Australian Standard®

Methods for the sampling and analysis of indoor air

Method 1.1: Determination of nitrogen dioxide—Spectrophotometric method—Treated mesh/passive tube sampling procedure

PREFACE

This Standard was prepared by the Standards Australia Committee on Methods for Examination of Air under the direction of the Chemical Standards Board.

CONTENTS

METHOD

1 SCOPE. This Standard sets out a spectrophotometric method for the determination of nitrogen dioxide in indoor air using a passive tube sampling technique. This method is applicable to indoor air in which the expected nitrogen dioxide concentration is within the range 0 to 30 p.p.m. by volume (0 to 6 000 $\mu g/m^3$) for an exposure time of 1 h, and has a detection limit of 0.06 p.p.m. for a 4 h sampling period.

2 APPLICATION. The sampling procedure specified is not recommended for sampler exposure times of less than 4 h. The sampling procedure gives best results for exposure times of between 4 h and 7 days.

Passive sampling tubes exhibit collection rates which are dependent only on the dimensions of the tube used to form the diffusion-controlling region in front of the absorbing screens. The agreement between the theoretically determined rate and that observed in practice is within 3%. If an increased sensitivity is required, the passive sampling badge procedure described in AS 2365.1.2 should be used. The sampling procedure specified is not suitable for indoor air that falls below 0°C.