

## Certificate of Analysis

1.00264.1000 Formic acid 98-100% for analysis EMSURE® ACS,Reag. Ph Eur K51666364

	Spec. Values		Batch Values	
Assay (alkalimetric)	≥ 98.0	%	99.7	%
Color	≤ 10	Hazen	≤ 10	Hazen
Acetic acid (CH₃COOH)	≤ 500	ppm	≤ 500	ppm
Chloride (CI)	≤ 5	ppm	≤ 5	ppm
Sulfate (SO₄)	≤ 5	ppm	≤ 5	ppm
Sulfite (SO₃)	≤ 10	ppm	≤ 10	ppm
Heavy metals (as Pb)	≤ 10	ppm	≤ 10	ppm
Ag (Silver)	≤ 0.020	ppm	< 0.010	ppm
Al (Aluminium)	≤ 0.050	ppm	< 0.020	ppm
Ba (Barium)	≤ 0.050	ppm	< 0.020	ppm
Be (Beryllium)	≤ 0.020	ppm	< 0.010	ppm
Bi (Bismuth)	≤ 0.10	ppm	< 0.05	ppm
Ca (Calcium)	≤ 0.20	ppm	< 0.10	ppm
Cd (Cadmium)	≤ 0.050	ppm	< 0.020	ppm
Co (Cobalt)	≤ 0.020	ppm	< 0.010	ppm
Cr (Chromium)	≤ 0.050	ppm	< 0.020	ppm
Cu (Copper)	≤ 0.020	ppm	< 0.010	ppm
Fe (Iron)	≤ 2.0	ppm	< 1.0	ppm
Ge (Germanium)	≤ 0.050	ppm	< 0.020	ppm
K (Potassium)	≤ 0.10	ppm	< 0.05	ppm
Li (Lithium)	≤ 0.020	ppm	< 0.010	ppm
Mg (Magnesium)	≤ 0.50	ppm	< 0.20	ppm
Mn (Manganese)	≤ 0.050	ppm	< 0.020	ppm
Mo (Molybdenum)	≤ 0.020	ppm	< 0.010	ppm
NH₄ (Ammonium)	≤ 10	ppm	≤ 10	ppm
Na (Sodium)	≤ 0.50	ppm	< 0.20	ppm
Ni (Nickel)	≤ 0.050	ppm	< 0.020	ppm
Pb (Lead)	≤ 0.020	ppm	< 0.010	ppm
Sr (Strontium)	≤ 0.020	ppm	< 0.010	ppm
Ti (Titanium)	≤ 0.10	ppm	< 0.05	ppm
TI (Thallium)	≤ 0.050	ppm	< 0.020	ppm
V (Vanadium)	≤ 0.050	ppm	< 0.020	ppm
Zn (Zinc)	≤ 0.050	ppm	< 0.020	ppm
Zr (Zirconium)	≤ 0.10	ppm	< 0.05	ppm
Evaporation residue	≤ 10	ppm	≤ 10	ppm
Dilution test	passes test		passes test	
4.00 Ph F P 1				

ACS, Ph Eur-Reagent Expiry date : see product label

Date of release (DD.MM.YYYY) 22.07.2019

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Dr. Reiner Vogt

Responsible laboratory manager quality control

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