ALUMINIUM POWDER

Prepared at the 63rd JECFA (2004) and published in FNP 52 Add 12 (2004) superseding specifications prepared at the 51st JECFA (1998), published in FNP 52 Add 6 (1998). The limited use of aluminium as a surface colorant for certain items of confectionery was not considered to present a hazard (21st JECFA, 1977).

SYNONYMS CI Pigment Metal, CI (1975) No. 77000, INS No. 173

DEFINITION Produced by grinding aluminium that may be carried out in the presence of edible vegetable oils and/or food grade fatty acids.

Chemical Name	Aluminium
C.A.S. number	7429-90-5
Chemical formula	Al
Atomic weight	26.98
Assay	Not less than 99.0 %

DESCRIPTION Silvery grey powder

FUNCTIONAL USES Colour (for surface only)

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4)	Insoluble in water and in organic solvents, soluble in dilute hydrochloric acid.
Test for aluminium (Vol. 4)	A sample dissolved in dilute hydrochloric acid passes test.

PURITY

Loss on drying (Vol. 4)	Not more than 0.5 % (105^{o})
Arsenic (Vol. 4)	Not more than 3 mg/kg (Method II)
Lead (Vol. 4)	Not more than 20 mg/kg Weigh 5 g of sample and transfer to a beaker. Add 50 ml concentrated hydrochloric acid and heat on a hot plate until totally dissolved. Dilute with water to 100 ml in a volumetric flask. Determine using an atomic absorption technique appropriate to the specified level.

METHOD OF ASSAY Wash a small sample in hexane, repeating to remove traces of any associated oil or fatty acid. Transfer about 0.2 g of the sample, accurately weighed, to a 500 ml flask fitted with a rubber stopper carrying a 150 ml separating funnel, an inlet tube connected to a cylinder of carbon dioxide and an outlet tube dipping into a water-trap. Add 60 ml of freshly boiled and cooled water and disperse the sample, replace the air by carbon dioxide and add, by the separating funnel, 100 ml of a solution containing 56 g of ferric ammonium sulfate and 7.5

ml of sulfuric acid in freshly boiled and cooled water. While maintaining an atmosphere of carbon dioxide in the flask, heat to boiling and boil for 5 min. After the sample has dissolved, cool rapidly to 20^{o}, and dilute to 250 ml with freshly boiled and cooled water. To 50 ml of this solution, add 15 ml of phosphoric acid and titrate with 0.1 N potassium permanganate. 1 ml of 0.1 N potassium permanganate is equivalent to 0.8994 mg of Al.