



K-OTHRINE EC15

Version 4 / ZA
10200002641

1/11
Revision Date: 09.12.2020
Print Date: 16.03.2022

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name K-OTHRINE EC15
Product code (UVP) 05940141

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 (Pty) Ltd.
27 Wrench Road, P.O. Box 143
1600 Isando
South Africa

Telephone +27 (011) 921 5911

Telefax +27 (011) 921 5766

Responsible Department QHSE - Nigel, South Africa
+27 (011) 365 8675 (during business hours only)

1.4 Emergency telephone no.

Emergency telephone no. +27 (0861) 555 777 (Western Cape Poisons Helpline)

Global Incident Response Hotline (24h) +1 (760) 476 3964 (Company 3E for Bayer AG, Crop Science Division)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Flammable liquids: Category 3

H226 Flammable liquid and vapour.

Acute toxicity: Category 4

H302 Harmful if swallowed.

Aspiration hazard: Category 1

H304 May be fatal if swallowed and enters airways.

Skin sensitisation: Category 1B

H317 May cause an allergic skin reaction.

Serious eye damage: Category 1

H318 Causes serious eye damage.

Specific target organ toxicity - single exposure: Category 3

H335 May cause respiratory irritation.

Specific target organ toxicity - single exposure: Category 3

H336 May cause drowsiness or dizziness.

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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

Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

- Deltamethrin
- Solvent Naphtha (petroleum), light aromatic



Signal word: Danger

Hazard statements

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H410 Very toxic to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

P240 Ground/bond container and receiving equipment.
P280 Wear protective gloves/ protective clothing/ eye protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor/ physician.
P391 Collect spillage.
P501 Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

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).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical nature

Emulsifiable concentrate (EC)
Deltamethrin 15 g/l

Hazardous components

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Hazard statements according to Regulation (EC) No. 1272/2008

Name	CAS-No. / EC-No. / REACH Reg. No.	Classification	Conc. [%]
		REGULATION (EC) No 1272/2008	
Deltamethrin	52918-63-5	Acute Tox. 3, H301 Aquatic Chronic 1, H410 Aquatic Acute 1, H400 Acute Tox. 3, H331	1,70
Hydrocarbons, C9, aromatics	64742-95-6 918-668-5 01-2119455851-35-xxxx	Flam. Liq. 3, H226 Asp. Tox. 1, H304 STOT SE 3, H335 STOT SE 3, H336 Aquatic Chronic 2, H411	> 25
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	68953-96-8 01-2119964467-24-xxxx	Acute Tox. 4, H312 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411	< 5
2-Methylpropan-1-ol	78-83-1 01-2119484609-23-XXXX	Flam. Liq. 3, H226 STOT SE 3, H335 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H336	< 5

Further information

Deltamethrin	52918-63-5	M-Factor: 1.000.000 (acute), 1.000.000 (chronic)
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For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES**4.1 Description of first aid measures**

General advice	Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.
Inhalation	Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.
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	Rinse out mouth and give water in small sips to drink. Do NOT induce vomiting. Do not leave victim unattended. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed**RESTRICTED**



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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, Blurred vision, Headache, Anorexia, Somnolence, Coma, Convulsions, Tremors, Prostration, Airway hyperreaction, Pulmonary oedema, Palpitation, Muscular fasciculation, Apathy, Dizziness
4.3 Indication of any immediate medical attention and special treatment needed	
Risks	This product contains a pyrethroid. Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.
Treatment	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. If not effective, phenobarbital may be used. Contraindication: atropine. Contraindication: derivatives of adrenaline. There is no specific antidote. Recovery is spontaneous and without sequelae. In case of skin irritation, application of oils or lotions containing vitamin E may be considered.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable	High volume water jet

5.2 Special hazards arising from the substance or mixture	Dangerous gases are evolved in the event of a fire.
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5.3 Advice for firefighters

Special protective equipment for firefighters	In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.
Further information	Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions	Avoid contact with spilled product or contaminated surfaces. Remove all sources of ignition. Use personal protective equipment.
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6.2 Environmental precautions	Do not allow to get into surface water, drains and ground water.
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Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

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 No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Ensure adequate ventilation.

Advice on protection against fire and explosion Keep away from heat and sources of ignition. Vapours may form explosive mixture with air. Take measures to prevent the build up of electrostatic charge. Use only explosion-proof equipment.

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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in a place accessible by authorized persons only. Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from freezing. Keep away from direct sunlight.

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

Suitable materials HDPE (high density polyethylene) -fluorinated
Black mild steel sheet with interior coating

7.3 Specific end use(s) Refer to the label and/or leaflet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Deltamethrin	52918-63-5	0,01 mg/m ³ (TWA)		OES BCS*
2-Methylpropan-1-ol	78-83-1	225 mg/m ³ /75 ppm (STEL)	1995	ZA REL
2-Methylpropan-1-ol	78-83-1	150 mg/m ³ /50 ppm (TWA)	1995	ZA REL

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

8.2 Exposure controls

Respiratory protection Wear respirator with an organic vapours and gas filter mask

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(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

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 4 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. 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Form	Liquid, clear
Colour	light yellow
Odour	No data available
Odour Threshold	No data available
pH	4,5 - 7,0 (1 %) (23 °C) (deionized water)
Melting point/range	No data available
Boiling Point	No data available
Flash point	48 °C
Flammability	No data available
Auto-ignition temperature	> 450 °C The data refer to solvent naphtha petroleum.
Minimum ignition energy	No data available

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Self-accelarating decomposition temperature (SADT)	No data available
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
Evaporation rate	No data available
Relative vapour density	1,00 The data refer to solvent naphtha petroleum.
Relative density	No data available
Density	ca. 0,89 g/cm ³ (20 °C)
Water solubility	emulsifiable
Partition coefficient: n-octanol/water	Deltamethrin: log Pow: 6,4 (25 °C) Solvent Naphtha (petroleum), light aromatic: Not applicable
Viscosity, dynamic	No data available
Viscosity, kinematic	1,09 mm ² /s (40 °C)
Surface tension	27,3 mN/m (40 °C)
Oxidizing properties	No data available
Explosivity	No data available
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** Store only in the original container.**10.6 Hazardous decomposition products** No decomposition products expected under normal conditions of use.**SECTION 11: TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects****RESTRICTED**



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Acute oral toxicity	LD50 (Rat) 320 - 2.000 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 2,92 mg/l Exposure time: 4 h Irritating to respiratory system. Highest attainable concentration. No deaths
Acute dermal toxicity	LD50 (Rat) > 2.000 mg/kg
Skin corrosion/irritation	Slight irritant effect - does not require labelling. (Rabbit)
Serious eye damage/eye irritation	Severe eye irritation. (Rabbit)
Respiratory or skin sensitisation	Skin: Sensitising (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment STOT Specific target organ toxicity – single exposure

Deltamethrin: Based on available data, the classification criteria are not met.
Solvent Naphtha (petroleum), light aromatic: May cause respiratory irritation., Solvent Naphtha (petroleum), light aromatic: May cause drowsiness or dizziness.

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 neurobehavioral effects typical for pyrethroid neurotoxicity.

Solvent Naphtha (petroleum), light aromatic: Based on available data, the classification criteria are not met.

Assessment mutagenicity

Deltamethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Solvent Naphtha (petroleum), light aromatic is not considered mutagenic.

Assessment carcinogenicity

Deltamethrin was not carcinogenic in lifetime feeding studies in rats and mice.
Solvent Naphtha (petroleum), light aromatic: Based on available data, the classification criteria are not met.

Assessment toxicity to reproduction

Deltamethrin did not cause reproductive toxicity in a two-generation study in rats.
Solvent Naphtha (petroleum), light aromatic: Based on available data, the classification criteria are not met.

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.
Solvent Naphtha (petroleum), light aromatic: This information is not available.

Aspiration hazard

May be fatal if swallowed and enters airways.

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).

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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.

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.

Toxicity to aquatic plants EC50 (Raphidocelis subcapitata (freshwater green alga)) 1,7 mg/l
Exposure time: 96 h
Test conducted with a similar formulation.

12.2 Persistence and degradability

Biodegradability Deltamethrin:
Not rapidly biodegradable
Solvent Naphtha (petroleum), light aromatic:
rapidly biodegradable

Koc Deltamethrin: Koc: 10240000

12.3 Bioaccumulative potential

Bioaccumulation Deltamethrin: Bioconcentration factor (BCF) 1.400
Does not bioaccumulate.
Solvent Naphtha (petroleum), light aromatic:
No data available

12.4 Mobility in soil

Mobility in soil Deltamethrin: Immobile in soil
Solvent Naphtha (petroleum), light aromatic: Slightly mobile in soils

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment Deltamethrin: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Solvent Naphtha (petroleum), light aromatic: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

12.6 Other adverse effects

Additional ecological information No other effects to be mentioned.

SECTION 13: DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

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.

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Contaminated packaging Not completely emptied packagings should be disposed of as hazardous waste.

SECTION 14: TRANSPORT INFORMATION

SANS 10231

14.1 UN number	1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S. (DELTAMETHRIN, SOLVENT NAPHTHA (PETROLEUM) LIGHT AROMATIC SOLUTION)
14.3 Transport hazard class(es)	3
14.4 Packaging Group	III
14.5 Environm. Hazardous Mark	YES

IMDG

14.1 UN number	1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S. (DELTAMETHRIN, SOLVENT NAPHTHA (PETROLEUM) LIGHT AROMATIC SOLUTION)
14.3 Transport hazard class(es)	3
14.4 Packaging Group	III
14.5 Marine pollutant	YES

IATA

14.1 UN number	1993
14.2 Proper shipping name	FLAMMABLE LIQUID, N.O.S. (DELTAMETHRIN, SOLVENT NAPHTHA (PETROLEUM) LIGHT AROMATIC SOLUTION)
14.3 Transport hazard class(es)	3
14.4 Packaging Group	III
14.5 Environm. Hazardous Mark	NO

14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

No transport in bulk according to the IBC Code.

SECTION 15: REGULATORY INFORMATION

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

Further information

WHO-classification: II (Moderately hazardous)

SECTION 16: OTHER INFORMATION

Text of the hazard statements mentioned in Section 3

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.

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H315	Causes skin irritation.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

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
CAS-Nr.	Chemical Abstracts Service number
Conc.	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
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

The information contained within this Safety Data Sheet is in accordance with the guidelines established by Regulation (EU) 1907/2006 and Regulation (EU) 2015/830 amending Regulation (EU) No 1907/2006 and any subsequent amendments. This data sheet complements the user's instructions, but does not replace them. The information it contains is based on the knowledge available about the product concerned at the time it was compiled. Users are further reminded of the possible risks of using a product for purposes other than those for which it was intended. The required information complies with current EEC legislation. Addressees are requested to observe any additional national requirements.

Reason for Revision: Safety Data Sheet according to Regulation (EU) No. 2015/830. The following sections have been revised: Section 2: Hazards Identification. Section 3: Composition / Information on Ingredients.

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