

SODIUM SULFATE

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SYNONYMS Glauber’s salt (decahydrate form); INS No. 514

DEFINITION

C.A.S. number 7757-82-6 (Anhydrous)
7727-73-3 (Decahydrate)

Chemical formula $\text{Na}_2\text{SO}_4 \cdot x\text{H}_2\text{O}$ ($x = 0$ or 10)

Formula weight 142.04 (Anhydrous)
322.19 (Decahydrate)

Assay Not less than 99.0 % on the dry basis

DESCRIPTION

FUNCTIONAL USES Colour adjuvant

CHARACTERISTICS

IDENTIFICATION

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

Test for sodium (Vol. 4) Passes Test

Test for sulfate (Vol. 4) Passes Test

PURITY

Loss on drying (Vol. 4) Anhydrous: Not more than 1% (105°, 4 h)
Decahydrate: Between 51.0% and 57.0% (105°, 4h)

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 FNP 5, “ Instrumental Methods”.

Selenium (Vol. 4) Not more than 30 mg/kg
Test 0.2 g of the sample as directed in the Limit Test (Method II)

METHOD OF ASSAY

Weigh accurately about 0.5 g of the dried sample, dissolve in 200 ml of water, add 1 ml of hydrochloric acid and heat to boiling. Gradually add, in small portions and while stirring constantly, an excess of hot barium chloride TS (about 10 ml), and heat the mixture on a steam bath for 1 h. Collect the

precipitate on a filter, wash until free from chloride, dry, ignite and weigh. The weight of the barium sulfate so obtained, multiplied by 0.6086 corresponds to the equivalent amount of Na_2SO_4 .