SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name  
AQUA-RESLIN®

Chemical Name  
Mixture; a.i., permethrin, piperonyl butoxide

Synonym  

MSDS Number  
11

Chemical Family  

Chemical Formulation  

EPA Registration No.  
432-796

Canadian Registrat. No.

Bayer Environmental Science
95 Chestnut Ridge Road
Montvale, NJ  07645
USA

For Product Use Information: (800)331-2867 Monday through Friday
8:00AM-4:30PM
For Medical Emergency contact DART: (800) 334-7577  24 Hours/Day
For Transportation Emergency CHEMTREC: (800) 424-9300  24 Hours/Day

Product Use Description  
A synthetic pyrethroid for effective adult mosquito, midge and blackfly control.

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS No.</th>
<th>Concentration % by Weight</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Minimum</td>
<td>Maximum</td>
</tr>
<tr>
<td>Permethrin</td>
<td>52645-53-1</td>
<td>20.0000</td>
</tr>
<tr>
<td>Piperonyl butoxide</td>
<td>51-03-6</td>
<td>20.0000</td>
</tr>
<tr>
<td>Other ingredients</td>
<td>60.0000</td>
<td></td>
</tr>
<tr>
<td>Odorless mineral spirits</td>
<td>8052-41-3</td>
<td>10.0000</td>
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</tbody>
</table>
SECTION 3. HAZARDS IDENTIFICATION

**NOTE: Please refer to Section 11 for detailed toxicological information.**

**Emergency Overview**
Caution. Keep out of the reach of children. Hazard to humans and domestic animals. Harmful if swallowed. Wash thoroughly with soap and water after handling. This product is extremely toxic to fish and aquatic invertebrates. This product is highly toxic to bees exposed to direct treatment of residues on blooming crops or weeds.

**Physical State**
liquid

**Odor**
Very mild paint or brake-fluid

**Appearance**
Cream to tan

**Routes of Exposure**
Inhalation and ingestion.

**Immediate Effects**
- **Eye**
  May cause slight irritation.
- **Skin**
  May cause slight irritation.
- **Ingestion**
  Harmful if swallowed.

**Chronic or Delayed Long-Term**
Refer to Section 11 for chronic feeding study in rats under extreme experimental test doses.

SECTION 4. FIRST AID MEASURES

**Eye**
Flush eyes with plenty of water. Get medical attention if irritation persists.

**Ingestion**
Call a physician or Poison Control Center. Do not induce vomiting. Do not give anything by mouth to an unconscious person. Avoid alcohol. May pose an aspiration pneumonia hazard.

**Note to Physician**
This product contains a synthetic pyrethroid and a petroleum solvent. If ingested and vomiting has not occurred, emesis should be induced with supervision. Keep patient's head below hips to prevent aspiration. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before emesis, gastric lavage using a cuffed endotracheal tube should be considered. DO NOT administer or instill milk, cream or other substances containing vegetable or animal fats which enhance absorption of lipophilic substances. If localized paresthesia develops, the site should be thoroughly washed with soap and water. Cold cream can be applied to diminish the effect.
SECTION 5. FIRE FIGHTING MEASURES

Flash Point  
> 93 °C / > 199 °F  
Method: Tagliabue Closed Cup

Suitable Extinguishing Media  
carbon dioxide (CO2), dry chemical, foam, water

Fire Fighting Instructions  
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

General and Disposal  
Soak up with an absorbent material such as sand, sawdust, earth, fuller’s earth, etc. Dispose of with chemical waste.

SECTION 7. HANDLING AND STORAGE

Handling Procedures  
Wash thoroughly with soap and water after handling.

Storing Procedures  
Store upright at room temperature. Do not contaminate water, food, or feed by storage or disposal.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye/Face Protection  
safety glasses

Body Protection  
impervious gloves

Exposure Limits

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH TWA</th>
<th>NIOSH REL</th>
<th>NIOSH Ceil_Time</th>
<th>OSHA Z1 PEL</th>
<th>OSHA Z1A TWA</th>
<th>US CA OEL TWA PEL</th>
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<tr>
<td>Odorless mineral spirits</td>
<td>100 ppm</td>
<td>350 mg/m3</td>
<td>1,800 mg/m3</td>
<td>500 ppm</td>
<td>100 ppm</td>
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<td>2,900 mg/m3</td>
<td>525 mg/m3</td>
<td>525 mg/m3</td>
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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance  
Cream to tan

Physical State  
liquid
Material Safety Data Sheet

AQUA-RESLIN®

Odor

Very mild paint or brake-fluid

pH

5.1

Specific Gravity

1.015 at 22 °C

Density

8.46 lbs/gal

Solubility (in water)

soluble

Viscosity

170 cp

23 °C

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability

Stable

Conditions to Avoid

extreme temperatures

Hazardous Polymerization
(Conditions to avoid)

Will not occur

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity

The following data was developed with: Aqua-Permanone (EPA No. 432-796) for which Aqua-Reslin is an alternate name and also Permanone Insect Killer R7 which has a similar formulation of 20.9% Permethrin and 20.1% Piperonyl Butoxide.

Rat: LD50: 1,000 mg/kg
Slightly toxic.

Acute Dermal Toxicity

The following data was developed with: Aqua-Permanone (EPA No. 432-796) for which Aqua-Reslin is an alternate name and also Permanone Insect Killer R7 which has a similar formulation of 20.9% Permethrin and 20.1% Piperonyl Butoxide.

Rabbit: LD50: > 5,000 mg/kg
Practically non-toxic.

Acute Inhalation Toxicity

The following data was developed with: Aqua-Permanone (EPA No. 432-796) for which Aqua-Reslin is an alternate name and also Permanone Insect Killer R7 which has a similar formulation of 20.9% Permethrin and 20.1% Piperonyl Butoxide.

Rat: LC50: > 2.87 mg/l 4 h
Practically non-toxic.

Skin Irritation

The following data was developed with: Aqua-Permanone (EPA No. 432-796) for which Aqua-Reslin is an alternate name and also Permanone Insect Killer R7
Aqua-Reslin®

which has a similar formulation of 20.9% Permethrin and 20.1% Piperonyl Butoxide.
Rabbit: Slightly irritating

Eye Irritation
The following data was developed with: Aqua-Permanone (EPA No. 432-796) for which Aqua-Reslin is an alternate name and also Permanone Insect Killer R7 which has a similar formulation of 20.9% Permethrin and 20.1% Piperonyl Butoxide.
Rabbit: Slightly irritating.

Sensitization
The following data was developed with: Aqua-Permanone (EPA No. 432-796) for which Aqua-Reslin is an alternate name and also Permanone Insect Killer R7 which has a similar formulation of 20.9% Permethrin and 20.1% Piperonyl Butoxide.
Guinea pig: Non-sensitizing

The following data were developed with: permethrin and piperonyl butoxide, the active ingredients.

Chronic Toxicity
A statistically significant increase in the incidence of lung and liver tumors was observed in female mice receiving diets containing 375 and 750 mg/kg/day of permethrin technical over 85 weeks.

A statistically significant increase in the number of benign liver tumors appeared in mice fed piperonyl butoxide technical at doses which far exceed any anticipated daily human intake. Independent and industry toxicological experts who have reviewed the data agree that the findings of the study do not indicate a health risk to human beings.

Assessment Carcinogenicity

<table>
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<tr>
<th>Agency</th>
<th>Value</th>
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<tbody>
<tr>
<td>ACGIH</td>
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<tr>
<td>NTP</td>
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</tr>
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<td>IARC</td>
<td>52645-53-1 3</td>
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<tr>
<td></td>
<td>51-03-6 3</td>
</tr>
<tr>
<td>OSHA</td>
<td>None</td>
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</table>

Reproductive & Developmental Toxicity
Reproductive performance and offspring development in rats were unaffected when piperonyl butoxide was fed at dietary concentrations of up to 1000 ppm over two successive generations.

Teratogenicity
Permethrin was not teratogenic when tested in rats. There were no birth defects or adverse effects on reproductive parameters in tests with rats or rabbits for piperonyl butoxide. It is not considered to be teratogenic.

Mutagenicity
Permethrin did not produce any mutagenic effects when tested in the Ames test.
Piperonyl Butoxide was not genotoxic in several tests including the Ames
mutagenicity assay, chromosome aberration in Chinese hamster ovary (CHO)
cells, CHO/HGPRT assay with S9 activation, and in the unscheduled DNA
synthesis (UDS) assay in cultured human liver cells.

**SECTION 12. ECOLOGICAL INFORMATION**

**Environmental Precautions**
This pesticide is extremely toxic to fish and other invertebrates. Do not apply
directly to water, to areas where surface water is present or to intertidal areas
below mean high water mark. Do not apply when weather conditions favor drift
from treated areas. Drift and runoff from treated areas may be hazardous to
aquatic organisms in neighboring areas. Do not contaminate water when
disposing of equipment rinsate. Do not apply when wind speeds exceed 10
MPH. 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 drift from treated areas. Drift and runoff may be hazardous to
aquatic organisms in neighboring areas. Do not contaminate water when
disposing of equipment washwaters. Do not apply when wind speeds exceed 10
mph.

This product is highly toxic to bees exposed to direct treatment of residues on
blooming crops or weeds. Do not apply it or allow it to drift to crops or weeds on
which bees are actively foraging. Applications should be timed to provide
maximum possible interval between treatment and the next period of bee
activity.

**SECTION 13. DISPOSAL CONSIDERATIONS**

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

**Container Disposal**
Metal Containers: Triple rinse or equivalent. Then offer for recycling or
reconditioning, or puncture and dispose of in a sanitary landfill, or by other
procedures approved by state and local authorities.

Plastic Containers: Triple rinse or equivalent. Then offer for recycling or
reconditioning or puncture and dispose of in a sanitary landfill or incineration, or
if allowed by State and Local authorities, by burning. If burned, stay out of
smoke.

**RCRA Classification**
Not Regulated under this Statute
SECTION 14. TRANSPORT INFORMATION

PROPER SHIPPING NAME: Not DOT Regulated

NOTE: For transport purposes (49 CFR Part 173.132), the calculated 1-Hour LC50 (Rat) is: 11.48 mg/l.

SECTION 15. REGULATORY INFORMATION

US Federal
EPA Registration No. 432-796
TSCA list
Piperonyl butoxide 51-03-6
Odorless mineral spirits 8052-41-3
TSCA 12b export notification None
SARA Title III - section 302 - notification and information None
SARA Title III - section 313 - toxic chemical release reporting
Permethrin 52645-53-1 1.0%
Piperonyl butoxide 51-03-6 1.0%

US States Regulatory
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 NJ
Piperonyl butoxide 51-03-6 NJ
Odorless mineral spirits 8052-41-3 CA, IL, MN, PA, RI

Canadian Regulations
Canadian Registrat. No.
Canadian Domestic Substance List
Piperonyl butoxide 51-03-6
Odorless mineral spirits 8052-41-3

Environmental
CERCLA None
Clean Water Section 307 Priority Pollutants None
Safe Drinking Water Act Maximum Contaminant Levels
None

International Regulations
EU Classification
None

European Inventory of Existing Commercial Substances (EINECS)
- Permethrin 52645-53-1
- Piperonyl butoxide 51-03-6
- Odorless mineral spirits 8052-41-3

SECTION 16. OTHER INFORMATION

<table>
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<tr>
<th></th>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
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<tr>
<td>NFPA</td>
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REVISED SECTIONS:
- MSDS REVISION INDICATOR: Company name change.

Print Date: 12/03/2002
Supersedes MSDS, which is older than: 12/03/2002

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