

SAFETY DATA SHEET



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1) IDENTIFICATION OF THE SUBSTANCE / PREPARATION

Commercial name: **K-OBIOL® EC 25**

Usage: Insecticide

Company identification: Bayer (Pty.) Ltd.
Reg. No. 1968/011192/07
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Bayer (office hours only): +27 11 921 5310/5663/5471/5639
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Griffon Poison Information Centre: +27 82 446 8946

2) HAZARD IDENTIFICATION OF THE PRODUCT

Risk advice to man and the environment: Flammable.
Harmful by inhalation and if swallowed.
Irritating to respiratory system.
Risk of serious damage to eyes.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Harmful: may cause lung damage if swallowed.
Repeated exposure may cause skin dryness or cracking.

3) COMPOSITION / INFORMATION ON THE INGREDIENTS

Chemical nature: Emulsifiable concentrate (EC)
Deltamethrin/Piperonyl butoxide 25:225 g/ℓ

Hazardous components:

Chemical Name	CAS-No. / EINECS-No.	Symbol(s)	R-pharse(s)	Concentration [%]
Deltamethrin	52918-63-5 258-256-6	T, N	R23/25, R50/53	2,70
Piperonyl butoxide	51-03-6 200-076-7	N	R50/53	23,90
Tetrapropylene benzene sulfonate, calcium salt	11117-11-6 234-360-7	Xn	R21, R38, R41, R52/53	> 1,00 - < 25,00
2-Methylpropan-1-ol	78-83-1 201-148-0	Xi	R10, R37/38, R41, R67	> 1,00 - < 5,00
Solvent Naphtha (petroleum), light aromatic	64742-95-6 265-199-0	Xn, N	R10, R37, R51/53, R65, R66, R67	> 25,00

4) FIRST AID MEASURES

General advice: Remove contaminated, soaked clothing immediately and dispose of safely.

Inhalation: Move the patient to fresh air and keep at rest. If symptoms persist, call a physician.

Skin contact: Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water for at least 15 min. 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. Get medical attention if irritation develops and persists.

Ingestion: Rinse out mouth and give water in small sips to drink. Do NOT induce vomiting. Risk of product entering the lungs on vomiting after ingestion. If swallowed, seek medical advice immediately and show this container or label.

NOTES TO PHYSICIAN:

SAFETY DATA SHEET



Symptoms:	Local: Skin and eye paraesthesia which may be severe. Usually transient with resolution within 24 hours. May cause skin and eye irritation. Cough. Systemic: Discomfort in the chest, tachycardia, hypotension, nausea, abdominal pain, diarrhea, vomiting, dizziness, blurred vision, headache, anorexia, somnolence, coma, convulsions, tremors, prostration .
Risks:	This product/preparation contains a pyrethroid. Must NOT be confused with organophosphorus compounds! Risk of product entering the lungs on vomiting after ingestion.
Treatment:	Local treatment: Initial treatment should be symptomatic and supportive. Systemic treatment: Initial treatment: symptomatic. Monitoring of respiratory and cardiac functions. Gastric lavage should be considered in cases of significant ingestions within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. Keep respiratory tract clear. Give oxygen or artificial respiration if needed. In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens. If not effective, phenobarbital may be used. Contraindication: atropine. Contraindication: derivatives of adrenaline. There is no specific antidote. Recovery is spontaneous and without sequelae.

5) FIRE FIGHTING MEASURES

Suitable extinguishing media:	Water spray, alcohol-resistant foam, dry powder, carbon dioxide (CO ₂).
Extinguishing media which must not be used for safety reasons:	High volume water jet.
Specific hazards during fire fighting:	In case of fire the evolution of dangerous gases is possible.
Special protective equipment for fire-fighters:	In the event of fire and/or explosion do not breathe fumes. Wear self contained breathing apparatus for fire fighting if necessary.
Further information:	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.

6) ACCIDENTAL RELEASE MEASURES

Personal precautions:	Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Keep people away from and upwind of spill/leak.
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. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Clean floors and contaminated objects with plenty of water.
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.

7) HANDLING AND STORAGE

Handling:	
Advice on safe handling:	No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Use only in area provided with appropriate exhaust ventilation.
Advice on protection against fire and explosion:	Keep away from heat and sources of ignition - No smoking. Vapours may form explosive mixture with air.
Storage:	
Requirements for storage areas and containers:	Keep containers tightly closed in a cool, well-ventilated place. Store in a place accessible by authorized persons only. Keep away from direct sunlight.
Advice on common storage:	Keep away from food, drink and animal feedingstuffs.
Storage temperature:	0 - 30 °C

8) EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters:	
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SAFETY DATA SHEET



Components	CAS-No	Control parameters	Basis
Deltamethrin	52918-63-5	0,02 mg/m ³	OES BCS*
Piperonyl butoxide	51-03-6	500 ppm	OES BCS*

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

Additional advice: 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 during normal use/application: Wear protective clothing when handling the product. Wear gloves, face mask, dust mask.

Personal protective equipment during manufacture/formulation:

Respiratory protection: Wear respirator with an organic vapours and gas filter mask (protection factor 10) conforming to EN140 type A 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: Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness 0,40 mm). Wash when contaminated. Dispose of when contaminated inside, when perforated or when contamination outside cannot be removed. Wash hands always before eating, drinking, smoking or using the toilet.

Eye protection: Wear goggles conforming to EN166 (Field of Use 5 or equivalent).

Skin and body protection: Wear standard overall and type 6 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. If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

Hygiene measures: When using, do not eat, drink or smoke.
Remove soiled clothing immediately and clean thoroughly before using again.
Wash hands immediately after work, if necessary take a shower.

9) PHYSICAL AND CHEMICAL PROPERTIES

Description: Liquid, clear, yellow

pH: 3.5 - 7 at 1 % (23 °C)

Flash point: 44 °C

Ignition temperature: 450 °C

Upper explosion limit: 7.00 % (V) The data refer to the solvent naphtha petroleum

Lower explosion limit: 0.08 % (V) The data refer to the solvent naphtha petroleum

Relative vapour density: 1.00 The data refer to the solvent naphtha petroleum

Density: Approx. 0.94 g/cm³ at 20 °C

Water solubility: Emulsifiable

Surface tension: 27.7 mN/M

10) STABILITY AND REACTIVITY

Conditions to avoid: Extremes of temperature and direct sunlight.

Hazardous reactions: No hazardous reactions when stored and handled according to prescribed instructions.
Stable under recommended storage conditions.

11) TOXICOLOGICAL INFORMATION

Acute toxicity:

LD₅₀ oral, rat: 710 mg/kg

LD₅₀ dermal, rats > 2 000 mg/kg

LC₅₀ (4 hours) inhalation, rat: 2.69 mg/l air

When inhaled in high concentration, the solvent vapours cause a narcotic effect.
Test conducted with a similar formulation.

Skin irritation, rabbit: No skin irritation

SAFETY DATA SHEET



Eye irritation, rabbit: Severe eye irritation

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).

12) ECOLOGICAL INFORMATION

Elimination information (persistence and degradability):

Bioaccumulation: Bluegill sunfish
Bioconcentration factor (BCF): 1,400
The value mentioned relates to the active ingredient deltamethrin.

Bioaccumulation: Bluegill sunfish
Bioconcentration factor (BCF): 260
The value mentioned relates to the active ingredient piperonyl butoxide.

Toxicity to fish:

LC₅₀: 0.00091 mg/l ; Rainbow trout *Oncorhynchus mykiss*
Exposure time: 96 h
The value mentioned relates to the active ingredient deltamethrin.

LC₅₀: 3.94 mg/l *Cyprinodon variegatus*; Sheepshead minnow
Exposure time: 96 h
The value mentioned relates to the active ingredient piperonyl butoxide.

Toxicity to daphnia:

EC₅₀: 0.00056 mg/l; Water flea *Daphnia magna*
Exposure time: 48 h
The value mentioned relates to the active ingredient deltamethrin.

EC₅₀: 0.51 mg/l; Water flea *Daphnia magna*
Exposure time: 48 h
The value mentioned relates to the active ingredient piperonyl butoxide.

Toxicity to algae:

EC₅₀: >9.1 mg/l
Exposure time: 72 h
The value mentioned relates to the active ingredient deltamethrin.

13) DISPOSAL CONSIDERATIONS

Product: In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant.

Contaminated packaging: Triple rinse containers.
Do not re-use empty containers.
Not completely emptied packaging should be disposed of as hazardous waste.

14) TRANSPORT INFORMATION

UN No: 1993

Class: 3

Ems: F-E, S-E

Packing group: III

Special provision: 640E

Declaration for land shipment: 1993 FLAMMABLE LIQUID, N.O.S.
(deltamethrin, solvent naphtha (petroleum) light aromatic solution)

Declaration for sea shipment: 1993 FLAMMABLE LIQUID, N.O.S.
(deltamethrin, solvent naphtha (petroleum) light aromatic solution)

Declaration for shipment by air: 1993 FLAMMABLE LIQUID, N.O.S.
(deltamethrin, solvent naphtha (petroleum) light aromatic solution)

15) REGULATORY INFORMATION

Classification and labelling in accordance with the EC Directive on dangerous preparations 1999/45/EC as amended.

Classification: Hazard warning labelling compulsory.

SAFETY DATA SHEET



Symbol(s):

Xn: Harmful.

N: Dangerous for the environment.

R-phrases(s):

R10: Flammable.

R20/22: Harmful by inhalation and if swallowed.

R37: Irritating to respiratory system.

R41: Risk of serious damage to eyes.

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-phrases(s):

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S35: This material and its container must be disposed of in a safe way.

S39: Wear eye/face protection.

S57: Use appropriate container to avoid environmental contamination.

S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Exceptional labelling: To avoid risks to man and the environment, comply with the instructions for use.

WHO Classification: II (moderately hazardous).

16) OTHER INFORMATION

Text of R-phrases mentioned in Section 3:

R10: Flammable.

R21: Harmful in contact with skin.

R23/25: Toxic by inhalation and if swallowed.

R37: Irritating to respiratory system.

R37/38: Irritating to respiratory system and skin.

R38: Irritating to skin.

R41: Risk of serious damage to eyes.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R52/53: Harmful 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.

R67: Vapours may cause drowsiness and dizziness.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

Consult the label for directions for use.

THIS INFORMATION CONCERNS ONLY THE PRODUCT AS CONFORMING TO ITS SPECIFICATIONS AND LIMITED TO THE USES HEREIN STATED.

This sheet complements the technical sheet of use but does not replace it. The information contained on this sheet is based on knowledge of the product on the date of publication. It is given in good faith.

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