

Certificate of Analysis



Date of Release: 6/26/2015
 Name: Ethyl Alcohol Pure GR ACS
 Ethanol Absolute for Analysis EMSURE®
 GR ACS
 Item No: 1.00983 all size codes
 Lot / Batch No: JB032583
 Country of Origin: USA

Characteristic	Requirement		Results	Units
	Min.	Max.		
2-Propanol (GC)		0.003	<0.0009	%
Acetone (GC)		0.001	<0.0001	%
Acidity or alkalinity		30	<30	ppm
Ag (Silver)		0.000002	<0.000002	%
Al (Aluminum)		0.00005	<0.000005	%
Aldehydes (as Acetaldehyde)		0.001	<0.001	%
Appearance			conforms	
As (Arsenic)		0.000002	<0.000002	%
Au (Gold)		0.000002	<0.000002	%
Ba (Barium)		0.00001	<0.000001	%
Be (Beryllium)		0.000002	<0.000002	%
Bi (Bismuth)		0.000002	<0.000002	%
Ca (Calcium)		0.00005	0.000001	%
Carbonyl compounds (as CO)		0.003	<0.003	%
Cd (Cadmium)		0.000005	<0.000005	%
Chloride (Cl)		0.3	<0.3	ppm
Co (Cobalt)		0.000002	<0.000002	%
Colour		10	<10	
Cr (Chromium)		0.000002	<0.000002	%
Cu (Copper)		0.000002	<0.000002	%
Ethylmethylketone (GC)		0.02	<0.002	%
Evaporation residue		0.0005	<0.00005	%
Fe (Iron)		0.00001	<0.000001	%
Fusel oils			conforms	
Ga (Gallium)		0.000002	<0.000002	%
Higher alcohols (GC)		0.01	<0.0011	%
Identity (IR)			conforms	
In (Indium)		0.000002	<0.000002	%
Isoamyl alcohol (GC)		0.05	<0.005	%

Li (Lithium)		0.000002	<0.0000002	%
Mg (Magnesium)		0.00001	<0.000001	%
Mn (Manganese)		0.000002	<0.0000002	%
Mo (Molybdenum)		0.000002	<0.0000002	%
Ni (Nickel)		0.000002	<0.0000002	%
Nitrate (NO3)		0.3	<0.3	ppm
Pb (Lead)		0.00001	<0.000001	%
Phosphate (PO4)		0.3	<0.3	ppm
Pt (Platinum)		0.000002	<0.0000002	%
Purity (GC)	99.9		99.99	%
Readily carbonizable substances			conforms	
Sb (Antimony)		0.000002	<0.0000002	%
Sn (Tin)		0.00001	<0.000001	%
Solubility in water			conforms	
Substances reducing potassium permanganate (as O)		0.0002	<0.0002	%
Sulphate (SO4)		0.3	<0.3	ppm
Ti (Titanium)		0.000002	<0.0000002	%
Titration acid		0.0002	0.00012	meq/g
Titration base		0.0002	< 0.00002	meq/g
Tl (Thallium)		0.000002	<0.0000002	%
UV absorption			conforms	
V (Vanadium)		0.000002	<0.0000002	%
Volatile impurities (GC) (Acetaldehyde and acetal)		10	< 1	ppm
Volatile impurities (GC) (Benzene)		2	<0.2	ppm
Volatile impurities (GC) (disregard limit)		9	<0.9	ppm
Volatile impurities (GC) (Methanol)		100	<10	ppm
Volatile impurities (GC) (Total other impurities)		300	<30	ppm
Water (H2O)		0.1	0.02	%
Zn (Zinc)		0.00001	<0.000001	%
Zr (Zirconium)		0.000002	<0.0000002	%

Gene Desotelle

Quality Control Manager

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EMD Millipore is a division of Merck KGaA, Darmstadt, Germany
EMD Millipore Corporation
290 Concord Road
Billerica, MA 01821
U.S.A