

# Australian/New Zealand Standard™

## Methods for sampling and analysis of ambient air

### Method 15: Determination of gaseous pollutants in ambient air using differential optical absorption spectrometry (DOAS)—Direct-reading instrumental method

AS/NZS 3580.15:2014

#### PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EV-007, Methods for Examination of Air, as a Joint Australian/New Zealand Standard.

The objective of this Standard is to provide regulatory and testing bodies with a method for monitoring gaseous ambient air pollutants with open-path monitoring equipment utilizing the differential optical absorption spectrometry (DOAS) technique.

The requirements for instruments specified in this Standard were derived from those given in the European Standards for air quality monitoring instruments—EN 14212:2012 (SO<sub>2</sub>), EN 14211:2012 (NO/NO<sub>2</sub>), EN 14625:2012 (O<sub>3</sub>). European Standards have developed extensive performance testing procedures for criteria ambient pollutants such as those covered by this Standard. This ensures that instruments which are used in the application of this Standard will demonstrate a performance suitable for this application.

#### METHOD

##### 1 SCOPE

This Standard sets out the method for the determination of nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>) and ozone (O<sub>3</sub>) found in ambient air using the open-path differential optical absorption spectrometry (DOAS) technique. This Standard sets out performance criteria for these gases; however, the DOAS measurement technique is applicable to other gases. This method can provide a measure of multiple gases integrated over an open-path length of between 100 and 1000 metres.

##### 2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

|          |   |
|----------|---|
| AS       |   |
| 3580     | Methods for sampling and analysis of ambient air                            |
| 3580.1.1 | Method 1.1: Guide to siting air monitoring equipment                        |
| 3580.2.2 | Method 2.2: Preparation of reference test atmospheres—Compressed gas method |