



K-OTHRINE EW20 12X1L BOT VN

Version 6 / EU
1020000117931/10
Revision Date: 14.10.2014
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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name K-OTHRINE EW20 12X1L BOT VN
Product code (UVP) 06477399

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 AG
Alfred-Nobel-Straße 50
40789 Monheim am Rhein
Germany

Telefax +49(0)2173-38-7394

Responsible Department Product Safety and Specification Management
+49(0)2173-38-3409/3685 (during business hours only)
Email: BCS-SDS@bayer.com

1.4 Emergency telephone no.

Emergency telephone no. Global Incident Response Hotline (24h)
+1 (760) 476-3964 (Company 3E for Bayer CropScience)

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.

Acute toxicity: Category 4
H302 Harmful if swallowed.

Aspiration hazard: Category 1
H304 May be fatal if swallowed and enters airways.

Skin sensitisation: Category 1
H317 May cause an allergic skin reaction.

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.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xn Harmful, R22
Xi Irritant, R43
N Dangerous for the environment, R50/53
Xn Harmful, R65
R66

2.2 Label elements

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



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Hazard label for supply/use required.

Hazardous components which must be listed on the label:

- Deltamethrin
- Solvent Naphtha (petroleum), heavy aromatic



Signal word: Danger

Hazard statements

- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H317 May cause an allergic skin reaction.
- 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

- P280 Wear protective gloves/protective clothing/eye protection.
- P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor/ physician.
- 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

Emulsion, oil in water (EW)
Deltamethrin 20 g/l

Hazardous components

R-phrases according to EC directive 67/548/EEC
Hazard statements according to Regulation (EC) No. 1907/2006

Name	CAS-No. / EC-No.	Classification		Conc. [%]
		EC Directive 67/548/EEC	Regulation (EC) No 1272/2008	
Deltamethrin	52918-63-5 258-256-6	T; R23/25 N; R50/53	Acute Tox. 3, H331 Acute Tox. 3, H301 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	2,00
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5 265-198-5	Xn; R65 R66 N; R51/53	Asp. Tox. 1, H304 Aquatic Chronic 2, H411	> 1,00 – < 25,00
Stearyl alcohol,	9005-00-9	Xi; R41	Eye Dam. 1, H318	> 1,00 – <

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ethoxylated				3,00
1,2-Benzisothiazol-3(2H)-one	2634-33-5 220-120-9	Xn; R22 Xi; R38, R41 R43 N; R50	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400	> 0,005 – < 0,05

Further information

Deltamethrin	52918-63-5	M-Factor: 1.000.000 (acute)
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For the full text of the R-phrases/ Hazard statements mentioned in this Section, see Section 16.

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

General advice	Remove contaminated clothing immediately and dispose of safely.
Inhalation	Move the victim to fresh air and keep 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. Risk of product entering the lungs on vomiting after ingestion. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

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
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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	Local treatment: Initial treatment: symptomatic.

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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.

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.

5.3 Advice for firefighters

Special protective equipment for fire-fighters In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

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.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

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.

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

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Clean floors and contaminated objects with plenty of water.

Additional advice Check also for any local site procedures.

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.



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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.

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. 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)

7.3 Specific end uses 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	0,02 mg/m ³ (TWA)		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).

8.2 Exposure controls

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection

Respiratory protection is not required under anticipated circumstances of exposure.
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.



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Hand protection	Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and 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.
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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	suspension, opaque
Colour	white
Odour	strong, characteristic
pH	3,5 - 5,0 at 100 % (23 °C) 4,5 - 7,5 at 1 % (23 °C) (deionized water)
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.
Relative vapour density	1,00 The data refer to solvent naphtha petroleum.
Density	ca. 1,00 g/cm ³ at 20 °C
Water solubility	miscible
Partition coefficient: n-octanol/water	Deltamethrin: log Pow: 6,4 at 25 °C
Viscosity, dynamic	<= 30 mPa.s at 20 °C Velocity gradient 7,5 /s
Viscosity, kinematic	ca. 3 mm ² /s at 40 °C
Surface tension	ca. 25,7 mN/m at 40 °C
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.

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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**

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 Sensitising (mouse) OECD Test Guideline 429, local lymph node assay (LLNA) Test conducted with a similar formulation.

Assessment repeated dose toxicity

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.

Assessment Mutagenicity

Deltamethrin 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.

Assessment toxicity to reproduction

Deltamethrin 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.

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).

SECTION 12: ECOLOGICAL INFORMATION**12.1 Toxicity**

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Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 0,422 mg/l Exposure time: 96 h Test conducted with a similar formulation.
Toxicity to aquatic invertebrates	EC50 (Water flea (Daphnia magna)) 0,0131 µg/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: 96 h The value mentioned relates to the active ingredient deltamethrin.
12.2 Persistence and degradability	
Biodegradability	Deltamethrin: not rapidly biodegradable
Koc	Deltamethrin: Koc: 10240000
12.3 Bioaccumulative potential	
Bioaccumulation	Deltamethrin: Bioconcentration factor (BCF) 1.400 Does not bioaccumulate.
12.4 Mobility in soil	
Mobility in soil	Deltamethrin: Immobile in soil
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).
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.
Contaminated packaging	Triple rinse containers. Do not re-use empty containers. Not completely emptied packagings should be disposed of as hazardous waste.
Waste key for the unused product	020108 agrochemical waste containing dangerous substances

SECTION 14: TRANSPORT INFORMATION

ADR/RID/ADN	
14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.



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	(DELTAMETHRIN SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Hazard no.	90
Tunnel Code	E

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

IMDG

14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Marine pollutant	YES

IATA

14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DELTAMETHRIN SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES

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 73/78 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)

15.2 Chemical Safety Assessment

A chemical safety assessment is not required.

SECTION 16: OTHER INFORMATION

Text of R-phrases mentioned in Section 3

R22	Harmful if swallowed.
R23/25	Toxic by inhalation and if swallowed.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R50	Very toxic to aquatic organisms.



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- 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.
- R65 Harmful: may cause lung damage if swallowed.
- R66 Repeated exposure may cause skin dryness or cracking.

Text of the hazard statements mentioned in Section 3

- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H331 Toxic if inhaled.
- 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.

The information contained within this Safety Data Sheet is in accordance with the guidelines established by Regulation (EU) 1907/2006 and Regulation (EU) 453/2010 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.

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