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.
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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Concentration % by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permethrin</td>
<td>52645-53-1</td>
<td>30.00</td>
</tr>
<tr>
<td>Piperonyl butoxide</td>
<td>51-03-6</td>
<td>30.00</td>
</tr>
<tr>
<td>HYDROTREATED MIDDLE DISTILLATES</td>
<td>64742-46-7</td>
<td>38.80</td>
</tr>
<tr>
<td>(PETROLEUM)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Inhalation 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.

Skin contact 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.

Eye contact 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.

Ingestion 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
Symptoms
To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

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

Treatment
Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable
Carbon dioxide (CO2), 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

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,
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.

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.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permethrin</td>
<td>52645-53-1</td>
<td>5 mg/m3 (TWA)</td>
<td>03 2014</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Permethrin</td>
<td>52645-53-1</td>
<td>5 mg/m3 (REL)</td>
<td>2010</td>
<td>NIOSH</td>
</tr>
<tr>
<td>Permethrin</td>
<td>52645-53-1</td>
<td>5 mg/m3 (PEL)</td>
<td>02 2006</td>
<td>OSHA Z1</td>
</tr>
<tr>
<td>Permethrin (Particulate.)</td>
<td>52645-53-1</td>
<td>50ug/m3 (ST ESL)</td>
<td>02 2013</td>
<td>TX ESL</td>
</tr>
<tr>
<td>Permethrin (Particulate.)</td>
<td>52645-53-1</td>
<td>5ug/m3 (AN ESL)</td>
<td>02 2013</td>
<td>TX ESL</td>
</tr>
</tbody>
</table>
Exposure controls

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

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

Hand protection
Chemical resistant nitrile rubber gloves

Eye protection
Safety glasses with side-shields

Skin and body protection
Wear long-sleeved shirt and long pants and shoes plus socks.

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| Appearance | beige to brown |
| Physical State | Liquid |
| Odor | characteristic |
| Odour Threshold | no data available |
| pH | no data available |
| Vapor Pressure | no data available |
Vapor Density (Air = 1)  no data available
Density  ca. 0.99 g/cm³ at 20 °C
Bulk density  8.25 lb/gal
Evaporation rate  no data available
Boiling Point  no data available
Melting / Freezing Point  no data available
Water solubility  non-emulsifiable
Minimum Ignition Energy  not applicable
Decomposition temperature  no data available
Partition coefficient: n-octanol/water  not applicable
Viscosity  47 mPa.s at 20 °C
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

SECTION 10: STABILITY AND REACTIVITY

Reactivity
Thermal decomposition  no data available
Chemical stability  Stable under normal conditions.
Possibility of hazardous reactions  No dangerous reaction known under conditions of normal use.
Conditions to avoid  no data available
Incompatible materials  Strong oxidizing agents
Hazardous decomposition products  No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes  Eye contact, Skin contact, Ingestion, Inhalation
Immediate Effects
Eye
Moderate eye irritation.

Skin
Causes skin irritation. Harmful if absorbed through skin.

Ingestion
Harmful if swallowed.

Inhalation
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

NTP
HYDROTREATED MIDDLE DISTILLATES (PETROLEUM) 64742-46-7 1980

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
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).

## 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
bioaccumulate.
Piperonyl butoxide: ; Potential bioaccumulation

Mobility in soil
Permethrin: Immobile in soil
Piperonyl butoxide: Moderately mobile in soils

Environmental precautions
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.

SECTION 13: DISPOSAL CONSIDERATIONS

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

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

RCRA Information
Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user’s responsibility. RCRA classification may apply.
When and if this material is determined to be a waste, if discarded, this material may carry RCRA waste code(s) NON-R CRA.
State and local laws may vary and must be considered.

SECTION 14: TRANSPORT INFORMATION

49CFR
Not dangerous goods / not hazardous material

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

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

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 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 64742-46-7 CA

Canadian Regulations
Canadian Domestic Substance List
HYDROTREATED MIDDLE 64742-46-7
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.

SECTION 16: OTHER INFORMATION

NFPA 704 (National Fire Protection Association):
Health - 2 Flammability - 1 Instability - 0 Others - none

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

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.