

PRENTOXSINCE
1919

PERM-X™ UL 4-4

For use only by the Federal, State, Tribal, or local government officials responsible for public health and vector control, or by persons certified by state or tribal lead pesticide regulatory agency to perform adult mosquito control application, or by persons under their direct supervision. A Quick Knockdown, Low Odor, Non-Corrosive Synergized Pyrethroid for the control of Adult Mosquitoes, In Residential and Recreational areas. Provides quick knockdown and effective control of mosquitoes, flies, black flies, gnats, biting and non-biting midges, as well as other biting flies.

ACTIVE INGREDIENTS:

Permethrin, CAS [52645-53-1] 4.0%
Piperonyl Butoxide Technical [51-03-6] 4.0%

OTHER INGREDIENTS*: 92.0%

TOTAL: 100.0%

*Contains a Petroleum Distillate Solvent.

PRENTOX® - Registered Trademark of Prentiss Incorporated

Contains 0.2783 lb. A.I. Permethrin and
0.2783 lb. A.I. Piperonyl Butoxide per gallon.
PERM-X™ - Trademark of Prentiss Incorporated

EPA Reg. No. 655-898

EPA Est. No. 655-GA-1

KEEP OUT OF REACH OF CHILDREN CAUTION

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicado ampliamente.

FIRST AID

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

If swallowed	<ul style="list-style-type: none">• Immediately call a Poison Control Center, physician, or the National Pesticide Information Center at 1-800-858-7378 for treatment advice.• Do not induce vomiting unless told to do so by a Poison Control Center or physician.• Do not give liquid to the person.• Do not give anything by mouth to an unconscious or convulsing person.
If on skin or clothing	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15-20 minutes.• Call a Poison Control Center, physician, or the National Pesticide Information Center at 1-800-858-7378 for treatment advice.
If in eyes	<ul style="list-style-type: none">• 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 Poison Control Center, physician, or the National Pesticide Information Center at 1-800-858-7378 for treatment advice.
If inhaled	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.• Call a Poison Control Center, physician, or the National Pesticide Information Center at 1-800-858-7378 for treatment advice.

NOTE TO PHYSICIAN: Contains Petroleum Distillates - vomiting may cause aspiration pneumonia.

For information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378.

SEE INSIDE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS

Manufactured by

3/07

Plant: Kaolin Rd.,
Sandersville, GA 31082

Office: C. B. 2000,
Floral Park, NY 11002-2000

PRENTISS INCORPORATED

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed or absorbed through the skin. Avoid contact with eyes, or clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove contaminated clothing and wash clothing before reuse. Prolonged or frequently repeated skin contact may cause an allergic reaction in some individuals.

This product is extremely toxic to aquatic organisms, including fish and aquatic invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates. Do not apply over bodies of water (lakes, rivers, permanent streams, natural, ponds, commercial fish ponds, swamps, marshes, or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

Bee Warning: This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are visiting the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or the tribe during a natural disaster recovery effort.

PHYSICAL AND CHEMICAL HAZARDS

Do not use, pour, spill or store near heat or open flame.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Storage: Store product in its original labeled container in a cool, dry, locked place designated for such insecticides and out of reach of children. In case of spillage, soak up with absorbent material such as sawdust, or fuller's earth, sweep up and place in a labeled container and dispose of as follows.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: (Metal) Triple rinse or equivalent. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by other approved state and local procedures. (Plastic) Triple rinse or equivalent. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

NOTICE: Buyer and user assume all risk and liability of use, storage and/or handling of this product not in accordance with the terms of this label.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if permits or other regulatory requirements exist.

GENERAL

Perm-X UL 4-4 is recommended for application as an Ultra Low Volume (ULV) Thermal or Non-thermal aerosol (cold fog) for control of adult mosquitoes and flies in residential, recreational, industrial, urban and other areas where these insect pests are found. Perm-X UL 4-4 provides effective control of mosquitoes and flies in area such as parks, campsites, woodlands, athletic fields, golf courses, residential areas, municipalities, roadsides, animal quarters, barns, playgrounds, and non-crop waste areas. For best results, treat when mosquitoes or insects are most active and weather conditions are conducive to keeping the fog close to the ground, e.g. cool temperatures and ground wind speeds are not greater than 10 mph. Applications during the cool hours of the night or early morning are usually preferable. Repeat treatment when recommended by Public Health officials, or Mosquito Abatement Districts. Apply this product at temperatures greater than 50°F and when wind speed equals or exceeds 1 mph.

Do not spray this product on or allow it to drift onto pastureland, cropland (other than crops listed) or potable water supplies. In the treatment of corrals, feedlots, animal confinements/houses, swine lots, poultry ranges, and zoos, cover any exposed drinking water, feeding water fountains and animal feed before application.

Do not treat a site with more than 0.007 lbs. permethrin per acre in a 24-hour period. Do not apply more than 0.18 lbs of permethrin per acre per year to any site. More frequent treatments may be made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

Perm-X UL 4-4 may be applied over specific growing crops and range grasses prior to harvest for the control of adult mosquitoes and biting flies within or adjacent to those areas. Application can only be made where the following crops are present: Almonds, apples, broccoli, brussels sprouts, cabbage, celery, cauliflower, cherries, corn (fodder), bell peppers, soybeans, tomatoes, cucurbit vegetables, and walnuts.

Spray Droplet Size Determination

Ground-based Application: Spray equipment must be adjusted so the volume median diameter is less than 30 microns ($D_v 0.5 < 30 \mu m$) and that 90% of the spray is contained in droplets smaller than 50 microns ($D_v 0.9 < 50 \mu m$). Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using laser based equipment to produce acceptable droplet spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

Aerial Application: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ($D_v 0.5 < 60 \mu m$) and that 90% of the spray is contained in droplets smaller than 100 microns ($D_v 0.9 < 100 \mu m$). The effects of flight speed and, for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

GROUND APPLICATION

ULV NON-THERMAL AEROSOL (COLD FOG) APPLICATION

To control adult mosquitoes, flies, and gnats (blackflies) apply Perm-X UL 4-4 using truck mounted ground ULV (cold fog) equipment with a swath width of 300 feet in areas such as residential, recreational, industrial areas. For best results, apply when insects are most active and conditions are conducive to keeping the fog close to the ground. Apply the undiluted product at flow rates of 4.092 to 19.092 fluid oz. per minute at a truck speed of 10 mph. These rates are equivalent to a 0.001 to 0.007 pounds of permethrin a.i. and 0.001 to 0.007 pounds of piperonyl butoxide a.i. per acre. If a different vehicle speed is used, adjust the flow rate accordingly. An accurate flow control system must be used to ensure proper flow rate. Use of the maximum flow rates and application rates listed on this label is recommended to treat heavy vegetation or when target insect populations are high. Do not exceed the highest flow rates recommended by the manufacturer. Perm-X UL 4-4 may also be applied by diluting with a light mineral oil or other suitable solvent, applied so as not to exceed 0.007 lbs. a.i. per acre using a swath width of 300 feet for calculation. Refer to Chart 2 for suggested rates for diluted use. Perm-X UL 4-4 may be used to treat outdoor aggregation and harborage sites including storm drains, underground drainage pipes, and pipe chases.

THERMAL AEROSOL APPLICATIONS

For use in thermal fogging equipment such as truck-mounted thermal fog generators or other equipment capable of making thermal fogging applications. Perm-X UL 4-4 may be applied either diluted or undiluted. If diluted, use a light mineral oil, or another suitable non-phytotoxic diluent. Do not exceed the maximum rate of 0.007 lbs. a.i. per acre. May be applied with truck-mounted equipment at speeds of 5 mph to 20 mph. Use a swath width of 300 feet for calculation. For use with handheld, backpack or lawn mower thermal fogging equipment do not exceed the maximum rate of 0.007 lbs. a.i. per acre. Use a walking speed of 2 mph (3.2 kph) and a swath width of 300 feet for calculations. Avoid wetting foliage with the thermal fog. Do not fog when wind conditions exceed 5 miles per hour. Fog downwind. Use well maintained and properly calibrated thermal fogging equipment to ensure optimum performance and effectiveness. May be used to treat aggregation and harborage sites such as abandoned buildings, warehouses, storm drains, underground drainage pipes, pipe chases and other areas where adult mosquitoes find harborage.

BARRIER APPLICATIONS

For use in non-thermal ULV, motorized, portable, backpack, handheld or truck-mounted fogging equipment or mist blower equipment, apply Perm-X UL 4-4 with equipment adjusted to deliver ULV particles of 50 to 100 volume median diameter. Perm-X UL 4-4 may be applied undiluted or diluted (see Application Rates Chart on this label.) If diluted, use a light mineral oil, or another suitable, non-phytotoxic diluent. For truck-mounted applications, use not more than 0.007 lbs. permethrin per acre. Use a 300 ft. (15.2 m) swath width (see application rate charts on this label) for calculations. For backpack or handheld applications, use not more than 0.007 lbs. a.i. per acre. Use a 300 ft. swath width and a walking speed of 2 mph (3.2 kph) for calculations. Direct spray onto foliage at the perimeter of areas from which mosquitoes or flies are to be excluded or direct spray into harborage areas where adult mosquitoes or flies may be found. May be used to treat aggregation and harborage sites such as abandoned buildings, residential buildings, warehouses, storm drains, underground drainage pipes and other areas where adult mosquitoes find harborage. When this product is applied as a barrier treatment, do not apply within 100 feet (30 meters) of lakes and streams.

AERIAL APPLICATIONS

Use aircraft specifically equipped and capable of applying Ultra-Low Volumes of Perm-X UL 4-4. Applications can be made diluted or undiluted but cannot exceed the recommended rates of 0.007 lbs. permethrin per acre and 0.007 lbs. piperonyl butoxide per acre, equivalent to 3.1819 fl. oz. of undiluted Perm-X UL 4-4 per acre. Applications should be made at an altitude of 100 to 300 feet. Apply at airspeed sufficient to deliver the appropriate amount of active ingredient per acre. The minimum height (from the ground) for aerial application of this product is 100 feet. For best results, treat when insects are most active and meteorological conditions are conducive to keeping the spray cloud close to the ground. In order to compensate for windy conditions and ensure drift onto the target area aerial application with aircraft equipped with Global Positioning Systems (GPS) is recommended.

PROHIBITION OF AERIAL USE IN FLORIDA: Not for aerial use in Florida UNLESS specifically authorized by the Bureau of Entomology and Pest Control, Florida Department of Agriculture and Consumer Services.

CHART NO. 1 - FOR USE UNDILUTED

Conditions and Rates To Use Perm-X UL 4-4 Undiluted for Mosquito Control						
Pounds Per Acre		Application Rates				Fluid Ounces and Milliliters Per Acre
		Fluid Ounces per Minute				
Permethrin	PBO	5 mph	10 mph	15 mph	20 mph	
0.007	0.007	9.546	19.092	28.637	38.183	3.1819 (94.1 ml)
0.0035	0.0035	4.773	9.545	14.318	19.091	1.5909 (47.05 ml)
0.001	0.001	1.363	2.728	4.092	5.455	0.4546 (13.44 ml)

CHART NO. 2 - DILUTE 1 PART WITH 2 PARTS MINERAL OIL

Amounts to Use After Diluting 1 Part Perm-X UL 4-4 with 2 Parts Mineral Oil						
Lbs. of A.I. Per Acre		Application Rates for Fluid Ounces of Diluted Product Per Minute Per M.P.H.				Diluted Fl. Oz. (ml) to Apply Per Acre
		5 mph	10 mph	15 mph	20 mph	
Permethrin	PBO					
0.007	0.007	26.250	52.5	78.75	105.00	8.75 (258.76 ml)
0.0035	0.0035	13.125	26.25	39.38	52.50	4.38 (129.53 ml)
0.0010	0.0010	3.750	7.5	11.25	15.00	1.25 (36.96 ml)

Safety Data Sheet

**Section 1: Identification****Product identifier****Product Name**

- **Perm-X UL 4-4**

Synonyms

- 100208938; 100208939; 100208943; 100208989; 100208990; EPA Reg. No.: 89459-47

Product Description

- Clear amber liquid.

Relevant identified uses of the substance or mixture and uses advised against**Recommended use**

- Insecticide.

Restrictions on use

- Keep out of reach of children. Avoid release to the environment. Avoid contact with skin, eyes, or clothing. Do not take internally.

Details of the supplier of the safety data sheet**Manufacturer**

- Central Garden & Pet Company
1501 E. Woodfield Road, Suite 200W
Schaumburg, IL 60173
United States

www.central.com

Emergency telephone number**Manufacturer**

- 1-800-234-2269

Manufacturer

- 1-800-424-9300 - CHEMTREC

Manufacturer (Transportation) • 1-703-527-3887 - Chemtrec - Outside US collect calls accepted

Section 2: Hazard Identification**United States (US)**

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture**OSHA HCS 2012**

- Acute Toxicity Inhalation 4
Specific Target Organ Toxicity Single Exposure 1
Skin Sensitization 1
Aspiration 1

Label elements**OSHA HCS 2012**

DANGER



- Hazard statements** • Harmful if inhaled
 Causes damage to organs - nervous system.
 May cause an allergic skin reaction
 May be fatal if swallowed and enters airways

Precautionary statements

- Prevention** • Avoid breathing dust, fume, gas, mist, vapors and/or spray.
 Use only outdoors or in a well-ventilated area.
 Contaminated work clothing should not be allowed out of the workplace.
 Wear protective gloves.
- Response** • IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 Do NOT induce vomiting.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison control center or doctor if you feel unwell.
 IF ON SKIN: Wash with plenty of soap and water.
 If skin irritation or rash occurs: Get medical advice/attention.
 Wash contaminated clothing before reuse.
 IF exposed: Call POISON CENTER or doctor/physician.
- Storage/Disposal** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
 Avoid release to the environment.
 Store locked up.

Other hazards

OSHA HCS 2012

- This product is extremely toxic to aquatic organisms, including fish and invertebrates. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance according to United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Mixtures

Composition		
Chemical Name	Identifiers	%
Permethrin	CAS:52645-53-1	4%
Piperonyl butoxide	CAS:51-03-6	4%
Petroleum distillates, hydrotreated (mild) heavy paraffinic	CAS:64742-54-7	91.74%
Petroleum distillates, hydrotreated (mild) light paraffinic	CAS:64742-55-8	above
Other ingredients	NDA	Balance

Section 4: First-Aid Measures

Description of first aid measures

Inhalation

- IF INHALED: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin

- IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If

- irritation or rash occurs, get medical advice/attention.
- Eye**
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- Ingestion**
- IF SWALLOWED: Immediately call a poison control center or doctor. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

- Causes damage to organs - nervous system. Harmful if inhaled. May cause an allergic skin reaction in individuals with a sensitivity to piperonyl butoxide. Aspiration hazard. Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- Contains petroleum distillate vomiting may cause aspiration pneumonia. Treat symptomatically and supportively.

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media • SMALL FIRES: Dry chemical, CO₂, water spray or regular foam.

Unsuitable Extinguishing Media • Avoid heavy hose streams.

Firefighting Procedures • Do not use direct stream of water. A direct stream of water may spread fire. Do not allow fire fighting water to escape into waterways or sewers.

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • None known.

Hazardous Combustion Products • Decomposes upon heating to produce toxic vapors/gases which may include oxides of carbon.

Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions • Avoid breathing fumes. Wear appropriate personal protective equipment, avoid direct contact. Keep all sources of ignition away.

Emergency Procedures • Stop leak if you can do it without risk. Avoid release into the environment. Avoid unnecessary personnel and equipment traffic in the spill area. Do not allow runoff into water, storm drains or drainage ditches. Wear appropriate personal protective equipment (PPE).

Environmental precautions

- Avoid run off to waterways and sewers.

Methods and material for containment and cleaning up

Containment/Clean-up Measures • Cover liquid spill with sand, earth or other non-combustible absorbent material. Wear appropriate personal protective equipment, avoid direct contact. Prevent entry into waterways, sewers, basements or confined areas.

Section 7 - Handling and Storage

Precautions for safe handling

Handling • Handle and open container with care. Avoid release to the environment. Do not breathe

(dust, vapor or spray mist) Use only in well ventilated areas. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe (dust, vapor or spray mist.)

Conditions for safe storage, including any incompatibilities

Storage

- Keep out of reach of children. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep from freezing. Store away from oxidizers strong acids and strong bases.

Incompatible Materials or Ignition Sources

- Strong acids, strong bases, and oxidizing agents.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure controls

Engineering

Measures/Controls

- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Personal Protective Equipment

Pictograms



Respiratory

- In case of insufficient ventilation, wear suitable NIOSH approved respiratory protection.

Eye/Face

- Wear chemical splash safety goggles.

Skin/Body

- If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.
- Avoid release to the environment.

Environmental Exposure Controls

Other Information

- See product label for specific use PPE instructions.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Clear amber liquid.
Color	Amber	Odor	Slight solvent and licorice.
General Properties			
Boiling Point	No data available	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	No data available
Specific Gravity/Relative Density	0.9807 g/ml (8.2 lb/gal)	Water Solubility	Insoluble
Viscosity	18.5 Centipoise (cPs, cP) or mPas @ 40 °C(104 °F)		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	260°F (127°C)	UEL	No data available

LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- Non-reactive under normal handling and storage conditions.

Chemical stability

- Stable

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- Avoid storage with or near toxic substances. Direct sunlight. Excessive heat >110°F.

Incompatible materials

- Heat, strong acids, strong bases and oxidizing agents.

Hazardous decomposition products

- Carbon monoxide and carbon dioxide.

Section 11 - Toxicological Information

Information on toxicological effects

Components		
Permethrin (4%)	52645-53-1	Acute Toxicity: Ingestion/Oral-Rat LD50 • 500 mg/kg; Inhalation-Rat LC50 • 2.65 mg/L 4 Hour(s); Skin-Rabbit LD50 • >2000 mg/kg; Irritation: Eye-Rabbit • Mild irritation; Skin-Rabbit • Essentially non-irritating
Piperonyl butoxide (4%)	51-03-6	Acute Toxicity: Ingestion/Oral-Rat • 4300 mg/kg; Inhalation-Rat • >5 mg/L 4 Hour(s); Skin-Rat LD50 • >2000 mg/kg; Irritation: Eye-Rabbit • Essentially non-irritating; Skin-Rabbit • Essentially non-irritating

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • Acute Toxicity - Dermal - Classification criteria not met; Acute Toxicity - Inhalation 4; Acute Toxicity - Oral - Classification criteria not met
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Skin Sensitizer 1
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Aspiration 1
Carcinogenicity	OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met
STOT-SE	OSHA HCS 2012 • Specific Target Organ Toxicity Single Exposure 1

STOT-RE	OSHA HCS 2012 • Classification criteria not met
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Route(s) of entry/exposure • Inhalation, skin, eye, and ingestion.

Potential Health Effects

Inhalation

Acute (Immediate) • Harmful if inhaled. Permethrin affects nervous system. Symptoms of overexposure to permethrin include diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity.

Chronic (Delayed) • No data available

Skin

Acute (Immediate) • May cause an allergic reaction in individuals with a sensitivity to piperonyl butoxide.

Chronic (Delayed) • No data available

Eye

Acute (Immediate) • Under normal conditions of use, no health effects are expected.

Chronic (Delayed) • No data available

Ingestion

Acute (Immediate) • Harmful if ingested. Permethrin affects nervous system. Symptoms of overexposure to permethrin include diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity. Aspiration hazard - small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Chronic (Delayed) • No data available

Mutagenic Effects

• Permethrin was not mutagenic in a battery of in vitro and in vivo tests. Piperonyl butoxide was not mutagenic in a battery of tests.

Carcinogenic Effects

• Permethrin caused at high dose levels an increased incidence of tumours in mice in the following organ(s): liver, lungs. The mechanism that triggers tumors in rodents is not relevant for the low exposures encountered under normal use conditions. Permethrin is not classified as carcinogen by NTP, IARC and OSHA. Piperonyl butoxide is not classified as carcinogen by NTP, IARC and OSHA.

Reproductive Effects

• Permethrin does not cause birth defects or adverse effects on reproduction. Piperonyl butoxide did not produce any birth defects or adverse effects on reproductive parameters in tests with rats and rabbits.

Section 12 - Ecological Information

Toxicity

Components		
Permethrin (4%)	52645-53-1	Aquatic Toxicity-Fish: 96 Hour(s) LC50 <i>Blue gill</i> 0.00079 mg/L [Acute] 96 Hour(s) LC50 <i>Atlantic silverside</i> 0.0022 mg/L [Acute] NOEC <i>Fathead minnow</i> 0.0003 mg/L [Chronic] NOEC <i>Sheepshead minnow</i> 0.00083 mg/L [Chronic] Aquatic Toxicity-Crustacea: NOEC <i>Daphnia magna</i> 0.000039 mg/L [Chronic] NOEC <i>Mysid shrimp</i> 0.000011 mg/L [Chronic] LC50 <i>Hexagenia bilineata</i> 0.0001 mg/L [Acute] 96 Hour(s) LC50 <i>Mysid shrimp</i> 0.000019 mg/L [Acute]
Piperonyl butoxide (4%)	51-03-6	Aquatic Toxicity-Fish: LC50 <i>Rainbow Trout</i> 1.9 mg/L [Acute] LC50 <i>Sheepshead minnow</i> 3.94 mg/L [Acute] NOEC <i>Fathead minnow</i> 0.04 mg/L [Chronic] Aquatic Toxicity-Crustacea: LC50 <i>Gammarus fasciatus (amphipod)</i> 0.51 mg/L [Acute] LC50 <i>Mysid shrimp</i> 0.49 mg/L [Acute] NOEC <i>Daphnia magna</i> 0.03 mg/L [Chronic]

Persistence and degradability

- No data available

Bioaccumulative potential

- Permethrin has a Log Pow of 6.1, but because of the ease with which biological systems degrade the molecule, the potential for bioconcentration and accumulation in the environment is low (BCF = 500). Permethrin: Bioconcentration factor (BCF) 300; Does not bioaccumulate.

Mobility in Soil

- Permethrin has a high affinity for organic matter (Koc = 86,000), there is little potential for movement in soil or entry into groundwater. Permethrin: Immobile in soil.

Other adverse effects

Potential Environmental Effects

- This pesticide is extremely toxic to aquatic organisms including fish and invertebrates. Care should be taken to avoid contamination of the aquatic environment. This product is highly toxic to bees.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. Do not allow entry into storm drains, drainage ditches, gutters or surface waters.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. See product label for disposal instructions.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	UN3082	Bulk packaging only: Environmentally hazardous substance, liquid, n.o.s (Permethrin and Piperonyl butoxide)	9	III	Marine Pollutant
IMO/IMDG	UN3082	Packaging 5 L or greater: Environmentally hazardous substance, liquid, n.o.s (Permethrin and Piperonyl butoxide)	9	III	Marine Pollutant
IATA/ICAO	UN3082	Packaging 5 L or greater: Environmentally hazardous substance, liquid, n.o.s (Permethrin and Piperonyl butoxide)	9	III	Acute Aquatic Toxicity

Special precautions for user

- None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- No data available

Other information

IMO/IMDG • No data available

IATA/ICAO • No data available

Section 15 - Regulatory Information

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

SARA Hazard Classifications • SARA Title III Section 313, Acute

FIFRA – Pesticide Labeling

This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION

Hazard Statements • KEEP OUT OF REACH OF CHILDREN

Precautionary Statements •

Hazards to Humans and Domestic Animals • HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin eyes or clothing. Causes moderate eye irritation.

First Aid • If swallowed • Immediately call a poison control center or doctor • Do not induce vomiting unless told to by a poison control center or doctor • Do not give any liquid to the person • Do not give anything by mouth to an unconscious person If on skin or clothing • Take off contaminated clothing • Rinse skin immediately with plenty of water for 15-20 minutes • Call a poison control center or doctor for treatment advice If in eyes • 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 poison control center or doctor for treatment advice If inhaled • Move person to fresh air • If person is not breathing call 911 or an ambulance then give artificial respiration preferably by mouth to mouth if possible • Call a poison control center or doctor for treatment advice
Note to Physician: Contains petroleum distillate - vomiting may cause aspiration pneumonia.

Environmental Hazards • This pesticide is extremely toxic to aquatic organisms, including fish and invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates. Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist. This pesticide is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

Physical or Chemical Hazards • Do not use, pour, spill or store near heat or open flame.

Inventory		
Component	CAS	TSCA
Petroleum distillates, hydrotreated (mild) heavy paraffinic	64742-54-7	Yes
Petroleum distillates, hydrotreated (mild) light paraffinic	64742-55-8	Yes
Permethrin	52645-53-1	No
Piperonyl butoxide	51-03-6	Yes

United States

Environment

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Petroleum distillates, hydrotreated (mild) heavy paraffinic	64742-54-7	Not Listed
• Permethrin	52645-53-1	1.0 % de minimis concentration
• Piperonyl butoxide	51-03-6	1.0 % de minimis concentration
• Petroleum distillates, hydrotreated (mild) light paraffinic	64742-55-8	Not Listed

Section 16 - Other Information

Revision Date	<ul style="list-style-type: none">• 15/February/2016
Last Revision Date	<ul style="list-style-type: none">• 15/February/2016
Preparation Date	<ul style="list-style-type: none">• 15/February/2016
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