

# SAFETY DATA SHEET



## AQUA-RESLIN®

Version 3.0 / USA  
102000004847

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Revision Date: 06/17/2019  
Print Date: 06/18/2019

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

#### Product identifier

**Trade name** AQUA-RESLIN®  
**Product code (UVP)** 05952255  
**SDS Number** 102000004847  
**EPA Registration No.** 432-796

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

**Use** Insecticide  
**Restrictions on use** See product label for restrictions.

#### Information on supplier

**Supplier** Bayer Environmental Science  
2 T.W. Alexander Drive  
Research Triangle PK, NC 27709  
USA  
**Responsible Department** Email: SDSINFO.BCS-NA@bayer.com  
**Emergency telephone no.**  
**Emergency Telephone Number (24hr/ 7 days)** 1-800-334-7577  
**Product Information Telephone Number** 1-800-331-2867

### SECTION 2: HAZARDS IDENTIFICATION

**Classification in accordance with regulation HCS 29CFR §1910.1200**  
Acute toxicity(Oral, Inhalation): Category 4



**Signal word:** Warning

#### Hazard statements

Harmful if swallowed or if inhaled.

#### Precautionary statements

Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Avoid breathing mist/ spray.  
Use only outdoors or in a well-ventilated area.

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IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.  
Rinse mouth.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER/doctor/physician if you feel unwell.  
Dispose of contents/container in accordance with local regulation.

### Hazards Not Otherwise Classified (HNOC)

No physical hazards not otherwise classified.  
No health hazards not otherwise classified.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Permethrin	52645-53-1	20.0
Piperonyl butoxide	51-03-6	20.0
Naphtha (petroleum), heavy alkylate	64741-65-7	10.0
Fatty alcohol polyglycol ether 16-20 EO	9004-98-2	1.35

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

<b>General advice</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Inhalation</b>	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
<b>Skin contact</b>	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
<b>Eye contact</b>	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give liquids to drink. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

### Most important symptoms and effects, both acute and delayed

**Symptoms** To date no symptoms are known.

### Indication of any immediate medical attention and special treatment needed

**Risks** Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard. This product contains a pyrethroid.

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<b>Treatment</b>	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.
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### SECTION 5: FIREFIGHTING MEASURES

#### Extinguishing media

<b>Suitable</b>	Carbon dioxide (CO <sub>2</sub> ), Dry chemical, Foam, Water
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<b>Unsuitable</b>	High volume water jet
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<b>Special hazards arising from the substance or mixture</b>	Dangerous gases are evolved in the event of a fire.
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#### Advice for firefighters

<b>Special protective equipment for firefighters</b>	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
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<b>Further information</b>	Fight fire from upwind position. Keep out of smoke. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.
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<b>Flash point</b>	> 93 °C
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<b>Auto-ignition temperature</b>	No data available
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<b>Lower explosion limit</b>	No data available
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<b>Upper explosion limit</b>	No data available
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<b>Explosivity</b>	Not applicable
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### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

<b>Precautions</b>	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
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#### Methods and materials for containment and cleaning up

<b>Methods for cleaning up</b>	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.
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<b>Additional advice</b>	Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.
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<b>Reference to other sections</b>	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

#### Precautions for safe handling

**Advice on safe handling** Use only in area provided with appropriate exhaust ventilation. Handle and open container in a manner as to prevent spillage.

**Hygiene measures** Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.  
Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

#### Conditions for safe storage, including any incompatibilities

**Requirements for storage areas and containers** Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Permethrin	52645-53-1	5 mg/m3 (TWA)	03 2014	ACGIH
Permethrin	52645-53-1	5 mg/m3 (REL)	2010	NIOSH
Permethrin	52645-53-1	5 mg/m3 (PEL)	02 2006	OSHA Z1
Permethrin	52645-53-1	5 mg/m3 (TWA)	06 2008	TN OEL
Permethrin	52645-53-1	5 mg/m3 (TWA PEL)	09 2013	US CA OEL
Permethrin	52645-53-1	10 mg/m3 (SK-SEN)		OES BCS*
Piperonyl butoxide	51-03-6	50 ppm (TWA)		OES BCS*
Naphtha (petroleum), heavy alkylate	64741-65-7	400 mg/m3/100 ppm (TWA)	1989	OSHA Z1A
Naphtha (petroleum), heavy alkylate	64741-65-7	400 mg/m3/100 ppm (REL)	2010	NIOSH
Naphtha (petroleum), heavy	64741-65-7	400 mg/m3/100 ppm	02 2006	OSHA Z1

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alkylate		(PEL)		
Naphtha (petroleum), heavy alkylate	64741-65-7	400 mg/m <sup>3</sup> /100 ppm (TWA)	06 2008	TN OEL
Naphtha (petroleum), heavy alkylate	64741-65-7	1,600 mg/m <sup>3</sup> /400 ppm (TWA PEL)	01 2015	US CA OEL
Naphtha (petroleum), heavy alkylate	64741-65-7	1,800 mg/m <sup>3</sup> /400 ppm (STEL)	09 2013	US CA OEL
Naphtha (petroleum), heavy alkylate	64741-65-7	1,350 mg/m <sup>3</sup> /300 ppm (TWA PEL)	09 2013	US CA OEL

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

### 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

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

#### Hand protection

Chemical resistant nitrile rubber gloves

#### Eye protection

Safety glasses with side-shields

#### Skin and body protection

Wear long-sleeved shirt and long pants and shoes plus socks.

#### General protective measures

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.  
Keep and wash PPE separately from other laundry.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white
Physical State	Liquid
Odor	characteristic
Odour Threshold	No data available
pH	4.9 - 6.0 (100 %) (23 °C)
Vapor Pressure	No data available
Vapor Density (Air = 1)	No data available
Density	ca. 1.02 g/cm <sup>3</sup> (20 °C)

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<b>Evaporation rate</b>	No data available
<b>Boiling Point</b>	No data available
<b>Melting / Freezing Point</b>	No data available
<b>Water solubility</b>	soluble
<b>Minimum Ignition Energy</b>	Not applicable
<b>Decomposition temperature</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	Not applicable
<b>Viscosity</b>	135 - 205 cps ( 25 °C)
<b>Flash point</b>	> 93 °C
<b>Auto-ignition temperature</b>	No data available
<b>Lower explosion limit</b>	No data available
<b>Upper explosion limit</b>	No data available
<b>Explosivity</b>	Not applicable

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## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

<b>Thermal decomposition</b>	No data available
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Heat, flames and sparks. Extremes of temperature and direct sunlight.
<b>Incompatible materials</b>	No data available
<b>Hazardous decomposition products</b>	No decomposition products expected under normal conditions of use.

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## SECTION 11: TOXICOLOGICAL INFORMATION

<b>Exposure routes</b>	Ingestion, Inhalation
<b>Immediate Effects</b>	
<b>Eye</b>	May cause slight irritation.
<b>Skin</b>	May cause slight irritation.

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**Ingestion** Harmful if swallowed.

### Information on toxicological effects

**Acute oral toxicity** LD50 (Rat) 1,000 mg/kg  
**Acute inhalation toxicity** LC50 (male/female combined Rat) > 2.87 mg/l  
Exposure time: 4 h  
**Acute dermal toxicity** LD50 (Rabbit) > 5,000 mg/kg  
**Skin corrosion/irritation** slight irritation (Rabbit)  
**Serious eye damage/eye irritation** slight irritation (Rabbit)  
**Respiratory or skin sensitisation** Skin: Non-sensitizing. (Guinea pig)

### Assessment STOT Specific target organ toxicity – repeated exposure

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

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

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.

### ACGIH

Permethrin	52645-53-1	Group A4
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### NTP

None.

### IARC

Permethrin	52645-53-1	Overall evaluation: 3
Piperonyl butoxide	51-03-6	Overall evaluation: 3

### OSHA

None.

### Assessment toxicity to reproduction

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

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

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### Further information

Acute toxicity studies have not been performed on this product as formulated.  
The toxicological data are based on the active ingredient.  
The non-acute information pertains to the active ingredient(s).

## SECTION 12: ECOLOGICAL INFORMATION

<b>Toxicity to fish</b>	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.
<b>Toxicity to aquatic invertebrates</b>	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.
<b>Toxicity to aquatic plants</b>	EC50 (Algae) 0.5 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.
<b>Biodegradability</b>	Permethrin: Not rapidly biodegradable Piperonyl butoxide: Not rapidly biodegradable
<b>Koc</b>	Permethrin: Koc: 100000 Piperonyl butoxide: Koc: 399 - 830
<b>Bioaccumulation</b>	Permethrin: Bioconcentration factor (BCF) 300 Does not bioaccumulate. Piperonyl butoxide: Potential bioaccumulation
<b>Mobility in soil</b>	Permethrin: Immobile in soil Piperonyl butoxide: Moderately mobile in soils
<b>Environmental precautions</b>	Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor runoff or drift. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.



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Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites.  
Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

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## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Product** Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.

**Contaminated packaging** Triple rinse containers.  
Puncture container to avoid re-use.  
Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning.  
If burned, stay out of smoke.  
Follow advice on product label and/or leaflet.

**RCRA Information** Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

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## SECTION 14: TRANSPORT INFORMATION

**49CFR** Not dangerous goods / not hazardous material

### IMDG

UN number **3082**  
Class 9  
Packaging group III  
Marine pollutant YES  
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(PERMETHRIN, PIPERONYL BUTOXIDE SOLUTION)

### IATA

UN number **3082**  
Class 9  
Packaging group III  
Environm. Hazardous Mark YES  
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(PERMETHRIN, PIPERONYL BUTOXIDE SOLUTION )

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

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Freight Classification: INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

### SECTION 15: REGULATORY INFORMATION

**EPA Registration No.** 432-796

#### US Federal Regulations

##### TSCA list

Piperonyl butoxide	51-03-6
Naphtha (petroleum), heavy alkylate	64741-65-7
Fatty alcohol polyglycol ether 16-20 EO	9004-98-2
Cetyl alcohol	36653-82-4
Water	7732-18-5

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**  
Not applicable.

#### SARA Title III - Section 302 - Notification and Information

None.

#### SARA Title III - Section 313 - Toxic Chemical Release Reporting

Permethrin	52645-53-1	
Piperonyl butoxide	51-03-6	1.0%

#### US States Regulatory Reporting

##### CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

#### US State Right-To-Know Ingredients

Permethrin	52645-53-1	CA, CT, IL, MN, NJ, RI
Piperonyl butoxide	51-03-6	NJ
Naphtha (petroleum), heavy alkylate	64741-65-7	CA, CT, MN, RI
Cetyl alcohol	36653-82-4	CT

#### EPA/FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

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**Signal word:** Caution!

**Hazard statements:** Harmful if swallowed.  
Wash thoroughly with soap and water after handling.

## SECTION 16: OTHER INFORMATION

### Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

### NFPA 704 (National Fire Protection Association):

Health - 1      Flammability - 1      Instability - 0      Others - none

### HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1      Flammability - 1      Physical Hazard - 0      PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

**Reason for Revision:** The following sections have been revised: Section 4: First Aid Measures.  
Reviewed and updated for general editorial purposes.

**Revision Date:** 06/17/2019

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