

AQUA RESIGEN

Version 1 / MAL 102000037632

1/12 Revision Date: 27.06.2020 Print Date: 29.06.2020

SECTION 1: IDENTIFICATION OF THE HAZARDOUS CHEMICAL AND OF THE SUPPLIER

1.1 Product identifier

Trade name

AQUA RESIGEN

Product code (UVP)

86217600

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 AG

Kaiser-Wilhelm-Allee 1 51373 Leverkusen

Germany

Local distributor

Bayer Co. (Malaysia) Sdn Bhd

B-19-1 & B-19-2, The Ascent Paradigm,

No. 1, Jalan SS 7/26A, Kelana

Java.

47301 Petaling Jaya, Selangor.

Malaysia

Telephone

03 7801 3088 (office hours)

Telefax

03 7886 3338

1.4 Emergency telephone no.

In case of POISONING,

please contact

Malaysian Emergency Response Services (999)



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 according to the Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

Chronic aquatic toxicity: Category 1

H410 Very toxic to aquatic life with long lasting effects.

Acute aquatic toxicity: Category 1

H400 Very toxic to aquatic life.

Skin sensitisation: Category 1

H317

May cause an allergic skin reaction.



AQUA RESIGEN

Version 1 / MAL 102000037632

2/12Revision Date: 27.06.2020
Print Date: 29.06.2020

2.2 Label elements

Labelling according to the Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

- S-Bioallethrin
- Piperonyl butoxide
- Permethrin





Signal word: Warning Hazard statements

H317

May cause an allergic skin reaction.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statements

P280

Wear protective gloves/ protective clothing/ eye protection.

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 AND INFORMATION OF THE INGREDIENTS OF THE HAZARDOUS CHEMICAL

3.2 Mixtures

Chemical nature

Emulsion, oil in water (EW)

S-Bioallethrin 1,42 g/l; Piperonylbutoxide 98,4 g/l; Permethrin 102,7 g/l

Hazardous components

Name	CAS-No.	Conc. [%]
S-Bioallethrin	28434-00-6	0.143
Permethrin	52645-53-1	10.33
Piperonyl butoxide	51-03-6	9.9
Distillates (petroleum), hydrotreated light	64742-47-8	> 1.00 - < 10.00
3-Phenoxybenzylic alcohol	13826-35-2	> 0.1 – < 1.0
1,2-Benzisothiazol-3(2H)-one	2634-33-5	> 0.005 - < 0.05
reaction mass of 5-chloro-2- methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	55965-84-9	> 0.00015 — < 0.0015



3/12

AQUA RESIGEN

 Version 1 / MAL
 Revision Date: 27.06.2020

 102000037632
 Print Date: 29.06.2020

Further information

S-Bioallethrin	28434-00-6	M-Factor: 10 (acute)	
Permethrin	52645-53-1	M-Factor: 1,000 (acute), 1,000 (chronic)	
Piperonyl butoxide	51-03-6	M-Factor: 1 (acute)	
1,2-Benzisothiazol- 3(2H)-one	2634-33-5	M-Factor: 10 (acute)	
reaction mass of 5- chloro-2- methyl- 2H-isothiazol-3- one and 2-methyl- 2H-isothiazol-3- one (3:1)	55965-84-9	M-Factor: 100 (acute), 100 (chronic)	

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 Wash off thoroughly with plenty of soap and water, if available with

polyethyleneglycol 400, subsequently rinse with water. 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. Call a

physician or poison control center immediately.

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. Call

a physician or poison control center immediately.

Ingestion Do NOT induce vomiting. Rinse mouth. Do not leave victim

unattended. 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, Blurred vision, Headache, Anorexia, Somnolence, Coma, Convulsions, Tremors, Prostration, Airway hyperreaction, Pulmonary oedema, Palpitation, Muscular

fasciculation, Apathy, Dizziness



AQUA RESIGEN

Version 1/MAL 102000037632

4/12 Revision Date: 27.06.2020 Print Date: 29.06.2020

Aspiration may cause pulmonary oedema and pneumonitis.

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.

Contains hydrocarbon solvents. May pose an aspiration pneumonia

hazard.

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 aspiration intubation and bronchial lavage should

be considered. Monitor: kidney, liver and pancreas function.

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.

5.2 Special hazards arising

from the substance or

mixture

5.3 Advice for firefighters

Special protective

equipment for firefighters

Further information

In the event of fire and/or explosion do not breathe fumes. In the event

of fire, wear self-contained breathing apparatus.

Dangerous gases are evolved in the event of a fire.

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

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

Precautions

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



5/12

AQUA RESIGEN

Version 1 / MAL Revision Date: 27.06.2020 102000037632 Print Date: 29.06.2020

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.

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.

Hygiene measures Avoid contact with skin, eyes and clothing. Keep working clothes

separately. Wash hands before breaks and immediately after handling the product. Shower or bathe at the end of working. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).

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

HDPE (high density polyethylene)

Coex HDPE/EVOH/HDPE

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
S-Bioallethrin	28434-00-6	0.75 mg/m3 (SK-SEN)		OES BCS*
Permethrin	52645-53-1	5 mg/m3 (TWA)	03 2000	MY OEL
Permethrin	52645-53-1	10 mg/m3 (SK-SEN)		OES BCS*
Piperonyl butoxide	51-03-6	50 ppm (TWA)		OES BCS*



6/12

AQUA RESIGEN

 Version 1 / MAL
 Revision Date: 27.06.2020

 102000037632
 Print Date: 29.06.2020

3-Phenoxybenzylic alcohol	13826-35-2	0.1 mg/m3/5 ppm (TWA)	OES BCS*
		(1 * * * /)	

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

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 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 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
Break through time > 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1Information on basic physical and chemical properties

Form emulsion

Colour white to beige

Odour weak, aromatic

Odour Threshold No data available

pH 4.0 - 7.0 (1 %) (23 °C) (deionized water)

2.5 - 6.0 (100 %) (23 °C)



AQUA RESIGEN

Version 1/MAL 102000037632

7/12Revision Date: 27.06.2020
Print Date: 29.06.2020

Melting point/rangeNo data availableBoiling PointNo data available

Flash point > 100 °C

Not relevant; aqueous solution

Flammability

Auto-ignition temperature

Self-accelarating

No data available

No data available

decomposition temperature

(SADT)

Upper explosion limit

Lower explosion limit

Vapour pressure

Evaporation rate

Relative vapour density

No data available

ca. 1.00 g/cm³ (20 °C)

Water solubility miscible

Partition coefficient: n-

octanol/water

Partition coefficient: n-

octanol/water

Permethrin: log Pow: 5.95

Piperonyl butoxide: log Pow: 4.75

Viscosity, dynamic <= 100 mPa.s (20 °C) Velocity gradient 7.5 /s</pre>

Viscosity, kinematic

Oxidizing properties

No data available

Explosivity

No data available

9.20ther 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 reactionsNo hazardous reactions when stored and handled according to prescribed instructions.



8/12

AQUA RESIGEN

 Version 1 / MAL
 Revision Date: 27.06.2020

 102000037632
 Print Date: 29.06.2020

10.4 Conditions to avoid Extremes of temperature and direct sunlight.

10.5 Incompatible materials Store only in the original container.

10.6 Hazardous No decomposition products expected under normal conditions of use.

decomposition products

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity LD50 (Rat) 2,058 mg/kg

Acute inhalation toxicity ATE (Mix) 5.63 mg/l

Calculation method

Acute dermal toxicity LD50 (Rat) > 4,900 mg/kg

Skin corrosion/irritation No skin irritation (Rabbit)

Serious eye damage/eye

irritation

Respiratory or skin

Skin: Sensitising

No eye irritation (Rabbit)

sensitisation The information is derived from the properties of the individual

components.

Assessment STOT Specific target organ toxicity - single exposure

S-bioallethrin: Based on available data, the classification criteria are not met.

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

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

Assessment STOT Specific target organ toxicity - repeated exposure

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.

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



9/12

AQUA RESIGEN

Version 1/MAL 102000037632

Revision Date: 27.06.2020 Print Date: 29.06.2020

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.

Aspiration hazard

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

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 (Oncorhynchus mykiss (rainbow trout)) 0.134 mg/l

Exposure time: 96 h

Toxicity to aquatic invertebrates

EC50 (Daphnia (water flea)) 0.016 mg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient S-bioallethrin.

EC50 (Daphnia magna (Water flea)) 0.00017 mg/l

Exposure time: 48 h

The value mentioned relates to the active ingredient permethrin.

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 (Raphidocelis subcapitata (freshwater green alga)) 3.9 mg/l

Exposure time: 72 h

The value mentioned relates to the active ingredient S-bioallethrin.

EC50 (Raphidocelis subcapitata (freshwater green alga)) 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 Piperonyl butoxide: Not rapidly biodegradable

Koc

S-bioallethrin: Koc: 9500 Permethrin: Koc: 100000

Piperonyl butoxide: Koc: 399 - 830

12.3 Bioaccumulative potential



AQUA RESIGEN

10/12 Revision Date: 27.06.2020 Version 1/MAL 102000037632 Print Date: 29.06.2020

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 INFORMATION

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 Not completely emptied packagings should be disposed of as

hazardous waste.

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, PIPERONYLBUTOXIDE SOLUTION)

14.3 Transport hazard class(es)

14.4 Packaging Group

Ш

14.5 Environm. Hazardous Mark

YES

Hazard no.

90

Tunnel Code



11/12

AQUA RESIGEN

Version 1 / MAL Revision Date: 27.06.2020 102000037632 Print Date: 29.06.2020

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, PIPERONYLBUTOXIDE SOLUTION)

14.3 Transport hazard class(es) 9
14.4 Packaging 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, PIPERONYLBUTOXIDE SOLUTION)

14.3 Transport hazard class(es) 9
14.4 Packaging 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 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: III (Slightly hazardous)

SECTION 16: OTHER INFORMATION

The information contained within this Safety Data Sheet is in accordance to The Industry Code of Practice on Chemical Classification and Hazard Communication 2013 (ICOP) which is promulgated under Section 37 of Occupational Safety and Health Act 1994 (OSHA 1994) and serves as a guidance to chemical suppliers to comply with the provisions of Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U. (A) 310/2013] which have been gazetted on 11 October 2013, hereinafter is referred to as "the Regulations". This data sheet complements the user's instructions, but does not replace them. The information contained therein 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 the current Malaysia legislation, including the Pesticides Act 1974. Addressees are requested to observe any additional national requirements.



AQUA RESIGEN

Version 1/MAL

12/12 Revision Date: 27.06.2020

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