



K-Obiol® EC Combi Synergised Grain Protectant

Version 1 / AUS
102000028651

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Revision Date: 07.09.2016
Print Date: 07.09.2016

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Trade name K-Obiol® EC Combi Synergised Grain Protectant
Product code (UVP) 81706182

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

Use Insecticide

1.3 Details of the supplier of the safety data sheet

Supplier Bayer Cropscience Pty Ltd
ABN 87 000 226 022
Level 1, 8 Redfern Road
3123 Hawthorn East
Victoria
Australia

Telephone (03) 9248 6888

Telefax (03) 9248 6800

Responsible Department 1800 804 479 Technical Information Service

Website www.environmentalscience.bayer.com.au

1.4 Emergency telephone no.

Emergency telephone no. 1800 033 111 IXOM Operations Pty Ltd

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Australian GHS Regulation

Acute toxicity: Category 4
H332 Harmful if inhaled.

Acute toxicity: Category 4
H302 Harmful if swallowed.

Eye Damage/Irritation: Category 1
H318 Causes serious eye damage.

Acute aquatic toxicity: Category 1
H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1
H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Hazardous components which must be listed on the label:

Deltamethrin
Piperonyl butoxide

Signal word: Danger

Hazard statements

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H332	Harmful if inhaled.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

P261	Avoid breathing vapours.
P271	Use only outdoors or in a well-ventilated area.
P264	Wash hands thoroughly after handling.
P280	Wear eye protection/ face protection.
P270	Do not eat, drink or smoke when using this product.
P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/physician if you feel unwell.
P330	Rinse mouth.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P501	Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

No other hazards known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Deltamethrin 50g/l, Piperonyl butoxide 400g/l
Chemical nature Emulsifiable concentrate (EC)

Chemical Name	CAS-No.	Concentration [%]
Deltamethrin	52918-63-5	5.00
Piperonyl butoxide	51-03-6	40.00
Benzyl alcohol	100-51-6	<= 15.00
Tetrapropylene benzene sulfonate, calcium salt	11117-11-6	>= 6.00 - <= 7.00
1,2-Propanediol	57-55-6	<= 1.00
2,6-Di-tert-butyl-4-methylphenol	128-37-0	<= 1.00
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.

4.1 Description of first aid measures



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Inhalation	Move the victim to fresh air and keep at rest. When symptoms persist or in all cases of doubt seek medical advice. Oxygen or artificial respiration if needed.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. In case of skin irritation, application of oils or lotions containing vitamin E may be considered. Clean contaminated clothing and shoes before re-use or discard if they cannot be thoroughly cleaned. If symptoms persist, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation or redness persists, see an ophthalmologist.
Ingestion	Rinse mouth. Do NOT induce vomiting. Keep patient warm and at rest. Obtain medical attention. Persons attending the victim should avoid direct contact with heavily contaminated clothing and vomitus.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation, Skin, eye and mucous membrane irritation, Cough, Sneezing, Airway hyperreaction, Pulmonary oedema, Tachycardia, Hypotension, Palpitation, Nausea, Vomiting, Diarrhoea, Abdominal pain, Salivation, Dizziness, Blurred vision, Headache, anorexia, Coma, Somnolence, Seizures, Convulsions, Tremors, Ataxia, Muscular fasciculation
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4.3 Indication of any immediate medical attention and special treatment needed

Treatment	Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. Monitor: respiratory and cardiac functions. ECG - monitoring (Electrocardiogram). There is no specific antidote. Treat symptomatically. Recovery is spontaneous and without sequelae. Elimination by dialysis (forced alkaline diuresis). Contraindication: atropine. In case of skin irritation, application of oils or lotions containing vitamin E may be considered.
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SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable	Water spray, Carbon dioxide (CO ₂), Foam, Dry chemical
Unsuitable	High volume water jet

5.2 Special hazards arising from the substance or mixture	In the event of fire the following may be released:., Hydrogen cyanide (hydrocyanic acid), Hydrogen bromide (HBr), Nitrogen oxides (NO _x), Carbon monoxide (CO), Carbon dioxide (CO ₂)
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5.3 Advice for firefighters

Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective suit.
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Further information Whenever possible, contain fire-fighting water by diking area with sand or earth. Do not allow run-off from fire fighting to enter drains or water courses. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat.

Hazchem Code •3Z

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Use personal protective equipment. Keep unauthorized people away.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Collect and transfer the product into a properly labelled and tightly closed container.

Additional advice Inform appropriate authorities immediately if contamination occurs.

6.4 Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling Use only in area provided with appropriate exhaust ventilation. Avoid contact with skin, eyes and clothing.

Hygiene measures Avoid contact with skin, eyes and clothing.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Keep out of the reach of children. Keep away from direct sunlight. Protect from frost.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
2,6-Di-tert-butyl-4-methylphenol	128-37-0	10 mg/m ³ (TWA)	12 2011	AU NOEL
2,6-Di-tert-butyl-4-methylphenol	128-37-0	2 mg/m ³ (TLV)		OES BCS*

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

8.2 Exposure controls



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Respiratory protection	Wear respirator with a particle filter mask (protection factor 4) conforming to European norm EN149FFP1 or equivalent. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.
Hand protection	Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet. Material Nitrile rubber Rate of permeability > 480 min Glove thickness > 0.4 mm Protective index Class 6 Directive Protective gloves complying with EN 374.
Eye protection	Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).
Skin and body protection	Wear standard coveralls and Category 3 Type 5 suit. If there is a risk of significant exposure, consider a higher protective type suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.
General protective measures	In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply.
Engineering Controls	
Advice on safe handling	Use only in area provided with appropriate exhaust ventilation. Avoid contact with skin, eyes and clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	Liquid, clear
Colour	light yellow to brown
Odour	slight, naphthalene-like
pH	5.0 - 7.0 at 1 %
Density	ca. 1.07 g/cm ³ at 20 °C
Partition coefficient: n-	Deltamethrin: log Pow: 6.4 at 25 °C



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octanol/water

Piperonyl butoxide: log Pow: 4.75

9.2 Other information

Further safety related physical-chemical data are not known.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

Thermal decomposition Stable under normal conditions.

10.2 Chemical stability Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions No hazardous reactions when stored and handled according to prescribed instructions.

10.4 Conditions to avoid Extremes of temperature and direct sunlight.

10.5 Incompatible materials Oxidizing agents, Strong acids, Bases

10.6 Hazardous decomposition products Thermal decomposition can lead to release of:
Hydrogen cyanide (hydrocyanic acid)
Hydrogen bromide (HBr)
Nitrogen oxides (NOx)
Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity LD50 (Rat) 710 mg/kg
Test conducted with a similar formulation.

Acute inhalation toxicity LC50 (Rat) 2.2 mg/l
Exposure time: 4 h
The value mentioned relates to the active ingredient deltamethrin.

LC50 (Rat) > 5.9 mg/l
Exposure time: 4 h
The value mentioned relates to the active ingredient piperonyl butoxide.

Acute dermal toxicity LD50 (Rabbit) > 2,000 mg/kg
Test conducted with a similar formulation.

Skin irritation No skin irritation (Rabbit)
Test conducted with a similar formulation.

Eye irritation Irritating to eyes. (Rabbit)
Test conducted with a similar formulation.

Sensitisation The results of a test on guinea pigs showed this substance to be a weak skin sensitiser. (Guinea pig)
Test conducted with a similar formulation.

Assessment mutagenicity

Deltamethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.



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Piperonyl butoxide was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Deltamethrin was not carcinogenic in lifetime feeding studies in rats and mice.
Piperonyl butoxide was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction

Deltamethrin did not cause reproductive toxicity in a two-generation study in rats.
Piperonyl butoxide did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Deltamethrin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Deltamethrin are related to maternal toxicity.
Piperonyl butoxide did not cause developmental toxicity in rats and rabbits.

Assessment STOT Specific target organ toxicity – repeated exposure

Deltamethrin caused neurobehavioral effects and/or neuropathological changes in animal studies. The toxic effects of Deltamethrin are related to transient hyperactivity typical for pyrethroid neurotoxicity.
Piperonyl butoxide did not cause specific target organ toxicity in experimental animal studies.

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

Irritating to skin.
Irritant
Harmful if swallowed.

Early onset symptoms related to exposure

Refer to Section 4

Delayed health effects from exposure

Refer to Section 11

Exposure levels and health effects

Refer to Section 4

Interactive effects

Not known

When specific chemical data is not available

Not applicable

Mixture of chemicals

Refer to Section 2.1

Further information

No further toxicological information is available.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity



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Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 0.15 µg/l Exposure time: 96 h The value mentioned relates to the active ingredient deltamethrin. (Cyprinodon variegatus (sheepshead minnow)) 3.94 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient piperonyl butoxide.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 0.0131 µg/l Exposure time: 48 h The value mentioned relates to the active ingredient deltamethrin. EC50 (Daphnia magna (Water flea)) 0.51 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient piperonyl butoxide.
Toxicity to aquatic plants	EC50 (Algae) > 9.1 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient deltamethrin.

12.2 Persistence and degradability

Biodegradability	Deltamethrin: Not rapidly biodegradable Piperonyl butoxide: Not rapidly biodegradable
Koc	Deltamethrin: Koc: 10240000 Piperonyl butoxide: Koc: 399 - 830

12.3 Bioaccumulative potential

Bioaccumulation	Deltamethrin: Bioconcentration factor (BCF) 1,400 Does not bioaccumulate. Piperonyl butoxide: Potential bioaccumulation
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12.4 Mobility in soil

Mobility in soil	Deltamethrin: Immobile in soil Piperonyl butoxide: Moderately mobile in soils
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12.5 Other adverse effects

Additional ecological information	No other effects to be mentioned.
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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.



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SECTION 14. TRANSPORT INFORMATION

ADG

UN number	3082
Transport hazard class(es)	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
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Marine pollutant	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN SOLUTION)

IATA

UN number	3082
Transport hazard class(es)	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: 66921

SUSMP classification (Poison Schedule)

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

SECTION 16. OTHER INFORMATION

Trademark information K-Obiol® is a registered trademark of the Bayer Group.

This SDS summarises our best knowledge of the health and safety hazard information of the product and



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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.

Abbreviations and acronyms

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
AU OEL	Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)
CAS-Nr.	Chemical Abstracts Service number
CEILING Conc.	Ceiling Limit Value Concentration
EC-No.	European community number
ECx	Effective concentration to x %
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level
MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
OES BCS	OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"
PEAK	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.
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SK-SEN	Skin sensitiser
SKIN_DES	SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.
STEL	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.
TWA	TWA: Exposure standard - time-weighted average (TWA): The average airborne concentration of a particular substance when calculated over a normal eight-hour

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TWA working day, for a five-day working week.
 Time weighted average
UN United Nations
WHO World health organisation

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

END OF SDS