

Section 1. Product and Company Identification

**Product Name** p-Menthane-3,8-diol  
**CAS Number** 42822-86-6

**Parchem - fine & specialty chemicals**  
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Collect Calls Accepted

Section 2. Hazards Identification

**Physical hazards**

Flammable liquids Category 3

**Health hazards**

Acute toxicity, oral Category 5  
Acute toxicity, dermal Category 5  
Skin corrosion/irritation Category 3  
Sensitization, skin Category 1B

**Environmental hazards**

Hazardous to the aquatic environment acute hazard, Category 3  
Hazardous to the aquatic environment long-term hazard, Category 3

**GHS Label Elements**

**Pictograms:**



**Signal word:** WARNING

**Hazard and precautionary statements**

**Hazard Statements**

**H226** Flammable liquid and vapor.  
**H303** May be harmful if swallowed.  
**H316** Causes mild skin irritation.  
**H317** May cause an allergic skin reaction.  
**H402** Harmful to aquatic life.  
**H412** Harmful to aquatic life with long lasting effects.



### Precautionary Statements

#### Prevention

- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P261 Avoid breathing mist or vapor.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/eye protection/face protection.

#### Response

- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P312 Call a POISON CENTER/doctor if you feel unwell.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
- P362 + P364 Take off contaminated clothing and wash it before reuse.
- P370 + P378 In case of fire: Use appropriate media to extinguish.

#### Storage

- P403 + P235 Store in a well-ventilated place. Keep cool.

#### Disposal

- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazards not otherwise classified (HNOC):** None known.

**Supplemental information:** None.

### Section 3. Composition / Information on Ingredients

**Common Name** para-Menthane-3,8-diol  
**CAS Number** 42822-86-6  
**Formula** C<sub>10</sub>H<sub>20</sub>O<sub>2</sub>

COMPONENT	CAS NUMBER	CONCENTRATION
P-Menthane-3,8-Diol	42822-86-6	100%

### Section 4. First Aid Measures

**Inhalation:** If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.

**Skin contact:** Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes.



**Eye contact:** Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. Promptly wash eyes with plenty of water while lifting the eye lids.

**Ingestion:** Call a physician or poison control center immediately. If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.

**Most important symptoms/effects, acute and delayed:** Direct contact with eyes may cause temporary irritation. Mild skin irritation. May cause an allergic skin reaction. Dermatitis. Rash.

**Indication of immediate medical attention and special treatment needed:** Not available.

**General information:** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

#### Section 5. Firefighting Measures

**Suitable extinguishing media:** Water spray, fog, CO<sub>2</sub>, dry chemical, or alcohol resistant foam.

**Unsuitable extinguishing media:** Do not use a solid water stream as it may scatter and spread fire.

**Specific hazards arising from the chemical:** Fire may produce irritating, corrosive and/or toxic gases.

**Special protective equipment and precautions for firefighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural fire fighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full face piece operated in the positive pressure demand mode when fighting fires.

**Firefighting equipment/instructions:** In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Ventilate closed spaces before entering them. Keep run-off water out of sewers and water sources. Dike for water control.

**Specific methods:** Use water spray to cool unopened containers

**General fire hazards:** Static charges generated by emptying package in or near flammable vapor may cause flash fire.

#### Section 6. Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** Keep unnecessary personnel away. Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.

**Methods and materials for containment and cleaning up:** Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without



risk. Dike the spilled material, where this is possible. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps. The product is immiscible with water and will spread on the water surface.

**Large Spills:** Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Prevent product from entering drains. Do not allow material to contaminate ground water system. Absorb in vermiculite, dry sand or earth and place into containers.

**Small Spills:** Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Collect and dispose of spillage as indicated in section 13 of the SDS.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid release to the environment. Retain and dispose of contaminated wash water. Contact local authorities in case of spillage to drain/aquatic environment.

#### Section 7. Handling and Storage

**Precautions for safe handling:** Do not handle or store near an open flame, heat or other sources of ignition. All equipment used when handling the product must be grounded. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling. Take precautionary measures against static discharges. Avoid breathing vapor.

**Conditions for safe storage, including any incompatibilities:** Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area.

#### Section 8. Exposure Controls / Personal Protection

##### Occupational exposure limits

##### U.S. Workplace Environmental Exposure Level (WEEL) Guides

###### Carvene

TWA: 165.5 mg/m<sup>3</sup>

TWA: 30 ppm

**Biological limit values:** No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Use explosion-proof ventilation equipment to stay below exposure limits.

##### Individual protection measures, such as personal protective equipment

**Eye/face protection:** Wear safety glasses with side shields (or goggles). Face shield is recommended.

##### Skin protection

**Hand protection:** Chemical resistant gloves.

**Other:** Use of an impervious apron is recommended.

**Respiratory protection:** Respiratory protection not required. If ventilation is insufficient, suitable respiratory protection must be provided.

**Thermal hazards:** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations:** When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

#### Section 9. Physical and Chemical Properties

**Appearance:** Refer to Spec Sheet

**Physical state:** Liquid.

**Form:** Liquid.

**Color:** Refer to Spec Sheet

**Odor:** Characteristic.

**Odor threshold:** Not available.

**pH:** Not available.

**Melting point/freezing point:** < -58°F (< -50°C)

**Initial boiling point and boiling range:** 174.2°F (79°C)

**Flash point (Closed Cup):** 75.0°F (23.9°C)

**Evaporation rate:** Not available.

**Flammability (solid, gas):** Not applicable.

**Upper/lower flammability or explosive limits**

**Flammability limit – lower (%):** Not available.

**Flammability limit – upper (%):** Not available.

**Explosive limit – lower (%):** Not available.

**Explosive limit – upper (%):** Not available.

**Vapor pressure:** 0.02 hPa at 20°C

**Vapor density:** Not available.

**Relative density:** Not available.

**Solubility(ies)**

**Solubility (water):** Insoluble

**Partition coefficient (n-octanol/water) log Pow:** 1.8

**Auto-ignition temperature:** 527 °F (275°C)

**Decomposition temperature:** Not available.

**Viscosity:** Not available.

**Other information:** Density 925.97 kg/m<sup>3</sup> at 20°C

**Flammability class:** Flammable IC estimated

**Molecular formula:** C<sub>10</sub>H<sub>20</sub>O<sub>2</sub>

**Molecular weight:** 172.2 g/mol

**Specific gravity:** 0.93 at 25°C

Section 10. Stability and Reactivity

**Reactivity:** The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability:** Material is stable under normal conditions.

**Possibility of hazardous reactions:** No dangerous reaction known under conditions of normal use.

**Conditions to avoid:** Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. Incompatible materials Strong oxidizing agents.

**Hazardous decomposition products:** No hazardous decomposition products if stored and handled as indicated.

Section 11. Toxicological Information

**Information on likely routes of exposure**

**Inhalation:** No adverse effects due to inhalation are expected.

**Skin contact:** Causes mild skin irritation. May cause an allergic skin reaction.

**Eye contact:** Direct contact with eyes may cause temporary irritation. Causes mild eye irritation.

**Ingestion:** May be harmful if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics:** Mild skin irritation. May cause an allergic skin reaction. Dermatitis. Rash.

**Information on toxicological effects:** Acute toxicity May be harmful if swallowed. May cause an allergic skin reaction.

P-Menthane-3,8-Diol	Species	Test Results
Acute - Dermal (LD50)	Rat	> 2000 mg/kg Method: OECD Test Guideline 402
Acute - Oral (LD50)	Rat	> 2000 mg/kg Method: OECD Test Guideline 423

\*estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation:** Causes mild skin irritation.

**Species:** rabbit: Very slightly irritating

**Serious eye damage/eye irritation:** Direct contact with eyes may cause temporary irritation.

**Species:** rabbit: No eye irritation

**Method:** OECD Test Guideline 405

**Respiratory or skin sensitization**

**Respiratory sensitization:** Not a respiratory sensitizer.

**Skin sensitization:** May cause an allergic skin reaction. HRIPT Human

**Result:** Not sensitizing at 2 % in Dimethyl phthalate

**Maximization Test:** guinea pig  
**Result:** Not sensitizing  
**Method:** OECD Test Guideline 406: Phototoxicity guinea pig  
**Result:** negative

#### Germ cell mutagenicity Genotoxicity in vitro

**Ames test:** negative  
**Method:** Mutagenicity (Salmonella typhimurium - reverse mutation assay)  
**Chromosome aberration test in vitro:** negative  
**Method:** Mutagenicity (in vitro mammalian cytogenetic test)

#### Carcinogenicity

##### IARC Monographs. Overall Evaluation of Carcinogenicity

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):** Not listed.

**Reproductive toxicity:** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure:** Not classified.

##### Specific target organ toxicity - repeated exposure

**Species:** Rat  
**NOAEL:** 200 mg/kg  
**Method:** OECD Test Guideline 407  
Repeated dose (28 days) toxicity (oral)  
**Aspiration hazard:** Not an aspiration hazard.

#### Section 12. Ecological Information

**Ecotoxicity:** Harmful to aquatic life with long lasting effects.

P-Menthane-3,8-Diol - Aquatic	Species	Test Results
Acute (Algae - ErC50)	Green algae	52 mg/l, 72 hours
Acute (Crustacea - EC50)	Daphnia Magna	68 mg/l, 48 hours
Acute (Fish - LC50)	Danio rerio	62 mg/l, 96 hours

#### Persistence and degradability Biodegradability

**Result:** Readily biodegradable. 75 %  
**Method:** OECD Test Guideline 301 F

**Bioaccumulative potential:** No data available.

**Partition coefficient n-octanol / water (log Kow) CARVENE:** 4.232

**Mobility in soil:** No data available.

**Other adverse effects:** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

**ADN**

**UN number** 1169

**UN proper shipping name:** EXTRACTS, AROMATIC, LIQUID

**Transport hazard class(es):** 3

**Packing group** III

**Environmental hazards** No

**Labels required** 3

**ADR**

**UN number** 1169

**UN proper shipping name:** EXTRACTS, AROMATIC, LIQUID

**Transport hazard class(es)** 3

**Packing group:** III

**Environmental hazards:** No

**Labels required:** 3

**RID**

**UN number** 1169

**UN proper shipping name:** EXTRACTS, AROMATIC, LIQUID

**Transport hazard class(es)** 3

**Packing group** III

**Environmental hazards** No

**Labels required** 3

**DOT**

**UN number** 1169

**BULK**

**Proper shipping name:** EXTRACTS, AROMATIC, LIQUID

**Hazard class:** 3

**Packing group:** III

**Marine pollutant:** No

**Environmental hazards**

**Packaging exceptions:** 150

**Packaging bulk:** 242





**Labels required:** 3

**DOT**

**UN number:** 1169

**NON-BULK**

**Proper shipping name:** EXTRACTS, AROMATIC, LIQUID

**Hazard class:** 3

**Packing group:** III

**Marine pollutant:** No

**Environmental hazards**

**Packaging exceptions:** 150

**Packaging non bulk:** 203

**Labels required:** 3

**IATA**

**UN number:** 1169

**UN proper shipping name:** EXTRACTS, AROMATIC, LIQUID

**Transport hazard class(es):** 3

**Packing group:** III

**Environmental hazards:** No

**Labels required:** 3

**IMDG**

**UN number:** 1169

**UN proper shipping name:** EXTRACTS, AROMATIC, LIQUID

**Transport hazard class(es):** 3

**Packing group:** III

**Marine pollutant:** No

**Environmental hazards**

**Labels required:** 3

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable.

**ADN; ADR; DOT BULK; DOT NON-BULK; IATA; IMDG; RID**

Section 15. Regulatory Information

**US Federal Regulations:** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**CERCLA Hazardous Substance List (40 CFR 302.4):** Not listed.

**U.S. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):** Not listed.



**SARA 304 Emergency release notification:** Not regulated.  
**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):** Not listed.  
**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D):** Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories Immediate Hazard -** Yes

**Delayed Hazard -** No

**Fire Hazard -** Yes

**Pressure Hazard -** No

**Reactivity Hazard -** No

**SARA 302 Extremely hazardous substance:** Not listed.

**SARA 311/312 Hazardous Chemical:** Yes

**SARA 313 (TRI reporting):** Not regulated.

**Other Federal Regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List:** Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**  
Not regulated.

**Safe Drinking Water Act (SDWA):** Not regulated.

**US state regulations**

**US. Massachusetts RTK - Substance List:** Not regulated.

**US. New Jersey Worker and Community Right-to-Know Act:** CARVENE (CAS 5989-27-5)

**US. Pennsylvania Worker and Community Right-to-Know Law:** Not listed.

**US. Rhode Island RTK:** Not regulated.

**US. California Proposition 65**

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance:** Not listed.

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances	No



	(ELINCS)	
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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