BUTAN-1-OL

Prepared at the 28th JECFA (1984), published in FNP 31/2 (1984) and in FNP 52 (1992). Metals and arsenic specifications revised at the 63rd JECFA (2004). *No ADI was allocated at the 25th (JECFA 1981)*

SYNONYMS Butyl alcohol, n-butyl alcohol, 1-hydroxybutane, n-butanol, n-propyl carbinol, NBA

DEFINITION

Chemical names: 1-Butanol, butan-1-ol

C.A.S. number: 76-36-3

Chemical formula: $C_4H_{10}O$

Structural formula: 

Formula weight: 74.12

Assay: Not less than 99.5%

DESCRIPTION Colourless, clear, slightly viscous, with a characteristic odour

FUNCTIONAL USES Extraction solvent, flavouring agent (see Volume 5)

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4): Soluble in water; miscible with ethanol and ether

Specific gravity (Vol. 4): 0.810 - 0.812

PURITY

Distillation range (Vol. 4): 116 ^{o} - 118^{o}

Non-volatile residue (Vol. 4): Not more than 2 mg/100 ml

Water (Vol. 4): Not more than 0.1% (Karl Fischer Method)

Acidity: Not more than 0.003% w/w (as acetic acid)
To 60 g of the sample add a few drops of phenolphthalein TS, and titrate with 0.1 N ethanolic potassium hydroxide to a pink end-point which persists for at least 15 sec. Not more than 0.3 ml is required.

Aldehyde and ketone: Not more than 0.2% w/w
Proceed as directed under *Aldehyde and Ketone Determination* in Volume 4, using 10 g of the sample and 36.06 as the equivalence factor (e) in the calculation.

Other alcohols, ethers, and volatile impurities	Not more than 0.5%, with not more than 0.1% of any single impurity. See Method of Assay
Lead (Vol. 4)	Not more than 2 mg/kg Determine using an atomic absorption technique appropriate to the specified level. The selection of sample size and method of sample preparation may be based on the principles of the method described in Volume 4, “Instrumental Methods.”

METHOD OF ASSAY

Using the procedures for gas chromatography described in the *General Methods*, Volume 4, establish the following conditions:
Column: 1.8 m length, 6. mm diameter steel column packed with 10% P.E.G. 400 on Chromosorb W (60/80 mesh), or equivalent.
Carrier gas: Helium, at flow rate of 45 ml/min
- Detector: Flame ionization type
- Temperatures: Injection port, 150°
- Column: 90°
- Detector: 150°

Inject 1 to 5 ml of sample, obtain chromatogram, and determine the content of each constituent by the method of area normalization.