

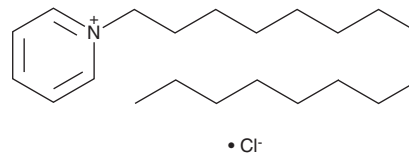
# PRODUCT INFORMATION



## Cetylpyridinium (chloride)

Item No. 21983

**CAS Registry No.:** 123-03-5  
**Formal Name:** 1-hexadecyl-pyridinium, monochloride  
**Synonym:** Hexadecylpyridinium  
**MF:** C<sub>21</sub>H<sub>38</sub>N • Cl  
**FW:** 340.0  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 203, 260 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Cetylpyridinium (chloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the cetylpyridinium (chloride) in the solvent of choice, which should be purged with an inert gas. Cetylpyridinium (chloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of cetylpyridinium (chloride) in these solvents is approximately 30 mg/ml.

Cetylpyridinium (chloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, cetylpyridinium (chloride) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Cetylpyridinium (chloride) has a solubility of approximately 0.25 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Cetylpyridinium is a quaternary ammonium-containing cationic surfactant with broad-spectrum antiseptic activities.<sup>1</sup> It is active against *S. mutans*, *S. sanguis*, *E. coli*, Oxford *Staphylococcus*, and *C. albicans* in media (MICs = 1.25-62.5 µg/ml) and against Oxford *Staphylococcus* in pooled human saliva (MICs = 7.8-15.6 µg/ml).<sup>2</sup> Cetylpyridinium slows plaque formation for at least 21 days compared to a deionized water control in a rat incisor plaque model when applied topically at concentrations ranging from 0.025 to 2%.<sup>3</sup>

### References

1. Huyck, C.L. The effect of cetylpyridinium chloride on the bacterial growth in the oral cavity. *J. Am. Pharm. Assoc.* **34(1)**, 5-11 (1945).
2. Roberts, W.R. and Addy, M. Comparison of the *in vivo* and *in vitro* antibacterial properties of antiseptic mouthrinses containing chlorhexidine, alexidine, cetyl pyridinium chloride and hexetidine. Relevance to mode of action. *J. Clin. Periodontol.* **8(4)**, 295-310 (1981).
3. Schemehorn, B.R., McDonald, J.L., Stookey, G.K., *et al.* An incisor plaque model in rats. *J. Dent. Res.* **63(1)**, 32-36 (1984).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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