

# Australian Standard®

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## Methods for sampling and analysis of ambient air

### Method 4.1: Determination of sulfur dioxide—Direct reading instrumental method

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#### PREFACE

This Standard was prepared by the Standards Australia Committee on Methods for Examination of Air under the direction of the Chemical Standards Board, as a revision of AS 2523—1982 *Ambient air—Determination of sulphur dioxide—Direct reading instrumental method*.

During the preparation of this Standard, the committee paid special attention to the work of ISO/TC 146, Air quality, and of the United States Environmental Protection Agency, particularly in the areas where methodology is still developing.

The requirements for instruments specified in this Standard were derived from and are substantially similar to those given in the United States Environmental Protection Agency (USEPA) Air Regulations Pollution Control Guide, Part 53—Ambient air monitoring reference and equivalent methods, Section 8183 Subpart B—Procedures for testing performance characteristics of automated methods. Acknowledgement is made of the assistance obtained therefrom.

Instruments bearing the USEPA equivalency designation predominate in Australia where scope for testing and certification is limited. Accordingly it is necessary to accept the USEPA designation of instruments with minor modifications, where appropriate, for local requirements. The USEPA definitions for performance characteristics vary considerably in presentation (if not in substance) from those currently prescribed in ISO 6879, Performance characteristics and related concepts for air quality measuring methods, but have nevertheless been retained, virtually intact, for the sake of preserving consistency with USEPA.

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#### METHOD

**1 SCOPE.** This Standard sets out a procedure for the determination of sulfur dioxide in ambient air using a direct-reading instrumental method. This method applies to the determination of sulfur dioxide in ambient air where the concentration lies within the range 0 to 5 p.p.m. by volume (0 to 14 000  $\mu\text{g}/\text{m}^3$ ).

**2 REFERENCED DOCUMENTS.** The following documents are referred to in this Standard:

AS

2922 Ambient air—Guide for the siting of sampling units

3580 Methods for sampling and analysis of ambient air

3580.2.1 Method 2.1: Preparation of reference test atmospheres—Permeation tube method

3580.2.2 Method 2.2: Preparation of reference test atmospheres—Compressed gas method

**3 DEFINITIONS.** For the purposes of this Standard, the definitions below apply.

**3.1 Parameter**—one of the characteristics related to an air sample, e.g. concentration of constituent, or other quantifiable property (wind speed, temperature).