

Method of Analysis

Content:

Niacin, when calculated on the dried basis, contains 99.5 ~ 101.0% of niacin (C₆H₅O₂N).

Description:

Niacin occurs as white crystals or crystalline powder. It is odorless and has a slightly acid taste.

Identification:

(1) 10 mg of 1:2 mixture of Niacin and 2,4-dinitrochlorobenzene is placed in a test tube, which is heated to melt the content for a few seconds. When 3 ml of alcoholic potassium hydroxide is added, it turns red reddish purple

(2) 50 mg of Niacin is dissolved in 20 ml of water, which is neutralized with 0.1 N sodium hydroxide solution. When 3 ml of cupric sulfate solution, a blue precipitate is gradually formed.

Purity:

(1) Melting point: Melting point of Niacin should be 234 ~ 238°.

(2) Chloride: When 0.5 g of Niacin is tested for chloride, its content should not be more than the amount that corresponds to 0.3 ml of 0.01 N hydrochloric acid.

(3) Sulfate: When 0.5 g of Niacin is tested for sulfates, its content should not be more than the amount that corresponds to 0.2 ml of 0.01 N sulfuric acid.

(4) Heavy metals: To 1 g of Niacin, 3 ml of dilute hydrochloric acid and water are added to bring the total volume to approximately 45 ml. It is heated to dissolve the sample and cooled, this solution as the test Solution. This Test Solution is tested for heavy metals and its content should not be more than 20ppm.

Loss on Drying When Niacin is dried for 1 hour at 105°, the weight loss should not be more than 1%.

Residue on Ignition:

When thermogravimetric analysis is done, the amount of residue should not be more than 0.1%.

Assay:

Weigh accurately about 0.3 g of Niacin, dissolve in 50 ml of water and titrate with 0.1 N sodium hydroxide (indicator: 5 drops of phenolphthalein solution). Calculate on the dried basis.

0.1 N sodium hydroxide 1 ml = 12.31 mg of $C_6H_5O_2N$

Canadian Feed Additive Inc. (CANAVIT)