



AQUA RESIGEN EW202,5 12X1L BOT VN

Version 3 / EU
102000011808

1/11
Revision Date: 04.07.2013
Print Date: 05.12.2014

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

1.1 Product identifier

Trade name AQUA RESIGEN EW202,5 12X1L BOT VN
Product code (UVP) 06477380

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.

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

Xi Irritant, R43

N Dangerous for the environment, R50/53

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.



PHAN THANH NHAT
HONGKONG GROUP COUNTRIES MANAGER
ENVIRONMENTAL SCIENCE
06 JUN 2016





AQUA RESIGEN EW202,5 12X1L BOT VN

Version 3 / EU
102000011808

2/11
Revision Date: 04.07.2013
Print Date: 05.12.2014

Hazardous components which must be listed on the label:

- S-Bioallethrin
- Permethrin
- Piperonyl butoxide



Signal word: Warning

Hazard statements

- H317 May cause an allergic skin reaction.
 H410 Very toxic to aquatic life with long lasting effects.
 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.
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
 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)
 S-Bioallethrin/Permethrin/PBO 1.4:103:98 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	
S-Bioallethrin	28434-00-6 249-013-5	Xn; R20/22 N; R50/53	Acute Tox. 4, H332 Acute Tox. 4, H302 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	0,14
Permethrin	52645-53-1 258-067-9	Xn; R20/22 R43 N; R50/53	Acute Tox. 4, H332 Acute Tox. 4, H302 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	10,35
Piperonyl butoxide	51-03-6 200-076-7	N; R50/53	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	9,85

**AQUA RESIGEN EW202,5 12X1L BOT VN**Version 3 / EU
1020000118083/11
Revision Date: 04.07.2013
Print Date: 05.12.2014

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	926-141-6	Xn; R65 R66	Asp. Tox. 1, H304	> 1,00 - < 10,00
--	-----------	----------------	-------------------	------------------

Further information

S-Bioallethrin	28434-00-6	M-Factor: 10 (acute)
Permethrin	52645-53-1	M-Factor: 1.000 (acute)
Piperonyl butoxide	51-03-6	M-Factor: 1 (acute)

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. If swallowed, seek medical advice immediately and show this container or label.

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

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.



AQUA RESIGEN EW202,5 12X1L BOT VN

Version 3 / EU
102000011808

4/11

Revision Date: 04.07.2013
Print Date: 05.12.2014

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.



AQUA RESIGEN EW202,5 12X1L BOT VN

Version 3 / EU
102000011808

5/11
Revision Date: 04.07.2013
Print Date: 05.12.2014

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 No special precautions required.

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.

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
S-Bioallethrin	28434-00-6	3,8 mg/m ³ (TWA)		OES BCS*
Piperonyl butoxide	51-03-6	500 ppm (TWA)		OES BCS*
Permethrin	52645-53-1	10 mg/m ³ (TWA)		OES BCS*

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

Additional advice

Observe: Exposure Limits In Air, Gp1: 1000mg/m³ / 200 ppm (aromatic-free or de-aromatised hydrocarbon mixes with < 1% aromatics < 5% n-hexane, < 25% cyclo/Isohexane 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

**AQUA RESIGEN EW202,5 12X1L BOT VN**Version 3 / EU
102000011808

6/11

Revision Date: 04.07.2013

Print Date: 05.12.2014

the following recommendations would apply.

Respiratory protection	No personal respiratory protective equipment normally required. 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 coverall and 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	emulsion
Colour	white to beige
Odour	weak, aromatic
pH	4,0 - 7,0 at 1 % (23 °C) (deionized water) 2,5 - 6,0 at 100 % (23 °C)
Density	ca. 1,00 g/cm ³ at 20 °C
Water solubility	miscible
Partition coefficient: n-octanol/water	S-bioallethrin: log Pow: 5,0 Piperonyl butoxide: log Pow: 4,95
Viscosity, dynamic	<= 100 mPa.s at 20 °C Velocity gradient 7,5 /s

9.2 Other information Further safety related physical-chemical data are not known.

**AQUA RESIGEN EW202,5 12X1L BOT VN**Version 3 / EU
1020000118087/11
Revision Date: 04.07.2013
Print Date: 05.12.2014**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****Acute oral toxicity** LD50 (rat) 2.058 mg/kg**Acute inhalation toxicity** ATE > 5,00 mg/l
ATE – acute toxicity estimate**Acute dermal toxicity** LD50 (rat) > 4.900 mg/kg**Skin irritation** No skin irritation (rabbit)**Eye irritation** No eye irritation (rabbit)**Sensitisation** Sensitising (guinea pig)
Information given is based on data on the components and the toxicology of similar products.**Assessment repeated dose toxicity**S-bioallethrin did not cause specific target organ toxicity in experimental animal studies.
Permethrin did not cause specific target organ toxicity in experimental animal studies.
Piperonyl butoxide did not cause specific target organ toxicity in experimental animal studies.**Assessment Mutagenicity**S-bioallethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Permethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Piperonyl butoxide was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.**Assessment Carcinogenicity**S-bioallethrin was not carcinogenic in lifetime feeding studies in rats and mice.
Permethrin caused at high dose levels an increased incidence of tumours in mice in the following organ(s): liver, Lungs. The mechanism that triggers tumours in rodents is not relevant for the low exposures encountered under normal use conditions.



AQUA RESIGEN EW202,5 12X1L BOT VN

Version 3 / EU
102000011808

8/11
Revision Date: 04.07.2013
Print Date: 05.12.2014

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

Assessment Toxicity to Reproduction

S-bioallethrin did not cause reproductive toxicity in a two-generation study in rats.
Permethrin 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

S-bioallethrin did not cause developmental toxicity in rats and rabbits.
Permethrin did not cause developmental toxicity in rats and rabbits.
Piperonyl butoxide did not cause developmental toxicity in rats and rabbits.

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

Toxicity to fish

LC50 (Rainbow trout (*Oncorhynchus mykiss*)) 0,134 mg/l
Exposure time: 96 h

Toxicity to aquatic invertebrates

EC50 (*Daphnia*) 0,016 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient S-bioallethrin.

EC50 (Water flea (*Daphnia magna*)) 0,00017 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient permethrin.

EC50 (Water flea (*Daphnia magna*)) 0,51 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient piperonyl butoxide.

Toxicity to aquatic plants

EC50 (*Selenastrum capricornutum*) 3,9 mg/l
Exposure time: 72 h
The value mentioned relates to the active ingredient S-bioallethrin.

EC50 (*Selenastrum capricornutum*) 0,497 mg/l
Exposure time: 72 h
The value mentioned relates to the active ingredient permethrin.

EC50 (Algae) > 9,1 mg/l
Exposure time: 72 h
The value mentioned relates to the active ingredient piperonyl butoxide.

12.2 Persistence and degradability

Biodegradability

S-bioallethrin: not rapidly biodegradable

Permethrin: not rapidly biodegradable

**AQUA RESIGEN EW202,5 12X1L BOT VN**Version 3 / EU
1020000118089/11
Revision Date: 04.07.2013
Print Date: 05.12.2014

Piperonyl butoxide: not rapidly biodegradable

Koc Permethrin: Koc:100000

Piperonyl butoxide: Koc:399 - 830

12.3 Bioaccumulative potential**Bioaccumulation**

S-bioallethrin: Bioconcentration factor (BCF) 260
Does not bioaccumulate.
Permethrin: Bioconcentration factor (BCF) 300
Does not bioaccumulate.
Piperonyl butoxide:
Potential bioaccumulation

12.4 Mobility in soil**Mobility in soil**

S-bioallethrin: Slightly mobile in soils
Permethrin: Immobile in soil
Piperonyl butoxide: Moderately mobile in soils

12.5 Results of PBT and vPvB assessment**PBT and vPvB assessment**

S-bioallethrin: 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).

Permethrin: 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).

Piperonyl butoxide: 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.



AQUA RESIGEN EW202,5 12X1L BOT VN

Version 3 / EU
102000011808

10/11
Revision Date: 04.07.2013
Print Date: 05.12.2014

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. (PERMETHRIN 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. (PERMETHRIN 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. (PERMETHRIN 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.



AQUA RESIGEN EW202,5 12X1L BOT VN

Version 3 / EU
102000011808

11/11
Revision Date: 04.07.2013
Print Date: 05.12.2014

SECTION 15: REGULATORY INFORMATION

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

Further information

WHO-classification: III (Slightly 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

R20/22	Harmful by inhalation and if swallowed.
R43	May cause sensitisation by skin contact.
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.

Text of the hazard statements mentioned in Section 3

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H317	May cause an allergic skin reaction.
H332	Harmful if inhaled.
H400	Very toxic to aquatic life.
H410	Very 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.

Reason for Revision: Safety Data Sheet according to Regulation (EU) No. 453/2010.

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

Rentokil Vietnam