



SAFETY DATA SHEET

PERMETHRIN 57% OS

Effective Date: 1 June 2015

v.01

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SECTION 1. Identification of the Substance/Mixture and of the Company

1.1 Product Identifier

Formulation Identifier: PERMETHRIN 57% OS

EPA Registration Number: 8329-44

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant identified uses: Insecticide for control and repellency of adult mosquitoes, gnats, biting and non-biting midges, blackflies, deerflies, and other biting flies

Uses advised against: See product label for use restrictions

1.3 Details of the Supplier of the Safety Data Sheet

Clarke Mosquito Control Products, Inc.
675 Sidwell Court
St. Charles, IL 60174 U.S.A.
+1 (630) 894-2000
Email: Clarke@clarke.com

1.4 Emergency Telephone Number

24-Hour Medical Emergency: POISON CONTROL Toll-free (800) 214 – 7753

24-Hour Transportation Emergency: INFOTRAC (800) 535-5053

SECTION 2. Hazards identification

United States (US)
According to OSHA 29 CFR 1910.1200 HCS (2012)

2.1 Classification of the Substance or Mixture

Classification

Aspiration Hazard, Category 1
Carcinogenicity, Category 2
STOT, Single Exposure, Category 3, NE
Acute Toxicity, Oral, Category 4
Flammable Liquid, Category 4

Hazard Statements

May be fatal if swallowed and enters airways
Suspected of causing cancer
May cause drowsiness or dizziness
Harmful if swallowed
Combustible liquid

Pictograms:



Signal Word: DANGER

Precautionary Statements:

PREVENTION: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing spray. Use only outdoors or in a well-ventilated area.
Wash thoroughly after handling. Do not eat, drink or smoke when using this product.



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Keep away from flames and hot surfaces.-No smoking.

RESPONSE: If swallowed: Immediately call a poison control center or doctor. Do NOT induce vomiting. Rinse mouth.

If exposed or concerned: Get medical advice/attention.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison control center or doctor if you feel unwell.

In case of fire: Use foam, dry chemical or carbon dioxide (CO₂) to extinguish.

STORAGE: Store locked up, in a well-ventilated place. Keep cool. Keep container tightly closed.

DISPOSAL: Dispose of contents and container in accordance with local/regional/national regulations.

2.2 Other Hazards Not Classifiable Under OSHA 2012 HCS

See product label for any additional hazards

SECTION 3. Composition/Information on Ingredients

3.1 Components

Substance Name	CAS No.	Concentration % w/w
Permethrin	52645-53-1	57.0
Solvent Naphtha (Petroleum), Heavy Aromatic	64742-94-5	< 43.0
Naphthalene	91-20-3	< 0.4

Ingredients not identified are non-hazardous and/or are not required to be disclosed pursuant to 29 CFR 1910.1200 (2012), and are withheld as trade secret.

SECTION 4. First Aid Measures

4.1 Description of First Aid Measures

Eye contact: Immediately flush eyes with water. Flush eyes with water for a minimum of 5 minutes, occasionally lifting and lowering upper lids. Get medical attention promptly. Remove contact lenses if worn.

Skin contact: Immediately flush skin with plenty of water. Remove clothing. Get medical attention immediately. Wash clothing separately and clean shoes before reuse.

Inhalation: Rescuers should put on appropriate protective gear. Remove from area of exposure. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep victim warm. Get immediate medical attention. To prevent aspiration, keep head below knees.

Ingestion: DO NOT induce vomiting. Do not give liquids. Obtain emergency medical attention.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed.

Vapors Vapors can cause irritation of the respiratory tract. May cause dizziness and drowsiness.

Ingestion: Harmful or fatal if liquid is aspirated into lungs.

4.3 Indication of Immediate Medical Attention and Special Treatment

Treatment: Contains petroleum distillate. May pose an aspiration pneumonia hazard. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5. Fire-Fighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media: Carbon Dioxide (CO₂), Dry Chemical, Foam



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Unsuitable Extinguishing Media: Water jet

5.2 Special Hazards Arising From the Substance or Mixture

Specific Hazards: Vapors are flammable. Under fire conditions some components may decompose. Combustion products may include CO and NOx. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. Also, do not reuse container without commercial cleaning or reconditioning.

5.3 Special Protective Equipment and Precautions for Fire-Fighters

Protection Against Fire: Wear positive pressure, self-contained breathing apparatus and protective firefighting clothing (includes fire-fighting helmet, coat, pants, boots, and gloves).

Special Procedures: Treat as oil fire. Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Dike for later disposal. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

SECTION 6. Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

General Precautions: Avoid unprotected contact with spilled material.

For emergency responders: Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

Environmental Precautions: Prevent product from entering into drains and waterways. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Collect and dispose of this material and its container in accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities. See Section 12 for additional ecological information.

6.2 Methods and Material for Containment and Cleaning Up

Clean Up Methods: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Recover by pumping or with suitable absorbent.

SECTION 7. Handling and Storage

7.1 Precautions for Safe Handling

Handling: Keep out of reach of children. Use only in a well ventilated area. Avoid breathing vapor, fumes or mist. Avoid contact with eyes, skin, and clothing. Take precautionary measures against static discharge. When transferring, follow proper grounding procedures. Use spark-resistant tools. Always open containers slowly to allow any excess pressure to vent. Follow all SDS/label precautions even after containers are emptied because they may contain product residues.



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Hygiene Measures: Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove soiled clothing immediately and clean thoroughly before using again.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Storage: Product should be stored in compliance with local regulations. Keep away from heat, sparks, and flame. Store containers in a cool, well ventilated place. Keep container closed when not in use. Protect from direct sunlight. Static Discharge: materials can accumulate static discharge which can cause an incendiary electrical discharge. Storage containers should be grounded and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge. Do not store near food, drink, animal feeding stuffs, pharmaceuticals, cosmetics or fertilizers. Keep out of reach of children.

SECTION 8. Exposure Controls / Personal Protection

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

8.1 Control Parameters

Component Name	CAS No.	List/Source	Type	Value
Permethrin	52645-53-1	ACGIH	TWA	5 mg/m ³
		NIOSH	REL	5 mg/m ³
		OSHA	PEL	5 mg/m ³
Solvent Naphtha (Petroleum), Heavy Aromatic	8042-47-5	OSHA	TWA	400 mg/m ³
Naphthalene	91-20-3	ACGIH	TWA	10 ppm, skin
		OSHA	TWA	50 mg/m ³

8.2 Exposure controls

Engineering Controls: Use with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Individual Protection Measures, such as Personal Protection Equipment:

Eye Protection: Safety Glasses, Goggles or Face Shield

Skin Protection: Wear suitable protective clothing including long-sleeve shirt, long pants, shoes and socks. Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, coveralls.

Hand Protection: Wear suitable protective chemical resistant gloves such as barrier laminate, nitrile, neoprene or Viton. Protective glove selection must be based on the user's assessment of the workplace hazards.

Respiratory Protection: Not usually required. In case of insufficient ventilation, wear a NIOSH-approved pesticide respirator with an organic-vapor removing cartridge with a prefilter approved for pesticides.

SECTION 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Appearance: Liquid
Color: Light Brown
Odor: Odorless
Odor Threshold: Not Available
pH: 7.0
Melting Point: Not Applicable



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Freezing Point:	Not Determined
Initial Boiling Point:	Not Determined
Flash Point:	> 140° F
Evaporation Rate:	Not Determined
Flammability:	Not Determined
Explosion limits [U/L]:	Not Applicable
Vapor Pressure:	Not Determined
Vapor Density:	Not Determined
Relative Density:	8.77 lbs/gal
Solubility:	Not Determined
Partition Coefficient:	Not Determined
Auto-Ignition Temperature:	Not Determined
Viscosity:	Not Determined
Decomposition Temperature:	Not Available
Explosive Properties:	Not Available
Oxidizing Properties:	Not Available

SECTION 10. Stability and Reactivity

10.1 Reactivity

Not Available

10.2 Chemical Stability

Stable under normal conditions

10.3 Possibility of Hazardous Reactions

Hazardous Reactions: None under normal conditions

Hazardous Polymerization: Not known to occur

10.4 Conditions to avoid

Protect from open flames, high energy ignition sources, excessive heat, and direct sunlight.

10.5 Incompatible materials

Avoid contact with strong oxidizing agents, strong acids, strong bases

10.6 Hazardous decomposition products

None known under normal conditions of storage and use

SECTION 11. Toxicological information

11.1 Information on Likely Routes of Exposure

Inhalation: Vapors can cause irritation of the respiratory tract. May cause dizziness and drowsiness.

Ingestion: Harmful or fatal if liquid is aspirated into lungs. Harmful if swallowed

11.2 Information on Toxicological Effects

Acute Toxicity

Oral, Male Rat LD₅₀ > 550 mg/kg-bw



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Dermal, Rat LD ₅₀	> 5,050 mg/kg-bw
Inhalation, Rat LC ₅₀	> 5.26 mg/L
Skin Corrosion/Irritation:	PERMETHRIN 57% OS is not classified as a skin irritant according the OSHA 2012 HCS. Mild skin irritation may occur from prolonged or repeated exposure to this product.
Serious Eye Damage/Irritation:	PERMETHRIN 57% OS is not an eye irritant.
Skin Sensitization:	Not a skin sensitizer
STOT – Single exposure	May cause drowsiness or dizziness
Germ Cell Mutagenicity	Permethrin is not mutagenic. No data is available to indicate the product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	The product has not been tested. The statement has been derived from the properties of the individual components. The product contains Naphthalene: IARC Group 2B –Possibly carcinogenic to humans NTP – Reasonably anticipated to be a carcinogen 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. Permethrin is classified by IARC as Group 3 – Not classifiable as to its carcinogenicity to humans.
Reproductive Effects:	Permethrin did not cause reproductive toxicity in a two-generation study in rats. No data is available to indicate the product or any components present at greater than 0.1% present a hazard of developmental toxicity or teratogenic effect.
STOT – Repeated exposure	Permethrin did not cause specific target organ toxicity in experimental animal studies.

SECTION 12. Ecological Information

12.1 Ecotoxicity

Product specific data is not available. Data referenced is in relation to the active ingredient, Permethrin.

Toxicity to Fish: 96-hr Acute LC₅₀ 0.79 ppb, Bluegill Sunfish (*Lepomis macrochirus*)

Toxicity to Aquatic Invertebrates: 96-hr LC₅₀ 0.019 ppb, Mysid Shrimp (*Americamysis bahia*)

Toxicity to Aquatic Plants: 72-hr EC₅₀ 0.5 mg/L, Algae

12.1 Persistence and Degradability

Product specific data not available. Data referenced is in relation to the active ingredient, Permethrin.

Biodegradability: Not readily biodegradable

Partition Coefficient, K_{oc}: Permethrin: 100,000

Bioaccumulation: Bioconcentration (BCF) Permethrin: 300; does not bioaccumulate

Mobility in Soil: Permethrin: Immobile in soil

SECTION 13. Disposal Considerations



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13.1 Waste Treatment and Disposal methods

Pesticide wastes are regulated. Consult product label for chemical substance and container disposal instructions. Avoid release to the environment. Improper disposal of excess product or rinsate is a violation of Federal law. If these wastes cannot be disposed or 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.

Container disposal: Rinse thoroughly in accordance with label instructions.

14.1 DOT (US)

Not regulated (Bulk and Non-Bulk Quantities)

14.2 IMDG (Vessel)

UN Number: 3082
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S. (PERMETHRIN)
Marine Pollutant: Yes

14.3 ICAO/IATA (Air transport)

UN Number: 3082
Hazard Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S. (PERMETHRIN)
Environmental Hazard: Yes

SECTION 15. Regulatory Information

FIFRA Information: This chemical is a pesticide product regulated 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 for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal Word: CAUTION

KEEP OUT OF REACH OF CHILDREN

FIRST AID

Have product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergency information, call the International Poison Control Center at 1-800-214-7753.

IF SWALLOWED:	Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.
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Note to physicians: Contains petroleum distillate. Vomiting may cause aspiration pneumonia.

PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Personal Protective Equipment (PPE): Mixers, loaders, applicators and other handlers must wear: Long-sleeve shirt and long pants, shoes plus socks, and chemical-resistant gloves made of any waterproof material. Mixers/loaders, persons cleaning equipment, and persons exposed to the concentrate must wear a chemical-resistant apron.

User Safety Requirements: 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.

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



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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.

Other Federal Regulations

SARA TITLE III CLASSIFICATION

Section 302: None

Section 311/312: Fire. Immediate (acute) health. Delayed health

Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372

Permethrin	CAS# 52645-53-1	57.0%
Naphthalene	CAS# 91-20-3	< 0.4

CERCLA RQ: Naphthalene, CAS# 91-20-3, RQ 100 lb

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. California Proposition 65: WARNING: This product contains a chemical known to the State of California to cause cancer: Naphthalene

STATE RIGHT-TO-KNOW : National, state, provincial or local emergency planning, community right-to-know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

SECTION 16. Other Information

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources we believe to be reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared as is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

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