Chromium Picolinate
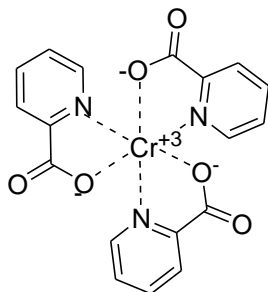
Chromium Tripicolinate

C$_{18}$H$_{12}$N$_3$O$_6$Cr   Mol. Wt. 418.3

Chrominum Picolinate contains not less than 98.0 per cent and not more than 102.0 per cent of C$_{18}$H$_{12}$N$_3$O$_6$Cr, calculated on the dried basis.

Identification

A. Determine by infrared absorption spectrophotometry (2.4.6). Compare the spectrum with that obtained with *chrominum picolinate RS* or with the reference spectrum of chrominum picolinate.

B. Dissolve 20 mg of the substance under examination in 5 ml of *water*, add 1 ml of *5M sodium hydroxide* and 0.5 ml of *hydrogen peroxide (30 per cent)*, and heat gently for 2 minutes. A yellow colour is produced.

Tests

Heavy metals (2.3.13). 1.0 g complies with the limit test for heavy metals, Method B (20 ppm).

Chlorides (2.3.12). Dissolve 0.42 g of the substance under examination in 35 ml of *water* and heat to 70°, cool overnight and filter. The filtrate complies with the limit test for chlorides (600 ppm).

Sulphates (2.3.17). Dissolve 75 mg of the substance under examination in 35 ml of *water* and heat to 90°, cool overnight and filter. The filtrate complies with the limit test for sulphates (2000 ppm).

Loss on drying (2.4.19). Not more than 4.0 per cent, by drying in an oven at 105° for 4 hours.

Assay. Determine by atomic absorption spectrophotometry (2.4.2), measuring at 357.9 nm using a reducing air acetylene flame and chromium hollow-cathode lamp.

Test solution. Dissolve 0.2 g of the substance under examination in 25 ml of *water*, add 10 ml of *nitric acid* and boil for 10 minutes with continuous swirling. Cool the solution, quantitatively transfer to a 500-ml volumetric flask and dilute to volume with *water* and filter. To 5.0 ml of the solution, add 1 ml of *nitric acid* and dilute to 100.0 ml with *water*.

Reference solution (a). A 0.01 per cent w/v solution of chromium prepared by dissolving 0.283 g of *potassium dichromate* (previously dried at 120° for 4 hours) in *water* and dilute to 1000 ml with *water*.

Reference solution (b). Transfer 1.0 ml and 2.0 ml of reference solution (a) to separate 100-ml volumetric flasks and 1.5 and 2.0 ml to separate 50-ml volumetric flask, add 1.0 ml of *nitric acid* to each volumetric flask and dilute to volume with *water* to obtain a 1.0, 2.0, 3.0 and 4.0 ppm of chromium.

Determine the absorbance of reference solution (b) and the test solution. Plot the absorbance of the reference solution (b) versus the chromium concentration and draw the straight line best fitting the four plotted points. From the graph so obtained, determine the chromium concentration in the test solution.

Calculate the content of C$_{18}$H$_{12}$N$_3$O$_6$Cr.

Storage. Store protected from moisture.