

SAFETY DATA SHEET (SDS)

BugMace Natural Mosquito and Insect Repellent Spray, DEET-Free, 100 mL (3.38 fl oz)

Prepared in accordance with OSHA Hazard Communication Standard (29 CFR 1910.1200) and SDS content requirements (Appendix D).

1. IDENTIFICATION

Product identifier:	BugMace Natural Mosquito and Insect Repellent Spray, DEET-Free, 100 mL (3.38 fl oz); non-aerosol pump spray.
Recommended use:	Ready-to-use botanical insect repellent for application to exposed skin and clothing as directed by the product label.
Restrictions on use:	For external use only. Do not spray directly into eyes, mouth, or face. For facial application, spray into hands and wipe onto face, avoiding mouth and eyes. Do not apply to cuts, wounds, sunburned, or irritated skin. Do not apply to children's hands. Keep out of reach of children and pets when stored. Do not ingest. Use only according to label directions.
SDS product scope:	This SDS applies only to the finished retail product as supplied. It does not apply to concentrated essential oils, individual raw materials, bulk manufacturing intermediates, repackaged product, or product mixed with other materials.
Manufacturer/Supplier:	NewTechBio, Inc. DBA BugMace 4301 US 9 N Howell, NJ 07731 USA
Telephone (product information; not an emergency number):	800-509-0927
Emergency telephone number (US):	911 for emergencies or 1-800-222-1222 (Poison Control) for medical exposure guidance.
Emergency overview:	For emergencies call 911. For non-emergency exposure guidance, call Poison Control (US) at 1-800-222-1222. For product information, contact NewTechBio, Inc.
SDS revision date:	2026-05-05

2. HAZARD(S) IDENTIFICATION

Classification (OSHA HazCom / GHS):	Not classified as hazardous based on available information for the finished product as supplied and used according to label directions.
OSHA defined hazards (HNOC):	No OSHA-defined hazards known under normal consumer use or routine handling. Spilled liquid may create a slip hazard.
Label elements:	Signal word: None. Hazard statements: None required for a non-classified finished mixture. Pictograms: None.
Precautionary statements (general):	Use only as directed. Shake well before use. Test a small area of skin prior to broad application, especially for users sensitive to fragrances or essential oils. Avoid contact with eyes and mouth. Avoid breathing concentrated mist or spray. Keep container closed when not in use.

Other hazards:

Direct eye contact may cause temporary stinging, tearing, redness, or discomfort. Some individuals may be sensitive to botanical oils or fragrance components and may experience irritation or rash. Incidental ingestion may cause temporary stomach upset. This finished product is not a corrosive, caustic, disinfectant, aerosol, or industrial chemical concentrate.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixture: Ready-to-use botanical repellent emulsion. Ingredient percentages below reflect the current full label ingredient profile provided for the finished product.

Active ingredient	CAS No.	% w/w	Function / notes
Geraniol	106-24-1	4.00%	Botanical active repellent component; fragrance sensitivity possible in susceptible individuals.
Citronella Oil	8000-29-1	3.00%	Botanical active repellent component.
Lemongrass Oil	8007-02-1	3.00%	Botanical active repellent component.
Thyme Oil	8007-46-3	3.50%	Botanical active repellent component.
Clove Oil	8000-34-8	1.50%	Botanical active repellent component.
Cedarwood Oil	68990-83-0	2.50%	Botanical active repellent component; supplier-specific CAS may vary by botanical source.
Rosemary Oil	8000-25-7	2.00%	Botanical active repellent component.
Peppermint Oil	8006-90-4	1.50%	Botanical active repellent component.
Geranium Oil	8000-46-2	1.70%	Botanical active repellent component.

Total active ingredients: 22.70%

Other ingredient	CAS No.	% w/w	Function / notes
Purified water	7732-18-5	54.70%	Carrier.
Medium-chain triglycerides from coconut oil and/or palm kernel oil	73398-61-5	7.00%	Carrier / skin-feel component.
Soy lecithin	8002-43-5	6.50%	Emulsifier / formulation aid.
Vanillin	121-33-5	5.00%	Scent / formulation component.
dl-alpha-Tocopherol	10191-41-0	1.00%	Antioxidant / skin-conditioning component.
Glycerin	56-81-5	2.50%	Humectant.
Xanthan gum, clear grade	11138-66-2	0.15%	Viscosity modifier / stabilizer.
Potassium sorbate	24634-61-5	0.25%	Preservative / formulation aid.
Citric acid, 50% aqueous solution	77-92-9 / 7732-18-5	0.20%	pH adjustment / formulation aid.

Total other ingredients: 77.30%. Total formula: 100.00%.

Note: Component hazards for neat essential oils or concentrated raw materials should not be applied directly to this finished ready-to-use topical emulsion without considering the finished formulation, concentrations, packaging, and intended use pattern.

4. FIRST-AID MEASURES

Inhalation:

Normal use is not expected to present an inhalation hazard. If concentrated mist or spray causes discomfort, move to fresh air. Seek medical advice if symptoms persist.

Skin contact:

Product is intended for topical use on normal skin. If irritation, redness, itching, or rash develops, wash with soap and water, discontinue use, and seek medical advice if symptoms persist.

Eye contact:

Do not spray into eyes. If product gets in eyes, rinse slowly and gently with clean water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing if discomfort remains. Seek medical advice if irritation persists.

Ingestion:

Product is not intended to be swallowed. Rinse mouth. Do not induce vomiting unless directed by medical personnel. Drink water if conscious. Call Poison Control or seek medical advice if more than an incidental amount is swallowed or if symptoms occur.

Most important symptoms/effects, acute and delayed:

Temporary eye discomfort, tearing, or redness; skin irritation or rash in sensitive individuals; and temporary gastrointestinal upset if significant amounts are swallowed.

Indication of immediate medical attention and special treatment: Treat symptomatically. Individuals with known sensitivity to fragrances, essential oils, or botanical products should discontinue use if a reaction occurs.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use water spray, foam, dry chemical, carbon dioxide (CO₂), or other media appropriate for the surrounding fire.

Specific hazards arising from the chemical: Finished product is a small-package, non-aerosol liquid emulsion and is not classified as a flammable liquid based on available information. Packaging, dried residues, or concentrated organic/oil components may burn under fire conditions and may produce carbon oxides and irritating smoke or fumes.

Special protective equipment and precautions for firefighters: Use standard firefighting procedures for the surrounding fire. Firefighters should wear self-contained breathing apparatus (SCBA) and protective gear when appropriate. Cool exposed containers with water spray if safe to do so.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Avoid contact with eyes. Product may be slippery when spilled. For small consumer spills, wipe up promptly. For larger spills or repeated occupational cleanup, use gloves and safety glasses where splash exposure is possible.

Environmental precautions: Avoid uncontrolled release of large quantities to drains, storm sewers, surface waters, or waterways. Product is intended for topical repellent use, not direct aquatic application.

Methods and materials for containment and cleaning up: Stop leak if safe. Absorb spill with towels, sand, clay, or commercial absorbent. Collect for disposal. Wash residual film with soap and water and dry the area to reduce slip hazard.

7. HANDLING AND STORAGE

Precautions for safe handling: Use only according to product label directions. Shake well with each use. Apply liberally and evenly to exposed skin and clothing. For face and neck, spray into hands first and then apply, avoiding eyes and mouth. Do not apply to children's hands. Avoid use on cuts, wounds, sunburned, or irritated skin. Keep container closed when not in use.

Conditions for safe storage, including incompatibilities: Store in the original closed container in a cool, dry place away from excessive heat, direct sunlight, freezing, and open flame. Keep out of reach of children and pets. Avoid storage with strong oxidizing agents or materials that may damage the container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters: No product-specific occupational exposure limits are established for the finished mixture. General oil mist exposure limits may apply only if aerosols or mists are generated in an occupational setting.

Engineering controls: Normal room or outdoor ventilation is adequate for consumer use and routine handling. Avoid spraying in confined spaces without ventilation.

Eye/face protection: No special eye protection is required for normal labeled use. Avoid spraying into eyes. Use safety glasses if handling damaged containers, bulk quantities, or spill cleanup where splashing is possible.

Skin protection: No gloves are required for normal topical application. For repeated occupational handling, spill cleanup, or bulk transfer, gloves may be used to reduce prolonged exposure.

Respiratory protection: Not required under normal use. If heavy mist is generated in a poorly ventilated area, move to fresh air or improve ventilation.

Hygiene measures: Use good personal hygiene. Avoid touching eyes or mouth during application. Wash hands after handling unless hands are the intended application area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties. Typical values are provided for safety guidance only and are not product specifications.

Property	Value
Appearance	Opaque to milky, off-white liquid emulsion; non-aerosol pump spray.
Odor	Lemon-vanilla / botanical essential oil scent.
Odor threshold	No data available.

Property	Value
pH	No current test data available; expected mildly acidic to near neutral for the finished emulsion.
Melting point/freezing point	No data available; water-containing emulsion may freeze near 32 deg F (0 deg C).
Initial boiling point and boiling range	No data available for mixture; aqueous portion approximately 212 deg F (100 deg C).
Flash point	Not determined; not classified as flammable based on available information for the finished non-aerosol product.
Evaporation rate	No data available.
Flammability (solid, gas)	Not applicable; product is a liquid and is not a flammable aerosol.
Upper/lower flammability or explosive limits	No data available / not applicable.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density	Estimated approximately 0.97 to 1.02 g/mL; not a specification.
Solubility(ies)	Dispersible / emulsifiable in water.
Partition coefficient (n-octanol/water)	No data available for mixture.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	No data available; sprayable liquid emulsion.
Explosive properties	Not expected to be explosive.
Oxidizing properties	Not expected to be oxidizing.
VOC	No data available for mixture.

10. STABILITY AND REACTIVITY

Reactivity:	No hazardous reactivity known under normal conditions of use and storage.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	Hazardous polymerization will not occur.
Conditions to avoid:	Avoid excessive heat, direct sunlight, freezing, open flame, and container damage. Avoid prolonged storage at temperature extremes.
Incompatible materials:	Strong oxidizing agents. Strong acids or bases may destabilize the emulsion.
Hazardous decomposition products:	Thermal decomposition or combustion of packaging, dried residues, or organic components may produce carbon oxides, smoke, and irritating fumes.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:	Skin contact during intended topical application; eye contact from accidental spray; incidental inhalation of mist; incidental ingestion.
Symptoms related to physical, chemical, and toxicological characteristics:	Temporary eye stinging, watering, or redness may occur with direct eye contact. Some individuals sensitive to essential oils or fragrance components may experience skin redness, irritation, itching, or rash. Swallowing more than incidental amounts may cause nausea, stomach upset, or vomiting.
Acute toxicity:	No acute toxicity data are available for the finished mixture. The finished product is not classified as acutely toxic based on available information. It is not intended for ingestion.
Skin corrosion/irritation:	The product is intended for topical use on normal skin when used as directed. It is not classified as a skin irritant based on available information for the finished product. Irritation may occur in sensitive individuals or on damaged skin.
Serious eye damage/irritation:	Direct eye contact may cause temporary discomfort. Product is not intended for eye application and should not be sprayed directly into the face. Not classified as a serious eye irritant based on available information for the finished product.
Respiratory or skin sensitization:	No respiratory sensitization data are available for the finished mixture. The formula contains botanical oils and fragrance components, including geraniol, that may cause skin sensitivity in susceptible individuals. Discontinue use if irritation or rash appears.

Germ cell mutagenicity / carcinogenicity / reproductive toxicity:	No data available for the mixture. Components are not expected to be carcinogenic, mutagenic, or reproductive toxicants at levels present in the finished product. This product is not listed by IARC, NTP, or OSHA as a carcinogen.
Specific target organ toxicity (single and repeated exposure):	No data available for the mixture. No target organ toxicity is expected under normal labeled use.
Aspiration hazard:	No data available; not expected to be an aspiration hazard for the finished sprayable emulsion. Do not induce vomiting unless directed by medical personnel.
Additional note:	Hazard information for neat essential oils or concentrated raw materials is not equivalent to the hazard profile of this finished ready-to-use topical emulsion.

12. ECOLOGICAL INFORMATION

Ecotoxicity:	No data available for the finished mixture. Essential oils may affect aquatic organisms in concentrated form. Avoid uncontrolled release of large quantities to drains, storm sewers, surface waters, or waterways.
Persistence and degradability:	No data available for the mixture. Botanical oils and common formulation carriers are expected to disperse and degrade over time under environmental conditions.
Bioaccumulative potential:	No data available for the mixture. Significant bioaccumulation is not expected from normal topical use.
Mobility in soil:	No data available. Liquid may spread with water if released in quantity.
Other adverse effects:	No data available. Product is intended for personal topical repellent use, not for direct application to water bodies.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods:	Dispose of unused product, spill absorbents, and empty containers in accordance with applicable federal, state, and local requirements. Do not pour large amounts into drains or waterways. Empty retail containers may be discarded or recycled where accepted. Do not reuse empty containers.
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14. TRANSPORT INFORMATION

DOT (US):	Not regulated as a hazardous material based on available information for the finished product.
IMDG:	Not regulated.
IATA:	Not regulated.
UN number / proper shipping name / hazard class / packing group:	Not applicable.
Environmental hazards (marine pollutant):	Not determined / not expected based on finished retail product.
Special precautions:	Protect containers from leakage, puncture, excessive heat, freezing, and crushing during transport. Keep containers closed and upright where practical.

15. REGULATORY INFORMATION

US Federal Regulations:	This section summarizes selected regulatory information for the finished product. It is not a complete regulatory analysis.
OSHA Hazard Communication Standard (29 CFR 1910.1200):	Not classified as hazardous based on available information for the finished product as supplied.
FIFRA / pesticide status:	EPA Reg. 25B. Botanical minimum-risk insect repellent. BugMace, Inc. represents that this repellent product qualifies for exemption from EPA registration under FIFRA Section 25(b). Use only according to label directions.
SARA Title III Sections 302/304:	Not expected to contain extremely hazardous substances at reportable levels.
SARA Title III Sections 311/312:	Not classified as a hazardous chemical for these purposes based on available information.
SARA Title III Section 313:	Not expected to contain listed toxic chemicals at reportable levels.
CERCLA:	No reportable quantities expected for the finished product as supplied.
TSCA Inventory:	Ingredients are expected to be listed or exempt based on supplier information and intended product use. Confirm supplier disclosures as part of ongoing regulatory review.

California Proposition 65:

To the best of our knowledge based on available information, this product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity at levels requiring a warning. Verify supplier disclosures periodically.

16. OTHER INFORMATION**HMIS Rating (typical):**

Health 1 | Flammability 0 | Physical Hazard 0 | Personal Protection: none for normal topical application; A/B for bulk or splash handling as appropriate.

NFPA Rating (typical):

Health 1 | Flammability 0 | Instability 0.

Revision information:

Revision 1.2 (Final) - Complete revision using the current full label ingredient profile. Updated product identity, active and other ingredient percentages, FIFRA/EPA Reg. 25B language, first-aid guidance, finished-product hazard assessment, PPE language, physical-property data gaps, transport status, and Section 16 revision control. Removed overbroad prior finished-product hazard classifications and industrial clothing precautionary language that were not appropriate for the finished topical retail product as supplied.

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Disclaimer:

The information in this SDS is believed to be accurate as of the revision date and is provided for guidance in safe handling, use, storage, transportation, disposal, and release. It relates only to the specific finished product identified and may not be valid when used with other materials, repackaged, altered, or used in a process not described. NewTechBio, Inc. makes no warranties, expressed or implied, regarding this information.