



Section 1. Product and Company Identification

**Product Name** Cetylpyridinium Chloride  
**CAS Number** 6004-24-6

**Parchem - fine & specialty chemicals**

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EMERGENCY RESPONSE NUMBER  
CHEMTEL

Toll Free US & Canada: 1 (800) 255-3924

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Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**

EC Hazard classification

According to Regulation EC No. 1272/2008 (CLP Regulation, GHS)

Acute Toxicity, Inhalation, 2: H330

Acute Toxicity, Oral 3: H301

Skin irritation, 2: H315

Serious Eye Damage, 1: H318

STOT - Single Exposure, 3: H335

Hazardous to the Aquatic Environment, Chronic Toxicity, 1: H410

According to EC Directive 67/548/EEC/ (or Directive 1999/45/EC)

T+, Very toxic: R25/26.

Xn, Irritant: R36/37/38.

N, Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R50/53

**GHS Label Elements**

**Pictograms:**



**Signal word:** Danger

**Hazard and precautionary statements**

Hazard Statements

H301: Toxic if swallowed.

H315: Causes skin irritation.



H318: Causes serious eye damage.  
H330: Fatal if inhaled.  
H335: May cause respiratory irritation.  
H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P260: Do not breathe dust/fume/gas/mist/vapors/spray.  
P273: Avoid release to the environment.  
P280: Wear protective gloves/eye protection/face protection.  
P284: Wear respiratory protection.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310: Immediately call a POISON CENTER or doctor/physician.

**Hazard Overview:** Very toxic by inhalation. Toxic by ingestion. Irritating to eyes, respiratory system and skin. Very toxic to aquatic organisms, with possible long term effects.

**Other Hazards:** None.

Section 3. Composition / Information on Ingredients

<b>Common Name</b>	Cetylpyridinium Chloride
<b>Synonym(s)</b>	CPC Monohydrate; Hexadecyl Pyridinium Chloride Monohydrate; Pyridinium, 1-Hexadecyl-, Chloride Monohydrate
<b>Formula</b>	$C_{21}H_{38}ClN \cdot H_2O$
<b>CAS Number</b>	6004-24-6

Section 4. First Aid Measures

**General Considerations:** This substance is irritant and toxic.

**Inhalation:** Remove to fresh air immediately and seek immediate medical attention. If breathing has stopped, give artificial respiration.

**Skin Contact:** Flush skin immediately with plenty of soap and water. Remove contaminated clothing. Get medical aid if severe irritation develops. Wash clothing before reuse.

**Eye Contact:** Flush eyes immediately with plenty of water for at least 15 minutes, including beneath eyelids. Get medical aid.

**Ingestion:** If the chemical has been confined to the mouth, give large quantities of water as a mouthwash ensuring that the mouthwash is not swallowed. Seek immediate medical attention. If swallowed, drink a large volume of water. Seek immediate medical attention.

**Symptoms and Adverse Health Effects**

**Inhalation:** Very toxic by inhalation of dust. Causes severe irritation to respiratory tract and mucous membranes.

**Skin Contact:** Causes skin irritation. May be harmful by prolonged contact with skin.



**Eye Contact:** Causes severe irritation to eyes.

**Ingestion:** Toxic if ingested. Likely to cause irritation to digestive tract.

#### Section 5. Firefighting Measures

**Flash Point of Substance:** Not flammable. May support combustion if exposed to fire.

**Suitable Extinguisher:** Water spray, CO<sub>2</sub>, Dry chemical powder, or alcohol-resistant foam, Chemical foam.

**Specific Hazards:** Fire conditions may produce very toxic CPC dust and fumes, Carbon Dioxide, Carbon Monoxide, Hydrogen Chloride, Nitrogen Oxides and partially combusted organics.

**Protective Equipment for Firefighters:** Very Toxic Substance. Wear NIOSH/ MSHA approved or equivalent self-contained breathing apparatus with full face respirator and full protective clothing.

#### Section 6. Accidental Release Measures

**Personal Precautions, Protective Equipment and Emergency Procedures:** Very Toxic Substance. Wear appropriate NIOSH/MSHA approved respirator, chemical safety goggles, compatible chemical resistant gloves, safety boots. Do not breathe dusts. Safety shower, eye bath and mechanical exhaust required.

**Environmental Precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Method and Material for Containment and Cleaning up Leak and Spills:** Wash the spillage site with water, ensuring that wastewater does not enter drains or watercourses. Contain spill. Sweep up the spilled material immediately and place into a suitable disposal container. Avoid generating dust. Provide ventilation. Avoid contact of spilled substance with reactive metals. Do not allow to enter drains or watercourses.

#### Section 7. Handling and Storage

**Precautions for Safe Handling:** Very Toxic Substance. Use safety equipment (see Section 8, below) while handling. Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid breathing dust. Avoid contact with eyes, skin, and clothing.

**Conditions for Safe Storage:** Avoid contact with oxidizing materials and reactive metals. Hygroscopic solid. Store in dry, cool, well-closed containers. Protect against humidity. Containers of this material may remain hazardous when emptied due to retention of product residues.

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

##### Exposure Controls/Personal Protection

**Exposure Limit Values:** None established



### Occupational Exposure Controls

**Engineering Controls:** Very toxic substance. In the laboratory, a fume cupboard should always be used. Outside the laboratory, take measures to control dust generation. Provide adequate ventilation and extraction. All other appropriate engineering controls should be considered to reduce the possibility of exposure.

### Individual Protection Measures

**Respiratory Protection:** Wear appropriate NIOSH/MSHA approved respirator.

**Hand Protection:** Wear chemical resistant Neoprene gloves.

**Eye Protection:** Wear chemical safety goggles.

**Skin Protection:** Protective clothing should give complete coverage to avoid skin contact.

### Environmental Exposure Controls

**Control Methods:** May cause long-term damage to organisms in soils and watercourses. Contain residues for disposal and avoid release to the environment.

## Section 9. Physical and Chemical Properties

**Chemical Formula:**  $C_{21}H_{38}ClN \cdot H_2O$

**Appearance:** A white or almost white powder, slightly soapy to the touch

**Odor:** Slight characteristic odor

**Odor Threshold:** No data available

**pH (10% Aqueous Solution):** 4.0 - 6.0

**Melting Point:** 80 - 84°C

**Flash Point:** Not applicable

**Evaporation Rate:** Not applicable

**Flammability:** Not flammable. Combustible.

**Explosive Properties:** No data available

**Vapor Pressure:** Not applicable

**Vapor Density:** No data available

**Specific Gravity (Solid):** No data available

**Water Solubility:** Approx. 26% wt. (at 20°C ± 0.5°C)

**Partition Coefficient (n-Octanol/Water):** Approx. 0.523 (at 25°C ± 1°C)

**Auto-ignition Temperature:** No data available

**Decomposition Temperature:** 234°C (Thermal)

**Viscosity:** No data available

**Other Information:** CPC·H<sub>2</sub>O is a hygroscopic solid. Soluble in lower alcohols, chloroform. Slightly soluble in benzene and ether. Practically insoluble in all usual solvents.

## Section 10. Stability and Reactivity

**Reactivity:** Reacts with Strong oxidizing agents, acids, acid anhydrides, reactive metals, moisture.

**Chemical Stability:** Stable at normal temperatures and pressures.

**Possibility of Hazardous Reactions:** No data available



**Conditions to Avoid:** High temperatures, moisture.

**Incompatible Materials:** Strong oxidizing agents, acids, acid anhydrides, reactive metals, moisture.

**Hazardous Decomposition Products:** Toxic and corrosive fumes of CPC dust & fumes, Carbon Dioxide, Carbon Monoxide, Hydrogen Chloride, Nitrogen Oxides & partially combusted organics.

#### Section 11. Toxicological Information

##### Information on Acute Toxicological Effects

Reported LD50 (Oral Rat): 200 mg/kg (anhydrous CPC)

Reported LC50 (Inhalation Rat): 0.09 mg/L/4hr (anhydrous CPC)

Reported LD50 (Dermal Rabbit): 1500 mg/Kg

**Irritation:** Moderately irritating to skin, severe to eyes.

(References: RTECS No. UU4900000 [CPC anhydrous]; RTECS No. UU5075000 [CPC Monohydrate])

##### Health Effects by Routes of Exposure

**Inhalation:** Very toxic by inhalation of dust. Causes severe irritation to respiratory tract and mucous membranes.

**Skin Contact:** Causes skin irritation. May be harmful by prolonged contact with skin.

**Eye Contact:** Causes severe irritation to eyes.

**Ingestion:** Toxic if ingested. Likely to cause irritation to digestive tract.

##### Long Terms Effects

No data available indicating carcinogenic activity.

No teratogenic effects found in animal studies.

Negative Ames-test.

Not listed in the U.S. as a carcinogen by OSHA, NTP, or IARC.

#### Section 12. Ecological Information

##### Toxicity

Fish toxicity, *C. carpio* LC50: 0.01mg/L/96hr (anhydrous CPC).

Bacterial toxicity, *Photobacterium phosphoreum*

EC50: 0.03mg/L (anhydrous CPC).

(Other information: Highly toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.)

**Persistence & Degradability:** Not readily biodegradable.

**Bio-accumulative Potential:** Not predicted to be high.

**Mobility:** Expected to be dispersed by water solubility.



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

**UN Number:** UN2811

**Transport Hazard Classification (U.S. DOT), (IMDG), (IATA/ICAO), (RID/ADR):** Toxic

**Proper Shipping Name:** Toxic Solid, Organic, N.O.S., (Cetyl pyridinium chloride monohydrate)

**Hazard Class:** 6.1

**Packing Group:** II

**Marine Pollutant:** No data available

**Other Information:** No data available

Section 15. Regulatory Information

**Substance giving rise to Classification:** Cetyl Pyridinium Chloride Monohydrate

**CAS Number:** 6004-24-6

**Other National Regulatory Information**

**U.S. TSCA Listings:** Listed on the TSCA Inventory.

**DOT Classification:** Toxic, UN 2811.

**OSHA, CERCLA SARA Title III:** Not listed.

**HMIS Rating**

**Health:** 3

**Flammability:** 1

**Reactivity:** 1

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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