



SAFETY DATA SHEET

Penetone® Corporation, 375 Murray Hill Pkwy., East Rutherford, NJ 07073

CITRIKLEEN® ECO

Page: 1 of 8

Date Prepared: December 6, 2024

SDS No.: 1855

SECTION 1: IDENTIFICATION

Product name: CITRIKLEEN ECO

Recommended use: Cleaning, degreasing

Physical Description: Clear light amber liquid with citrus odor

Generic Ingredients: Water, d-limonene, surfactants, coupling agent, builder

Manufacturer:

Penetone Corporation

375 Murray Hill Pkwy.

East Rutherford, NJ 07073

800-631-1652 or 201-567-3000

Business Contact:

Customer Service

800-631-1652 x2272

Product Safety

800-631-1652 x2257

Emergency Phone Numbers: PENETONE 201-567-3000 CHEMTREC 800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health:

Skin corrosion: 1C

Eye damage: 1

Specific target organ toxicity - single exposure: 3

Skin sensitization: 1

Aspiration hazard: 1

Physical:

Flammable liquid: 3

DANGER!

Flammable Liquid and Vapor.

Causes Severe Skin Burns and Eye Damage.

May Cause an Allergic Skin Reaction.

May Cause Drowsiness or Dizziness.

May Be Fatal If Swallowed and Enters Airways.



Precautionary Statements:

Prevention:

Avoid breathing fumes or vapors. Do not breathe mists if inhalable mists occur during use. Use only outdoors or in a well-ventilated area.

Wear protective gloves, eye protection, and face protection. Wash hands and exposed skin thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Keep container tightly closed. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Ground/Bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting, and mixing equipment. Use only non-sparking tools. Take precautionary measure against static discharge.

Response:

In case of fire: Use dry chemical, carbon dioxide, water spray, water fog, or foam. Do not use solid water stream as this may spread the fire.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. A mild soap may be used. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center, doctor, emergency room or 911 if you feel unwell.

If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center, doctor, emergency room, or 911.

Storage:

Store locked up. Store in a well-ventilated place. Keep cool. Keep container tightly closed.

Disposal:

Dispose of contents/container in accordance with local, regional, and national regulations (see Sections 13 and 15 of SDS for disposal and reporting requirements).



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SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Concentration Wt% (1)
Water	7732-18-5	40-60
d-Limonene	5989-27-5	10-20
Potassium dodecylbenzene sulfonate	27177-77-1	1-10
Ethoxylated nonylphenol	127087-87-0	1-10
Diethylene glycol butyl ether	112-34-5	1-10
Sodium silicate	141-43-5	<1

(1) Exact percentages being withheld under trade secret provision of OHSA HCS 1910.1200(i)

SECTION 4: FIRST-AID MEASURES

General Description of Symptoms & First-Aid Measures

Most likely work-place exposure routes will be *skin contact* or *inhalation*.

For *skin contact*, typically no immediate effects will be observed. Reddening, irritation, or a burning sensation could develop some time after exposure if product is not quickly washed off. For sensitive individuals, a rash may appear.

Inhalation exposure may produce varied effects depending on whether vapor or mist/spray is inhaled (see SECTION 8 for recommended workplace exposure limits). For vapor, typical symptoms would include headaches, dizziness, and drowsiness. In extreme cases, unconsciousness and other central nervous effects may occur. For mist/spray, typical symptoms could include coughing, sneezing, and a tingling or burning sensation in the nose, throat, and lungs.

Eyes

If in eyes: Rinse cautiously with water for several minutes. If contact lenses present, remove them if easy to do. Continue rinsing for several minutes. Immediately call a poison center, doctor, physician or other competent medical authority for medical advice. Penetone recommends that after any eye exposure and initial treatment a physician be seen immediately.

Ingestion

If swallowed: Rinse mouth. Immediately call a poison center, doctor, physician or other competent medical authority. Product presents an aspiration hazard. DO NOT INDUCE VOMITING.

Inhalation

If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center, doctor, physician or other competent medical authority for medical advice.

Skin

If on skin: Take off immediately all contaminated clothing. Rinse skin with water or shower. A mild soap may be used. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice or attention.

Special Treatment / Other

None

SECTION 5: FIRE FIGHTING MEASURES

Flammable Properties

Classification: 3

Flash Point: 125°F PMCC, >190°F COC

Autoignition Temperature: not determined

Lower Flammable Limit: not determined **Upper Flammable Limit:** not determined



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Specific Hazards

Flammable liquid. Can form flammable mixtures at or above the flash point. Although the product is flammable, it is water based and water dilutable and will self extinguish with addition of water.

Extinguishing Media

Suitable: SMALL FIRE: Use dry chemical, carbon dioxide (CO₂), water spray or regular foam. LARGE FIRE: water spray, water fog, or foam.

Unsuitable: Do not use solid water stream as this may spread fire.

Protection & Precautions for Firefighters

Protective Equipment & Clothing: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will only provide limited protection.

Fire Fighting Guidance: Cool containers with flooding quantities of water until well after fire is out. Move containers from fire area if you can do it safely. Dike fire control water for later disposal; do not scatter material. Containers can expand and explode under fire conditions due to vapor buildup. Always stay away from containers engulfed in fire.

Hazardous Combustion Products: Smoke, fumes, and oxides of carbon and sulfur, particularly when taken to dryness.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Land Spill

Eliminate sources of ignition. Do not touch or walk through spilled material. Stop leak if you can do it safely. For large spills, dike and pump into properly labeled containers for reclamation or disposal. For small spill, soak up with absorbent material and place in properly labeled containers for disposal.

Water Spill

Product forms emulsion with water which may make cleanup difficult. Avoid agitation to minimize emulsion formation. Remove product from water surface by skimming or with suitable absorbents. Put into properly labeled containers for reclamation or disposal. If allowed by local environmental regulatory agencies, you may use a suitable dispersant. Check with local environmental regulatory agencies for reporting requirements.

See **SECTION 8 for EXPOSURE CONTROLS and PERSONAL PROTECTION.**

SECTION 7: HANDLING & STORAGE

Handling

Do not handle near heat, sparks, or flame. Avoid contact with oxidizing agents. Use only with adequate ventilation/personal protection (SEE section 8). Avoid contact with eyes, skin and clothing. After handling, always wash hands thoroughly with soap and water. Avoid personal contact with any residue. Dispose of empty containers with care. Empty containers can contain flammable residue and explosive vapors. **Do not cut, weld, or reuse empty container.**

Storage

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. Do not store near heat, sparks, open flame, or other ignition sources. Do not store near strong oxidizing agents. Do not store in direct sunlight. Avoid storing above 120°F (49°C).

SECTION 8: EXPOSURE CONTROLS and PERSONAL PROTECTION

Engineering Controls

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below



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recommended exposure limits.

Personal Protection

Inhalation A respiratory protection program that meets OSHA's 29 CFR 1910.134 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use. Use of an organic vapor mask or respirator is recommended.

Skin Wear chemical resistant gloves such as: rubber, nitrile, neoprene, or latex when skin contact is possible. Protective clothing including gloves, apron, sleeves, boots, head and face protection should be worn depending on how the product is used. PPE should be cleaned thoroughly after each use.

Eyes Penetone recommends always wearing safety glasses as a minimum in any workplace. Conditions may warrant the use of chemical goggles and possibly a face shield. Consult your standard operating procedure or safety professional for advice. Use protective eye and face devices that comply with ANSI Z87.1-1987.

Additional Remarks

Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use.

Occupational Exposure Limits

Component Name	Source	Value	Type	Notation
d-Limonene (1)	ACGIH	20 ppm	TWA	dsen; A4
	NIOSH	100 ppm	TWA	
	OSHA Z1	100 ppm	PEL	

(1) No OEL has been established for d-limonene. Value given is for turpentine which has same molecular weight and similar structure.

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Appearance: clear light amber liquid

Odor: citrus

Odor Threshold: not determined

pH: 12-12.5

Melting Point / Freezing: about 30°F

Boiling Point / Boiling Point Range: about 212°F

Flash Point: 125°F PMCC, >190°F COC

Evaporation Rate: equal to water

Flammability: not applicable

Lower Flammable Limit: not determined

Upper Flammable Limit: not determined

Explosive Properties: not applicable

Vapor Pressure: equal to water, about 17 mm Hg @ 20°C

Relative Vapor Density: equal to water

Relative Density: 0.98

Solubility (Water): forms emulsion (stable for one to 12 hours)

Partition Coefficient (K_{ow}): not determined

Auto-ignition temperature: not determined

Decomposition temperature: not determined

Viscosity: 5 to 10 centipoise at room temperature



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SECTION 10: STABILITY & REACTIVITY

Reactivity

Not reactive.

Chemical Stability

Stable.

Hazardous Reactions

None known.

Conditions to Avoid

Flammable liquid. Do not store near sources of heat, sparks, open flame, or other ignition sources.

Incompatible Materials

Strong oxidizing agents. Strong acids.

Hazardous Decomposition Products

Smoke, fumes, and oxides of carbon, nitrogen, and sulfur, particularly when taken to dryness.

SECTION 11: TOXICOLOGICAL INFORMATION

Product Summary

Product is corrosive to skin, eyes, and other tissue. Product may cause a skin rash in sensitive people. Mists can be corrosive to the eyes and respiratory tract. Vapor concentrations above recommended exposure levels may cause headaches, dizziness, drowsiness, unconsciousness and other central nervous system effects.

Acute Toxicity:

Oral: Rats, LD50 >5,000 mg/kg (estimated using additivity formula)

For a similar product:

Dermal: Rabbits, LD50 > 2.0 g/kg.

Inhalation: Rats, 1hr, 199 mg/l, non-toxic per CFR 16.1500.3. No mortalities at 14 days. No macroscopic changes of internal organs.

Skin Corrosion/Irritation

No data available. Based upon component data and pH, product considered corrosive to skin, category 1C.

Serious Eye Damage/Irritation

No data available. Based upon component data and pH, product considered corrosive to eyes.

Sensitization - Respiratory or Skin

d-Limonene may cause skin sensitization.

Germ Cell Mutagenicity

For a similar product:

Ames, salmonella typhimurium, 50 ppm, with and without metabolic activation: both negative. Product not considered mutagenic.

For the components: Various in vivo and in vivo screening tests were all negative.

Carcinogenicity

Various studies have shown that d-limonene when fed at very high levels to laboratory animals have resulted in effects on the kidneys, liver, ureter, and bladder. d-Limonene is listed by IARC as Group 3: not classifiable as to its carcinogenicity to humans and is listed by ACGIH as Group 4: not classifiable as a human carcinogen. d-Limonene is listed as an equivocal tumorigenic agent by RTECS criteria.



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Reproductive Toxicity

The nonionic surfactants used in this product have produced effects in the fetus only at levels that were toxic to the parent animals.

Specific Target Organ Effects - Single Exposure

No data available

Specific Target Organ Effects - Repeated or Prolonged Exposure

For a similar product: Rats, one hour, 200mg/l, 2 weeks, found to be non-toxic (product as a whole)

d-Limonene: Repeated dose toxicity: mouse (male/female): NOEL - 1,650 mg/kg; LOEL - 3,300 mg/kg

Aspiration Hazard

Based upon available data and comparison to similar materials, if swallowed, may pose a lung aspiration hazard during vomiting. Lung aspiration may result in chemical pneumonitis, pulmonary edema, and damage to lung tissue or death.

SECTION 12: ECOLOGICAL INFORMATION

Product Summary

Based upon product composition and data for similar products, product can be considered mildly toxic to aquatic organisms.

Ecotoxicity

For various d-limonene based products of similar composition that we have tested, LC50s for both vertebrates and invertebrates have been in the range of 10-50 ppm.

Persistence and Degradability

For various d-limonene based products of similar composition that we have tested, biodegradabilities have been greater than 80%.

Bioaccumulative Potential

Product not expected to bioaccumulate due to its degradability.

Mobility in soil

Product is a complex mixture. Components will partition into water and soil phases depending on inherent solubility of component in water.

Other Adverse Effects

None known

SECTION 13: DISPOSAL CONSIDERATIONS

Product is a D001 Ignitable and D002 Corrosive Hazardous Waste under RCRA definitions. Dispose of contents/container in accordance with all applicable federal, state, and local regulations.

Note: Contaminated product, soil, water, container residues and spill cleanup materials may be hazardous wastes. Appropriate hazardous waste designation is the responsibility of the user.

SECTION 14: TRANSPORT INFORMATION

ID No.: UN2924

Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S., (contains d-limonene and sodium silicate)

Hazard Class: 3, (8)

Packing Group: III



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Marine Pollutant: No
RQ: No
Special Precautions: none

SECTION 15: REGULATORY INFORMATION

TSCA

The ingredients in this product are listed on the TSCA inventory.

RCRA HAZARD CLASS

D001 - Ignitable hazardous waste
D002 - Corrosive hazardous waste

SARA 311/312 REPORTABLE HAZARD CATEGORIES: Immediate (Acute) Health Fire

REPORTING REQUIREMENTS (all quantities in pounds)

Component	CAS / 313 Code	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	CAA 112(r) TQ	CWA / OPA
Diethylene glycol butyl ether	N230 Glycol ethers			(1)	313		
(1) CERCLA hazardous substance with no assigned RQ							

NEW JERSEY RIGHT-TO-KNOW INFORMATION

This product contains water (CAS# 7732-18-5), d-limonene (CAS# 5989-27-5), potassium dodecylbenzene sulfonate (CAS# 27177-77-1), ethoxylated nonylphenol (CAS# 127087-87-0), diethylene glycol butyl ether (CAS# 112-34-5), and sodium silicate (CAS# 1344-09-8)

CALIFORNIA PROPOSITION 65 INFORMATION

This product does not contain any chemicals recognized by the state of California to cause cancer and/or birth defects or reproductive harm.

SCAQMD INFORMATION

Is there a photochemically reactive material present? Yes
What is the % by volume of photochemically reactive material? About 11
What is the VOC content? 150 g/l
What is the vapor pressure of VOC's? 0.14 mm Hg @ 20°C

SECTION 16: OTHER INFORMATION

REVISION SUMMARY

Change in Header and Section 1

SUPERSEDES ISSUE DATE

September 24, 2019

HAZARD RATING SYSTEMS:

	HMIS	NFPA
HEALTH	2	2
FLAMMABILITY	2	2
REACTIVITY	0	0
	B	

KEY
4 = Severe
3 = Serious
2 = Moderate
1 = Slight
0 = Minimal



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FOR ADDITIONAL PRODUCT INFORMATION, CONTACT YOUR SALES ENGINEER
FOR ADDITIONAL HEALTH/SAFETY INFORMATION, CALL 201-567-3000

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