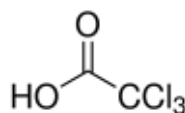


Certificate of Analysis

Product Name:

Trichloroacetic acid - BioUltra, ≥99.5% (T)

Product Number: 91228
Batch Number: BCCM9081
Brand: SIGMA
CAS Number: 76-03-9
Formula: C₂HCl₃O₂
Formula Weight: 163,39 g/mol
Quality Release Date: 26 FEB 2025
Recommended Retest Date: FEB 2028



Test	Specification	Result
Appearance (Color)	Colorless or White	White
Appearance (Form)	Crystals or Flakes	Crystals
Titration with NaOH	99.5 - 100.5 %	99.9 %
Purity (HPLC)	≥ 99.5 %	> 99.9 %
Sulphated Ash	≤ 0.05 %	< 0.01 %
Infrared Spectrum	Conforms to Structure	Conforms
Metal Trace Analysis (ICP)	Corresponds to Requirements	Pass
Aluminum (Al)	≤ 5 mg/kg	< 5 mg/kg
Barium (Ba)	≤ 5 mg/kg	< 5 mg/kg
Bismuth (Bi)	≤ 5 mg/kg	< 5 mg/kg
Calcium (Ca)	≤ 10 mg/kg	< 10 mg/kg
Cadmium (Cd)	≤ 5 mg/kg	< 5 mg/kg
Cobalt (Co)	≤ 5 mg/kg	< 5 mg/kg
Chromium (Cr)	≤ 5 mg/kg	< 5 mg/kg
Copper (Cu)	≤ 5 mg/kg	< 5 mg/kg
Iron (Fe)	≤ 5 mg/kg	< 5 mg/kg
Potassium (K)	≤ 50 mg/kg	< 50 mg/kg
Lithium (Li)	≤ 5 mg/kg	< 5 mg/kg
Magnesium (Mg)	≤ 5 mg/kg	< 5 mg/kg
Manganese (Mn)	≤ 5 mg/kg	< 5 mg/kg
Molybdenum (Mo)	≤ 5 mg/kg	< 5 mg/kg
Sodium (Na)	≤ 50 mg/kg	< 50 mg/kg
Nickel (Ni)	≤ 5 mg/kg	< 5 mg/kg

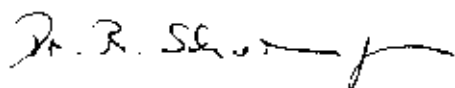
Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



Certificate of Analysis

Product Number: 91228
Batch Number: BCCM9081

Test	Specification	Result
Lead (Pb)	≤ 5 mg/kg	< 5 mg/kg
Strontium (Sr)	≤ 5 mg/kg	< 5 mg/kg
Zinc (Zn)	≤ 5 mg/kg	< 5 mg/kg
Arsenic (As)	≤ 0.1 mg/kg	< 0.1 mg/kg
(MHS-AAS)		
Total Sulfur	≤ 100 mg/kg	< 100 mg/kg
as SO ₄ (ICP)		
Chloride (Cl)	≤ 30 mg/kg	< 30 mg/kg
Nitrate (NO ₃)	≤ 20 mg/kg	< 20 mg/kg
Phosphate (PO ₄)	≤ 10 mg/kg	< 10 mg/kg
Appearance of solution (Clear Colorless) 2.451 g in 30 ml H ₂ O (0.5 M)	Corresponds to Requirements	Corresponds
PH of Solution (PH) 2.451 g in 30 ml H ₂ O (0.5 M)	≤ 1.0	0.7
Filtered (Filter Test) 2.451 g in 30 ml H ₂ O (0.5 M)	No Residue	No Residue
UV Absorbance 260nm	≤ 1.60	1.02
UV Absorbance 280nm	≤ 0.15	0.04



Dr. Reinhold Schwenninger
Quality Assurance
Buchs, Switzerland CH

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