

Take off contaminated clothing and wash it before reuse.
Specific treatment (see First Aid Measures).

2.3 Unclassified hazards: None known

2.4 Percentage of ingredients with unknown toxicity: 0%

3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS number	Weight %
Clove leaf oil	8000-34-8	100%

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: Remove to fresh air. If breathing is irregular or stopped, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Skin contact: Wash off immediately with plenty of water while removing all contaminated clothing and shoes. Wash skin with plenty of soap and water. Seek medical advice. Wash contaminated clothing before re-use.

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes. Get medical attention.

Ingestion: If swallowed, call a poison control center or physician for treatment advice. Do not induce vomiting or give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed Causes serious eye irritation. Causes skin irritation.

4.3 Immediate medical attention required: Symptomatic treatment is advised. There are no medical conditions that are known to be aggravated by exposure to this product. No immediate medical attention required if exposed.

5. FIRE FIGHTING MEASURES

- 5.1 Flammability: Will support combustion and decompose under fire conditions to form toxic organic materials and toxic/corrosive oxides of carbon and nitrogen.
- 5.2 Extinguishing media: CO₂, foam or dry chemical; water to cool exposed containers but unusable for use on burning material.
- 5.3 Special fire-fighting procedures: As in any fire, prevent exposure to smoke, fumes, and products of combustion. Evacuate non-essential personnel. Fire fighters should wear NIOSH/MSHA approved full-face, self-contained breathing apparatus and impervious clothing. Spray extinguishing media directly into base of flames. Cool containers exposed to flame with water. Do not release runoff from fire control methods to sewers or waterways.

6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions: Immediately evacuate the area and provide maximum ventilation. Remove all ignition sources. Unprotected personnel should move upwind of spill. Only personnel equipped with proper respiratory and skin/eye protection should be permitted in area.
- 6.2 Environmental precautions: Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover or absorb spilled material on sawdust or vermiculite and place in close containers for disposal. After all visible traces have been removed, thoroughly wet vacuum the area.
- 6.3 Methods for cleaning up: Dispose of contaminated sawdust and vermiculite in a permitted hazardous waste management facility. It is your duty to dispose of this product and the containers in accordance with the Clean Air Act, Clean Water Act, the Resource Conservation and Recovery Act, as well as any other relevant federal, state, or local laws or regulations regarding disposal.

7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling: Keep away from food, drink, and animal feed. Do not smoke while handling product. Avoid contact with skin and eyes.
- 7.2 Conditions for safe storage: Keep container closed. Do not contaminate water, food, or feed by storage or disposal. Keep product in original container in a dry, ventilated area, away from potential sources of ignition. Store according to local and national regulations.
- 7.3 Specific end use: To be applied to stored potatoes to prevent sprouting

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Exposure limits: None established.
- 8.2 Engineering controls: Provide adequate ventilation; mechanical exhaust required.
- 8.3 Personal Protection: A full-face respirator with an organic vapor-removing cartridge with a pre-filter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C) or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G) or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P, or HE pre-filter, should be worn when applying this product, or when entering the treated area containing a mist or vapor of the product. Do not breathe vapors. In poorly ventilated areas, the use of an appropriate respiratory protection may be required. Utilize general ventilation and local exhaust to minimize exposure to mists and vapors.
- 8.4 Skin and body protection: To avoid irritating or strong odors and fumes, applicators and other handlers are recommended to wear long-sleeved shirt, long pants, shoes plus socks. For reentry into treated areas during application and prior to ventilation or settling of aerosol fog, workers may additionally wear coveralls. Chemical-resistant gloves are recommended. Wash thoroughly with soap

and water after handling. Remove and wash contaminated clothing before reuse.

8.5 Hand protection:

Wear chemical resistant gloves (such as Nitrile or Butyl).

8.6 Eye protections:

Wear goggles, face shield or safety glasses. Do not get in eyes, on skin, or on clothing.

8.7 Environmental exposure control:

Product is to be used indoors for application to stored potatoes. Applicable controls are described above.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid @ 20°C
Color:	Pale yellow to brownish @ 20°C
Odor:	Cloves
Odor Threshold:	Not determined
Melting Point:	Not applicable
Boiling Point:	251°C @ 760.00 mmHg
Specific Gravity:	1.03800 – 1.0600 @ 25°C
pH:	Not determined
Viscosity:	Not determined
Solubility:	Insoluble in water
Vapor Pressure:	Not determined; 100% volatile by volume
Flash Point:	Not applicable
Density:	1047 g/cm ³ (20°C)
Evaporation Rate:	Not determined
Flammability:	Not determined
Flammability/Explosive Limits:	Not determined
Partition Coefficient:	Not determined
Auto-ignition Temperature:	Not determined
Decomposition Temperature:	Not determined

10. STABILITY AND REACTIVITY

10.1 Reactivity:

May react with strong oxidizing agents. Reactions with other substances not known.

10.2 Chemical Stability:

Stable under normal temperatures and pressures.

10.3 Possibility of Hazardous Reactions:

Will not occur.

10.4 Conditions to Avoid:

Strong oxidizing agents, ignition sources, heat.

10.5 Incompatible materials

None known

10.6 Hazardous Decomposition Products: Carbon monoxide, carbon dioxide and irritating fumes may form during combustion.

11. TOXICOLOGICAL INFORMATION

Acute LD ₅₀ Oral:	2,650 mg/kg (rats)
Acute LD ₅₀ Dermal:	>5 g/kg (rabbits)
Acute LC ₅₀ Inhalation:	Not determined.
Skin Irritation:	Can cause moderate irritation
Eye Irritation:	Can cause moderate irritation.
Hypersensitivity:	Did not cause hypersensitivity reaction (guinea pigs)
Hypersensitivity Incidents:	Not known
Mutagenicity – Gene Mutation:	Non-mutagenic
Carcinogenicity:	Not listed as a carcinogen by IARC, NTP, ACGIH or OSHA.
Reproductive toxicity:	Not known

12. ECOLOGICAL INFORMATION

Ecotoxicity:	
Avian Acute Oral Toxicity:	Not known
Freshwater Fish Toxicity:	
LC ₅₀ (Rainbow Trout)	14.1 mg/L 96 hour exposure
LC ₅₀ (Carp)	18.1 mg/L 96 hour exposure
LC ₅₀ (European catfish)	18.40 mg/L 96 hour exposure
Freshwater Invertebrate Toxicity:	Not known
Aquatic algae/plants:	Not known
Persistence and degradability:	Not known
Bioaccumulation potential:	Not known
Mobility in soil:	Not known
Results of PBT and vPvB assessment:	Not determined

13. DISPOSAL CONSIDERATIONS

Pesticide Disposal:	Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.
Container Disposal:	Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other

procedures approved by state and local authorities. Do not reuse empty container.

14. TRANSPORT INFORMATION

U.S. Department of Transportation: Not a DOT controlled material.
Identification: Not applicable.
Special Provisions for Transport: Not applicable.

15. REGULATORY INFORMATION

15.1 U.S. Federal Government EPA 25(b), registered as a pesticide
15.2 State Registered as a pesticide
15.3. Other Regulations: OSHA: Hazardous by definition of the Hazard Communication Standard (29 CFR 1910.1200).

15.3 HMIS (U.S.A)

Health: 2
Fire Hazard: 1
Reactivity: 0
Personal Protection: h

15.4 National Fire Protection Association (U.S.A.)

Health: 2
Flammability: 1
Reactivity: 0

16. OTHER INFORMATION

16.1 General: Keep out of reach of children.
Sprout Torch® is used as an aerosol to temporarily eliminate sprouts on potatoes. Sprout Torch® must not be applied to potatoes in the field.
Do not allow vapors to come in contact with storage areas used within 60 days for storing seed potatoes.

16.2 Disclaimer

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