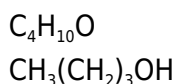


**PRODUCT CODE: 141082****1-Butanol (USP-NF) pure, pharma grade**

M.= 74,12

CAS [71-36-3]

EINECS 200-751-6

TARIC 2905 13 00 00

FEMA 2178

SYNONYMS: Butyl Alcohol

PHYSICAL DATA: liquid, Clear, Colourless, Soluble in water 77 g/l at 20 °C Hygroscopic • D 20/20 0,81 • M.P.: -90 °C • B.P.: 118 °C • n_{20/D} : 1,3993 • Flash P.:36 °C • Ign. T.:340 °C • Vap. press. (20 °C) 6,7 hPa • Viscosity 20 °C 2,95 mPa.s • D. M. 20 °C 1,66 Debye • Dielec. constant 20 °C 17,8 hPa • Evap. number (DIN 53170) 33 • Satur. conc. 20 °C 20 g/m³ • Expl. limit 1,4 % (V) 11,3 % (V) •

BIBLIOGRAPHY: Merck Index **13**, 1.539 14, 1.540 Sax **BPW500** • Safety **2** , **604 D** • Kühn-Birett **B 39** • Ullmann (**5**).4 , 471 • Beilstein **1** , **367 I** , **186 II** , **387 III** , **1480 IV** , **1506** • BRN 969148 • ACS **XI** • ISO 6353/3-1987 R - 52 , 16 • BP.**2018** • USP -**NF 36** • F.C.C **10** • Directive 88/344/E.C.E.92/115/E.C.E.94/52/EC97/60/EC (27/10/1997) 2009/32/CE • Royal Decree 472/1990 (6/4/1990) , 2667/1998 (11/12/1998), 1101/2011 (22/7/2011) •

HAZARDOUS: C.E: 603-004-00-6 • RTECS: EO 1400000 • LD50 oral rat 4.360 mg/kg • LC L0 inh rat 8000 ppm / 4h • LC50 rat 8000ppm / 4h • LD50 skn rbt 3.400 mg/kg • VLA-EC 50 ppm154 mg/m³



H: H226 • H302 • H315 • H318 • H336 • H335 •

P: P210 • P233 • P240 • P241 • P242 • P243 • P261 • P264 • P270 • P271 • P280 • P301+P312 • P302+P352 • P303+P361+P353 • P304+P340 • P305+P351+P338 • P310 • P312 • P321 • P330 • P332+P313 • P362 • P370+P378 • P403+P233 • P403+P235 •

TRANSPORT REGULATIONS: UN: 1120 • ADR: 3/III • IMDG: 3/III • IATA: 3/III • PAX: 355 • CAO: 366 • (D/E) •**WEIGHT/VOLUME INFORMATION:** 1l~0,810 kg 1kg~1,235 l

SPECIFICATIONS:

Assay (G.C.)	99,5%
Identity :	
Identity	IR passes test

Maximum limit of impurities

Acidity	0,0008 meq/g
Alkalinity	0,001 meq/g
Non-volatile matter	0,004 %
Residual solvents (Ph.Eur/USP)	passes test
Acetone (G.C.)	0,02%
Butanal (G.C.)	0,03%
di n-Butyl ether (G.C.)	0,2%
2-Butanol (G.C.)	0,1 %
2-Methyl-1-Propanol (G.C.)	0,1 %
Water (H2O)	0,1 %

Elemental impurities (ICH Q3D):

Class 1

Cd	0,5 ppm
Pb	0,5 ppm
As	1,5 ppm
Hg	1,5 ppm

Class 2A

Co	5 ppm
V	10 ppm
Ni	20 ppm

Class 2B

Tl	0,8 ppm
Au	10 ppm
Pd	10 ppm
Ir	10 ppm
Os	10 ppm
Rh	10 ppm
Ru	10 ppm
Se	15 ppm
Ag	15 ppm
Pt	10 ppm

Class 3

Li	55 ppm
Sb	120 ppm
Ba	140 ppm
Mo	25 ppm
Cu	250 ppm
Sn	600 ppm
Cr	25 ppm

Ed.: 11 . Vig.: 14.07.2017 .

Prod.: 141082