

## Certificate of Analysis

Date of Testing: 2025-04-21 18:47:11  
Date of Next Testing: 2027-04-11 18:47:11  
Product Name: **Tris(2-carboxyethyl)phosphine hydrochloride (TCEP HCl)**  
CAS Number: 51805-45-9  
Specifications & Purity:  $\geq 98\%$   
Lot #: D2516618  
SKU #: **T107252**  
Version: **0**  
Analysis #: **474808**  
Storage Temperature: Store at 2-8°C, Protected from light, Argon charged

Parameter	Limit Values	Result
Carbon by Elemental Analysis(anhydrous)	37-40.2 (%)	37.99%
Purity(HPLC)	98-100 (%)	99.68000%
Water by Karl Fischer	0-6 (%)	3.91%
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