

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Name : Perm-X UL 31-66
 Synonyms : 100208987, 100208986, 100208985, 100208937, 100542408, EPA Reg. No.: 89459-45

1.2. Recommended use and restrictions on use

Recommended use : Insecticide.
 Restrictions on use : Avoid contact with eyes, skin and clothing. Avoid inhalation of vapors or fumes. Do NOT take internally. Keep out of reach of children and domestic animals. Do not use or store near heat or open flame.

1.3. Supplier

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

1.4. Emergency telephone number

Emergency number : 1-800-248-7763
 1-800-424-9300 - CHEMTREC
 1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral) Category 4	Harmful if swallowed
Acute toxicity (inhalation) Category 4	Harmful if inhaled
Skin sensitization, Category 1	May cause an allergic skin reaction
Specific target organ toxicity (single exposure) Category 1	Causes damage to organs.

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



GHS07



GHS08

Signal word (GHS US) : Danger

Hazard statements (GHS US) : Harmful if swallowed or if inhaled
 May cause an allergic skin reaction
 Causes damage to organs (nervous system).

Precautionary statements (GHS US) : Do not breathe dust/fume/gas/mist/vapors/spray.
 Avoid breathing dust/fume/gas/mist/vapors/spray.
 Wash hands, forearms and face thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If swallowed: Call a poison center or doctor if you feel unwell.
 Rinse mouth.
 IF ON SKIN: Wash with plenty of water.
 If skin irritation or rash occurs: Get medical advice/attention.
 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 If exposed: Call a poison center/doctor.
 Call a poison center or doctor if you feel unwell.
 Wash contaminated clothing before reuse.

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Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : 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.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Permethrin	(CAS-No.) 52645-53-1	31
Piperonyl butoxide	(CAS-No.) 51-03-6	66
Non-hazardous and/or does not meet criteria for classification	(CAS-No.) N/A	Balance

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.

First-aid measures after skin contact : IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : 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 and attention.

First-aid measures after ingestion : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Call a physician immediately. Rinse mouth. Do NOT induce vomiting unless directed to do so by medical personnel.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Harmful if inhaled. Permethrin affects nervous system. Symptoms of overexposure to permethrin include diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity.

Symptoms/effects after skin contact : May cause an allergic reaction in individuals with a sensitivity to piperonyl butoxide.

Symptoms/effects after ingestion : Harmful if swallowed. Permethrin affects the nervous system.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Avoid heavy hose streams.

5.2. Specific hazards arising from the chemical

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Do not allow fire fighting water to escape into waterways or sewers. Evacuate area. Move containers away from the fire area if this can be done without risk. Ventilate closed spaces before entering. Do not breathe gas/fumes/vapor/spray.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: Exposure controls/personal protection.

Emergency procedures : Do NOT wash away into sewer. Avoid release to the environment. Evacuate unnecessary personnel. Stop leak if safe to do so. Ventilate area. Wear appropriate personal protective equipment, avoid direct contact.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Absorb spills with an inert material, clay granules or other inert absorbent material and put in container for disposal. Do not flush to sewer or allow to enter waterways. Wear appropriate personal protective equipment, avoid direct contact.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid breathing vapor or spray mist. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not handle until all safety precautions have been read and understood. Keep away from sources of ignition - No smoking.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool. Avoid excess heat. Keep container tightly closed. Keep only in original container. Avoid extreme temperatures. Do not store near heat or open flame.

Incompatible materials : Strong acids. Strong bases. Strong oxidizers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

See product label for specific PPE instructions.

Hand protection:

Wear chemical resistant gloves: Barrier laminate, Laminate, Butyl Rubber, Nitrile Rubber, Neoprene Rubber, Polyvinyl Chloride or Viton

Eye protection:

Safety glasses

Skin and body protection:

Wear long-sleeved shirt, long pants, socks and shoes

Respiratory protection:

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In case of insufficient ventilation, use NIOSH approved respiratory protection. Mixers and loaders supporting aerial applications to forests must wear at least a NIOSH-approved respirator with: A dust/mist filter with MSHA/NIOSH approval number prefix TC-21C, or any R, P, or HE filter.



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear, pale amber liquid
Color	: Pale amber
Odor	: Slight solvent and licorice
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 127 °C (260 °F)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 1.08 – 1.09 (9.01 - 9.10 lb/gal)
Solubility	: Insoluble
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Hazardous polymerization will not occur.

10.4. Conditions to avoid

Avoid extreme temperatures. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. May decompose upon heating to produce toxic vapors/gases.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Permethrin (52645-53-1)	
LD50 oral rat	500 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	2.65 mg/l/4h

Piperonyl butoxide (51-03-6)	
LD50 oral rat	4300 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 Inhalation - Rat	> 5 mg/l/4h

GHS-US Properties	Classification
Acute toxicity (oral)	Harmful if swallowed.
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Harmful if inhaled.
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Causes damage to organs.
Specific target organ toxicity (repeated exposure)	Not classified
Aspiration hazard	Not classified

Potential health effects

Inhalation

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

Skin

Acute : May cause an allergic skin reaction in individuals with a sensitivity to piperonyl butoxide.

Eye

Acute : Under normal conditions of use, no health effects are expected.

Ingestion

Acute : Harmful if ingested. Permethrin affects nervous system. Symptoms of overexposure to permethrin include diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity.

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

Carcinogenicity : 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

12.1. Toxicity

Permethrin (52645-53-1)	
LC50 Acute fish 1	0.00079 mg/l (Exposure time: 96h - Blue gill)
LC50 Acute fish 2	0.0022 mg/l (Exposure time: 96h - Atlantic silverside)
LC50 Acute crustacea 1	0.000019 mg/l (Exposure time: 96h - Mysid shrimp)
LC50 Acute crustacea 2	0.0001 mg/l (Hexagenia bilineata)
EC50 - Crustacea [1]	0.00043 mg/l (48 h, Daphnia magna, Literature study)
NOEC Chronic fish 1	0.0003 mg/l (Fathead minnow)

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Permethrin (52645-53-1)	
NOEC Chronic fish 2	0.00083 mg/l (Sheepshead minnow)
NOEC Chronic crustacea 1	0.000039 mg/l (Daphnia magna)
NOEC Chronic crustacea 2	0.000011 mg/l (Mysid shrimp)

Piperonyl butoxide (51-03-6)	
LC50 Acute fish 1	1.9 mg/l (Rainbow trout)
LC50 Acute fish 2	3.94 mg/l (Sheepshead minnow)
LC50 Acute crustacea 1	0.49 mg/l (Mysid shrimp)
LC50 Acute crustacea 2	0.51 mg/l (Gammarus fasciatus (amphipod))
NOEC Chronic fish 1	0.04 mg/l (Fathead minnow)
NOEC Chronic crustacea 1	0.03 mg/l (Daphnia magna)

12.2. Persistence and degradability

Permethrin (52645-53-1)	
Persistence and degradability	Permethrin: not rapidly biodegradable.

12.3. Bioaccumulative potential

Permethrin (52645-53-1)	
Bioaccumulative potential	Permethrin: Bioconcentration factor (BCF) 300; Does not bioaccumulate.

12.4. Mobility in soil

Permethrin (52645-53-1)	
Mobility in soil	Permethrin: Immobile in soil

12.5. Other adverse effects

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Ecological Fate	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.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

SECTION 14: Transport information

	UN number	Proper Shipping Name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable
IMDG	UN3082	Packaging greater than 5 L: Environmentally hazardous substance, liquid, n.o.s (Permethrin and Piperonyl butoxide)	9	III	Marine pollutant
IATA	UN3082	Packaging greater than 5 L: Environmentally hazardous substance, liquid, n.o.s (Permethrin and Piperonyl butoxide)	9	III	Acute aquatic toxicity

SECTION 15: Regulatory information

15.1. US Federal regulations

Permethrin (52645-53-1)	
Not listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1 %

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Piperonyl butoxide (51-03-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1 %
EPA Labelling	
EPA Registration Number	89459-45
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.	
FIFRA Hazard statements	Caution
FIFRA Precautionary statements	KEEP OUT OF REACH OF CHILDREN.
FIFRA Hazards to Humans and Domestic Animals	Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with eyes, skin, or clothing. Prolonged or repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or the toilet. Remove contaminated clothing and wash before reuse.
FIFRA First aid	IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious or convulsing 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.
FIFRA 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 organisms. 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. 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 water when disposing of equipment washwaters. 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.
FIFRA Physical hazards	Do not use or store near heat or open flame

15.2. US State regulations

No additional information available

SECTION 16: Other information

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SDS US (GHS HazCom 2012) - CGP

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