POTASSIUM CHLORIDE

Prepared at the 23rd JECFA (1979), published in FNP 12 (1979) and in FNP 52 (1992). Metals and arsenic specifications revised at the 63rd JECFA (2004). A group ADI 'not limited' for hydrochloric acid and its ammonium, Mg, K salts was established at the 23rd JECFA (1979)

SYNONYMS Sylvine, sylvite; INS No. 508

DEFINITION

Chemical names	Potassium chloride
C.A.S. number	7447-40-7
Chemical formula	KCl
Formula weight	74.56
Assay	Not less than 99.0% on the dried basis

DESCRIPTION Colourless, elongated, prismatic, or cubital crystals, or white granular powder; odourless

FUNCTIONAL USES Seasoning agent, gelling agent, yeast food

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4)	Freely soluble in water; insoluble in ethanol
Test for potassium (Vol. 4)	Passes test
Test for chloride (Vol. 4)	Passes test

PURITY

Loss on drying (Vol. 4)	Not more than 1% (105°, 2 h)
Acidity or alkalinity	To a solution of 5 g of the sample in 50 ml of recently boiled and cooled water add 3 drops of phenolphthalein TS. No pink colour is produced. Then add 0.3 ml of 0.02 N sodium hydroxide. A pink colour is produced.
Iodide or bromide	Dissolve 2 g of the sample in 6 ml of water, add 1 ml of chloroform, and then add, dropwise and with constant agitation, 5 ml of a mixture of equal parts of chlorine TS and water. The chloroform is free from even a transient violet or permanent orange colour.
Test for sodium (Vol. 4)	Negative test
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

Dissolve about 250 mg of the dried sample, accurately weighed in 50 ml of water in a glass-stoppered flask. Add, while agitating, 50 ml of 0.1 N silver nitrate, 3 ml of nitric acid, and 5 ml of nitrobenzene, shake vigorously, add 2 ml of ferric ammonium sulfate TS, and titrate the excess silver nitrate with 0.1 N ammonium thiocyanate. Each ml of 0.1 N silver nitrate is equivalent to 7.456 mg of KCl.