

PROPAN-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

n-Propyl alcohol; n-propanol; NPA; 1-hydroxypropane

DEFINITION

Chemical names 1-Propanol, propan-1-ol

C.A.S. number 71-23-8

Chemical formula C_3H_8O

Structural formula



Formula weight 60.10

Assay Not less than 99%

DESCRIPTION

Clear, colourless liquid with a characteristic odour

FUNCTIONAL USES

Carrier solvent, extraction solvent, flavouring agent (see "Flavouring agents" monograph JECFA no. 82)

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4) Miscible with water and ethanol

Specific gravity (Vol. 4) 0.803 - 0.805

PURITY

Water (Vol. 4) Not more than 0.2% (Karl Fischer Method)

Distillation range (Vol. 4) 95% v/v distils between 96° and 99°

Colour Not more than Colour Standard No. 10

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

Acidity Not more than 0.002% (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 0.2 ml is required.

Aldehyde and ketone Not more than 0.2% (as propionaldehyde)
Accurately weigh about 10 g of the sample and proceed as directed

under *Aldehyde and Ketone Determination*, using 29.04 as the equivalence factor (e) in the calculation.

Other alcohols, ethers and volatile impurities

Not more than 0.5% total, with not more than 0.1% of any single ethers
See under 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

Determine the content of propan-1-ol and volatile impurities using the procedures for *gas chromatography* under the following conditions:

Column

- length: 1.8 m
- diameter: 6 mm
- material: steel
- packing: 10% P.E.G. 400 on Chromosorb W (60/80 mesh), or equivalent

Carrier gas: Helium

Flow rate: 45 ml/min

Detector: FID

Temperatures

- injection port, 150°
- column: 90°
- detector: 150°

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