Aqua K-Othrine Insecticide Space-Spray Concentrate APVMA Approval Number 63246/100374 Approval date: 30 January 2015 Adultizedere Page 1 of 6

POISON

KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING



INSECTICIDE SPACE-SPRAY CONCENTRATE

ACTIVE CONSTITUENT:

20 g/L DELTAMETHRIN

SOLVENT:

250 g/L HYDROCARBON LIQUID

GROUP 3A INSECTICIDE

A pyrethroid based insecticide concentrate for use as a space-spray for the control of adult mosquitoes, flies, cockroaches, spiders and stored product pests as per the Directions for Use.

Shake well before use.

Contents 1L – 10L

DIRECTIONS FOR USE

SPRAY DRIFT RESTRAINTS (FOR OUTDOOR USE)

Users of this product MUST make an accurate written record of the details of each spray application within 24 hours following application and KEEP this record for a minimum of 2 years. The spray application details that must be recorded are: 1 date and start and finish times of application; 2 location address and areas sprayed; 3 full name of this product; 4 amount used per hectare and number of hectares applied to; 5 situation and pest; 6 wind speed and direction during application; 7 air temperature; 8 nozzle brand, model and type and spray system pressure measured during application; 9 name and address of person applying this product. (Additional record details may be required by the State or Territory where this product is used).

SITUATION	PEST	RATE	CRITICAL COMMENTS
Outdoor and indoor situations where flies and/or mosquitoes are a problem (including but not limited to abbatoirs, refuse tips, picnic areas, sports grounds, recreation areas, factories, industrial buildings, domestic residences and areas associated with animal production).	Adult flies and mosquitoes	Outdoors 50 mL/ha Indoors 2.5 mL/ 1000 m ³	Dilute with a suitable volume of water (further details provided in the table below) and apply using equipment capable of generating a mist or thermal or cold fog. Avoid application outdoors if wind speed is in excess of 10 km/h as spray will be dispersed too quickly.
Domestic, commercial, industrial and public buildings, including food processing establishments, shops, factories, farm buildings, warehouses, ships, offices, schools, storerooms, hospitals, barracks, private houses	Spiders, American and German cockroaches, Stored product pests	Indoors 2.5 mL/ 1000 m ³	Dilute with a suitable volume of water (further details provided in the table below) and apply using equipment capable of generating a mist or thermal or cold fog.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

NO WITHHOLDING PERIOD IS REQUIRED WHEN USED AS DIRECTED BUT THIS PRODUCT SHOULD NOT BE APPLIED OVER WATER INTENDED FOR HUMAN CONSUMPTION.

GENERAL INSTRUCTIONS

Aqua K-Othrine is a water-based space spray concentrate (oil in water emulsion) specifically designed for dilution in water ONLY, which can be applied by ultra low volume (ULV; vehicle mounted application techniques), thermal fogging or misting machines.

Aqua K-Othrine incorporates anti-evaporant Film Forming Aqueous Suspension Technology (FFAST); which allows dilution with water yet spray droplet size is maintained as if diluted in oil.

Mixing

Dilute Aqua K-Othrine with the suitable volume of water according to the equipment manufacturer's recommendations for the output rates required. As standard practice, application equipment should be calibrated to determine output rates and actual volumes required in order to reach the target application rates of product referred to in the directions for use above.

As a guide only, some dilution and application rates are provided in the table below. Prepare only the amount required for immediate usage. DO NOT store diluted material.

APPLICATION METHOD	SITUATION	DILUTION RATE	APPLICATION RATE OF DILUTION
ULV (Cold	Indoors	2.5 mL + 50 mL water	50 mL / 1000 m ³
fogging)	Outdoors	50 mL + 450 mL water (dilution ratio 1:9)	500 mL / ha
Thermal Fogging	Indoors	2.5 mL / 500 mL water	100 – 200 mL / house or 500 mL / 1000 m ³
	Outdoors	50 mL + 4950 mL water (dilution ratio 1:99)	5 L / ha

Equipment

Apply by means of appropriate specialist equipment capable of producing and distributing droplets of a volume mean diameter (VMD) value below 50 microns. This equipment may be thermal fogging equipment, cold aerosol generating ULV equipment and hand-held or knapsack sprayers which are designed for space spraying.

Note that generally speaking motorised knapsack/backpack sprayers or mist blowers produce a mist with a droplet size spectrum of 0 to 200 μ m with Volume Median Diameters greater than 50 μ m. These larger droplets are less efficient for flying insect control.

Application timing

Fly and mosquito control campaigns should begin early in the breeding season. Spray rounds should initially be every other day for 7 to 10 days to kill newly emerging adults and then a maintenance phase of weekly sprays may be used. Application should be timed correctly to achieve optimum results; for fly control; application should take place in the morning when flies are at ground level and have not had a chance to disperse. Application should be targeted to resting and breeding areas.

For mosquito control the optimum application time is generally in the evening when most species are active however the peak activity time should be identified to optimise effect against the particular target species.

For optimum results when applying indoors close windows and doors before application and do not open for at least 30 minutes after treatment.

PRECAUTIONS

DO NOT apply in areas where food is prepared or eaten or where spray may come into direct contact with food.

Before use, remove or cover all exposed foodstuffs. Cover all dishes and utensils and other food preparation equipment.

After use, thoroughly ventilate treated area. Clean up thoroughly before processing/serving resumes.

Fish bowls/aquaria should be removed or covered during indoor treatment.

Re-entry

DO NOT allow re-entry into treated areas for 4 hours after use in enclosed spaces, unless wearing chemical resistant gloves, goggles and respirator. Clothing must be laundered after each day's use. It is recommended that appropriate signage is utilised or adequate communication takes place with on-site staff and/or bystanders to ensure that these periods are adhered to.

INSECTICIDE RESISTANCE WARNING

GROUP 3A INSECTICIDE

For insecticide resistance management, Aqua K-Othrine is a Group 3A insecticide. Some naturally occurring insect biotypes resistant to Aqua K-Othrine and other Group 3A insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Aqua K-Othrine or other Group 3A insecticides are used repeatedly. The effectiveness of Aqua K-Othrine on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Bayer CropScience Pty. Ltd. accepts no liability for any losses that may result from the failure of Aqua K-Othrine to control resistant insects. Aqua K-Othrine may be subject to specific resistance management strategies. For further information contact your local supplier or Bayer Environmental Science representative.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Dangerous to fish and aquatic invertebrates. DO NOT use over or immediately adjacent to any water body or water course. DO NOT contaminate streams, rivers or waterways with the chemical or used container.

PROTECTION OF LIVESTOCK

Dangerous to bees. Will kill bees foraging in the area during application or in hives which are oversprayed or reached by spray drift.

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots, in compliance with relevant local, state or territory government regulations. DO NOT burn empty containers or product. DO NOT re-use container for any other purpose.

SAFETY DIRECTIONS

Harmful if swallowed. Will irritate the eyes. Avoid contact with eyes and skin. DO NOT inhale spray mist. Ensure adequate ventilation during use. When opening the container, mixing and loading, preparing spray and using spray wear chemical resistant gloves and face shield of goggles. When using in enclosed areas, wear elbow length chemical resistant gloves and full face-piece respirator. If product in eyes wash it out immediately with water. Avoid re-entry for 4 hours after use in confined spaces. If re-entering wear all protective clothing including respirator. After each day's use, wash gloves, face shield of goggles, contaminated clothing and respirator and if rubber wash with detergent and warm water.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 13 11 26). If swallowed do not induce vomiting, give a glass of water.

SAFETY DATA SHEET

Additional information is listed in the Safety Data Sheet which is available at www.environmentalscience.bayer.com.au.

EXCLUSION OF LIABILITY

This product must be used strictly as directed, and in accordance with all instructions appearing on the label and in other reference material. So far as it is lawfully able to do so, Bayer CropScience Pty Ltd accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions.

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K-Othrine® is a Registered Trademark of the Bayer Group.

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(03) 9248 6888

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(03) 9248 6803

Technical enquiries: 1800 804 479

Website: www.environmentalscience.bayer.com.au

For 24 hour specialist advice in an emergency only phone 1800 033 111

Batch Number DOM Barcode

(DrumMuster logo on 10 L containers only)





Aqua K-Othrine® Insecticide Space-Spray Concentrate



Version 3 / AUS 102000011793

Revision Date: 27.05.2013

SECTION 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name:

Aqua K-Othrine® Insecticide Space-Spray Concentrate

Other names:

None

Product code (UVP): Recommended use:

06477399 Insecticide

Chemical formulation:

Emulsion, oil in water (EW)

Company:

Bayer CropScience Pty. Ltd.

ABN 87 000 226 022

391-393 Tooronga Road, East Hawthorn

Victoria 3123, Australia

Telephone:

(03) 9248 6888

Technical Information Service:

1800 804 479 (03) 9248 6800

Facsimile: Website:

www.bayeres.com.au

Contact:

(03) 9248 6888 Technical Manager

Emergency telephone no.:

1800 033 111 Orica SH&E Shared Services

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview HAZARDOUS SUBSTANCE DANGEROUS GOODS

Hazardous classification:

Hazardous (National Occupational Health and Safety Commission -

NOHSC).

R-phrase(s):

R22 - Harmful if swallowed.

R50/53 - Very toxic to aquatic organisms, may cause long-term

adverse effects in the aquatic environment.

R65 - Harmful: may cause lung damage if swallowed.

R66 - Repeated exposure may cause skin dryness or cracking.

S-phrase(s):

See sections 4, 5, 6, 7, 8, 10, 12, 13.

ADG Classification:

Not a "Dangerous goods" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. For transport by sea, Aqua K-Othrine Insecticide Space Spray Concentrate is a MARINE POLLUTANT. See Section 14.

SUSMP classification (Poison

Schedule):

Schedule 6 (Standard for the Uniform Scheduling of Medicines and

Poisons).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature:

Deltamethrin 20 g/L

Chemical Name	CAS-No.	Concentration [%]
Deltamethrin	52918-63-5	2.00
Solvent Naphtha (petroleum), heavy	64742-94-5	> 2.50 - < 25.00



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aromatic		
Stearyl alcohol, ethoxylated	9005-00-9	> 1.00 - < 5.00
Other ingredients (non-hazardous) to		
100 %		

SECTION 4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Safety Data Sheet to the doctor.

Inhalation

Move the victim to fresh air and keep at rest. Call a physician or poison control center immediately.

Skin contact

In case of skin contact, immediately wash with plenty of soap and water for at least 15 minutes. Warm water may increase the subjective severity of the irritation/paresthesia. This is not a sign of systemic poisoning. In case of skin irritation, application of oils or lotions containing vitamin E may be considered. If symptoms persist, call a physician.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Warm water may increase the subjective severity of the irritation/paresthesia. This is not a sign of systemic poisoning. Apply soothing eye drops, if needed anaesthetic eye drops. Get medical attention if irritation develops and persists.

Ingestion

Keep at rest. Rinse mouth. Do NOT induce vomiting. Risk of product entering the lungs on vomiting after ingestion. Call a physician or poison control center immediately.

Notes to physician

Symptoms

Local: Skin and eye paraesthesia which may be severe, usually transient with resolution within 24 hours. Skin, eye and mucous membrane irritation, cough, sneezing. Systemic: Discomfort in the chest, tachycardia, hypotension, nausea, abdominal pain, diarrhoea, vomiting, dizziness, blurred vision, headache, anorexia, somnolence, coma, convulsions, tremors, prostration, airway hyperreaction, pulmonary oedema, palpitation, muscular fasciculation, apathy.

Treatment

Local treatment: Initial treatment: Symptomatic.

Systemic treatment: Initial treatment: Symptomatic.

Monitor: Respiratory and cardiac functions.

In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable.

Keep respiratory tract clear.

Oxygen or artificial respiration if needed.

In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens.

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If not effective, phenobarbital may be used.

Contraindication: atropine.

Contraindication: derivatives of adrenaline.

There is no specific antidote.

Recovery is spontaneous and without sequelae.

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Water spray Alcohol-resistant foam Dry chemical Carbon dioxide

Extinguishing media which should not be used for safety reasons

High volume water jet.

Hazards from combustion products

Dangerous gases are evolved in the event of a fire.

Precautions for fire-fighting

In the event of fire, wear self-contained breathing apparatus.

Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat.

Whenever possible, contain fire-fighting water by diking area with sand or earth.

Hazchem Code •3Z

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Keep people away from and upwind of spill/leak.

Avoid contact with spilled product or contaminated surfaces.

When dealing with a spillage do not eat, drink or smoke.

Environmental precautions

Do not allow to get into surface water, drains and ground water.

Methods for cleaning up

Keep in suitable, closed containers for disposal.

Clean floors and contaminated objects with plenty of water.

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Additional advice

Information regarding safe handling, see section 7.

Information regarding personal protective equipment, see section 8.

Information regarding waste disposal, see section 13.

Check also for any local site procedures.





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SECTION 7. HANDLING AND STORAGE

Handling

Hygiene measures:

When using, do not eat, drink or smoke.

Remove soiled clothing immediately and clean thoroughly before using again.

Contaminated work clothing should not be allowed out of the workplace.

Wash hands thoroughly with soap and water after handling and before eating, drinking,

chewing gum, using tobacco, using the toilet or applying cosmetics.

Wash hands immediately after work, if necessary take a shower.

Advice on protection against fire and explosion:

Keep away from heat and sources of ignition.

Vapours may form explosive mixture with air.

Storage

Requirements for storage areas and containers:

Keep out of the reach of children.

Store in a place accessible by authorized persons only.

Keep containers tightly closed in a dry, cool and well-ventilated place.

Keep away from direct sunlight.

Protect from freezing.

Advice on common storage:

Keep away from food, drink and animal feedingstuffs.

Suitable materials:

Coex EVOH (1000L IBC)

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Control parameters	Update	Basis
Deltamethrin	52918-63-5	0.02 mg/m ³		OES BCS
Boltamounin		(TWĂ)		

For further details on the Occupational Exposure Standards, see Section 16.

Observe: Exposure Limits In Air, Group 3: 100 mg/m³/ 20 ppm. (aromatic-rich hydrocarbon mixes with > 25 % aromatics TRGS 901, No. 72).

Personal protective equipment - End user

Respiratory protection:

When using in enclosed areas, wear full face-piece respirator.

Hand protection:

Elbow-length PVC or nitrile gloves.

Eye protection:

Face-shield or goggles.

Skin and body protection:

Cotton overall buttoned to the neck and wrist.

Impervious footwear.

Engineering controls

Advice on safe handling:

No specific precautions required when handling unopened packs/containers; follow relevant

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manual handling advice. Ensure adequate ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form:

Suspension, opaque

Colour:

Off-white

Odour:

Strong, characteristic

Safety data

pH:

3.5 - 5.0 at 100 % (23 °C)

pH:

4.5 - 7.5 at 1 % (23 °C)

Flash point:

No data available.

Ignition temperature:

> 450 °C

The data refer to solvent naphtha petroleum.

Upper explosion limit:

7.00 %(V)

The data refer to solvent naphtha petroleum.

Lower explosion limit:

0.8 % (V)

The data refer to solvent naphtha petroleum.

Vapour pressure:

No data available.

Relative vapour density:

1.00

The data refer to solvent naphtha petroleum.

Density

ca. 1.00 g/cm3 at 20 °C

Water solubility

Miscible

Partition coefficient: n-

octanol/water:

No data available

Viscosity, dynamic:

<= 30 mPa.s at 20 °C Velocity gradient 7.5 /s

Viscosity, kinematic:

ca. 3 mm²/s at 40 °C

Surface tension:

ca. 25.7 mN/m at 40 °C

SECTION 10. STABILITY AND REACTIVITY

Chemical stability:

Stable under recommended storage conditions.

Conditions to avoid:

Extremes of temperature and direct sunlight.

Hazardous reactions:

No hazardous reactions when stored and handled according to

prescribed instructions.





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SECTION 11. TOXICOLOGICAL INFORMATION

Potential health effects

Inhalation: Inhalation of spray may cause transient irritation of mucous

membranes (nose, throat and respiratory tract) for up to 24 hours.

Skin: Slightly irritating.

Eye: Slightly irritating.

Ingestion: Harmful if swallowed.

Animal toxicity studies

Acute oral toxicity: LD50 (rat) 304 mg/kg

Acute inhalation toxicity: LC₅₀ (rat) > 5.80 mg/L Exposure time: 4 h

Highest attainable concentration.

Acute dermal toxicity: LD₅₀ (rat) > 5,000 mg/kg

Skin irritation: Slight irritant effect - does not require labelling (rabbit).

Eye irritation: Slight irritant effect - does not require labelling (rabbit).

Sensitisation: Non-sensitizing (guinea pig).

OECD Test Guideline 406, Buehler test

Further information

Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours). Deltamethrin is not mutagenic, carcinogenic or teratogenic.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish: LC₅₀ (Cyprinus carpio (Carp)) 0.0539 mg/L

Exposure time: 96 h

Toxicity to aquatic

invertebrates:

EC₅₀ (Daphnia magna (Water flea)) 0.00056 mg/L

Exposure time: 48 h

The value mentioned relates to the active ingredient deltamethrin.

Toxicity to aquatic plants: EC₅₀ (Algae) > 9.1 mg/L

Exposure time: 72 h

The value mentioned relates to the active ingredient deltamethrin.

Bioaccumulation: Lepomis macrochirus (Bluegill sunfish)

Bioconcentration factor (BCF): 1,400

The value mentioned relates to the active ingredient deltamethrin.

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SECTION 13. DISPOSAL CONSIDERATIONS

Metal drums and plastic containers

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

SECTION 14. TRANSPORT INFORMATION

ADG

UN-Number 3082
Class 9
Subsidiary Risk None
Packaging group III

Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(DELTAMETHRIN SOLUTION)

Hazchem Code •3Z

According to AU01, Environmentally Hazardous Substances in packagings, IBC or any other receptacle not exceeding 500 kg or 500 L are not subject to the ADG Code.

IMDG

UN-Number 3082
Class 9
Subsidiary Risk None
Packaging group III
EmS F-A, S-F
Marine pollutant YES

Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID.

N.O.S.

(DELTAMETHRIN SOLUTION)

IATA

UN-Number 3082
Class 9
Subsidiary Risk None
Packaging group III
Environm. Hazardous Mark YES

Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S

(DELTAMETHRIN SOLUTION)

SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994.

Australian Pesticides and Veterinary Medicines Authority approval number: 63246.

See also Section 2.

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SECTION 16. OTHER INFORMATION

Trademark information

Aqua K-Othrine® is registered trademark of the Bayer Group.

This SDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

Further details on the Occupational Exposure Standards mentioned in Section 8:

CEILING: Ceiling Limit Value

OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

PEAK: Exposure Standard - Peak means a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.

STEL: Exposure standard - short term exposure limit (STEL): A 15 minute TWA exposure which should not be exceeded at any time during a working day even if the eight-hour TWA average is within the TWA exposure standard. Exposures at the STEL should not be longer than 15 minutes and should not be repeated more than four times per day. There should be at least 60 minutes between successive exposures at the STEL.

SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure. TWA: Exposure standard - time-weighted average (TWA): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Reason for revision: Changed name from Material Safety Data Sheet to Safety Data Sheet.

END OF SDS