

Chemical Factsheet

Oil of Lemon Eucalyptus

p-Menthane-3,8-diol or PMD — synthesized version of oil of lemon eucalyptus

General Information

- Fact Sheet: [oillemoneucalyptus.pdf](#)
- Product Names:
 - Off!** (S.C. Johnson & Son Inc.)
 - Off! Botanicals** (S.C. Johnson & Son Inc.)
 - Uick-T** (S.C. Johnson & Son Inc.)
 - Claire-1** (S.C. Johnson & Son Inc.)
 - Aloe Herbal Horse Spray** (Espree Animal Products, Inc)
- Citriodiol Ole** (Citrefine International Ltd.)
- Cutter Lemon Eucalyptus Insect Repellent** (Chemsico)
- Repel Lemon Eucalyptus Plant Based Insect Repellent** (Chemsico)
- Chemical Class: Biopesticide
- Uses: [Insect repellent](#)
- Beyond Pesticides rating: [Least-toxic](#)

Health and Environmental Effects

See citations at end of document.

- Cancer: Not documented
- Endocrine Disruption: Not documented
- Reproductive Effects: Not documented
- Neurotoxicity: Not documented
- Kidney/Liver Damage: Not documented
- Sensitizer/ Irritant: Yes (1)
- Birth/Developmental: Not documented
- Detected in Groundwater: Not documented
- Potential Leacher: Not documented
- Toxic to Birds: Not documented
- Toxic to Fish/Aquatic Organisms: Not documented
- Toxic to Bees: Not documented

Residential Uses as Found in the ManageSafe™ Database

- [Mosquitoes](#)
- [Ticks](#)

Additional Information

- Regulatory Status:
 - [EPA Reregistration Eligibility Decision \(RED\)](#) (5/2000)
 - [EPA Factsheet](#) (4/2000)
- Supporting information:
 - [How to Repel Mosquitoes Safely](#) (Beyond Pesticides)
 - [CDC Insect Repellent Factsheet](#) (Centers for Disease Control and Prevention, CDC)
 - [PAN Pesticides Database](#): (Pesticide Action Network)
- Studies:
 - [PMD, a Registered Botanical Mosquito Repellent with Deet-Like Efficacy](#). Scott P. Carroll and Jenella Loye. 2006. *Journal of the American Mosquito Control Association*.
 - [Laboratory Evaluation of Mosquito Repellents Against *Aedes albopictus*, *Culex nigripalpus*, and *Ochlerotatus triseriatus* \(Diptera: Culicidae\)](#). Barnard, DR and Xue, R. 2004. *J of Medical Entomology*
 - [Laboratory Evaluation of a Eucalyptus-based Repellent against Four Biting Arthropods](#). Trigg and Hill. 1996. *Phytotherapy Research*.

Gateway Health and Environmental Effects Citations

1. US EPA, Office of Prevention, Pesticides and Toxic Substances, Reregistration Eligibility Decisions (REDs), Interim REDS (iREDs) and RED Factsheets.

<https://archive.epa.gov/pesticides/reregistration/web/html/status.html>.

Factsheet generated on May 24, 2026