes in contact with the eyes:  Immediately hold eyelids apart and flush the eye continuously with running water.  Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.  Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.  Transport to hospital or doctor without delay.  Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If product comes in contact with skin:  Contact a Poisons Information Centre or a doctor.  DO NOT allow clothing wet with product to remain in contact with skin, strip all contaminated clothing including boots.  Quickly wash affected areas vigorously with soap and water.  DO NOT give anything by mouth to a patient showing signs of narcosis, i.e. losing consciousness.  Give atropine if instructed.  DO NOT delay, get to a doctor or hospital quickly.
Inhalation	<ul> <li>If spray mist, vapour are inhaled, remove from contaminated area.</li> <li>Contact a Poisons Information Centre or a doctor at once.</li> <li>Lay patient down in a clean area and strip any clothing wet with spray.</li> <li>Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>DO NOT give anything by mouth to a patient showing signs of narcosis, i.e. losing consciousness.</li> <li>Give atropine if instructed.</li> <li>Get to doctor or hospital quickly.</li> </ul>
Ingestion	If swallowed: ▶ Contact a Poisons Information Centre or a doctor at once.

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- If swallowed, activated charcoal may be advised.
- Give atropine if instructed
- REFER FOR MEDICAL ATTENTION WITHOUT DELAY.
- In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.
- If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided.
- Further action will be the responsibility of the medical specialist.
- If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.

#### Indication of any immediate medical attention and special treatment needed

Following acute or short term repeated exposures to carbamates:

- Carbamylation of acetylcholinesterase produces symptoms of muscarinic and nicotinic poisoning. Clinical effects disappear within 24 hours following spontaneous, in vivo, hydrolysis of the complex. Symptoms develop within 15 minutes to 2 hours
- Access the adequacy of the airway and ventilation and use oxygen, suction, intubation, artificial ventilation, intravenous lines and cardiac monitors as needed.
- Usual methods of decontamination (Ipecac / lavage / charcoal / cathartics) may be used when the patient presents within 2-4 hours after exposure. When Ipecac Syrup is used the patient must be observed closely to prevent aspiration.
- Atropine is the antidote of choice. Pralidoxime [and other oximes] usually is unnecessary and, in any case, may reduce the effectiveness of atropine. [Mild cases should be given 1 to 2 mg intramuscularly every 10 minutes until full atropinization has been achieved and repeated thereafter whenever symptoms reappear. Severe cases should given 2 to 4 mg intramuscularly every 10 minutes until fully atropinized, then every 30 to 60 minutes to maintain the effect for at least 12 hours - Incitect [Ellenhorn and Barceloux: Medical Toxicology]

## **SECTION 5 Firefighting measures**

#### **Extinguishing media**

- ▶ Foam
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.
- Water spray or fog Large fires only.

#### Special hazards arising from the substrate or mixture

Fire Incompatibility	Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result	
Advice for firefighters		

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Consider evacuation (or protect in place).
- Fight fire from a safe distance, with adequate cover. Fire Fighting
  - If safe, switch off electrical equipment until vapour fire hazard removed.
  - Use water delivered as a fine spray to control fire and cool adjacent area.
  - Avoid spraying water onto liquid pools
  - ▶ DO NOT approach containers suspected to be hot.
  - Cool fire exposed containers with water spray from a protected location.
  - If safe to do so, remove containers from path of fire.
  - If containment of runoff is not possible, consider allowing fire to burn-out. Use of water may present a significant pollution hazard.

- Liquid and vapour are highly flammable.
- Severe fire hazard when exposed to heat, flame and/or oxidisers.
- Vapour may travel a considerable distance to source of ignition.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).

#### Fire/Explosion Hazard

carbon dioxide (CO2) nitrogen oxides (NOx) sulfur oxides (SOx) silicon dioxide (SiO2) hydrogen sulfide (H2S)

Combustion products include:

other pyrolysis products typical of burning organic material.

**HAZCHEM** 

# **SECTION 6 Accidental release measures**

#### Personal precautions, protective equipment and emergency procedures

See section 8

#### **Environmental precautions**

See section 12

#### Methods and material for containment and cleaning up

Minor Spills

Environmental hazard - contain spillage.

- Remove all ignition sources
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact with the substance, by using protective equipment.
- Contain and absorb small quantities with vermiculite or other absorbent material.
- Wipe up.
- ▶ Collect residues in a flammable waste container.

#### Continued...

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Environmental hazard - contain spillage.

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Consider evacuation (or protect in place).
- No smoking, naked lights or ignition sources.

#### **Major Spills**

- Increase ventilation.
- Stop leak if safe to do so. Water spray or fog may be used to disperse vapour.
- Contain or absorb spill with sand, earth or vermiculite.
- Use only spark-free shovels and explosion proof equipment.
- Collect recoverable product into labelled containers for recycling.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
- If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

#### **SECTION 7 Handling and storage**

#### Precautions for safe handling

- Containers, even those that have been emptied, may contain explosive vapours.
- Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
  - Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights, heat or ignition sources.
- When handling, DO NOT eat, drink or smoke.
- Vapour may ignite on pumping or pouring due to static electricity.
- DO NOT use plastic buckets
- Earth and secure metal containers when dispensing or pouring product.
- Use spark-free tools when handling. Avoid contact with incompatible materials.
- Keep containers securely sealed.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storage and handling recommendations contained within this SDS.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

- ▶ Store in original containers in approved flame-proof area
- No smoking, naked lights, heat or ignition sources DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
- Other information

Safe handling

- Keep containers securely sealed. ▶ Store away from incompatible materials in a cool, dry well ventilated area.
- Protect containers against physical damage and check regularly for leaks.
- ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

# Conditions for safe storage, including any incompatibilities

- Packing as supplied by manufacturer.
- Plastic containers may only be used if approved for flammable liquid.
- Check that containers are clearly labelled and free from leaks.
- For low viscosity materials (i): Drums and jerry cans must be of the non-removable head type. (ii): Where a can is to be used as an inner package, the can must have a screwed enclosure.
- For materials with a viscosity of at least 2680 cSt. (23 deg. C)
  - For manufactured product having a viscosity of at least 250 cSt. (23 deg. C)
  - Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C): (i) Removable head packaging; (ii) Cans with friction closures and (iii) low pressure tubes and cartridges may be used.
  - Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages
  - In addition, where inner packagings are glass and contain liquids of packing group I there must be sufficient inert absorbent to absorb any spillage, unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.

Suitable container

- Explosion or violent decomposition during distillation of aldoximes has been attributed to the presence of peroxides arising from autooxidation.
- Peroxides may form on the -C=NOH system (both aldehydes and hydroxylamine peroxides) or perhaps arise from unreacted aldehyde.
- Explosion hazards are inherent to ketoximes and many of their derivatives. Such hazard has been attributed to the inadvertent occurrence of acidic conditions leading to the highly exothermic Beckmann rearrangement accompanied by potentially catastrophic gas evolution.
- The presence of acidic salts (iron(III) chloride), or the ketoxime hydrochloride markedly lowers decomposition temperatures.
- A range of exothermic decomposition energies for oximes is given as 170-230 kJ/mol. The relationship between energy of decomposition and processing hazards has been the subject of discussion; it is suggested that values of energy released per unit of mass, rather than on a molar basis (J/g) be used in the assessment. For example, in "open vessel processes" (with man-hole size openings, in an industrial setting), substances with exothermic decomposition energies below 500 J/g are unlikely to present a danger, whilst those in "closed vessel processes" (opening is a safety valve or bursting disk) present some danger where the decomposition energy exceeds 150 J/g.

# Storage incompatibility

#### BRETHERICK: Handbook of Reactive Chemical Hazards, 4th Edition

- Larbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides.
- Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates.
- Strongly oxidising acids, peroxides, and hydroperoxides are incompatible with carbamates.

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#### **SECTION 8 Exposure controls / personal protection**

#### Control parameters

#### Occupational Exposure Limits (OEL)

#### INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	methomyl	Methomyl	2.5 mg/m3	Not Available	Not Available	Not Available

## **Emergency Limits**

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
methomyl	Methomyl	0.91 mg/m3	10 mg/m3	23 mg/m3

Ingredient	Original IDLH	Revised IDLH
methomyl	Not Available	Not Available

#### **Exposure controls**

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

# Appropriate engineering controls

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min.)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

#### Personal protection









- ► Safety glasses with side shields
- Chemical goggles.

# Eye and face protection

Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

# Skin protection

# See Hand protection below

- ▶ Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

#### Hands/feet protection

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be

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washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- · When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
- Contaminated gloves should be replaced.

As defined in ASTM F-739-96 in any application, gloves are rated as:

- Excellent when breakthrough time > 480 min
- Good when breakthrough time > 20 min
- · Fair when breakthrough time < 20 min
- · Poor when glove material degrades

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.
- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

#### Body protection

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#### See Other protection below

#### Overalls.

- PVC Apron.
- ▶ PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Ensure there is ready access to a safety shower
- Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.

# Other protection

- For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).
- Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot an shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.
- Ensure that there is a supply of atropine tablets on hand
- Ensure all employees have been informed of symptoms of cholinesterase poisoning and that the use of atropine in first aid is understood.

# Recommended material(s)

#### GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

#### "Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the *computer-generated* selection:

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Material	СРІ
PE	В
SARANEX-23	В

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE**: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

#### Respiratory protection

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS	-	A-PAPR-AUS / Class 1
up to 50 x ES	-	A-AUS / Class 1	-
up to 100 x ES	-	A-2	A-PAPR-2 ^

## ^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 deqC)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

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# **SECTION 9 Physical and chemical properties**

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## Information on basic physical and chemical properties

Appearance	Blue highly flammable liquid; mixes with water.		
Blood of the same		Balada a lamata (Maran A)	
Physical state	Liquid	Relative density (Water = 1)	1
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	21	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

# **SECTION 10 Stability and reactivity**

Reactivity	See section 7
Chemical stability	<ul> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> </ul>
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

# **SECTION 11 Toxicological information**

# Information on toxicological effects

oao o toxoo.og.ou. o.	
Inhaled	Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects. There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.  Poisoning due to cholinesterase inhibitors causes symptoms such as increased blood flow to the nose, watery discharge, chest discomfort, shortness of breath and wheezing. Other symptoms include increased production of tears, nausea and vomiting, diarrhoea, stomach pain, involuntary passing of urine and stools, chest pain, breathing difficulty, low blood pressure, irregular heartbeat, loss of reflexes, twitching, visual disturbances, altered pupil size, convulsions, lung congestion, coma and heart failure.  Symptoms of carbamate poisoning are similar to that of organophosphate poisoning, however, recovery from carbamate poisoning is quicker and generally less likely to be cause death.  Breathing of methomyl vapour, dust or sprays may aggravate asthma and inflammatory or fibrotic pulmonary disease. Methomyl is a pulmonary irritant; during exposure animals exhibit tremors, irregular breathing, grooming action, salivation.
Ingestion	Severely toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 5 gram may be fatal or may produce serious damage to the health of the individual.  Ingestion may produce nausea, vomiting, depressed appetite, abdominal cramps, and diarrhoea.  The inhibition of cholinesterase by methomyl is quickly reversed. A lethal dose for humans has been estimated at 12 to 15 mg/kg. In a methomyl poisoning involving five men who had mistakenly used methomyl instead of salt, the men were found to be critically ill 3 hours after the meal with symptoms including frothing at the mouth, twitching and trembling. One of the two survivors showed generalised twitching and spasms, fasciculation and respiratory impairment thought to be due to severe bronchiospasms. A separate case involving suicide by a mother who also forced her 6-year old son to drink methomyl concluded the lethal dose in the mother was 55 mg/kg and 13 mg/kg in her child. Autopsy revealed pulmonary congestion and oedema, and the gastric mucosa was black-brown, oedematous and congested.
Skin Contact	Skin contact with the material may produce toxic effects; systemic effects may result following absorption.  There may be sweating and muscle twitches at site of contact. Reaction may be delayed by hours.  Open cuts, abraded or irritated skin should not be exposed to this material  Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.  Skin contact with methomyl may result in redness and swelling and repeated exposure may lead to contact dermatitis. Skin irritation may be aggravated in persons with existing skin lesions.  When 200 mg/kg methomyl was applied to abraded rabbit skin for up to 15 days, some animals showed signs of cholinesterase inhibition and died between the first and eighth dose.
Еуе	There is some evidence to suggest that this material can cause eye irritation and damage in some persons.  Direct eye contact can produce tears, eyelid twitches, pupil contraction, loss of focus, and blurred or dimmed vision. Dilation of the pupils occasionally occurs.

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Chronic

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Repeated or prolonged exposures to cholinesterase inhibitors produce symptoms similar to acute effects. In addition workers exposed repeatedly to these substances may exhibit impaired memory and loss of concentration, severe depression and acute psychosis, irritability, confusion, apathy, emotional liability, speech difficulties, headache, spatial disorientation, delayed reaction times, sleepwalking, drowsiness or insomnia. There are generally two types of oximes: ketoximes, derived from ketones and aldoximes, derived from aldehydes. Several ketoximes have elicited cancer-causing effects on chronic exposure.

OzCrop Methomyl 225 SL	TOXICITY	IRRITATION	
Insecticide	Not Available	Not Available	
	TOXICITY	IRRITATION	
methomyl	Inhalation (rat) LC50: 76.912143 mg/l/4H*[2]	Eye (rabbit): slight*	
	Oral (rat) LD50: 14.7 mg/kg <sup>[2]</sup> Skin (rabbit): slight*		
Legend:	Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances		

Carbamate pesticides are less dangerous than organophosphorus pesticides. It requires higher dose to produce toxicity or mortality. However, its toxicity via skin contact is low to moderate. Its rapid metabolism causes acute toxic effect but subsequent rapid recovery. It may cause skin and eye irritation, increased pigmentation, sperm abnormalities, sensitization, cancer, mutations and genetic and foetal defects. It is easily absorbed through the skin, mucous membranes, airway and digestive tract. It can cause changes to the function of the blood-making system and the liver and kidney, at higher concentrations it can cause degeneration of the liver, kidney and testes. Its metabolites are detectable in urine.

METHOMYL

Methomyl is highly toxic if swallowed; symptoms of poisoning include weakness, blurred vision, headache, nausea, abdominal cramps, chest discomfort, constriction of pupils, sweating, muscle tremors, and decreased pulse. In severe poisoning there may be twitching, giddiness, confusion, muscle inco-ordination, slurred speech, low blood pressure, heart irregularities, and loss of reflexes. Death can result from stoppage of breathing, paralysis of the muscles of breathing, intense constriction of airways or all three. Inhaling dust or aerosol may cause irritation, lung and eye problems, with symptoms of chest tightness, blurred vision, tearing, wheezing and headaches. Other whole-body symptoms of cholinesterase inhibition may appear within minutes to hours of exposure. It is slightly toxic through skin contact, and is only slowly absorbed through the skin. However, if sufficient amounts are absorbed through the skin, symptoms similar to those caused by inhalation or swallowing will develop. Localised sweating and inco-ordinated muscle contraction develops around the area of contact within 0.25-4 hours. Within a few minutes of eye contact with methomyl, there will be pain, short-sightedness, blurring of distant vision, tearing, and other eye disturbances. Prolonged or repeated exposure to methomyl may cause symptoms similar to its acute effects. Repeated exposure to small amounts may cause flu-like symptoms which persist for 2-6 weeks; it is reversible when exposure is discontinued.

Animal testing has not shown methomyl to have reproductive effects, cause birth defects, or cancer. Methomyl can potentially affect the lungs, skin, eyes, digestive tract, kidneys, spleen and blood-forming organs, depending on route of entry, duration of exposure, and dosage. Methomyl is broken down in the liver and excreted via breathing and in urine.

ADI (Acceptable Daily Intake) humans: 0.01 mg/kg/day\*\* \*\*ADI List, Commonwealth Department of Health and Family Services, 4/97. ADI: 0.01 mg/kg/day NOEL: 1.25 mg/kg/day

Acute Toxicity	✓	Carcinogenicity	X
Skin Irritation/Corrosion	×	Reproductivity	X
Serious Eye Damage/Irritation	×	STOT - Single Exposure	X
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	X

Legend:

★ - Data either not available or does not fill the criteria for classification

Data available to make classification

## **SECTION 12 Ecological information**

#### Toxicity

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available
Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available
	Not Available  Endpoint Not Available  Extracted from	Not Available    Not Available	Not Available   Not Available   Not Available	Not Available     Not Available       Endpoint     Test Duration (hr)       Not Available     Not Available       Not     Not Available       Not Available     Not Available

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

Toxic to flora.

Toxic to soil organisms

Toxic to bees

The initial, and still integral, toxicity test is the adult honey bee acute contact study. This lab study determines the amount of pesticide that kills 50% of a test group of bees, or LD50. (LD=Lethal Dose).

If the Acute Contact LD50 is less than or equal to 2 micrograms per bee, the pesticide is classified as Toxicity Group I, "highly toxic to bees."

If the LD50 is less than 11 but greater than 2 micrograms per bee, it is classified as Toxicity Group II, "toxic to bees

If the LD50 of the pesticide is greater than 11 micrograms per bee (Toxicity Group III), it is relatively nontoxic, and no bee caution statement is required on the label.

Toxicity Groups I and II are "bee-toxic pesticides" and the label will have specific use instructions to reduce the risk to pollinators.

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A bee-toxic pesticide that does not have extended residual toxicity can often be applied after pollinator foraging is complete (such as in the early evening) without harming pollinators that arrive the following day.

DO NOT discharge into sewer or waterways.

#### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air	
methomyl	HIGH	HIGH	

#### **Bioaccumulative potential**

Ingredient	Bioaccumulation	
methomyl	LOW (LogKOW = -0.0343)	

#### Mobility in soil

Ingredient	Mobility
methomyl	LOW (KOC = 22.76)

#### **SECTION 13 Disposal considerations**

#### Waste treatment methods

- ▶ Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

#### Otherwise:

- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
- ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product.
- ▶ DO NOT allow wash water from cleaning or process equipment to enter drains
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Product / Packaging disposal
- Consult manufacturer for recycling options.
  - ▶ Consult Land Waste Management Authority for disposal options.
  - For disposal of residue:
  - Add with stirring to strongly alkaline solution of calcium hypochlorite. Let stand for 24 hours and then route cyanate to sewage treatment

# OR

- ▶ Mix with flammable solvent and spray into incinerator equipped with afterburner and scrubber.
- Decontaminate empty containers.
- ▶ Return containers to drum reconditioner or recycler.

OR

▶ Puncture containers to prevent reuse and bury at an authorised landfill.

## **SECTION 14 Transport information**

# **Labels Required**





#### Marine Pollutant



**HAZCHEM** 

•3WE

## Land transport (ADG)

UN number	2758		
UN proper shipping name	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point less than 23°C		
Transport hazard class(es)	Class         3           Subrisk         6.1		
Packing group			
Environmental hazard	Environmentally hazardous		
Special precautions for user	Special provisions 61 274 Limited quantity 1 L		

#### Air transport (ICAO-IATA / DGR)

UN n	umber
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UN proper shipping name	Carbamate pesticide, liq	uid, flammable, toxic * flash point less tl	nan 23°C	
	ICAO/IATA Class	3		
Transport hazard class(es)	ICAO / IATA Subrisk	6.1		
	ERG Code	ЗР		
Packing group	II			
Environmental hazard	Environmentally hazardous			
	Special provisions		A4	
Special precautions for user	Cargo Only Packing Instructions		364	
	Cargo Only Maximum Qty / Pack		60 L	
	Passenger and Cargo Packing Instructions		352	
	Passenger and Cargo Maximum Qty / Pack		1 L	
	Passenger and Cargo Limited Quantity Packing Instructions		Y341	
	Passenger and Cargo Limited Maximum Qty / Pack		1 L	

# Sea transport (IMDG-Code / GGVSee)

UN number	2758		
UN proper shipping name	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint less than 23°C		
Transport hazard class(es)	IMDG Class 3 IMDG Subrisk 6.1	 1	
Packing group			
Environmental hazard	Marine Pollutant		
Special precautions for user	EMS Number Special provisions Limited Quantities	F-E , S-D 61 274 1 L	

# Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

# **SECTION 15 Regulatory information**

## Safety, health and environmental regulations / legislation specific for the substance or mixture

# methomyl is found on the following regulatory lists

Australia Chemicals with non-industrial uses removed from the Australian Inventory of Chemical Substances (old Inventory)

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) -Schedule 6

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) -Schedule 7

# **National Inventory Status**

National Inventory	Status
Australia - AIIC	No (methomyl)
Australia Non-Industrial Use	Yes
Canada - DSL	No (methomyl)
Canada - NDSL	No (methomyl)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (methomyl)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	No (methomyl)
USA - TSCA	No (methomyl)
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

# **SECTION 16 Other information**

**Revision Date** 

01/11/2019

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## OzCrop Methomyl 225 SL Insecticide

Print Date: 16/09/2020

Initial Date

12/07/2019

#### **SDS Version Summary**

Version	Issue Date	Sections Updated
2.1.1.1	12/07/2019	Physical Properties
3.1.1.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification

#### Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

#### **Definitions and abbreviations**

PC-TWA: Permissible Concentration-Time Weighted Average

PC-STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit,

IDLH: Immediately Dangerous to Life or Health Concentrations

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value LOD: Limit Of Detection OTV: Odour Threshold Value BCF: BioConcentration Factors BEI: Biological Exposure Index

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