

PROPAN-2-OL

Prepared at the 51st JECFA (1998), published in FNP 52 Add 6 (1998) superseding earlier specifications prepared by the 28th JECFA (1984), published in FNP 31/2 (1984) and republished in FNP 52 (1992). No ADI allocated at the 25th JECFA in 1981.

SYNONYMS Isopropyl alcohol, isopropanol

DEFINITION

Chemical names 2-Propanol, propan-2-ol

C.A.S. number 67-63-0

Chemical formula C_3H_8O

Structural formula $CH_3CHOHCH_3$

Formula weight 60.10

Assay Not less than 99.5% of C_3H_8O

DESCRIPTION Clear, colourless, mobile liquid with a characteristic odour

FUNCTIONAL USES Extraction solvent, carrier solvent, flavouring agent (see "Flavouring agents" monograph)

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4) Miscible with water, ethanol, ether and other organic solvents

Specific gravity (Vol. 4) d_{20}^{20} : 0.784 - 0.788

Refractive index (Vol. 4) n_D^{20} : 1.377-1.380

PURITY

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

Distillation range (Vol. 4) Within a range of 1° including 82.3°
Warning: Check first for *Peroxides*

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

Acidity Not more than 0.002% (as acetic acid)
Add 2 drops of phenolphthalein TS to 100 ml of water, add 0.01N sodium hydroxide to the first pink colour that persists for at least 30 sec, then add 50 ml (about 39 g) of the sample and mix. Not more than 0.7 ml of 0.1N sodium hydroxide is required to restore the pink colour.

Other alcohols, ethers and Not more than 0.5% total, with not more than 0.1% of any single ethers.

volatile impurities

See under METHOD OF ASSAY

Lead(Vol. 4)

Not more than 1 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-2-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 type: FID

Temperatures

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

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