

QUANTITATIVE ANALYSIS OF TRIMETHYLAMINE

Application

This test method is used to determine the amount of trimethylamine found in fiberglass.

Apparatus Required

Glass Jar

1 liter glass with ring cap.

Sink Matting

Plastic

Nalgene Bottles

125 mL

Volumetric Flasks

50 mL

100 mL

Pipets

Volumetric as required.

Oven

Forced Air.

Analytical Balance

Gas Chromatograph

Split/Splitless injector and nitrogen/phosphorus or flame ionization detector.

CG Column

Supelcowax 10, 30 m or equivalent column for the analysis of aqueous amine samples.

Vials, Septum-Sealed

Date	Action	Revisions
2001 01 30	Revised	Editorial – no technical change A. Cockman
2000 04 17		Editorial – no technical change A. Cockman
1993 05 18		

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Materials Required

Sodium Hydroxide

2 M aqueous solution.

Trimethylamine Hydrochloride

Water

Distilled deionized, freshly boiled.

Polyethylene Film

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Procedure

I. Preparation of Trimethylamine (TMA) Stock Solution and Standards

1. Accurately weigh 0.1617 g trimethylamine hydrochloride into a 100 mL volumetric flask and dilute to volume with freshly boiled distilled, deionized water to give a 1000 ppm TMA stock solution.
2. Pipet stock solution into 50 mL volumetric flasks as described below:

mL of Stock	ppm TMA standard
5.0	100
2.0	40
1.0	20
0.5 (500 microliter)	10
0.2 (200 microliter)	4
0.05 (50 microliter)	1

3. Dilute to volume with freshly boiled distilled, deionized water.
4. Prepare working standards by pipeting 1.71 mL of each standard solution into septum-sealed vials. Add 90 microliter of 2 M sodium hydroxide to each and mix.