Ceftriaxone (sodium salt hydrate)

**CAS Registry No.:** 104376-79-6

**Formal Name:** \((6R,7R)-7-[[2Z]-2-\{2-amino-4-thiazolyl\}-2-(methoxyimino)acetyl]amino\]-8-oxo-3-[[\(1,2,5,6\)-tetrahydro-2-methyl-5,6-dioxo-1,2,4-triazin-3-yl]thio][methyl]-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, disodium salt, hemiheptahydrate

**Synonyms:** Ro 13-9904, Rosihltazone

**MF:** C\(_{18}\)H\(_{16}\)N\(_{8}\)O\(_7\)S\(_3\) • 2Na [3.5H\(_2\)O]

**FW:** 661.6

**Purity:** \(\geq98\%\)

**UV/Vis.:** \(\lambda_{\text{max}}\): 241 nm

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:** \(\geq2\) years

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

**Laboratory Procedures**

Ceftriaxone (sodium salt hydrate) is supplied as a crystalline solid. Ceftriaxone (sodium salt hydrate) is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of ceftriaxone (sodium salt hydrate) be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of ceftriaxone (sodium salt hydrate) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

**Description**

Ceftriaxone (sodium salt hydrate) is a third-generation, broad-spectrum cephalosporin antibiotic that disrupts the synthesis of the peptidoglycan layer of bacterial cell walls.\(^1\)\(^-\)\(^3\) It has been shown to increase excitatory amino acid transporter-2 pump expression in the central nervous system and to reduce glutamatergic toxicity in both *in vitro* and *in vivo* models.\(^4\)

**References**