



## 5. FIRE FIGHTING MEASURES

<b>Flash Point (Method Used):</b>	93.3°C Close Cup
<b>Extinguishing Media:</b>	Dry Chemical, Carbon Dioxide, Foam
<b>Special Firefighting Procedures:</b>	Fire fighters should wear positive pressure self-contained breathing apparatus. Cool containers exposed to flame with water spray. Spray extinguishing media directly into base of fire.
<b>Unusual Fire &amp; Explosion Hazards:</b>	None
<b>Hazardous Decomposition Materials:</b>	CO, CO <sub>2</sub> , smoke and unidentified organic compounds may be formed during combustion.

## 6. ACCIDENTAL RELEASE MEASURES (STEPS FOR SPILLS)

<b>Personal Protection:</b>	Avoid ingestion Follow good industrial practice as to housekeeping, personal hygiene and avoidance of prolonged or repeated contact with the skin or eyes. Wear eye protection, gloves and aprons. Ventilate area well.
<b>Methods for Cleaning Up:</b>	Eliminate all sources of ignition Ventilate area Prevent liquid from entering sewers Small spills can be wiped up with paper rags (place in closed metal waste container) Large spills can be absorbed onto non-flammable absorbent. Wash area with soap and water.

## 7. HANDLING AND STORAGE

<b>Handling</b>	
<b>Safe Handling:</b>	Avoid ingestion Follow good industrial practice as to housekeeping, personal hygiene and avoidance of prolonged or repeated contact with the skin or eyes. Wear eye protection, gloves and aprons. Ventilate area well.
<b>Storage</b>	
<b>Requirements for Storage Areas and Containers:</b>	Store in an area that is cool, dry, and well-ventilated.

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

<b>Threshold Limit Value:</b>	Not established
<b>OSHA Permissible Limit:</b>	Not established
<b>Work Practice Controls:</b>	Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:  (1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. (2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet. (3) Wash exposed skin promptly to remove accidental splashes or contact with this material.
<b>Respiratory:</b>	Avoid casual breathing of vapors
<b>Ventilation:</b>	Local, mechanical exhaust is recommended

**Eye:** OSHA approved safety glasses  
**Skin:** Wear chemical resistant gloves and clothing to avoid skin contact

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid, Oil  
**Color:** Clear yellow to brown  
**Odor:** Characteristic of clove  
**Vapor Pressure (mm Hg.):** Not available  
**Boiling Point:** Not available  
**Melting Point:** N/A  
**Specific Gravity (H<sub>2</sub>O = 1):** 1.035 to 1.057  
**Refractive Index:** 1.5230 to 1.5310  
**Solubility in Water:** Slightly soluble

#### 10. STABILITY AND REACTIVITY

**Stability:** This material is stable under normal conditions.  
**Incompatibility (Materials to Avoid):** Avoid contact with strong oxidizing agents and avoid hot work and sources of ignition on or near empty containers.  
**Conditions to Avoid:** Avoid contact with sparks, flame and heat.  
**Hazardous Decomposition or Byproducts:** CO, CO<sub>2</sub>, smoke and unidentified organic compounds may be formed during combustion.  
**Hazardous Polymerization:** Will Not Occur

#### 11. TOXICOLOGICAL INFORMATION

**CAUTION:** Liquid may be irritating to eyes, skin, mucous membranes.

**Toxicity:** Acute oral toxicity (LD<sub>50</sub>): 2650 mg/kg [Rat]  
**Chronic Effects on Humans:** The substance is toxic to the nervous system, mucous membranes.  
**Other Toxic Effects on Humans:** Very hazardous in case of skin contact (irritant), of ingestion, of inhalation.  
**Listed as a Carcinogen:** No

#### 12. ECOLOGICAL INFORMATION

No information

#### 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods:** Dispose of according to local, state and federal regulations.

#### 14. TRANSPORT INFORMATION

**DOT Hazard Classification:** Not a DOT controlled material (United States).

#### 15. REGULATORY INFORMATION

**Federal and State Regulations:** TSCA 8(b) inventory: **Clove oil**  
**HMIS (U.S.A.):** Health: 2 Fire: 1 Reactivity: 0  
**National Fire Protection Association (U.S.A.):** Health: 2 Flammability: 1 Reactivity: 0

## **16. ADDITIONAL INFORMATION**

This information is provided for documentation purposes only.

The complete range of conditions or methods of use are beyond our control therefore we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate however, all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local laws and local regulations remains the responsibility of the user.

This safety sheet cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers.