AS 4078—1992
ISO 5923:1989(E)
Reconfirmed 2018

Australian Standard®

# Fire protection—Fire extinguishing media—Carbon dioxide

This Australian Standard was prepared by Committee FP/3, Fire Extinguishers. It was approved on behalf of the Council of Standards Australia on 15 September 1992 and published on 14 December 1992.

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The following interests are represented on Committee FP/3:

Australian Assembly of Fire Authorities
Australian Association of Rural Fire Authorities
Australian Fire Protection Association
Commonwealth Fire Board
Department of Administrative Services—Australian Construction Services
Department of Consumer Affairs, New South Wales
Department of Defence
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# RECONFIRMATION

# OF
# AS 4078–1992
# Fire protection–Fire extinguishing media–Carbon dioxide

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# Fire protection—Fire extinguishing media—Carbon dioxide

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# PREFACE

This Standard was prepared by the Standards Australia Committee on Fire Extinguishers. It is identical with and has been reproduced from ISO 5923:1989 (E), *Fire protection—Fire extinguishing media—Carbon dioxide*.

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This Standard is one of a series giving specifications for fire extinguishing media in common use and which are in need of specification for firefighting purposes. These specifications are designed to establish that the medium in question has at least a minimum useful firefighting capability and can therefore be reasonably sold for fire extinguishing purposes.

For the purposes of this Australian Standard, the ISO text should be modified as follows:

(a) *Terminology* The words 'Australian Standard' should replace the words 'International Standard' wherever they appear.

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| *References to International Standard* | | *Australian Standard* | |
|---|---|---|---|
| ISO | | AS | |
| 385-1: | Laboratory glassware—Burettes | 2162 | Code of practice for the use of volumetric glassware |
| Part 1: | General requirements | | |
| Part 2: | Burettes for which no waiting time is specified | 2165 | Burettes and bulb burettes |
| Part 3: | Burettes for which a waiting time of 30 s is specified | | |
| 648: | Laboratory glassware—One-mark pipettes | 2166 | One-mark pipettes |
| 2591-1 | Test sieving | | |
| Part 1: | Method using test sieves of woven wire cloth and perforated metal plate | 1152 | Test sieves |
| 3310-1 | Test sieves—Technical requirements and testing | 1152 | Test sieves |
| Part 1: | Test sieves of metal wire cloth | | |
| 4705 | Refillable seamless steel gas cylinders | 2030 | SAA Gas Cylinders Code |
| | | 2030.1 | Part 1: Cylinders for compressed gases other than acetylene |

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# Fire Protection—Fire extinguishing media—Carbon dioxide

## 1 Scope

This International Standard specifies requirements for carbon dioxide for use as a fire extinguishing medium.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 385-1: 1984, *Laboratory glassware — Burettes — Part 1: General requirements.*

ISO 385-2: 1984, *Laboratory glassware — Burettes — Part 2: Burettes for which no waiting time is specified.*

ISO 385-3: 1984, *Laboratory glassware — Burettes — Part 3: Burettes for which a waiting time of 30 s is specified.*

ISO 648: 1977, *Laboratory glassware — One-mark pipettes.*

ISO 2591-1: 1988, *Test sieving — Part 1: Method using test sieves of woven wire cloth and perforated metal plate.*

ISO 3310-1: 1982, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth.*

ISO 4705: 1983, *Refillable seamless steel gas cylinders.*

## 3 Definition

For the purposes of this International Standard, the following definition applies.

**carbon dioxide**: The chemical compound $CO_2$ used as a fire extinguishing medium.

## 4 Requirements

Carbon dioxide shall comply with the requirements of table 1, when tested by the appropriate method of test specified in clause 6.

**Table 1 — Requirements** [1)]

| Property | Requirement |
|---|---|
| Purity, % (*V*/*V*) min. | 99,5 |
| Water content, % (*m*/*m*) max. | 0,015 |
| Oil content, ppm by mass, max. | 5 |
| Total sulfur compounds content, expressed as sulfur, ppm by mass, max. | 5,0 |

1) Carbon dioxide obtained by converting dry ice to liquid will not usually comply with these requirements unless it has been properly processed to remove excess water and oil.

## 5 Sampling

### 5.1 General

Samples of carbon dioxide needed to perform all the tests required by this International Standard shall be taken from the same manufacturing lot, using identical sampling procedures.

NOTE — Attention is drawn to the need to design equipment for handling carbon dioxide such that it is either capable of withstanding the pressures involved or protected from them.

### 5.2 Sampling equipment

Rigid metal connections or flexible reinforced nylon hose should be used throughout the sampling equipment and shall be kept as short as possible. All components shall have a design pressure of not less than 137 bar.

### 5.3 Procedure

#### 5.3.1 General

Two methods of sampling are specified:

a) direct sampling, in which the sample is passed to an evaporator and then directly to the analytical apparatus;

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