Material Safety Data Sheet

In accordance with SANS 10234:2019 and GHS standard criteria

Citronella Essential Oil

SECTION 1: Product and Company Information

1.1 Product Identifier:

Product Name: Citronella Essential Oil
INCI Name: Cymbopogon winterianus / Cymbopogon nardus Oil
CAS Number: 8000-29-1 / 91771-61-8

1.2 Relevant Identified Uses of the Substance:

Identified Uses: Fragrance compounding, insect repellent formulation, industrial formulation, aromatherapy, and household/cosmetic applications.
Restrictions: Not intended to be consumed as food or drink.

1.3 Details of the Supplier of the Safety Data Sheet

Company Name: Oryion Oils & Fragrants
Address: Main Road, Queensburgh, Durban, South Africa, 4076
Contact Number: 076 092 6052

1.4 Emergency Telephone Number

Emergency Hotline: 076 092 6052 (Available during business hours)

SECTION 2: Hazards Identification

2.1 Classification of the Substance or Mixture:

Flammable Liquids, Category 4 (H227)
Acute Toxicity, Oral, Category 5 (H303)
Aspiration Hazard, Category 1 (H304)
Skin Corrosion/Irritation, Category 2 (H315)
Skin Sensitisation, Sub-category 1B (H317)
Serious Eye Damage/Eye Irritation, Category 1 (H318)
Hazardous to the Aquatic Environment, Acute Hazard, Category 2 (H401)
Hazardous to the Aquatic Environment, Long-term Hazard, Category 2 (H411)

2.2 GHS Label Elements:

Signal Word: DANGER

Hazard Pictograms: Corrosive (GHS05), Health Hazard (GHS08), Irritant (GHS07), Environment (GHS09)

Hazard Statements:

H227: Combustible liquid.
H303: May be harmful if swallowed.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves/clothing/eye protection/face protection.

Precautionary Statements (Response):

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P331: Do NOT induce vomiting.
P302+P352: IF ON SKIN: Wash with plenty of water.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor.
P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
P362+P364: Take off contaminated clothing and wash it before reuse.
P391: Collect spillage.
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3: Composition/Information on Ingredients

3.1 Substances:

Chemical Identity: 100% Pure Citronella Essential Oil n.o.s.

Description: Obtained via steam distillation of freshly cut or partially dried grasses of Cymbopogon winterianus (Java type) or Cymbopogon nardus (Ceylon type).

Primary Components: Composed primarily of citronellal, geraniol, citronellol, and geranyl acetate.

SECTION 4: First Aid Measures

4.1 Description of First Aid Measures:

- **Skin Contact:** Remove contaminated clothing immediately. Wash affected areas with plenty of mild soap and water. If irritation or rash develops, seek medical attention.

- **Eye Contact:** Flush immediately with large volumes of lukewarm water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Seek immediate ophthalmic medical assistance.

  Ingestion: Do NOT induce vomiting due to high severe risk of aspiration into the lungs. If conscious, rinse mouth with water. Never give anything by mouth to an unconscious person. Seek immediate medical center intervention.

  Inhalation: Move individual away from exposure and into fresh air. If irritation or breathing distress occurs, seek medical assistance. If breathing has stopped, administer artificial respiration.

4.2 Most Important Symptoms and Delayed Effects:

Severe eye irritation, redness, tissue damage, skin irritation, hives, or allergic dermatitis. Aspiration into lungs can cause chemical pneumonitis.

4.3 Immediate Medical Attention:

Treat symptomatically. Aspiration risk must be monitored closely if ingested.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media:

Suitable Extinguishing Agents: Dry chemical, foam, carbon dioxide (CO_2), or sand.

Unsuitable Extinguishing Agents: Do not use solid water jet streams as they spread the burning liquid fire.

5.2 Specific Hazards Arising from the Chemical:

Combustible liquid. Vapours are heavier than air and may spread along floors. High thermal decomposition or burning conditions liberate toxic fumes, acrid smoke, and carbon oxides.

5.3 Protection for Firefighters:

Stay in danger zone only with a self-contained breathing apparatus (SCBA) and full defensive chemical bunker gear. Avoid breathing fire vapours.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions:

Keep spill away from all active ignition sources, open flames, and hot surfaces. Avoid direct substance skin/eye contact. Wear protective gloves and eye protection. Ensure adequate space ventilation.

6.2 Environmental Precautions:

Do not allow chemical materials or concentrated runoff to empty into drains, surface waterways, soil, or groundwater networks.

6.3 Methods for Clean-up:

Extinguish all possible ignition sources. Ventilate the spill zone. Absorb with non-flammable inert absorbent materials (e.g. sand, vermiculite, earth). Collect using non-sparking tools and place into tightly sealed waste disposal containers. Clean the footprint area thoroughly with lukewarm water and heavy-duty industrial detergent.

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SECTION 7: Handling and Storage

7.1 Safe Handling:

Avoid contact with skin, eyes, and clothing. Keep away from heat, sparks, open flames, and hot surfaces. Do not eat, drink, or smoke in active work zones. Wash hands thoroughly after handling. Wear appropriate personal protective gear.

7.2 Conditions for Safe Storage:

Keep out of direct sunlight. Do not store at elevated temperatures; maintain under 40°C in cool, well-ventilated dry areas away from ignition sources. Keep original containers tightly closed and locked up. Store away from strong oxidizers and acids.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters:

This product, as supplied, does not contain hazardous components with occupational exposure limits established by region-specific regulatory bodies.

8.2 Exposure Controls:

Engineering Controls: General local or mechanical exhaust ventilation systems are required to control mist/vapour levels.

Individual Protection Measures: Do not eat, drink, or smoke when processing or handling.

Eye/Face Protection: Wear chemical liquid splash-proof safety goggles or full face shield.

Hand/Skin Protection: Wear solvent-resistant chemical protective gloves (e.g., Nitrile, Neoprene) and standard protective work coveralls.

- **Respiratory Protection:** Not required under well-ventilated zones. If exposure parameters are exceeded or misting occurs, use an approved organic vapour respirator.

SECTION 9: Physical and Chemical Properties

Physical State: Liquid
Appearance: Clear, mobile liquid
Colour: Pale yellow to yellowish brown
Odour: Characteristic strong, fresh, grassy, citrus-like lemon odour
Melting/Freezing Point: < -20 °C
Initial Boiling Point: 215 °C – 240 °C
Flash Point: 75 °C – 80 °C (Closed cup)
Vapour Pressure: < 0.1 kPa @ 20°C
Specific Gravity @ 20°C: 0.8800 – 0.9050
Refractive Index @ 20°C: 1.4650 – 1.4850
Auto-ignition Temperature: 240 °C
Solubility: Insoluble in water (<0.1%); soluble in ethanol, fixed oils, and polar organic solvents.
Explosive Properties: Not classified as explosive.

SECTION 10: Stability and Reactivity

10.1 Reactivity & Stability:

Highly stable under standard ambient environmental storage conditions and recommended handling setups.

10.2 Hazardous Reactions:

No dangerous hazardous reactions known under normal conditions of use.

10.3 Conditions to Avoid:

High ambient heat, open flames, hot surfaces, direct sunlight, and active sparks.

10.4 Incompatible Materials:

Strong oxidizing agents, strong reducing agents, strong acids, and alkalis.

10.5 Hazardous Decomposition:

Vapours and carbon oxides liberated under fire breakdown (refer to Section 5).

SECTION 11: Toxicological Information

11.1 Toxicity Effects:

Acute Oral LD50 (Rat): ~ 7,200 mg/kg (Low acute toxicity risk, but may cause internal lining distress).
Acute Dermal LD50 (Rabbit): > 4,700 mg/kg.
Causes skin irritation. May cause an allergic skin reaction or hives in sensitive individuals.
Causes serious eye damage. Risk of irreversible corneal injury if untreated.
May be fatal if chemical substance enters lungs via swallowing or vomiting.

SECTION 12: Ecological Information

12.1 Ecotoxicity:

Toxic to aquatic life with long-lasting environmental effects. Prevent discharge into water resources.

12.2 Marine Pollutant Status:

Classified as a Marine Pollutant according to IMDG Code specific evaluation criteria.

12.3 PBT & vPvB Assessment:

No baseline technical evaluation information available.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods:

Dispose of in accordance with regional, provincial, and national environmental regulations. In most scenarios, certified chemical industrial incineration or dedicated hazardous waste landfilling protocols apply. Contact official municipal authorities to advise on tracking residues. Do not allow material concentrate to enter groundwater, soil, drainage networks, or drinking water systems.

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SECTION 14: Transport Information

14.1 Land Transport (ADR/RID):

UN Number: UN 3082 | Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Citronella Oil) | Class: 9 | Packing Group: PG III

14.2 Sea Transport (IMDG):

UN Number: UN 3082 | Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Citronella Oil) | Class: 9 | Packing Group: PG III | Marine Pollutant: YES

14.3 Air Transport (IATA):

- UN Number: UN 3082 | Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Citronella Oil) | Class: 9 | Packing Group: PG III

SECTION 15: Regulatory Information

15.1 Specific Legislation Guidelines:

Aligned with international GHS frameworks and South African National Standard regional environmental safety criteria (SANS 10234:2019). FDA GRAS Status: 182.20 for natural extractives.

SECTION 16: Other Information

Disclaimer: The information contained in this 16-point safety report is accurate and true to the best of our technical capability. All recommendations are provided without an explicit or implied processing guarantee. Users must execute their independent tests.

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