PanReac AppliChem
ITW Reagents

PRODUCT CODE: 131086

Ethanol absolute (Reag. USP, Ph. Eur.) for analysis, ACS, ISO

C_2H_6O

CH_3CH_2OH

M.= 46,07 CAS [64-17-5] EINECS 200-578-6

TARIC 2207 10 00 90

SYNONYMS: Ethyl Alcohol

PHYSICAL DATA: liquid, Clear, Colourless, Miscible with water and most of the solvents • D 20/4 0,79 • M.P.: -114,1 °C • B.P.: 78,5 °C • n20/D **:** 1,361 • Flash P.:13 °C • Ign. T.:425 °C • Vap. press. (20 °C) 59 hPa • D. M. 20 °C 1,7 Debye • Dielec. constant25 °C 24,3 • Evap. number (DIN 53170) 8,3 • Heat evap. 78 °C 855 KJ/Kg • Satur. conc. 20 °C 105 g/m3 • Expl. limit3,5 %(V)15 %(V) •

BIBLIOGRAPHY: Merck Index **12,** 3.806 13**,** 3.795 Sax **EFU**300 • Ullmann **(5.)**9 , 587 • Beilstein **1 , IV , 1289** • BRN 1718733 • ACS **XI** • ISO 6353/2-1983 R -11 , 14 • BP**.2025** • USP **43** • Ph. Eur. **10.0** (2019) **11.0** (2023) • F.C.C **12 13** • Directive 88/344/E.C.E.92/115/E.C.E.94/52/EC97/60/EC (27/10/1997) 2009/32/CE • Ph. U. IX , 74, Ph.Fr. X , 15, Royal Decree 472/1990 (6/4/1990) , 2667/1998 (11 /12/1998), 1101/2011 (22/7/2011), JP XV •

HAZARDOUS: C.E: 603-002-00-5 • RTECS: KQ 6300000 • LD L0 oral hmn 1.400 mg/kg • LD50 oral rat 7.060 mg/kg • LC L0 inh gpg 21900 ppm • LC50 inh rat 20000 ppm / 10h • VLA-ED 1.000 ppm1.910 mg/m3

H: H225 • H319 •
P: P210 • P233 • P240 • P241 • P242 • P501 • P243 • P280 • P303+P361+P353 • P370+P378 • P403+P235 • P264 • P305+P351+P338 • P337+P313 •

TRANSPORT REGULATIONS: UN: 1170 • ADR: 3/II • IMDG: 3/II • IATA: 3/II • PAX: 353 • CAO: 364 • (D/E) •
WEIGHT/VOLUME INFORMATION: 1l~0,790 kg 1kg~1,266 l
OBSERVATIONS: May be subject to special tax. • Storage away from direct light, away from sources of ignition and heat. Storage at temperature below 25ºC. •

SPECIFICATIONS:

Minimum assay (G.C.) (v/v)	99,8%
Specific Gravity 15,56°C	< 0,7962
Identity :	
Identity	IR passes test
Identity according to Pharmacopoeias:	passes test
Density at 20/20	0,790-0,793
Maximum limit of impurities	
APHA colour	10
Appearance	passes test
Appearance Clarity of solution	passes test
Acidity	0,00035 meq/g
Alkalinity	0,0002 meq/g
Insoluble matter in H2O	passes test
Non-volatile matter	0,0005 %
Reducing substance to KMnO4	passes test
Darkened substances by H2SO4	passes test
Carbonyl compounds (as CH3CHO)	0,005%
Fusel oil	passes test
Absorbance	passes test
Residual solvents (Ph.Eur/USP)	passes test
Acetone (G.C.)	0,001%
2-Propanol (G.C.)	0,003%
Butanone (G.C.)	0,003%
Higher Alcohols (G.C.)	0,01%
2-Butanol (G.C.)	0,02%
3-Methyl-1-Butanol (G.C.)	0,05%
Volatile impurities (G.C.):	
Methanol	0,02 %
Acetaldehyde and acetal	0,001 %
Benzene	0,0002 %
Total other impurities	0,03 %
Water (H2O)	0,2 %
Residual metals ICP: (according to EMEA/CHMP/SWP/4446/2000)	
Class 1A (Pt, Pd)	10 ppm
Class 1B (Ir, Rh, Ru, Os)	10 ppm
Class 1C (Mo, Ni, Cr, V)	25 ppm
Class 2 (Cu, Mn)	250 ppm
Class 3 (Fe, Zn)	1.300 ppm
Metals by ICP [in mg/Kg (ppm)]	
Ag	0,05
Al	0,5
As	0,05
Au	0,05
B	0,02
Ba	0,1
Be	0,02
Bi	0,05
Ca	0,5
Cd	0,05
Co	0,02
Cr	0,02
Cu	0,1
Fe	0,1
Ga	0,02
Ge	0,05
Hg	0,05

In	0,05
K	0,1
Li	0,05
Mg	0,1
Mn	0,02
Mo	0,02
Na	0,5
Ni	0,02
P	0,2
Pb	0,1
Pt	0,02
S	0,2
Sb	0,02
Si	0,2
Sn	0,1
Sr	0,2
Ti	0,02
Tl	0,02
V	0,02
Zn	0,1
Zr	0,02