



# Certificate of Analysis

1.01990.2500 1-Butanol for analysis EMSURE® ACS,ISO,Reag. Ph Eur  
Batch K54902590

	Spec. Values		Batch Values	
Purity (GC)	≥ 99.5	%	99.9	%
Identity (IR)	conforms		conforms	
Appearance	clear		clear	
Color	≤ 10	Hazen	< 5	Hazen
Titration acid	≤ 0.0008	meq/g	0.0001	meq/g
Density (d 20 °C/20 °C)	0.8090 - 0.8120		0.8109	
Boiling point	116 - 119	°C	117	°C
2-Butanol (GC)	≤ 0.05	% (v/v)	< 0.01	% (v/v)
Butyraldehyde (GC)	≤ 0.01	% (v/v)	< 0.01	% (v/v)
Dibutyl ether (GC)	≤ 0.1	% (v/v)	< 0.1	% (v/v)
Isobutanol (GC)	≤ 0.15	% (v/v)	0.02	% (v/v)
Aldehydes	conforms		conforms	
Carbonyl compounds (as CO)	≤ 0.01	%	≤ 0.01	%
Readily carbonizable substances	conforms		conforms	
Al (Aluminium)	≤ 0.00005	%	≤ 0.00005	%
B (Boron)	≤ 0.000002	%	≤ 0.000002	%
Ba (Barium)	≤ 0.00001	%	≤ 0.00001	%
Ca (Calcium)	≤ 0.00005	%	≤ 0.00005	%
Cd (Cadmium)	≤ 0.000005	%	≤ 0.000005	%
Co (Cobalt)	≤ 0.000002	%	≤ 0.000002	%
Cr (Chromium)	≤ 0.000002	%	≤ 0.000002	%
Cu (Copper)	≤ 0.000002	%	≤ 0.000002	%
Fe (Iron)	≤ 0.00001	%	≤ 0.00001	%
Mg (Magnesium)	≤ 0.00001	%	≤ 0.00001	%
Mn (Manganese)	≤ 0.000002	%	≤ 0.000002	%
Ni (Nickel)	≤ 0.000002	%	≤ 0.000002	%
Pb (Lead)	≤ 0.00001	%	≤ 0.00001	%
Sn (Tin)	≤ 0.00001	%	≤ 0.00001	%
Zn (Zinc)	≤ 0.00001	%	≤ 0.00001	%
Evaporation residue	≤ 0.001	%	< 0.001	%
Water	≤ 0.1	%	< 0.1	%

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Responsible laboratory manager quality control

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