

Section 1 Identification

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Innovating Science[®] by Aldon Corporation 221 Rochester Street
 "cutting edge science for the classroom" Avon, NY 14414-9409
 (585) 226-6177

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product	CLOVE OIL
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Synonyms	Oil of clove
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Section 2 Hazards identification

This substance or mixture has not been classified at this time according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not classified
Pictograms: Not classified
Target organs: Kidneys, central nervous system

GHS Classification:
 Not classified

GHS Label information: Hazard statement(s):
 Not classified

Precautionary statement(s):

Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known
 Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Clove oil	8000-34-8	100%	None assigned.

Section 4 First aid measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: DO NOT USE WATER. Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Clove oil	None established	None established	None established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Clear, pale amber-yellow liquid.

Odor: Clove odor.

Odor threshold: Data not available.

pH: Data not available.

Melting / Freezing point: Data not available

Boiling point: 244-259°C (471-498°F)

Flash point: >93°C (>200°F)

Evaporation rate (Butyl acetate = 1): >1

Flammability (solid/gas): Data not available.

Explosion limits: Lower / Upper: Data not available

Vapor pressure (mm Hg): Data not available

Vapor density (Air = 1): Data not available

Relative density (Specific gravity): 1.038

Solubility(ies): Insoluble in water.

Partition coefficient: Data not available

Auto-ignition temperature: Data not available

Decomposition temperature: Data not available.

Viscosity: Data not available.

Molecular formula: Data not available

Molecular weight: Data not available

Section 10 Stability and reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition.

Incompatible materials: Strong oxidizers, ferric chloride, and potassium permanganate.

Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Vapor may be irritating to skin, eyes and mucous membranes.

Ingestion: If ingested, results in gastroenteritis, local anesthesia, nausea, vomiting and diarrhea.

Skin: Prolong or repeated contact may cause irritation and/or dermatitis.

Eyes: May cause redness, pain and irritation to the eyes.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: GF6910000

Section 12 Ecological information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2020 ERG Guide # Not applicable

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Clove oil	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

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CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
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Product	DEIONIZED WATER
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Synonyms	Hydrogen Oxide / Distilled Water
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Section 2 Hazards identification

This substance has not been classified at this time according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not a hazardous substance

Pictograms: Not a hazardous substance

Target organs: None known

GHS Classification:

Not a hazardous substance

GHS Label information:

Hazard statement: Not a hazardous substance

Precautionary statement(s): Not a hazardous substance

Supplemental information:

Avoid contact with DANGEROUS WHEN WET and WATER-REACTIVE materials.
 For laboratory use only. Do not ingest.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Deionized water	7732-18-5	100%	231-791-2

Section 4 First aid measures

Untaminated water should not pose any ill health effects. If ill effects develop, get immediate medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Not a fire hazard. Water is used for extinguishing fires.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: Avoid contact with DANGEROUS WHEN WET and WATER-REACTIVE materials. See Section 10.

Section 6 Accidental release measures

Personal Precautions: Untaminated material poses no hazards.

Environmental Precautions: Untaminated material may be flushed to sewer.

Containment and Cleanup: Untaminated material may be flushed to sewer.

Precautions for Safe Handling: Read label on container before using. Not for drug, food or household use. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Wash thoroughly after handling.

Conditions for Safe Storage: Store in a cool area away from water-reactive or dangerous when wet substances.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	None listed	None listed	None listed	None listed

Engineering controls: None required.

Respiratory protection: None required.

Section 9 Physical and chemical properties

Appearance: Clear, colorless liquid. Odor: No odor. Odor threshold: Data not available pH: Data not available Melting / Freezing point: 0°C (32°F) Boiling point: 100°C (212°F) Flash point: Not flammable	Evaporation rate (Water = 1): 1 Flammability (solid/gas): Not flammable Explosion limits: Lower / Upper: Not flammable Vapor pressure (mm Hg): 14 Vapor density (Air = 1): 0.7 Relative density (Specific gravity): 0.99707 @ 20/20°C Solubility(ies): Complete	Partition coefficient: (n-octanol / water): Data not available Auto-ignition temperature: Not flammable Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: H ₂ O Molecular weight: 18.01
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Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Absorption of fumes and carbon dioxide gas.

Incompatible materials: Water-reactive metals: sodium, potassium, calcium, barium, alkali metal alloys, liquid amalgams, amides, carbides, hydrides, aluminum powders, silicides, cerium, concentrated acids.

Hazardous decomposition products: Electrolysis will produce explosive and flammable hydrogen and oxygen.

Section 11 Toxicological information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: No ill effects expected.

Ingestion: No ill effects expected.

Skin: No ill effects expected.

Eyes: No ill effects expected.

Signs and symptoms of exposure: No ill effects expected.

Additional information: RTECS #: Data not available

Section 12 Ecological information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available **Bioaccumulative potential:** No data available

Mobility in soil: No data available **PBT and vPvB assessment:** No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2020 ERG Guide # Not applicable

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Deionized water	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

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**CHEMTREC 24 Hour Emergency
 Phone Number (800) 424-9300**
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Product	GLYCERIN
Synonyms	Glycerol

Section 2 Hazards identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: None required

Pictograms: No symbol required

Target organs: None known

GHS Classification: None required

GHS Label information: Hazard statement: None required

Precautionary statement: None required

Supplemental information:

Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Glycerin	56-81-5	100%	200-289-5

Section 4 First aid measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: DO NOT USE WATER. Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Glycerin	TWA: 10 mg/m ³ (mist)	TWA: 5 mg/m ³ (respirable fraction)	None established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Clear, colorless liquid.

Odor: No odor.

Odor threshold: Data not available.

pH: Approximately 7.0

Melting / Freezing point: 18°C (64°F)

Boiling point: 290°C (554°F)

Flash point: 177°C (351°F) COC

Evaporation rate (Ether = 1): >1

Flammability (solid/gas): Data not available.

Explosion limits: Lower / Upper: Data not available

Vapor pressure (mm Hg): 0.01 mbar @ 20°C

Vapor density (Air = 1): Data not available

Relative density (Specific gravity): 1.2607 (25/25°C)

Solubility(ies): Complete

Partition coefficient: 2.6 calculated

Auto-ignition temperature: 400°C (752°F)

Decomposition temperature: Data not available.

Viscosity: Data not available.

Molecular formula: HOCH₂CHOHCH₂OH

Molecular weight: 92.10

Section 10 Stability and reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures and heat. Absorbs moisture from the air.

Incompatible materials: Strong oxidizers.

Hazardous decomposition products: Poisonous Acrolein fumes.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 25,000 mg/kg

Skin corrosion/irritation: Dermal-rabbit - 18,700 mg/kg

Serious eye damage/irritation: Rabbit - practically non-irritating

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation of mist are irritating to the respiratory tract.

Ingestion: Ingestion is considered to be a very low hazard.

Skin: Skin contact shows no significant irritation. Not absorbed through the skin.

Eyes: May cause slight eye irritation.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: MA8050000

Section 12 Ecological information

Toxicity to fish: Low toxicity to aquatic organisms. LC50 (96 hour) fish >5,000 mg/l

Toxicity to daphnia and other aquatic invertebrates: EC50 (24 hour) Daphnia magna >10,000 mg/l

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2020 ERG Guide # Not applicable

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERCLA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Glycerin	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.