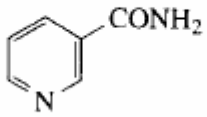
Niacinamide

Nicotinamide



$C_6H_6N_2O$ Formula wt 122.13

CAS: [98-92-0]

DESCRIPTION

A white, crystalline powder. It is odorless or nearly so, and has a bitter taste. Its solutions are neutral to litmus. One g dissolves in about 1 mL of water, in about 1.5 mL of alcohol, and in about 10 mL of glycerin.

Functional Use in Foods Nutrient; dietary supplement.

REQUIREMENTS

Identification

A. Transfer about 20 mg to a 1000-mL volumetric flask, dissolve and dilute with water to volume, mix, and determine the absorbance of the solution in a 1-cm cell at 245 nm and at 262 nm with a suitable spectrophotometer, using water as the blank. The ratio A_{245}/A_{262} is 0.65 ± 0.02.

B. To 20 mg in a test tube add 1 pellet of 1 *N* sodium hydroxide, and heat gently over an open flame. The odor of ammonia is perceptible. Upon heating more vigorously, the odor of pyridine is perceptible.

C. The infrared absorption spectrum of a potassium bromide dispersion of the sample exhibits maxima at the same wavelengths as that of a similar preparation of USP Niacinamide Reference Standard.

Assay Not less than 98.5% and not more than 101.0% of $C_6H_6N_2O$ after drying.

Heavy Metals (as Pb) Not more than 0.002%.

Loss on Drying Not more than 0.5%.

Melting Range Between 128° and 131°.

Readily Carbonizable Substances Passes test.

Residue on Ignition Not more than 0.1%.

TESTS

Assay Dissolve about 300 mg, previously dried over silica gel for 4 h and accurately weighed, in 20 mL of glacial acetic acid, warming slightly if necessary to effect solution. Add 100 mL of benzene and 2 drops of crystal violet TS, and titrate with 0.1 *N* perchloric acid. Perform a blank determination (see *General Provisions*), and make any necessary correction. Each mL of 0.1 *N* perchloric acid is equivalent to 12.21 mg of $C_6H_6N_2O$.

Heavy Metals Prepare and test a 1-g sample as directed in *Method II* under the *Heavy Metals Test*, Appendix IIIB, using 20 µg of lead ion (Pb) in the control (*Solution A*).

Loss on Drying, Appendix IIC Dry over silica gel for 4 h.

Melting Range Determine as directed for *Melting Range or Temperature*, Appendix IIB.

Readily Carbonizable Substances, Appendix IIB Dissolve 200 mg in 5 mL of 95% sulfuric acid. The solution has no more color than *Matching Fluid A*.

Residue on Ignition, Appendix IIC Ignite 1 g as directed in the general method.

Packaging and Storage Store in tight containers.