

SODIUM CARBONATE

Prepared at the 19th JECFA (1975), published in NMRS 55B (1976) and in FNP 52 (1992). Metals and arsenic specifications revised at the 59th JECFA (2002). An ADI 'not limited' was established at the 9th JECFA (1965).

SYNONYMS Soda ash; INS No.500(i)

DEFINITION

Chemical names Sodium carbonate, sodium salt of carbonic acid

C.A.S. number 497-19-8

Chemical formula Anhydrous: Na_2CO_3
Hydrated: $\text{Na}_2\text{CO}_3 \cdot x\text{H}_2\text{O}$

Formula weight 106.00 (anhydrous)

Assay Not less than 99.0% after drying

DESCRIPTION Colourless crystals or white, granular or crystalline powder; the anhydrous form is hygroscopic; hydrated forms available include the monohydrate and the decahydrate; the latter is efflorescent.

FUNCTIONAL USES Alkali

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4) Freely soluble in water; insoluble in ethanol

Test for sodium (Vol. 4) Passes test

Test for carbonate
(Vol. 4) Passes test

PURITY

Loss on drying (Vol. 4) Anhydrous: Not more than 2%
Monohydrate: Not more than 15%
Decahydrate: 55 - 65%
For all forms, heat the sample first at about 70°, then gradually raise the temperature and finally dry at 250-300° to constant weight.

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

Weigh accurately about 2 g of the dried sample. Dissolve carefully in 50 ml of 1 N sulfuric acid, add methyl orange TS and titrate the excess acid with 1 N sodium hydroxide.

Each ml of 1 N sulfuric acid is equivalent to 53.0 mg of Na_2CO_3 .