



LKT Laboratories, Inc.

## Clodronate Disodium Tetrahydrate

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### Product Information

**Product ID** C3449

**CAS No.** 88416-50-6

**Chemical Name** Clodronate disodium salt; Dichloromethylene- biphosphonate disodium tetrahydrate

**Synonym** Clodronic acid disodium salt, chlodronate sodium, clasteron

**Formula**  $\text{CH}_2\text{Cl}_2\text{Na}_2\text{O}_6\text{P}_2 \cdot 4\text{H}_2\text{O}$

**Formula Wt.** 360.92

**Melting Point**

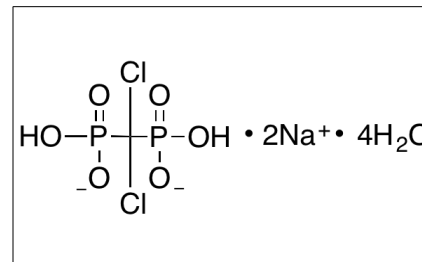
**Purity**  $\geq 98\%$

**Solubility** Soluble in water to 100 mM

**Store Temp** Ambient

**Ship Temp** Ambient

**Description** Clodronate is a first-generation non-nitrogen-containing bisphosphonate that is used clinically for its anti-resorptive activity. Clodronate generates formation of a non-hydrolysable  $\beta$ - $\gamma$  ATP analog that inhibits mitochondrial ADP/ATP translocase and prevents mitochondrial oxygen consumption and function; as a result, osteoblast calcium deposition is inhibited and apoptosis is induced in osteoclasts, inhibiting bone resorption. Clodronate also decreases expression of MMP9 and improves performance on the Rotarod test, decreasing severity of experimental autoimmune neuritis, an animal model of Guillan-Barre Syndrome. Additionally, clodronate exhibits anticancer chemotherapeutic and anti-angiogenic activities, decreasing vessel density in vivo and inhibiting cellular proliferation in models of renal cell carcinoma.



### Pricing and Availability

**Bulk quantities available upon request**

| Product ID | Size   | List Price |
|------------|--------|------------|
| C3449      | 10 mg  | \$89.70    |
| C3449      | 50 mg  | \$364.70   |
| C3449      | 100 mg | \$659.70   |

**References** Katzav A, Bina H, Aronovich R, et al. Treatment for experimental autoimmune neuritis with clodronate (Bonefos). *Immunol Res.* 2013 Jul;56(2-3):334-40. PMID: 23579773.

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**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.