

Australian/New Zealand Standard™

**Electrical apparatus for detection of  
oxygen and other gases and vapours at  
toxic levels—General requirements and  
test methods**



## **AS/NZS 4641:2007**

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-014, Equipment for Explosive Atmospheres. It was approved on behalf of the Council of Standards Australia on 14 August 2007 and on behalf of the Council of Standards New Zealand on 13 July 2007.  
This Standard was published on 28 September 2007.

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The following are represented on Committee EL-014:

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*This Standard was issued in draft form for comment as DR 07221.*

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## Australian/New Zealand Standard™

# Electrical apparatus for detection of oxygen and other gases and vapours at toxic levels—General requirements and test methods

Originated as AS/NZS 4641(Int):2005.  
Second edition 2007.  
Reissued incorporating Amendment No. 1 (June 2008).

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Jointly published by Standards Australia, GPO Box 476, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-014, Equipment for Explosive Atmospheres, to supersede AS/NZS 4641(Int):2005.

*This Standard incorporates Amendment No. 1 (June 2008). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.*

The objective of this Standard is to provide general requirements and test methods for manufacturers, testing authorities and certifying bodies concerned with electrical apparatus for the measurement of the concentration of oxygen and toxic levels of gases and vapours.

Adherence to the manufacturers requirements concerning calibration, field checks and maintenance, as spelled out in their published instruction manuals, is essential for normal use.

The tests required by this Standard are not intended to imply that any modification may be made to the manufacturers' instructions for normal use.

The terms 'normative' and 'informative' are used to define the application of the appendix to which they apply. A normative appendix is an integral part of a Standard, whereas an informative appendix is only for information and guidance.

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**Australian/New Zealand Standard**

**Electrical apparatus for detection of oxygen and other gases and vapours at toxic levels—General requirements and test methods**

SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE**

This Standard primarily applies to explosion-protected gas detection instruments used to measure the concentration of oxygen and toxic levels of gases and vapours or those parts of multi-gas detection instruments which are measuring such substances.

It does not apply to those parts of multi-gas detection instruments used to detect flammable gases and vapours at levels related to their lower flammability limits (LFL) and above. Such parts of multi-gas instruments are covered by AS/NZS 61779.1.

Instruments that are within the scope of this Standard and AS/NZS 61779.1 may be assessed and tested to either Standard.

NOTE: Certain regulatory bodies require compliance to both.

While it is the main intention of this Standard to be applied to explosion-protected equipment, this Standard may be used for other purposes.

**1.2 REFERENCED DOCUMENTS**

The following documents are referred to in this Standard:

AS/NZS	
60079	Electric apparatus for explosive gas atmospheres
60079.0	Part 0: General requirements
60079.20	Part 20: Data for flammable gases and vapours, relating to the use of electrical apparatus
61000	Electromagnetic compatibility (EMC)
61000.4.1	Part 4.1: Testing and measurement techniques—Overview of IEC 61000-4 series
61000.4.3	Part 4.3: Testing and measurement techniques—Radiated, radiofrequency, electromagnetic field immunity test
61000.4.4	Part 4.4: Testing and measurement techniques—Electrical fast transient/burst immunity test
61779	Electrical apparatus for the detection and measurement of flammable gases
61779.1	Part 1: General requirements and test methods*

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\* The 61779 series will be replaced by AS/NZS 60079.29.1 and AS/NZS 60079.29.2.