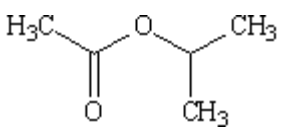
ISOPROPYL ACETATE

Prepared at the 26th JECFA (1982), published in FNP 25 (1982) and in FNP 52 (1992) superseding specifications prepared at the 25th JECFA (1981), published in FNP 19 (1981). Metals and arsenic specifications revised at the 63rd JECFA (2004). No ADI was allocated at the 25th JECFA (1981)

DEFINITION

Chemical names	Isopropyl acetate, propan-2-ol acetate
C.A.S. number	108-22-5
Chemical formula	$C_5H_{10}O_2$
Structural formula	
Formula weight	102.13
Assay	Not less than 99%

DESCRIPTION Clear colourless liquid having a characteristic odour

FUNCTIONAL USES Extraction solvent, Flavouring agent (see "Flavouring agents" monograph JECFA no 305),

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4)	Sparingly soluble in water; miscible with ethanol and ether
Specific gravity (Vol. 4)	d (20, 20): 0.872 - 0.874 d (25, 25): 0.866 - 0.869
Boiling point (Vol. 4)	About 88°
Infrared absorption	The infrared spectrum of the sample corresponds with the reference infrared spectrum below

PURITY

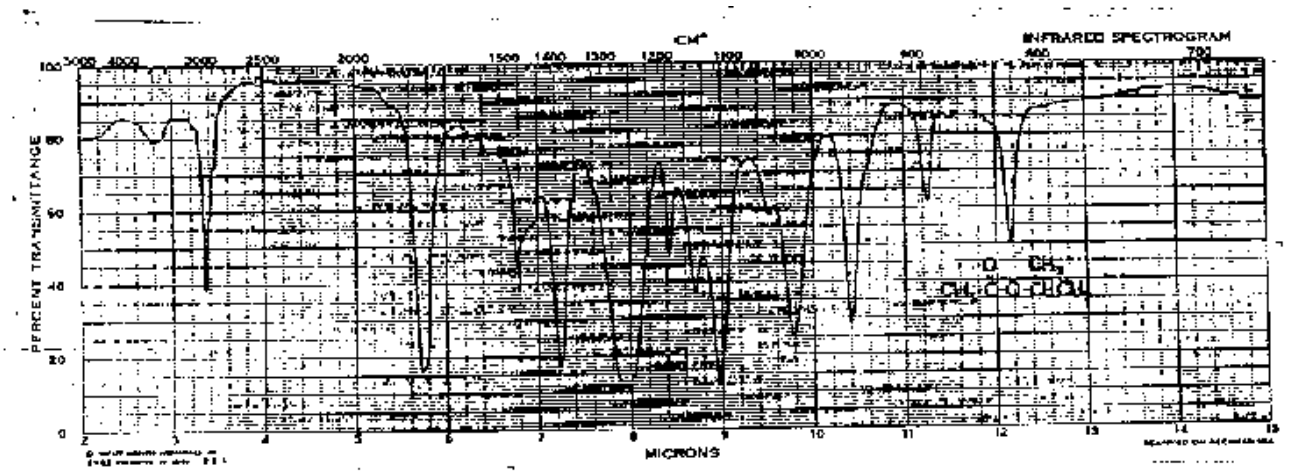
Water (Vol. 4)	Not more than 0.2% (Karl Fischer Method)
Non-volatile residue (Vol. 4)	Not more than 5 mg/100 ml
Acidity	Not more than 0.01% (as acetic acid) Transfer 69 ml (60 g) into a 250-ml Erlenmeyer flask, add phenolphthalein

TS and titrate with 0.1 N ethanolic potassium hydroxide to a pink end-point that persists for at least 15 sec. Not more than 1 ml is required.

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 — Transfer 25.0 ml of 1 N potassium hydroxide TS into a suitable heat-resistant pressure bottle provided with a tight closure that can be securely fastened, and then add 10 ml of isopropanol and a few pieces of glass rod. To the mixture in the pressure bottle add about 1.3 g of the sample contained in a sealed glass ampoule and accurately weighed. Cap the bottle, shake it vigorously to break the ampoule, and allow it to stand at room temperature for 30 min. Uncap the bottle, add phenolphthalein TS, and titrate with 0.5 N sulfuric acid to the disappearance of the pink colour. Perform a residual blank titration. Each ml of 0.5 N sulfuric acid is equivalent to 51.07 mg of $C_5H_{10}O_2$.

Infrared spectrum — Isopropyl acetate



Condition: Between salts