

RESIGEN

Version 2/MAL 102000003299

1/11 Revision Date: 11.07.2019 Print Date: 18.07.2019

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

1.1 Product identifier

Trade name

RESIGEN

Product code (UVP)

05947987

1.2 Relevant identified uses of the substance or mixture and uses advised against

Insecticide

1.3 Details of the supplier of the safety data sheet

Supplier

Bayer AG

Local distributor

Kaiser-Wilhelm-Allee 1

Bayer Co. (Malaysia) Sdn Bhd

51373 Leverkusen Germany

B-19-1 & B-19-2,

The Ascent Paradigm, No. 1, Jalan SS 7/26A, Kelana

Jaya,

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

NATIONAL POISON CENTRE -1-800-88-8099 (office hours)

- 012-4309499 (after office hours)

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

Flammable liquids: Category 3

H226

Flammable liquid and vapour.

Aspiration hazard: Category 1

H304

May be fatal if swallowed and enters airways.

Eye irritation: Category 2

H319

Causes serious eye irritation.

Acute toxicity: Category 4

H332

Harmful if inhaled.

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.



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Skin sensitisation: Category 1

H317 May cause an allergic skin reaction.

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
- Permethrin
- Piperonyl butoxide
- Distillates (petroleum), hydro- treated light; Kerosine unspecified









Signal word: Danger Hazard statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

P240	Ground/bond container and receiving equipment.
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 AND INFORMATION OF THE INGREDIENTS OF THE HAZARDOUS CHEMICAL

3.2 Mixtures

Chemical nature

Emulsifiable concentrate (EC) S-Bioallethrin/Permethrin/PBO 7,2:173,1:155,9 g/l

Hazardous components

Name	CAS-No.	Conc. [%]	
S-Bioallethrin	28434-00-6	0.77	
Permethrin	52645-53-1	18.60	



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Piperonyl butoxide	51-03-6	16.80
Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt	68584-23-6	> 5.00 - < 10.00
2-Methylpropan-1-ol	78-83-1	> 1.00 - < 5.00
3-Phenoxybenzylic alcohol	13826-35-2	< 1
Distillates (petroleum), hydrotreated light	64742-47-8	> 10.00

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)	

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. 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 mouth. 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

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.



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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.

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

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.



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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

No specific precautions required when handling unopened Advice on safe handling

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.

When using, do not eat, drink or smoke. Remove soiled clothing Hygiene measures

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 away from direct sunlight. Keep containers tightly closed in a dry, cool and well-

ventilated place. 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 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*
2-Methylpropan-1-ol	78-83-1	152 mg/m3/50 ppm (TWA)	03 2000	MY OEL
3-Phenoxybenzylic alcohol	13826-35-2	0.1 mg/m3/5 ppm (TWA)		OES BCS*



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*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
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.

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

beige to brown

Odour

characteristic

Flash point

48 °C

Ignition temperature

230 °C

The data refer to the solvent.

Relative vapour density

4.5



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The data refer to the solvent.

Density

ca. 0.93 g/cm3 (20 °C)

Water solubility

miscible

Partition coefficient: n-

Permethrin: log Pow: 5.95

octanol/water

Viscosity, kinematic

Piperonyl butoxide: log Pow: 4.75

Surface tension

4.3 mm²/s (40 °C) 25.9 mN/m (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.

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) > 2,000 mg/kg

Acute inhalation toxicity

ATE (Mix) 2.67 mg/l

Acute dermal toxicity

LD50 (Rat) > 9,300 mg/kg

Skin corrosion/irritation

Irritating to skin.
Calculation method

Serious eye damage/eye

Serious eye di

Severe eye irritation.

Respiratory or skin

Calculation method

Respiratory or sensitisation Skin: Non-sensitizing. (Mouse)

n OECD Test Guideline 429, local lymph node assay (LLNA)

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.



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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

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

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).

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)) 0.0105 mg/l

Exposure time: 96 h

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

LC50 (Poecilia reticulata (guppy)) 0.0076 mg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient permethrin. LC50 (Cyprinodon variegatus (sheepshead minnow)) 3.94 mg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient piperonyl butoxide.

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.



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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

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).



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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

1993 14.1 UN number

14.2 Proper shipping name FLAMMABLE LIQUID, N.O.S.

(PERMETHRIN, KEROSINE SOLUTION)

14.3 Transport hazard class(es)

3 Ш 14.4 Packaging Group

14.5 Environm. Hazardous Mark YES

Hazard no. 30

Tunnel Code

D/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

FLAMMABLE LIQUID, N.O.S. 14.2 Proper shipping name

(PERMETHRIN, KEROSINE SOLUTION)

14.3 Transport hazard class(es)

14.4 Packaging Group Ш

14.5 Marine pollutant YES

IATA

14.1 UN number

1993

3

3

FLAMMABLE LIQUID, N.O.S. 14.2 Proper shipping name

(PERMETHRIN, KEROSINE SOLUTION)

14.3 Transport hazard class(es)

14.4 Packaging Group Ш 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.



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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.

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