AS/NZS 60079.20:2000
IEC/TR 60079-20:1996
(Incorporating Amendment No. 1)

AS/NZS 60079.20:2000

Australian/New Zealand Standard™

Electrical apparatus for explosive gas atmospheres

Part 20: Data for flammable gases and vapours, relating to the use of electrical apparatus

STANDARDS Australia

STANDARDS NEW ZEALAND Paerewa Aotearoa

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-014, Electrical Equipment in Hazardous Areas. It was approved on behalf of the Council of Standards Australia on 16 June 2000 and on behalf of the Council of Standards New Zealand on 28 April 2000.
This Standard was published on 25 July 2000.

The following are represented on Committee EL-014:

Association of Consulting Engineers Australia
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Australian Electrical and Electronic Manufacturers Association
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 99255.

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First published as AS/NZS 60079.20:2000.
Reissued incorporating Amendment No. 1 (July 2005).

Jointly published by Standards Australia, GPO Box 5420, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 3506 1

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-014, Electrical Equipment in Hazardous Areas.

*This Standard incorporates Amendment No. 1 (*July 2005*). 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.*

This Standard is identical with and has been reproduced from IEC/TR 60079-20:1996, *Electrical apparatus for explosive gas atmospheres* - Part 20: *data for flammable gases and vapours, relating to the use of electrical apparatus*.

Footnotes were included in pages 2, 4 and 5 to highlight type errors and incorrections in the original text (identified by shading).

One additional footnote (identified by shading) was included in page 3 to provide information on the Australian industry practice regarding the addressed Clause 4.6 (Methane).

Additional information on equivalences of chemical names is provided in Annex B (identified by shading in the Contents).

The chemical names in the left columns of Tables B1 and B2 were previously included in Table 5.1 of the superseded Standard AS 1076.1:1977, *Code of practice for the selection, installation and maintenance of electrical apparatus and associated equipment for use in explosive atmospheres (other than mining applications)* Part 1: *Basic requirements.*

The objective of this Standard is to provide guidance on the selection of appropriate electrical apparatus, protected by flameproof enclosure or designed to be intrinsically safe, according to the gas or vapour in which it is intended to be used.

In January 1997, the IEC commenced numbering its Standards from 60000 by adding 60000 to the number of each existing Standard. This coordinates IEC numbering with ISO numbering. During the transition period an IEC Standard might be identified by its new number or its old number (for example, IEC 60050 or IEC 50).

A reference to an International Standard identified in the Reference Documents Clause by strikethrough (~~example~~) is replaced by a reference to the Australian or Australian/New Zealand Standard(s) listed immediately thereafter and identified by shading (example).

As this Standard is reproduced from an International Technical Report—Type 3 a full point should be substituted for a comma when referring to a decimal marker.

The term ‘informative’ has been used in this Standard to define the application of the annex to which it applies. An ‘informative’ annex is only for information and guidance.

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Australia/New Zealand Standard

Electrical apparatus for explosive gas atmospheres Part 20: Data for flammable gases and vapours, relating to the use of electrical apparatus

1 Scope

This technical report gives guidance on the selection of appropriate electrical apparatus, protected by flame-proof enclosure or designed to be intrinsically safe, according to the gas or vapour in which it is intended to be used.

2 General

Tables of chemical and engineering properties of substances are provided to assist electrical engineers in their selection of electrical apparatus to be used in hazardous areas.

The scope of these data has been selected with particular reference to the use of electrical equipment in hazardous areas, and notice has been taken of standard measurement methods given in IEC 79-1A, IEC 79-3 , IEC 79-4 and IEC 79-4A.

NOTES

1 The data in this report have been taken from a number of references which are given in the bibliography (see annex A).

2 Some variations in the data may appear when references are compared, but usually the discrepancy is sufficiently small to be of no importance in the selection of electrical apparatus.

Users of the data in this report should be aware that all its data are the result of experimental determinations, and as such are influenced by variation in experimental apparatus and procedures, and in the accuracy of instrumentation. In particular, some of the data have been determined at temperatures above ambient temperature, so that the vapour is within the flammable range. Variation in the temperature for the determination would be expected to influence the result of the determination; for example: lower flammability limits and maximum experimental safe gap decrease with increasing temperature and/or pressure; upper flammability limits increase with increasing temperature and/or pressure. Data are subject to revision and, where more recent information is required, the use of a maintained database* is recommended.

3 Determination of the properties

3.1 General

The compounds listed in this technical report are in accordance with IEC 79-12, or have been the subject of a determination of maximum experimental safe gap (MESG), or have physical properties similar to those of other compounds in that list.

* For information on the availability of maintained databases refer to annex A.