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METHOD FOR THE DETERMINATION OF COPPER

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BUREAU OF CEYLON STANDARDS

METHOD FOR THE DETERMINATION OF COPPER

S.L.S. 301 : 1974

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BUREAU OF CEYLON STANDARDS
53, DHARMAPALA MAWATHA,
COLOMBO 3.

SRI LANKA STANDARD METHOD FOR THE DETERMINATION OF COPPER

FOREWORD

This Sri Lanka Standard was prepared by the Drafting Committee on Chemical Test Methods. It was approved by the Agricultural and Chemicals Divisional Committee of the Bureau of Ceylon Standards and was authorised for adoption and publication by the Council of the Bureau on 31st October, 1974.

In the preparation of this standard the assistance derived from the following publication is acknowledged :

IUPAC Determination of copper content in foodstuffs - photometric method. Butterworths, London 1959.

1. SCOPE

This standard prescribes methods for the determination of copper.

2. METHOD 1

2.1 Principle — The material is digested by means of sulphuric and nitric acids. The residue is diluted with water, the disodium salt of ethylenediamine tetra acetic acid (EDTA) and citrate are added and the pH adjusted to 8.5 with dilute ammonium hydroxide. By adding sodium diethyldithio-carbamate ("sodium carbamate") the copper complex.

$$(C_2H_5)_2 = N - C \begin{matrix} S \\ S \end{matrix} Cu/2$$

is formed. This golden brown compound is extracted from the water phase by means of carbon tetrachloride. The optical density of the carbon tetrachloride layer is measured with a spectrophotometer at 435 nm.

Many metals react with sodium carbamate, but if EDTA and citrate are present all interference, except that from bismuth and tellurium, is eliminated by chelation.