



## CERTIFICATE OF ANALYSIS

20 Martin Ross Avenue, North York, ON, M3J 2K8, CANADA  
Tel: (416) 665-9696, Fax: (416) 665-4439  
Email: orders.trc@lgcgroup.com Website: www.trc-canada.com

### 1. Identification

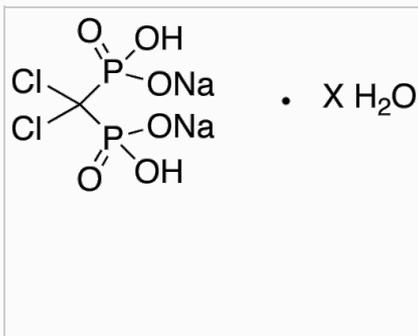
**Catalogue Number:** C586875

**CAS Number:** 22560-50-5

**Product:** Clodronic Acid Disodium Salt Hydrate

**Synonym:** (Dichloromethylene)bisphosphonic Acid Disodium Salt Tetrahydrate; Clodronate Disodium; Bonefos; Clasteon; Clastoban; Difosfonal; Loron;

**Structure:**



**Molecular Formula:**

$CH_2Cl_2Na_2O_6P_2$

**Molecular weight:**

288.86

**Source of Product:**

N/A

**Solubility:**

Water

**Lot Number:** 8-GHZ-29-1

**Purity:** 98%

**Shipping Condition:** This Product Is Stable To Be Shipped At Room Temperature

**Storage Condition:** -20°C

### 2. Warning

**Warning 1:** Not Determined

**Warning 2:**

**Warning 3:**

### 3. Analytical Information

Tests:	Specifications:	Results:
Appearance	White to Off-White Solid	White Solid
NMR	Conforms to Structure	Conforms
P NMR	Conforms to Structure	Conforms
Elemental Analysis	Conforms	%C: 3.35, %H: 2.79
MS	Conforms to Structure	Conforms
Water Content	Report Result	19.6% by Karl Fischer
HPLC Purity	>95%	99.00% (ELSD)

**Additional Information:** Elementall Analysis: (Theoretical) %C: 3.33, %H: 2.79 (for x = 4)

Purity is based on the analytical results of the tests performed. NMR and Elemental Analysis (if available) may have an accuracy of  $\pm 2\%$ . Isotopic purity is based on mass distribution observed. The contents of the specifications are subject to change without advance notice, and the specification values displayed here are the most up to date values.

### 4. Signatures

Reviewed By	Reviewed By	C of A Approved By	Test Date	Retest Date
Eric Beaton	Toni Rantanen	My Nguyen	5/19/2020	5/17/2030