



**PERMANONE® TECHNICAL INSECTICIDE III**

Version 3.0 / USA  
102000002455

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Revision Date: 02/25/2015  
Print Date: 04/19/2017

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

**Product identifier**

**Trade name** PERMANONE® TECHNICAL INSECTICIDE III  
**Product code (UVP)** 05937574  
**SDS Number** 102000002455  
**EPA Registration No.** 432-877

**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

**Product Information Telephone Number**

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

**SECTION 2: HAZARDS IDENTIFICATION**

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

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

**Other hazards**

No particular hazards known.

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

Hazardous Component Name	CAS-No.	Concentration % by weight
Permethrin	52645-53-1	95.2



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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**

<b>Symptoms</b>	Local:, Skin and eye paraesthesia which may be severe, Usually transient with resolution within 24 hours, Skin, eye and mucous membrane irritation, Cough, Sneezing  Systemic:, Discomfort in the chest, Tachycardia, Hypotension, Nausea, Abdominal pain, Diarrhoea, Vomiting, Dizziness, Blurred vision, Headache, Anorexia, Somnolence, Coma, Convulsions, Tremors, Prostration, Airway hyperreaction, Pulmonary oedema, Palpitation, Muscular fasciculation, Apathy
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**Indication of any immediate medical attention and special treatment needed**

<b>Risks</b>	This product contains a pyrethroid. Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.
<b>Treatment</b>	Local treatment: Initial treatment: symptomatic.  In case of skin irritation, application of oils or lotions containing vitamin E may be considered.  Systemic treatment: Initial treatment: symptomatic. Monitor: respiratory and cardiac functions. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. Keep respiratory tract clear. Oxygen or artificial respiration if needed. In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens. If not effective, phenobarbital may be used. Contraindication: atropine. Contraindication: derivatives of adrenaline. There is no specific antidote.



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Recovery is spontaneous and without sequelae.

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**SECTION 5: FIREFIGHTING MEASURES**

**Extinguishing media**

**Suitable** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable** High volume water jet

**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.  
In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

**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** 131 °C  
**Autoignition temperature** no data available  
**Lower explosion limit** not applicable  
**Upper explosion limit** not applicable  
**Explosivity** no data available

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**SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

**Precautions** Keep people away from and upwind of spill/leak. Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke.

**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 floors and contaminated objects with plenty of water.

**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.



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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** No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Use only in area provided with appropriate exhaust ventilation.

**Advice on protection against fire and explosion** Dust may form explosive mixture in air.

**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 place accessible by authorized persons only. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Store in original container.

**Advice on common storage** Keep away from food, drink and animal feedingstuffs.

**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
Permethrin	52645-53-1	5 mg/m <sup>3</sup>	09 2013	US CA OEL



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		(TWA PEL)		
Permethrin	52645-53-1	10 mg/m <sup>3</sup> (TWA)		OES BCS*

\*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

**Exposure controls**

<b>Respiratory protection</b>	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.
<b>Hand protection</b>	Chemical resistant nitrile rubber gloves
<b>Eye protection</b>	Tightly fitting safety goggles
<b>Skin and body protection</b>	Wear long-sleeved shirt and long pants and shoes plus socks.
<b>General protective measures</b>	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>	light yellow to dark brown
<b>Physical State</b>	liquid or crystalline or liquid hot melt
<b>Odor</b>	weak characteristic
<b>Odour Threshold</b>	no data available
<b>pH</b>	no data available
<b>Vapor Pressure</b>	no data available
<b>Vapor Density (Air = 1)</b>	no data available
<b>Density</b>	ca. 1.22 g/cm <sup>3</sup> at 20 °C
<b>Evaporation rate</b>	no data available
<b>Boiling Point</b>	ca. 200 °C / 392 °F
<b>Melting / Freezing Point</b>	34 - 39 °C / 93.2 - 102.2 °F Undergoes polymorphic transformation.
<b>Water solubility</b>	< 0.0001 g/l at 20 °C
<b>Minimum Ignition Energy</b>	not applicable
<b>Molecular Weight</b>	391.3 g/mol
<b>Decomposition temperature</b>	Stable under normal conditions.
<b>Partition coefficient: n-octanol/water</b>	log Pow: 5.95



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**Viscosity**

no data available

**Flash point**

131 °C

**Autoignition temperature**

no data available

**Lower explosion limit**

not applicable

**Upper explosion limit**

not applicable

**Explosivity**

no data available

**Other information**

Further safety related physical-chemical data are not known.

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**SECTION 10: STABILITY AND REACTIVITY**

**Reactivity**

**Thermal decomposition**

Stable under normal conditions.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

No hazardous reactions when stored and handled according to prescribed instructions.

**Conditions to avoid**

Extremes of temperature and direct sunlight.

**Incompatible materials**

Store only in the original container.

**Hazardous decomposition products**

No decomposition products expected under normal conditions of use.

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**SECTION 11: TOXICOLOGICAL INFORMATION**

**Exposure routes**

Ingestion, Skin Absorption, Eye contact

**Immediate Effects**

**Eye**

May cause mild irritation to eyes.

**Skin**

May cause slight irritation. Harmful if absorbed through skin.

**Ingestion**

Harmful if swallowed.

**Inhalation**

Harmful if inhaled.

**Information on toxicological effects**

**Acute oral toxicity**

LD50 (male rat) 3,580 mg/kg  
LD50 (female rat) 2,280 mg/kg

**Acute inhalation toxicity**

LC50 (rat) 5.3 mg/l  
Exposure time: 4 h  
Determined in the form of liquid aerosol.  
LC50 (rat) 21.2 mg/l



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Exposure time: 1 h  
Determined in the form of liquid aerosol.  
Extrapolated from the 4 hr LC50.

<b>Acute dermal toxicity</b>	LD50 (rabbit) > 2,000 mg/kg
<b>Skin irritation</b>	Slight irritation (rabbit)
<b>Eye irritation</b>	Mild eye irritation. (rabbit)
<b>Sensitisation</b>	Non-sensitizing. (guinea pig)

### Assessment repeated dose toxicity

Permethrin 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.

### 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.

### ACGIH

None.

### NTP

None.

### IARC

Permethrin 52645-53-1 Overall evaluation: 3

### OSHA

None.

### Assessment toxicity to reproduction

Permethrin 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.

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## SECTION 12: ECOLOGICAL INFORMATION

<b>Toxicity to fish</b>	LC50 (Poecilia reticulata (guppy)) 0.0076 mg/l Exposure time: 96 h
<b>Toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)) 0.00017 mg/l Exposure time: 48 h
<b>Toxicity to aquatic plants</b>	EC50 (Algae) 0.5 mg/l



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	Exposure time: 72 h
<b>Biodegradability</b>	Permethrin: ; not rapidly biodegradable
<b>Koc</b>	Permethrin: Koc: 100000
<b>Bioaccumulation</b>	Permethrin: Bioconcentration factor (BCF) 300; Does not bioaccumulate.
<b>Mobility in soil</b>	Permethrin: Immobile in soil
<b>Additional ecological information</b>	No other effects to be mentioned.
<b>Environmental precautions</b>	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.

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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>	Follow advice on product label and/or leaflet. 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.
<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.

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**SECTION 14: TRANSPORT INFORMATION**

<b>49CFR</b>	Not dangerous goods / not hazardous material
<b>IMDG</b>	
UN number	<b>3082</b>
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PERMETHRIN)

**IATA**





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UN number **3082**  
Class **9**  
Packaging group **III**  
Environm. Hazardous Mark **YES**  
Proper shipping name **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(PERMETHRIN )**

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.** 432-877

**US Federal Regulations**

**TSCA list**

None.

**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%

**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

**Canadian Regulations**

**Canadian Domestic Substance List**

None.

**Environmental**

**CERCLA**

None.

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

Permethrin 52645-53-1



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**International Regulations**

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

Permethrin 52645-53-1

**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.  
Harmful if inhaled.  
Avoid inhalation of vapour or mist.  
Causes eye irritation.  
Avoid contact with skin, eyes and clothing.  
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

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**SECTION 16: OTHER INFORMATION**

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

Health - 1      Flammability - 1      Instability - 0      Others - none

**HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)**

Health - 1      Flammability - 1      Physical Hazard - 1      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:** 02/25/2015

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