SYNOPSIS

IS 17176 : 2019/ ISO 20635 : 2018

Indian Standard

Infant Formula and Adult Nutritionals — Determination of Vitamin C by (Ultra) High Performance Liquid Chromatography with Ultraviolet Detection ((U) HPLC-UV)

a) Scope: This standard specifies a method for the determination of vitamin C (L-ascorbic acid) present in all forms of infant and adult formulas (powders, ready-to-feed liquids and liquid concentrates), using (ultra) high performance liquid chromatography with ultraviolet detection (U)HPLC-UV. The application range runs from 2.5 mg/100 g (limit of quantification) to 50 mg/100 g expressed in the product as consumed. The method is able to distinguish between D-ascorbic acid (isoascorbic- or erythorbic acid) and L-ascorbic acid.

b) Salient features of content: This Indian Standard which is identical with ISO 20635 : 2018 'Infant formula and adult nutritionals — Determination of vitamin C by (ultra) high performance liquid chromatography with ultraviolet detection ((U)HPLC-UV)' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on recommendation of the Test Methods for Food Products Sectional Committee and approval of the Food and Agriculture Divisional Council.

Ascorbic acid is extracted from the sample using trichloroacetic acid (TCA) in the presence of tris [2-carboxyethyl]phosphine (TCEP) as a reducing agent and to protect ascorbic acid from oxidation. Ascorbic acid is then determined by Ultra High Performance Liquid Chromatography (UHPLC) or High Performance Liquid Chromatography (HPLC) with UV detection at 265 nm. Separation takes place on a C18 column using decylamine as ion-pairing agent in a sodium acetate buffer solution (pH = 5.4) containing TCEP.

c) Types/grades/classes, if any covered in the standard: N.A.

d) Disclaimer (to be automatically provided by the program/software)