

# PERMETHRIN TECHNICAL

## MATERIAL SAFETY DATA SHEET

### Emergency Response Telephone Numbers

CHEMTREC  
Tel: (800) 424-9300

LG Chemical America, Inc.  
Tel: (201) 816-2310



LG Chemical America, Inc.  
Englewood Cliffs, NJ

### I. MATERIAL AND COMPANY IDENTIFICATION

**Product Name:** Permethrin Technical  
**Purity:** 95.2% minimum  
**EPA registered Name:** LG Permethrin Technical Insecticide  
**EPA Reg. No.:** 71532-1  
**CAS Number:** 52645-53-1  
**Chemical Name:** (3-phenoxyphenyl) methyl ( $\pm$ ) *cis*, *trans*-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropane carboxylate  
**Cis/Trans Ratio:** Minimum 35% ( $\pm$ ) *cis* and maximum 65% *trans*  
**Chemical Class:** Synthetic Pyrethroid Insecticide  
**Formula:**  $C_{21}H_{20}Cl_2O_3$  (Permethrin)  
**EPA Signal Word:** CAUTION  
**Manufacturer:** LG Chemical Ltd.  
LG Twin Towers  
Yoido-dong 20, Youngdungpo-gu,  
Seoul, 150-721, Korea

### II. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient Name:	OSHA PEL:	ACGIH TLV:
Permethrin Technical	Not Established	Not Established

### III. HAZARDS IDENTIFICATION

**Emergency Overview:** Dark amber, viscous liquid.

- May be harmful if swallowed, inhaled or absorbed through skin.
- Causes moderate eye irritation.
- Avoid breathing vapors.
- Avoid contact with eyes, skin or clothing.
- Keep out of reach of children.

Symptoms of over exposure are diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity to touch or sound.

### POTENTIAL HEALTH EFFECTS:

**EYE:** Moderately irritating to the eye

**SKIN:** Prolonged or repeated skin contact may cause irritation and sensitization, an allergic reaction, which becomes evident on re-exposure to this material.

**INHALATION:** Vapor concentrations may be harmful if inhaled.

**INGESTION:** May be harmful if swallowed.

**Potential Physical Hazards:** Can decompose at high temperatures forming toxic gases. Impact or high temperatures can cause decomposition.

**Environmental Hazards:** Toxic to fish, other water organisms and bees. Keep out of waterways.

### IV. FIRST AID MEASURES

**IF SWALLOWED:** Call a physician or Poison Control Center. Do not induce vomiting as it may cause aspiration pneumonia. Do not give anything to an unconscious person. Avoid alcohol.

**IF IN EYES:** Flush with plenty of water. Get medical attention if irritation persists.

**IF INHALED:** Remove victim to fresh air. If not breathing give artificial respiration, preferably mouth to mouth. Get medical attention.

**IF ON SKIN:** Wash with plenty soap and water. Get medical attention if irritation persists.

**NOTES TO PHYSICIAN:** Consideration should be given to gastric lavage with an endotracheal tube in place. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

**ANTIDOTE:** Activated charcoal and a cathartic are recommended and nervous stimulation should be controlled with a sedative, e.g. barbiturates. Skin irritations and sensations may occur and can be alleviated with ordinary skin salves to relieve discomfort.

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## V. FIRE FIGHTING MEASURES

**FLASH POINT (method):** >175°F (closed cup)

**FLAMMABLE LIMITS:** Unknown

**FIRE AND EXPLOSION HAZARD:** Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion.

**EXTINGUISHING MEDIA:** Use dry foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material.

**FIRE FIGHTING INSTRUCTIONS:** Evacuate the area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Dike and collect water used to fight fire-extinguishing systems are preferred to prevent environmental damage with excessive water run off.

**FIRE FIGHTING EQUIPMENT:** Self-contained breathing apparatus with full face-piece. Full fire fighting turnout gear (Bunker gear).

### HAZARDOUS

**COMBUSTION PRODUCTS:** Hydrogen chloride, Oxides of chlorine, hydrogen and carbon.

## VI. ACCIDENTAL RELEASE MEASURES

Clean up spills immediately, observing precautions in Section 8 of this document. Isolate hazard area. Keep unnecessary personnel from entering.

**SMALL SPILL:** Absorb small spills on sand, vermiculite or other inert absorbent. Place contaminated material in appropriate container for disposal.

**LARGE SPILL:** Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, and scrape up for disposal. After removal, scrub the area with detergent and water and neutralize with dilute alkaline solutions of soda ash, or lime. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water.

## VII. HANDLING AND STORAGE

**KEEP OUT OF REACH OF CHILDREN**

**HANDLING:** Use only in a well ventilated area.

**STORAGE:** Keep in original containers, tightly closed, out of reach of children. Keep away from food, drink and animal feeding stuffs. Containers should be stored in a cool, dry, well-ventilated area away from flammable materials and sources of heat or flame.

## VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

**EXPOSURE LIMITS:** (8 Hour TWA):  
(Refer to Section 3)

**ENGINEERING CONTROLS:** Proper ventilation is required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):**

**EYE PROTECTION:** Safety goggles or full face shield.

**CLOTHING:** Wear long-sleeved shirt and long pants, chemical resistant shoes and socks. Remove contaminated clothing and wash before re-wearing. Wash separately from other laundry.

**GLOVES:** Chemical resistant gloves such as barrier laminate, nitrile rubber, neoprene rubber or Viton®.

**RESPIRATOR:** When handling in enclosed areas where exposure limits may be exceeded, use a respirator with either an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G).

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product concentrate. Do not reuse them. Follow manufacturers instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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.

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## IX. PHYSICAL AND CHEMICAL PROPERTIES

**Color:** Yellow-brown  
**Physical State:** Viscous semi-solid material at ambient temperature  
**Odor:** Odorless  
**Molecular Weight:** 391.3  
**Melting Point:** 70°F to 127°F (21°C to 53°C)  
**Boiling Point:** 428°F (220°C)  
**Flash Point:** > 175°F (79°C)  
**Relative Density:** 10.18 lbs/gal (1.22 gm/cm<sup>3</sup>) at 20°C  
**Vapor Pressure:** 6.0 x 10<sup>-5</sup> Pa at 25°C  
**Solubility:** In water < 1.07 x 10<sup>-4</sup> g/l at 20°C  
In acetone, dichloromethane ethyl acetate, n-heptane, xylene 250g/l at 20°C. In methanol at 95.8 g/l at 20°C.

## X. STABILITY AND REACTIVITY

**CHEMICAL STABILITY:** Stable, however may decompose if heated.  
**CONDITIONS TO AVOID:** Avoid excessive heat and fire.

**INCOMPATIBILITY WITH OTHER MATERIALS:** Oxidizing materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Hydrogen chloride, Oxides of hydrogen, carbon.

**HAZARDOUS POLYMERIZATION:** Product will not undergo polymerization.

## XI. TOXICOLOGICAL INFORMATION

### ACUTE TOXICITY:

**ORAL (rat):** The oral LD<sub>50</sub> for a *cis/trans* ratio of 40:60 is 504~791 mg/kg.

**DERMAL (rat):** The dermal LD<sub>50</sub> is > 2,000mg/kg.

**INHALATION:** LC<sub>50</sub> (4h) for mice and rats is 5.4 mg/l air.

**EYE IRRITATION (rabbit):** Causes moderate eye irritation.

**SKIN IRRITATION (rabbit):** Slight irritant.

**SKIN SENSITIZATION (guinea pig):** Not a sensitizer.

## XII. ECOLOGICAL INFORMATION

### ENVIRONMENTAL SUMMARY:

This product is highly toxic to bees. This product is extremely toxic to fish and aquatic invertebrates. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters.

**FISH TOXICITY:** LC<sub>50</sub> (96h) for rainbow trout-2.5 µg/l  
LC<sub>50</sub> (96h) for Bluegill-1.8 µg/l

**AVIAN TOXICITY:** LD<sub>50</sub> Bobwhite quail- >10,000mg/kg  
LD<sub>50</sub> Mallard duck- >9,000mg/kg

## XIII. DISPOSAL CONSIDERATIONS

**WASTE:** Pesticide wastes are toxic. Dispose of in accordance with applicable Federal, state, and local laws and regulations.

**CONTAINER:** Refer to product label.

## XIV. TRANSPORT INFORMATION

**PROPER SHIPPING NAME:** Pyrethroid Pesticide, Liquid, Toxic (Permethrin)

**HAZARD CLASS OR DIVISION:** 6.1

**IDENTIFICATION NUMBER:** UN 3352

**PACKING GROUP:** III

**ADDITIONAL INFORMATION:** As per DOT Regulations, Permethrin is designated as a Marine Pollutant.

## XV. REGULATORY INFORMATION

Regulations under FIFRA: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/ formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

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## OSHA HAZARD

COMMUNICATION STANDARD STATUS: Regulated

CERCLA REPORTABLE QUANTITY: Not Listed

## SARA TITLE III STATUS:

- 302 Extremely Hazardous Substance: Not Listed
- 311/312 Hazard Categories: Immediate, Delayed
- 313 Toxic Chemicals: Permethrin
- California Proposition 65 Status: Not Listed

## XVI. OTHER INFORMATION

Issue Date: February 28, 2001

### NOTICE:

The information herein is presented in good faith and believed to be accurate as on the effective date shown above. However, no warranty, expressed or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with Federal, State and Local laws and regulations.