Cefazolin (sodium salt)  
**Item No. 15776**

**CAS Registry No.:** 27164-46-1  
**Formal Name:** (6R)-3-[(5-methyl-1,3,4-thiadiazol-2-yl)thio]-8-oxo-7R-[[2-(1H-tetrazol-1-yl)acetyl]amino]-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, monosodium salt  
**Synonyms:** NSC 291561, SKF 41558  
**MF:** C₁₄H₁₃N₈O₄S₃ • Na  
**FW:** 476.5  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 275 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years

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

**Laboratory Procedures**

Cefazolin (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the cefazolin (sodium salt) in the solvent of choice. Cefazolin (sodium salt) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of cefazolin (sodium salt) in these solvents is approximately 20 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of cefazolin (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of cefazolin (sodium salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

**Description**

Cefazolin is a broad-spectrum cephalosporin antibiotic that is active in vitro against various Gram-positive and Gram-negative bacteria (MICs = 0.2-12.5 μg/ml).<sup>1</sup> It also inhibits the growth of clinical isolates of *S. aureus*, *E. coli*, *P. mirabilis*, and *K. pneumoniae* (MICs = 0.1-25 μg/ml). In vivo, cefazolin protects against *S. aureus*, *E. coli*, and *P. mirabilis* infection in mice (ED<sub>50</sub>s = <0.09-1.78, 0.44-3.63, and 2.31-5.2 mg/animal, respectively). Formulations containing cefazolin have been used to treat a variety of bacterial infections.

**References**