

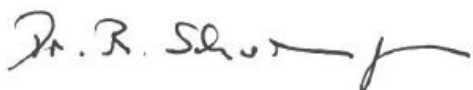
Certificate of Analysis

Product Name: Formic acid
for LC-MS LiChropur™, 97.5-98.5 % T
Product Number: 00940
Batch Number: BCCF1177
Brand: Supelco
CAS Number: 64-18-6
Formula: HCOOH
Formula Weight: 46.03
Quality Release Date: 11 DEC 2020

TEST	SPECIFICATION	RESULT
APPEARANCE (COLOR)	COLORLESS	COLORLESS
APPEARANCE (FORM)	LIQUID	LIQUID
TITRATION (T) NAOH 1M	97.5 - 98.5 %	97.6 %
REMARKS ON GC	ACETIC ACID < 0.5%	ACETIC ACID < 0.5%
WATER	1.5 - 2.5 %	2.0 %
RESIDUE (EVAPORATION)	≤ 0.002 %	0.002 %
PROTON NMR SPECTRUM	CONFORMS TO STRUCTURE	CONFORMS
TRACE ANALYSIS (ADDITIONAL TESTS)	SOLUBILITY IN WATER PASS	PASSED
METAL TRACE ANALYSIS (ICP)	CORRESPONDS TO REQUIREMENTS	PASSED
CALCIUM (ICP)	≤ 0.1 MG/KG	< 0.1 MG/KG
COBALT (ICP)	≤ 0.1 MG/KG	< 0.1 MG/KG
CHROMIUM (ICP)	≤ 0.1 MG/KG	< 0.1 MG/KG
COPPER (ICP)	≤ 5.0 MG/KG	< 5 MG/KG
IRON (ICP)	≤ 0.5 MG/KG	< 0.5 MG/KG
MANGANESE (ICP)	≤ 0.1 MG/KG	< 0.1 MG/KG
NICKEL (ICP)	≤ 0.1 MG/KG	< 0.1 MG/KG
LEAD (ICP)	≤ 0.1 MG/KG	< 0.1 MG/KG
ZINC (ICP)	≤ 0.1 MG/KG	< 0.1 MG/KG
CHLORIDE (CL)	≤ 5 MG/KG	< 5 MG/KG
SULFATE (SO4)	≤ 5 MG/KG	< 5 MG/KG
SULFITE (SO3)	≤ 10 MG/KG	< 10 MG/KG

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ION CHROMATOGRAPHY (NH₄⁺)	≤ 10 MG/KG	< 10 MG/KG
SOLUBILITY (METHOD)	NEAT	NEAT
APPEARANCE (SOLUTION)	CLEAR COLORLESS	CLEAR COLORLESS
RESIDUE (FILTER TEST)	NO RESIDUE	NO RESIDUE



Dr. Reinhold Schwenninger
Quality Assurance
Buchs, Switzerland

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.