



Material Safety Data Sheet

PERMANONE® 40 CONCENTRATE FOR MILITARY SPECS

MSDS Number: 102000004017

MSDS Version 1.2

Revision Date: 06/24/2010

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name PERMANONE® 40 CONCENTRATE FOR MILITARY SPECS
MSDS Number 102000004017
EPA Registration No. 432-1386

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

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
For Product Information call: 1-800-331-2867

SECTION 2. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview Danger! Corrosive - causes irreversible eye damage. Do not get in eyes or on clothing. Harmful if swallowed. Avoid contact with skin. Wash thoroughly with soap and water after handling.

Physical State liquid

Odor aromatic

Appearance amber

Exposure routes Skin contact, Eye contact, Ingestion

Immediate Effects

Eye Corrosive - causes irreversible eye damage. Do not get in eyes.

Skin Moderate skin irritation. Avoid contact with skin and clothing.

Ingestion Do not take internally. Harmful if swallowed.

Chronic or Delayed Long-Term

This product or its components may have target organ effects. This product or its components may have long term (chronic) health effects.

Potential Environmental Effect

Extremely toxic to fish and aquatic organisms.



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

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Permethrin	52645-53-1	40.00
Solvent Naphtha (petroleum), light aromatic	64742-95-6	
1,2,4-Trimethylbenzene	95-63-6	17.80
Mesitylene	108-67-8	3.80
Diethylbenzene	25340-17-4	1.70
Cumene	98-82-8	1.70
Butoxypolyethylene-/propylene glycol	9038-95-3	1.80
Surfactant blend in butan-1-ol and 1,2-propanediol		4.30

**SECTION 4. FIRST AID MEASURES**

<b>General</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Eye</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>Skin</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>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.
<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>Notes to physician</b>	
<b>Hazards</b>	This product contains a pyrethroid.  Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.
<b>Treatment</b>	Treat symptomatically. There is no specific antidote.

**SECTION 5. FIRE FIGHTING MEASURES**

<b>Flash point</b>	46 °C / 115 °F
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**Suitable extinguishing media** Water, Foam, Carbon dioxide (CO2), Dry chemical

**Fire Fighting Instructions** Keep out of smoke. Fight fire from upwind position. Avoid contact with spilled product or contaminated surfaces. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

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.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions** Remove all sources of ignition. Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

**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.

**SECTION 7. HANDLING AND STORAGE**

**Handling procedures** Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. Handle and open container in a manner as to prevent spillage.

Keep away from heat and sources of ignition.

**Storing Procedures** 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.

**Work/Hygienic Procedures** 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.



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

- General Protection** Eye wash facility and safety shower should be available.  
  
Follow all label instructions. Train employees in safe use of the product.  
  
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.
- Eye/Face Protection** Goggles  
Face-shield
- Hand protection** Chemical resistant nitrile rubber gloves
- Body Protection** Wear long-sleeved shirt and long pants and shoes plus socks.
- 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.

**Exposure Limits**

Permethrin	52645-53-1	OES BCS*	TWA	10 mg/m3
		TX ESL	ST ESL	50 ug/m3
		TX ESL	AN ESL	5 ug/m3
1,2,4-Trimethylbenzene	95-63-6	NIOSH	REL	1 mg/m3
		TX ESL	ST ESL	25 ppm
		TX ESL	AN ESL	250 ppm
Mesitylene	108-67-8	NIOSH	REL	25 ppm
		TX ESL	ST ESL	250 ppm
		TX ESL	AN ESL	25 ppm
Diethylbenzene	25340-17-4	WEEL	TWA	5 ppm
		TX ESL	ST ESL	460 ppm
		TX ESL	AN ESL	46 ppm
Cumene	98-82-8	ACGIH	TWA	50 ppm
		NIOSH	REL	50 ppm
		OSHA Z1	PEL	50 ppm
		OSHA Z1A	TWA	50 ppm
		US CA OEL	TWA PEL	50 ppm
		TX ESL	ST ESL	500 ug/m3
TX ESL	AN ESL	50 ug/m3		
			TWA	50 ppm

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



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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	amber
<b>Physical State</b>	liquid
<b>Odor</b>	aromatic
<b>pH</b>	6.5 - 7.5 neutral
<b>Density</b>	ca. 1.01 g/cm <sup>3</sup> at 20 °C

**SECTION 10. STABILITY AND REACTIVITY**

<b>Conditions to avoid</b>	Heat, flames and sparks. Extremes of temperature and direct sunlight.
<b>Incompatibility</b>	Strong oxidizing agents
<b>Chemical Stability</b>	Stable under normal conditions.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Acute toxicity data have been bridged from a similar formulation containing a similar percentage of the active ingredient, permethrin. The non-acute information pertains to the technical-grade active ingredient.

<b>Acute oral toxicity</b>	male rat: LD50: 1,790 mg/kg female rat: LD50: 1,290 mg/kg
<b>Acute dermal toxicity</b>	rat: LD50: > 5,000 mg/kg
<b>Acute inhalation toxicity</b>	rat: LC50: > 2.3 mg/l Exposure time: 4 h Determined in the form of liquid aerosol.  rat: LC50: > 9.2 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50.
<b>Skin irritation</b>	rabbit: Moderate skin irritation.
<b>Eye irritation</b>	rabbit: corrosive
<b>Sensitisation</b>	guinea pig: Non-sensitizing.



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**Chronic toxicity**                      Permethrin caused neurobehavioral effects (e.g., tremors) and/or organ effects (liver, lung, kidney) in chronic studies in rats, mice and dogs.

**Assessment Carcinogenicity**

Permethrin has low oncogenic potential in mice and no oncogenic potential in rats, therefore, EPA has concluded the likelihood of oncogenicity effects in humans from permethrin to be extremely low or nonexistent.

**ACGIH**

None.

**NTP**

None.

**IARC**

Permethrin

52645-53-1

Overall evaluation: 3

**OSHA**

None.

**Reproductive toxicity**                      REPRODUCTION: Permethrin was not a reproductive toxicant in multi-generation reproduction studies in rats.

DEVELOPMENTAL TOXICITY: Permethrin was not a primary developmental toxicant in rats, mice and rabbits. Developmental effects (e.g., decreased fetal weights) were observed in rats and rabbits but were considered secondary to maternal toxicity.

**Neurotoxicity**                              Permethrin caused neurobehavioral effects (e.g., tremors) in an acute and subchronic neurotoxicity screening study in rats without any correlating neuropathological changes.

**Mutagenicity**                                Permethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo mutagenicity studies.

**SECTION 12. ECOLOGICAL INFORMATION**

**Environmental precautions**                      Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other water unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. For guidance, contact your State Water Board or Regional Office of the EPA. Apply this product as specified on the label.



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**SECTION 13. DISPOSAL CONSIDERATIONS**

<b>General Disposal Guidance</b>	Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
<b>Container Disposal</b>	Triple rinse containers. 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.
<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.

**SECTION 14. TRANSPORT INFORMATION**

**49CFR**

UN-Number	<b>1993</b>
Class	3
Packaging group	III
Description of the goods	FLAMMABLE LIQUIDS, N.O.S. (PETROLEUM DISTILLATES)

**IMDG**

UN-Number	<b>1993</b>
Class	3
Packaging group	III
Marine pollutant	Marine Pollutant
Description of the goods	FLAMMABLE LIQUID, N.O.S. (PETROLEUM DISTILLATES, PERMETHRIN)

**IATA**

UN-Number	<b>1993</b>
Class	3
Packaging group	III
Description of the goods	FLAMMABLE LIQUID, N.O.S. (PETROLEUM DISTILLATES, 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.



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**SECTION 15. REGULATORY INFORMATION**

**EPA Registration No.** 432-1386

**US Federal Regulations**

**TSCA list**

Solvent Naphtha (petroleum), light aromatic	64742-95-6
1,2,4-Trimethylbenzene	95-63-6
Mesitylene	108-67-8
Diethylbenzene	25340-17-4
Cumene	98-82-8
Butoxypolyethylene-/propylene glycol	9038-95-3

**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%
1,2,4-Trimethylbenzene	95-63-6	1.0%
Cumene	98-82-8	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
1,2,4-Trimethylbenzene	95-63-6	NJ, PA
Cumene	98-82-8	CA, CT, IL, MN, NJ, PA, RI

**Canadian Regulations**

**Canadian Domestic Substance List**

Solvent Naphtha (petroleum), light aromatic	64742-95-6
1,2,4-Trimethylbenzene	95-63-6
Mesitylene	108-67-8
Diethylbenzene	25340-17-4
Cumene	98-82-8
Butoxypolyethylene-/propylene glycol	9038-95-3

**Environmental**

**CERCLA**

Cumene	98-82-8	5,000 lbs
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**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.



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**International Regulations**

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

Permethrin	52645-53-1
Solvent Naphtha (petroleum), light aromatic	64742-95-6
1,2,4-Trimethylbenzene	95-63-6
Mesitylene	108-67-8
Cumene	98-82-8

**SECTION 16. OTHER INFORMATION**

NFPA 704 (National Fire Protection Association):

Health - 3      Flammability - 2      Reactivity - 1      Others - none

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Updated due to new system and numbering scheme. Updated for general editorial purposes.

Revision Date: 06/24/2010

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