



# Permanone<sup>®</sup>

## 30-30

FOR USE ONLY BY FEDERAL, STATE, TRIBAL OR LOCAL GOVERNMENT OFFICIALS RESPONSIBLE FOR PUBLIC HEALTH OR VECTOR CONTROL, OR BY PERSONS CERTIFIED IN THE APPROPRIATE CATEGORY OR OTHERWISE AUTHORIZED BY THE STATE OR TRIBAL LEAD PESTICIDE REGULATORY AGENCY TO PERFORM ADULT MOSQUITO CONTROL APPLICATIONS, OR BY PERSONS UNDER THEIR DIRECT SUPERVISION.

- CONTAINS A QUICK KNOCKDOWN, LOW ODOR, NON-CORROSIVE SYNERGIZED SYNTHETIC PYRETHROID
- FOR CONTROL OF ADULT MOSQUITOES IN RESIDENTIAL AND RECREATIONAL AREAS
- FOR USE AGAINST BITING AND NON-BITING MIDGES AND BLACK FLIES
- CONTAINS 2.5 LBS AI PERMETHRIN/GALLON
- CONTAINS 2.5 LBS AI PIPERONYL BUTOXIDE/GALLON

#### ACTIVE INGREDIENTS:

Permethrin.....	30.0%
Piperonyl Butoxide* .....	30.0%
OTHER INGREDIENTS:† .....	40.0%

**TOTAL:** 100.0%

\* (butylcarbityl (6-propylpiperonyl) ether and related compounds

† Contains Petroleum Distillates

EPA REG. NO. 432-1235

## KEEP OUT OF REACH OF CHILDREN CAUTION

Si usted no entiende la etiqueta, busque alguien para que se la explique a usted en detalle (If you do not understand the label get someone to explain it to you in detail).

For **MEDICAL** and **TRANSPORTATION** Emergencies **ONLY** Call 24 Hours A Day  
1-800-334-7577

For **PRODUCT USE** Information Call  
1-800-331-2867

Net Contents  
**275 Gallons**  
**04314564**

84105252A 141014AV1

Adult Mosquitoes



#### FIRST AID

<b>If swallowed:</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Do not give any liquid to the person.</li><li>• Do not induce vomiting unless told to by a poison control center or doctor.</li><li>• Do not give anything to an unconscious person.</li></ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>

**NOTE TO PHYSICIAN: May pose an aspiration pneumonia hazard. Contains petroleum distillates.**  
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of Medical emergencies or health and safety inquiries or in case of fire, leaking or damaged containers, information may be obtained by calling 1-800-334-7577.

#### PRECAUTIONARY STATEMENTS

##### 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. Wash thoroughly with soap and water after handling.

##### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are made of barrier laminate, nitrile rubber greater or equal to 14 mils or neoprene rubber greater or equal to 14 mils. If you want more options, follow the instructions for category E on an EPA chemical-resistance category selection chart.

Mixers, loaders, applicators and other handlers must wear:

Long-sleeved shirt and long pants,

Shoes plus socks,

Chemical-resistant gloves for all handlers except for applicators using motorized ground equipment, pilots, and flaggers

Chemical-resistant apron for mixers/loaders, persons cleaning equipment, and persons exposed to the concentrate.

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

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

See engineering controls for additional requirements.

##### USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

##### ENGINEERING CONTROLS

Pilots must use an enclosed cockpit that meet the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.24(d)(6)].

Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

##### 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 permits or 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 wash waters.

This pesticide is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow drift when bees are actively 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 tribe during a natural disaster recovery effort. Applications should be timed to provide the maximum possible interval between treatment and the next period of bee activity.





# Permanone®

## 30-30

## PHYSICAL AND CHEMICAL HAZARDS

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

## DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.  
READ ENTIRE LABEL FOR DIRECTIONS

Applications shall only be made when recommended by public health officials and trained personnel of mosquito abatement districts and/or other mosquito control programs.

Do not allow spray treatment to drift on cropland, (other than crops listed) or potable water supplies.

Not for use in outdoor residential misting systems.

Not for use in metered release systems.

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## PRODUCT INFORMATION

PERMANONE® 30-30 is recommended for application as a thermal aerosol and an Ultra Low Volume (U.L.V.) nonthermal aerosol (Cold Fog) to control adult mosquitoes in residential and recreational areas where these insects are a problem; such as but not limited to parks, campsites, woodlands, athletic fields, golf courses, residential areas, municipalities, gardens, playgrounds, recreational areas, and overgrown waste areas. Treat when mosquitoes are most active and weather conditions are conducive to keeping the fog in the air column close to the ground, e.g. cool temperatures and wind speeds are equal to or greater than 1 mph. Application during the cool hours of night or early morning is usually preferable. All types of applications should be conducted at temperatures above 50°F.

## APPLICATION INSTRUCTIONS

Apply at a rate not to exceed 0.007 pounds of Permethrin per acre in any given 24 hour period. Do not retreat a site more than once in 3 days. Do not exceed 25 applications at 0.007 pounds of Permethrin per acre (not to exceed a total of 0.18 pounds of Permethrin per acre) in any given season. More frequent applications 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.

PERMANONE 30-30 can be applied to the air column over specific growing crops prior to harvest and range grasses for the control of adult mosquitoes and biting flies within or adjacent to these areas. Application can be made where the following crops are present:

Alfalfa, Almonds, Apples, Artichoke, Asparagus, Avocado, Broccoli, Brussel sprouts, Cabbage, Cantaloupe, Cauliflower, Celery, Cherry, Corn (field and pop), Corn (sweet), Eggplant, Filberts (Hazelnuts), Garlic, Horseradish, Lettuce, Onions (dry bulb only), Papayas (FL only), Peaches / Nectarines, Pears, Bell peppers, Pistachios, Potatoes, Soybeans, Spinach, Tomatoes, and Walnuts.

Cucurbit vegetables, including Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cuban pumpkin, Cucumber, Gherkin, Gourd (edible, includes hyotan, cucuzza, hechima, Chinese okra), Momordica spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (hybrids and/or cultivars of Cucumis melo including true cantaloupe, cantaloupe, casaba, Crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon and Winter melon), Pumpkin, Squash (includes summer squash types such as: butternut squash, calabaza, crookneck squash, Hubbard squash, scallop squash, straightneck squash, vegetable marrow and zucchini, and winter squash types such as acorn squash and spaghetti squash), Watermelon (includes hybrids and/or varieties of Citrullus lanatus)

Leafy Vegetables, including Leafy vegetables (except brassica) (Amaranth (leafy amaranth, Chinese spinach, tampaia), Arugula (Rockette), Chervil, Chrysanthemum (edible leaved and garland), Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Spinach (including New Zealand and vine (Malabar spinach, Indian spinach))

## Spray Droplet Size Determination

Apply when wind speed is greater than 1 mph.

## Ground Equipment:

Spray equipment must be adjusted so that 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 a 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.

## Aerial Application made at ≤ 200 feet above ground elevation:

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.

## Aerial Application made at >200 feet above ground elevation:

Spray equipment must be adjusted so that the volume median diameter produced is less than 70

microns ( $D_v$  0.5 < 70  $\mu$ m) and that 90% of the spray is contained in droplets smaller than 145 microns ( $D_v$  0.9 < 145  $\mu$ 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)

To control Mosquitoes, Midges and Blackflies apply PERMANONE 30-30 using standard U.L.V. ground equipment or portable backpack sprayer. For vehicle-mounted non-thermal ULV equipment, base the acreage calculation on a swath width of 300-ft. If this product is applied undiluted at a flow rate of 1 fluid ounce per minute and a vehicle speed of 10 mph; the rate is equivalent to 0.0035 pounds Permethrin. If a different vehicle speed is used, adjust accordingly (see Dilution Table below). Vary flow rate according to vegetation density and mosquito population. Use the higher flow rate in heavy vegetation or when populations are high. Calibrate equipment to ensure the proper flow rate. PERMANONE 30-30 may also be applied by diluting with a suitable solvent such as mineral oil.

The following table presents sample dilutions and per acre rates for ground ULV applications. If an alternate dilution rate is used, adjust the flow rate accordingly.

DILUTION TABLE*							
GROUND ULV (300' swath width)							
APPLICATION RATE (LBS PERMETHRIN/A)	VEHICLE SPEED (MPH)	UNDILUTED		DILUTED 1:4		DILUTED 1:8	
		Flow Rate (fl oz/min)	fl oz/A	Flow Rate (fl oz/min)	fl oz/A	Flow Rate (fl oz/min)	fl oz/A
0.0015	5	0.23		1.15		2.07	
	10	0.47	0.08	2.35	0.39	4.23	0.70
	15	0.70		3.50		6.30	
0.0035	5	0.54		2.70		4.86	
	10	1.09	0.18	5.45	0.90	9.81	1.62
	15	1.63		8.15		14.67	
0.007	5	1.08		5.40		9.72	
	10	2.18	0.36	10.90	1.80	19.62	3.24
	15	3.26		16.30		29.34	

\* If an alternate dilution rate is used adjust the flow rate accordingly.

## AERIAL APPLICATION

PERMANONE 30-30 may be applied either diluted or undiluted at rates of 0.0035 lbs to 0.007 pounds Permethrin-PBO per acre by fixed wing or rotary aircraft capable of making a ULV application. Do not apply by fixed wing aircraft at a height less than 100 feet, or by helicopter at a height less than 75 feet. Apply when ground wind speed is equal to or greater than 1 mph. Applications shall only be made when recommended by public health officials and trained personnel of mosquito abatement districts and other mosquito control programs.

For best results, treat when insects are most active and meteorological conditions are conducive to keeping the spray cloud in the air column 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.

**IN FLORIDA:** Do not apply by aircraft unless approved by the Florida Department of Agriculture and Consumer Services.

## THERMAL AEROSOL FOGGING

TRUCK MOUNTED: Apply PERMANONE 30-30 using thermal fogging equipment. Dilute with a mineral oil (such as BVA13 mineral oil) or another suitable non-phytotoxic, highly refined base oil diluent. Diluents should have a flash point minimum of 168° F, an API gravity minimum of 32 @ 60° F and their density should be from 7.0 to 7.25 lbs/gal @ 60° F. Do not exceed the maximum rate. May be applied at speeds of 5 mph up to 15 mph with variable flow systems. For use with hand carried foggers, apply at rates up to but not exceeding 0.007 pounds permethrin per acre. Do not wet foliage since certain oil base formulations may be phytotoxic. Apply when ground wind speeds are equal to or greater than 1 mph. Use a well-maintained and properly calibrated fogger. Fog downwind.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store product in its original container in a cool, dry, locked place designated for such insecticides and out of reach of children. Avoid exposure to extreme temperatures. In case of spillage, soak up with absorbent material such as sawdust, or fullers 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.

## STORAGE AND DISPOSAL (continued)

### CONTAINER HANDLING:

**Rigid, Non-refillable containers small enough to shake (i.e., with capacities equal to or less than 5 gallons)**

**Non-refillable container.** Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with mineral oil and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. 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.

**Rigid Non-refillable containers that are too large to shake (i.e., with capacities greater than 5 gallons or 50 lbs)**

**Non-refillable container.** Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with mineral oil. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. 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.

**Refillable container.** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with mineral oil Agitate vigorously or recirculate mineral oil with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. 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.

## IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Bayer CropScience LP. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPS- SCIENCE LP MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FIT- NESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Bayer CropScience LP is authorized to make any warranties beyond those con- tained herein or to modify the warranties contained herein. TO THE EXTENT CONSISTENT WITH APPLICA- BLE LAW, BAYER CROPS- SCIENCE LP DISCLAIMS ANY LIABILITY WHATSOEVER FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

**LIMITATIONS OF LIABILITY:** TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REM- EDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT BAYER CROPS- SCIENCE LP'S ELECTION, THE REPLACEMENT OF PRODUCT.

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Backed by  
**BAYER**

Produced for:  
Bayer Environmental Science  
A Division of Bayer CropScience LP  
2 T. W. Alexander Drive  
Research Triangle Park, NC 27709

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Bayer



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102000013918

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

**Product identifier**

**Trade name** PERMANONE® 30-30

**Product code (UVP)** 05866587

**SDS Number** 102000013918

**EPA Registration No.** 432-1235

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

**Use** Insecticide

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

**Information on manufacturer**

Bayer Environmental Science  
2 T.W. Alexander Drive  
Research Triangle PK, NC 27709  
United States

**Emergency telephone no.**

**Emergency Telephone Number (24hr/ 7 days)** 1-800-334-7577 (24 hours/day)

**Product Information Telephone Number** 1-800-331-2867

**SDS Information or Request** SDSINFO.BCS-NA@bayer.com

**SECTION 2: HAZARDS IDENTIFICATION**

**Classification in accordance with regulation HCS 29CFR §1910.1200**

Skin irritation : Category 2

Acute toxicity (Oral, Inhalation): Category 4



**Signal word:** Warning

**Hazard statements**

Causes skin irritation.

Harmful if swallowed or if inhaled.

**Precautionary statements**

Wash thoroughly after handling.

Wear protective gloves.



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Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
IF ON SKIN: Wash with plenty of water/soap.  
Specific treatment (see supplemental first aid instructions on this label).  
If skin irritation occurs: Get medical advice/ attention.  
Take off contaminated clothing and wash before reuse.  
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.

**Other hazards**

No other hazards known.

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**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

Hazardous Component Name	CAS-No.	Concentration % by weight
Permethrin	52645-53-1	30.00
Piperonyl butoxide	51-03-6	30.00
HYDROTREATED MIDDLE DISTILLATES (PETROLEUM)	64742-46-7	38.80

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**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. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

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



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<b>Symptoms</b>	To date no symptoms are known.
<b>Indication of any immediate medical attention and special treatment needed</b>	
<b>Risks</b>	Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard. This product contains a pyrethroid.
<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**

**Suitable** Carbon dioxide (CO<sub>2</sub>), Dry chemical, Foam, Water

**Unsuitable** None known.

**Special hazards arising from the substance or mixture** Dangerous gases are evolved in the event of a fire.

**Advice for firefighters**

**Special protective equipment for fire-fighters** Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

**Further information** Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

**Flash point** 129.5 °C

**Autoignition temperature** no data available

**Lower explosion limit** no data available

**Upper explosion limit** no data available

**Explosivity** not applicable

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**SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

**Precautions** Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

**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). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

**Additional advice** Use personal protective equipment. Do not allow to enter soil,





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waterways or waste water canal.

**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.

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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.

**Advice on protection against fire and explosion** Keep away from heat and sources of ignition.

**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. Before removing gloves clean them with soap and water. 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.

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Permethrin	52645-53-1	5 mg/m <sup>3</sup> (TWA)	03 2014	ACGIH
Permethrin	52645-53-1	5 mg/m <sup>3</sup> (REL)	2010	NIOSH
Permethrin	52645-53-1	5 mg/m <sup>3</sup> (PEL)	02 2006	OSHA Z1
Permethrin	52645-53-1	5 mg/m <sup>3</sup> (TWA)	1989	OSHA Z1A
Permethrin	52645-53-1	5 mg/m <sup>3</sup> (TWA)	06 2008	TN OEL
Permethrin (Particulate.)	52645-53-1	50ug/m <sup>3</sup> (ST ESL)	02 2013	TX ESL
Permethrin (Particulate.)	52645-53-1	5ug/m <sup>3</sup> (AN ESL)	02 2013	TX ESL



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Permethrin	52645-53-1	5 mg/m3 (TWA PEL)	09 2013	US CA OEL
Permethrin	52645-53-1	10 mg/m3 (TWA)		OES BCS*
Piperonyl butoxide	51-03-6	500 ppm (TWA)		OES BCS*
HYDROTREATED MIDDLE DISTILLATES (PETROLEUM) (Inhalable fraction.)	64742-46-7	5 mg/m3 (TWA)	03 2014	ACGIH
HYDROTREATED MIDDLE DISTILLATES (PETROLEUM)	64742-46-7	3500ug/m3 (ST ESL)	02 2013	TX ESL
HYDROTREATED MIDDLE DISTILLATES (PETROLEUM)	64742-46-7	350ug/m3 (AN ESL)	02 2013	TX ESL

\*OES BCS: Internal Bayer CropScience "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**

<b>Appearance</b>	beige to brown
<b>Physical State</b>	Liquid
<b>Odor</b>	characteristic
<b>Odour Threshold</b>	no data available
<b>pH</b>	no data available
<b>Vapor Pressure</b>	no data available



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<b>Vapor Density (Air = 1)</b>	no data available
<b>Density</b>	ca. 0.99 g/cm <sup>3</sup> at 20 °C
<b>Bulk density</b>	8.25 lb/gal
<b>Evapouration rate</b>	no data available
<b>Boiling Point</b>	no data available
<b>Melting / Freezing Point</b>	no data available
<b>Water solubility</b>	non-emulsifiable
<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>	47 mPa.s at 20 °C
<b>Flash point</b>	129.5 °C
<b>Autoignition 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>	no data available
<b>Incompatible materials</b>	Strong oxidizing agents
<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>	Eye contact, Skin contact, Ingestion, Inhalation
<b>Immediate Effects</b>	





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<b>Eye</b>	Moderate eye irritation.
<b>Skin</b>	Causes skin irritation. Harmful if absorbed through skin.
<b>Ingestion</b>	Harmful if swallowed.
<b>Inhalation</b>	May be harmful if inhaled.

**Information on toxicological effects**

**Acute oral toxicity** LD50 (male/female combined rat) 993 mg/kg

**Acute inhalation toxicity** LC50 (rat) > 2.2 mg/l  
Exposure time: 4 h  
Determined in the form of liquid aerosol.  
  
LC50 (rat) > 8.8 mg/l  
Exposure time: 1 h  
Determined in the form of liquid aerosol.  
Extrapolated from the 4 hr LC50.

**Acute dermal toxicity** LD50 (rat) > 2,000 mg/kg

**Skin irritation** Moderate skin irritation. (rabbit)

**Eye irritation** Mild eye irritation. (rabbit)

**Sensitisation** Non-sensitizing. (guinea pig)

**Assessment repeated dose toxicity**

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**

HYDROTREATED MIDDLE DISTILLATES (PETROLEUM)	64742-46-7	Group A4
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**NTP**

HYDROTREATED MIDDLE DISTILLATES (PETROLEUM)	64742-46-7	1980
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**IARC**

Permethrin	52645-53-1	Overall evaluation: 3
Piperonyl butoxide	51-03-6	Overall evaluation: 3
HYDROTREATED MIDDLE DISTILLATES (PETROLEUM)	64742-46-7	Overall evaluation: 3
HYDROTREATED MIDDLE DISTILLATES	64742-46-7	Overall evaluation: 1



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(PETROLEUM)

**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.

**Further information**

Only acute toxicity studies have been performed on the formulated product.  
The non-acute information pertains to the active ingredient(s).

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**SECTION 12: ECOLOGICAL INFORMATION**

**Toxicity to fish**

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 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 (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.

**Biodegradability**

Permethrin: ; not rapidly biodegradable  
Piperonyl butoxide: ; not rapidly biodegradable

**Koc**

Permethrin: Koc: 100000  
Piperonyl butoxide: Koc: 399 - 830

**Bioaccumulation**

Permethrin: Bioconcentration factor (BCF) 300; Does not



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	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 when weather conditions favor runoff or drift. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not allow to get into surface water, drains and ground water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label. 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**

<b>Product</b>	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.
<b>Contaminated packaging</b>	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.
<b>RCRA Information</b>	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. When and if this material is determined to be a waste, if discarded, this material may carry RCRA waste code(s) <b>NON-RCRA</b> . State and local laws may vary and must be considered.

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**SECTION 14: TRANSPORT INFORMATION**

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

**IMDG**

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

# Bayer Environmental Science

## SAFETY DATA SHEET



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#### 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.

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

## SECTION 15: REGULATORY INFORMATION

EPA Registration No. 432-1235

#### US Federal Regulations

##### TSCA list

Piperonyl butoxide	51-03-6
HYDROTREATED MIDDLE DISTILLATES (PETROLEUM)	64742-46-7

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**  
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 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	NJ, RI
Piperonyl butoxide	51-03-6	NJ, RI
HYDROTREATED MIDDLE DISTILLATES (PETROLEUM)	64742-46-7	CA

#### Canadian Regulations

##### Canadian Domestic Substance List

HYDROTREATED MIDDLE DISTILLATES (PETROLEUM)	64742-46-7
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#### Environmental

##### CERCLA

None.

##### Clean Water Section 307 Priority Pollutants

None.

##### Safe Drinking Water Act Maximum Contaminant Levels

Permethrin 52645-53-1

#### International Regulations

##### European Inventory of Existing Commercial Substances (EINECS)

Permethrin 52645-53-1

HYDROTREATED MIDDLE 64742-46-7

DISTILLATES (PETROLEUM)

#### 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:

**Signal word:** Caution!

**Hazard statements:** Harmful if swallowed or absorbed through skin.  
Moderate eye irritation.  
Avoid contact with skin, eyes and clothing.

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## SECTION 16: OTHER INFORMATION

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

Health - 2      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:** Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

**Revision Date:** 02/09/2015

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