

## Certificate of Analysis

Date of Testing: 2023-08-29 16:24:24  
Date of Next Testing: 2025-08-18 16:24:24  
Product Name: **Tris(2-carboxyethyl)phosphine hydrochloride**  
CAS Number: 51805-45-9  
Specifications & Purity: 98%  
Lot #: H2328336  
SKU #: **T107252**  
**Analysis: 264858**  
Storage Temperature: Store at 2-8°C, Argon charged

Parameter	Limit Values	Result
Carbon by Elemental Analysis(anhydrous)	37-40.2 (%)	37.64%
Purity(HPLC)	98-100 (%)	99.76000%
Water by Karl Fischer	0-6 (%)	4.10%
Appearance (T107252)	White Powder or Crystals	White Powder or Crystals
Proton NMR spectrum	Conforms to Structure	Conforms to Structure
Solubility in H <sub>2</sub> O , Colorless, Clear to Very Slightly Hazy, 50mg/ml(5%)	pass	Pass



John Su  
QA & QC Manager