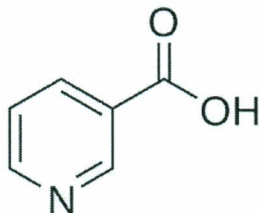


NICOTINIC ACID

C₆H₅NO₂



M=123.1

Action and use

Component of vitamin B.

Preparation

Nicotinic Acid Tablets

DEFINITION

Nicotinic acid contains not less than 99.5 per cent and not more than the equivalent of 100.5 per cent of pyridine-3-carboxylic acid, calculated with reference to the dried substance.

CHARACTERS

A white or almost white, crystalline powder, soluble in boiling water and in boiling alcohol, sparingly soluble in water. It dissolves in dilute solutions of the alkali hydroxides and carbonates.

IDENTIFICATION

First identification A, B.

Second identification A, C.

A. Melting point (2.2.14): 234 °C to 240 °C.

B. Examine by infrared absorption spectrophotometry (2.2.24), comparing with the spectrum obtained with *nicotinic acid CRS*.

C. Dissolve about 10 mg in 10 ml of *water R*. To 2 ml of the solution add 2 ml of *cyanogen bromide solution R* and 3 ml of a 25 g/l solution of *aniline R* and shake. A yellow colour develops.

TESTS

Related substances

Examine by thin-layer chromatography, using *silica gel GF254 R* as the coating substance.

Test solution Dissolve 0.5 g of the substance to be examined in *water R*, warming slightly if necessary, and dilute to 25 ml with the same solvent.

Reference solution Dilute 0.5 ml of the test solution to 100 ml with *water R*.

Apply separately to the plate 5 μ l of each solution. Develop over a path of 15 cm using a mixture of 5 volumes of *water R*, 10 volumes of *anhydrous formic acid R* and 85 volumes of *propanol R*. Dry the plate at 100 °C to 105 °C for 10 min and examine in ultraviolet light at 254 nm. Any spot in the chromatogram obtained with the test solution, apart from the principal spot, is not more intense than the spot in the chromatogram obtained with the reference solution (0.5 per cent).

Chlorides

Dissolve 0.25 g in *water R*, heating on a water-bath, and dilute to 15 ml with the same solvent. The solution complies with the limit test for chlorides (200 ppm).

Heavy metals

1.0 g complies with limit test C for heavy metals (20 ppm). Prepare the standard using 2 ml of *lead standard solution (10 ppm Pb) R*.

Loss on drying

Not more than 1.0 per cent, determined on 1.000 g by drying in an oven at 105 °C for 1 h.

Sulphated ash

Not more than 0.1 per cent, determined on 1.0 g.

ASSAY

Dissolve 0.250 g in 50 ml of *water R*. Titrate with 0.1 M *sodium hydroxide*, using 0.25 ml of *phenolphthalein solution R* as indicator, until a pink colour is obtained. Carry out a blank titration.

1 ml of 0.1 M *sodium hydroxide* is equivalent to 12.31 mg of $C_6H_5NO_2$.

STORAGE

Store protected from light.