

# PRODUCT INFORMATION



## Ceftazidime (hydrate)

Item No. 14828

**CAS Registry No.:** 78439-06-2  
**Formal Name:** 1-[[[(6R,7R)-7-[[[(2Z)-(2-amino-4-thiazolyl)](1-carboxy-1-methylethoxy)imino]acetyl]amino]-2-carboxy-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-en-3-yl]methyl]-pyridinium, pentahydrate

**MF:** C<sub>22</sub>H<sub>22</sub>N<sub>6</sub>O<sub>7</sub>S<sub>2</sub> • 5H<sub>2</sub>O

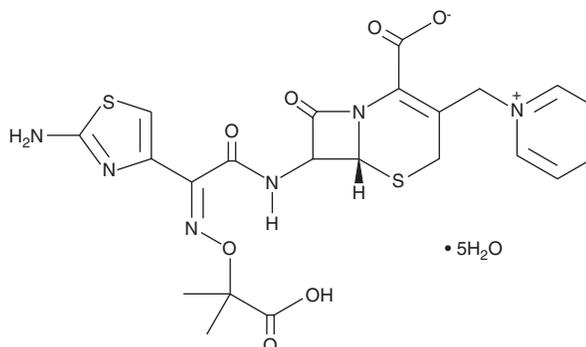
**FW:** 636.7

**Purity:** ≥95%

**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

Ceftazidime (hydrate) is supplied as a crystalline solid. Aqueous solutions of ceftazidime (hydrate) can be prepared by directly dissolving the ceftazidime (hydrate) in aqueous buffers. The solubility of ceftazidime (hydrate) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Ceftazidime is a cephalosporin antibiotic.<sup>1</sup> It is active against isolates of numerous Gram-positive and Gram-negative bacteria, including *E. coli*, *K. pneumoniae*, *P. mirabilis*, and *S. pyogenes* (MICs = 0.015-8 µg/ml for all). It binds to *E. coli* penicillin-binding protein 1a (PBP1a), -1b, -2, and -3 (IC<sub>50</sub>s = 0.9, 3.4, 240, and 0.06 µg/ml, respectively).<sup>2</sup> Ceftazidime increases survival in mice infected with strains of *S. aureus*, *E. coli*, *K. pneumoniae*, *Proteus*, or *Serratia* (ED<sub>50</sub>s = 0.1-25 mg/kg for all).<sup>1</sup> Formulations containing ceftazidime have been used in the treatment of bacterial infections.

### References

1. Acred, P., Ryan, D.M., Sowa, M.A., *et al.* The in-vivo antibacterial activity of ceftazidime (Gr 20263)—a comparison with other new β-lactam antibiotics and gentamicin. *J. Antimicrob. Chemother.* **8(Suppl. B)**, 247-255 (1981).
2. Fontana, R., Cornaglia, G., Ligozzi, M., *et al.* The final goal: Penicillin-binding proteins and the target of cephalosporins. *Clin. Microbiol. Infect.* **6(Suppl. 3)**, 34-40 (2000).

#### 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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