



PERMANONE® 40 CONCENTRATE

Version 2.0 / USA
102000004017

1/12
Revision Date: 02/13/2015
Print Date: 01/05/2017

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

Product identifier

Trade name PERMANONE® 40 CONCENTRATE
Product code (UVP) 05950783
SDS Number 102000004017
EPA Registration No. 432-1386

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

Serious eye damage, Aspiration hazard : Category 1
Skin irritation : Category 2
Specific target organ toxicity - single exposure, Flammable liquids : Category 3
Acute toxicity (Oral, Inhalation): Category 4



Signal word: Danger

Hazard statements

Causes serious eye damage.
May be fatal if swallowed and enters airways.
Causes skin irritation.



PERMANONE® 40 CONCENTRATE

Version 2.0 / USA
102000004017

2/12
Revision Date: 02/13/2015
Print Date: 01/05/2017

May cause respiratory irritation.
Harmful if swallowed or if inhaled.
Flammable liquid and vapour.

Precautionary statements

Wear protective gloves and eye protection/face protection.
Wash thoroughly after handling.
Avoid breathing mist and spray.
Use only outdoors or in a well-ventilated area.
Do not eat, drink or smoke when using this product.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor/physician.
IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
Do NOT induce vomiting.
Rinse mouth.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Dispose of contents/container in accordance with local regulation.

Other hazards

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Permethrin	52645-53-1	40.0
Solvent Naphtha (petroleum), light aromatic	64742-95-6	42.0
Surfactant blend in butan-1-ol and 1,2-propanediol		4.3



PERMANONE® 40 CONCENTRATE

Version 2.0 / USA
102000004017

3/12
Revision Date: 02/13/2015
Print Date: 01/05/2017

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

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 Water, Foam, Carbon dioxide (CO₂), Dry chemical

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. In the event of fire and/or explosion do not breathe fumes.

Further information Keep out of smoke. Fight fire from upwind position. Avoid contact with



PERMANONE® 40 CONCENTRATE

Version 2.0 / USA
102000004017

4/12
Revision Date: 02/13/2015
Print Date: 01/05/2017

	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.
Flash point	49.44 °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 Remove all sources of ignition. 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.



PERMANONE® 40 CONCENTRATE

Version 2.0 / USA
102000004017

5/12
Revision Date: 02/13/2015
Print Date: 01/05/2017

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

Components	CAS-No.	Control parameters	Update	Basis
Permethrin	52645-53-1	5 mg/m3 (TWA)	03 2014	ACGIH
Permethrin	52645-53-1	5 mg/m3 (REL)	2010	NIOSH
Permethrin	52645-53-1	5 mg/m3 (PEL)	02 2006	OSHA Z1
Permethrin	52645-53-1	5 mg/m3 (TWA)	1989	OSHA Z1A
Permethrin	52645-53-1	5 mg/m3 (TWA)	06 2008	TN OEL
Permethrin (Particulate.)	52645-53-1	50ug/m3 (ST ESL)	02 2013	TX ESL
Permethrin (Particulate.)	52645-53-1	5ug/m3 (AN ESL)	02 2013	TX ESL
Permethrin	52645-53-1	5 mg/m3 (TWA PEL)	09 2013	US CA OEL
Permethrin	52645-53-1	10 mg/m3 (TWA)		OES BCS*
Solvent Naphtha (petroleum), light aromatic	64742-95-6	1250ug/m3 (ST ESL)	07 2011	TX ESL
Solvent Naphtha (petroleum), light aromatic	64742-95-6	25ppb (AN ESL)	07 2011	TX ESL
Solvent Naphtha (petroleum), light aromatic	64742-95-6	250ppb (ST ESL)	07 2011	TX ESL
Solvent Naphtha (petroleum), light aromatic	64742-95-6	125ug/m3 (AN ESL)	07 2011	TX ESL
Butoxypolyethylene-/propylene glycol (Particulate.)	9038-95-3	50ug/m3 (ST ESL)	02 2013	TX ESL
Butoxypolyethylene-/propylene glycol (Vapor.)	9038-95-3	1000ug/m3 (ST ESL)	02 2013	TX ESL
Butoxypolyethylene-/propylene glycol (Particulate.)	9038-95-3	5ug/m3 (AN ESL)	02 2013	TX ESL
Butoxypolyethylene-	9038-95-3	100ug/m3	02 2013	TX ESL



PERMANONE® 40 CONCENTRATE

Version 2.0 / USA
102000004017

6/12
Revision Date: 02/13/2015
Print Date: 01/05/2017

/propylene glycol (Vapor.)		(AN ESL)		
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*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 Goggles
Face-shield

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

General protective measures Eye wash facility and safety shower should be available. 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	aromatic
Odour Threshold	no data available
pH	3.0 - 4.5
Vapor Pressure	no data available
Vapor Density (Air = 1)	no data available
Density	ca. 1.01 g/cm ³ at 20 °C
Evaporation rate	no data available
Boiling Point	no data available
Melting / Freezing Point	no data available
Water solubility	negligible
Minimum Ignition Energy	not applicable
Decomposition temperature	no data available



PERMANONE® 40 CONCENTRATE

Version 2.0 / USA
102000004017

7/12
Revision Date: 02/13/2015
Print Date: 01/05/2017

Partition coefficient: n-octanol/water	not applicable
Viscosity	4.2 mPa.s
Flash point	49.44 °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	Heat, flames and sparks. Extremes of temperature and direct sunlight.
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, Ingestion, Skin contact, Inhalation
Immediate Effects	
Eye	Corrosive - causes irreversible eye damage.
Skin	Moderate skin irritation.
Ingestion	Harmful if swallowed.
Inhalation	May be harmful if inhaled.
Information on toxicological effects	
Acute oral toxicity	LD50 (male rat) 1,790 mg/kg LD50 (female rat) 1,290 mg/kg
Acute inhalation toxicity	LC50 (rat) > 2.3 mg/l Exposure time: 4 h Determined in the form of liquid aerosol.



PERMANONE® 40 CONCENTRATE

Version 2.0 / USA
102000004017

8/12
Revision Date: 02/13/2015
Print Date: 01/05/2017

LC50 (rat) > 9.2 mg/l
Exposure time: 1 h
Determined in the form of liquid aerosol.
Extrapolated from the 4 hr LC50.

Acute dermal toxicity LD50 (rat) > 5,000 mg/kg
Skin irritation Moderate skin irritation. (rabbit)
Eye irritation corrosive (rabbit)
Sensitisation 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.

Further information

Acute toxicity studies have been bridged from a similar formulation(s).
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



PERMANONE® 40 CONCENTRATE

Version 2.0 / USA
102000004017

9/12
Revision Date: 02/13/2015
Print Date: 01/05/2017

	The value mentioned relates to the active ingredient permethrin.
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.
Toxicity to aquatic plants	EC50 (Algae) 0.5 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient permethrin.
Biodegradability	Permethrin: ; not rapidly biodegradable
Koc	Permethrin: Koc: 100000
Bioaccumulation	Permethrin: Bioconcentration factor (BCF) 300; Does not bioaccumulate.
Mobility in soil	Permethrin: Immobile in soil
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 discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	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.
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.
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.



PERMANONE® 40 CONCENTRATE

Version 2.0 / USA
102000004017

10/12
Revision Date: 02/13/2015
Print Date: 01/05/2017

SECTION 14: TRANSPORT INFORMATION

49CFR

UN number 1993
Class 3
Packaging group III
Proper shipping name FLAMMABLE LIQUIDS, N.O.S.
(PETROLEUM DISTILLATES)

IMDG

UN number 1993
Class 3
Packaging group III
Marine pollutant YES
Proper shipping name FLAMMABLE LIQUID, N.O.S.
(PETROLEUM DISTILLATES, PERMETHRIN)

IATA

UN number 1993
Class 3
Packaging group III
Environm. Hazardous Mark NO
Proper shipping name 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.

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

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 432-1386

US Federal Regulations

TSCA list

Solvent Naphtha (petroleum), light aromatic 64742-95-6

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.



PERMANONE® 40 CONCENTRATE

Version 2.0 / USA
102000004017

11/12
Revision Date: 02/13/2015
Print Date: 01/05/2017

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

Solvent Naphtha (petroleum), light aromatic 64742-95-6

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

Solvent Naphtha (petroleum), light aromatic 64742-95-6

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: Danger!

Hazard statements: 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.

SECTION 16: OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

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

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

Health - 3 Flammability - 2 Physical Hazard - 1 PPE -

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

Bayer Environmental Science
SAFETY DATA SHEET



PERMANONE® 40 CONCENTRATE

Version 2.0 / USA
102000004017

12/12
Revision Date: 02/13/2015
Print Date: 01/05/2017

Reason for Revision: Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

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