
International Standard



7108

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Ammonia solution for industrial use — Determination of ammonia content — Titrimetric method

Ammoniaque à usage industriel — Détermination du titre en ammoniac — Méthode titrimétrique

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7108 was prepared by Technical Committee ISO/TC 47, *Chemistry*.

Ammonia solution for industrial use — Determination of ammonia content — Titrimetric method

WARNING — Carry out all the operations in a well-ventilated fume cupboard.

1 Scope and field of application

This International Standard specifies a titrimetric method for the determination of the ammonia content of ammonia solution for industrial use. The method is applicable to solutions containing not more than 35 % (*m/m*) of ammonia.

2 Principle

Introduction of a test portion into a solution of boric acid and titration with a standard volumetric solution of sulfuric acid in the presence of methyl red as indicator.

3 Reagents

During the analysis use only reagents of recognised analytical grade and only distilled water or water of equivalent purity.

3.1 Boric acid, 20 g/l solution.

3.2 Sulfuric acid, standard volumetric solution, $c(1/2 \text{ H}_2\text{SO}_4) = 1 \text{ mol/l}$.¹⁾

3.3 Methyl red, 1 g/l ethanolic solution.

Dissolve 0,1 g of methyl red in 95 % (*V/V*) ethanol and make up to 100 ml with the same ethanol.

4 Apparatus

Ordinary laboratory apparatus and

4.1 Spherical ampoule, of thin glass, of suitable capacity and shape, for example, about 20 mm diameter, with one

capillary end about 50 mm in length (a typical example is shown in the figure).

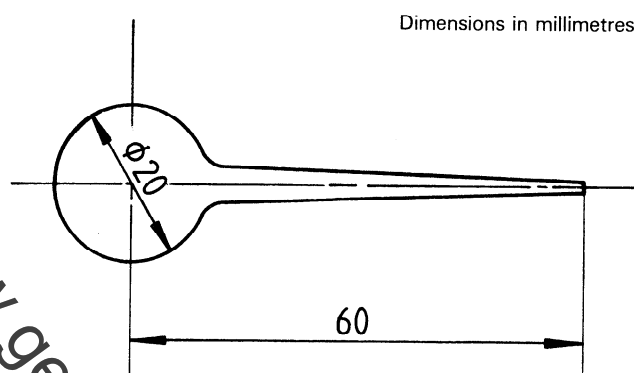


Figure — Spherical glass ampoule

5 Procedure

5.1 Test portion

Weigh the glass ampoule (4.1) to the nearest 0,000 1 g. Gently heat the spherical part of the ampoule over a flame and dip the capillary end of the ampoule into the bottle containing the laboratory sample. Ensure that the ampoule is filled to two-thirds of its capacity during cooling.

Withdraw the ampoule and dry the capillary tube carefully with filter paper. Seal the end of the capillary tube, **without loss of glass**, with an oxidizing flame. Allow the capillary tube to cool, wash it with water and wipe it with filter paper until completely dry.

Weigh the sealed ampoule to the nearest 0,000 1 g and calculate, by difference, the mass of the test portion.

1) Hitherto described as "1 N sulfuric acid solution".