AS 2927:2019

Australian STANDARD®

The storage and handling of liquefied chlorine gas

STANDARDS Australia

AS 2927:2019

This Australian Standard® was prepared by CH-009, Safe Handling Of Chemicals. It was approved on behalf of the Council of Standards Australia on 10 December 2019.

This Standard was published on 20 December 2019.

The following are represented on Committee CH-009:

Accord Australasia
Australasian Fire and Emergency Service Authorities Council
Australasian Institute of Dangerous Good Consultants
Australian Institute of Petroleum
Australian Logistics Council
Australian Paint Manufacturers Federation
Chemistry Australia
ComCare (Commonwealth Government)
Department of Mines, Industry Regulation and Safety (WA)
Engineers Australia
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SafeWork NSW
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This Standard was issued in draft form for comment as DR2 AS 2927:2019

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ISBN 978 1 76072 692 8

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The storage and handling of liquefied chlorine gas

Originated as AS 2927—1987.
Jointly revised and redesignated as AS/NZS 2927:2001.
Jointly revised and redesignated as AS 2927:2019.

Preface

This Standard was prepared by the Australian members of the Standards Australia Committee CH-009, Safe Handling of Chemicals, to supersede AS/NZS 2927:2001, *The storage and handling of liquefied chlorine gas.*

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand standard.

The objective of this Standard is to promote the safety of persons and property where chlorine is stored or handled in its gaseous or liquefied forms by providing requirements and recommendations that are based on industry best practices.

This edition has been reformatted to improve clarity and to align with the other published Standards for the storage and handling of dangerous goods. Attention has been paid to ensuring that this Standard does not replicate the requirements of the various State, Territory and National regulatory authorities and emergency services.

Key changes to this edition include:

(a) Incorporation of a requirement for a management of change process for chlorine facilities.

(b) Use of calculated risk-based separation distances that are related to land or facility use. The latter change enables the impact (or credit) of risk mitigation measures to be readily understood.

(c) Clearer detailing of the requirements for storage on facilities, including transit areas.

Standards covering the storage and handling of dangerous goods presently comprise the following:

AS 1894, *The storage and handling of non-flammable cryogenic and refrigerated liquids*

AS 1940, *The storage and handling of flammable and combustible liquids*

AS 2507, *The storage and handling of agricultural and veterinary chemicals*

AS 2714, *The storage and handling of organic peroxides*

AS 3780, *The storage and handling of corrosive substances*

AS 3846, *The handling and transport of dangerous cargoes in port areas*

AS 3961, *The storage and handling of liquefied natural gas*

AS 4326, *The storage and handling of oxidizing agents*

AS 4332, *The storage and handling of gases in cylinders*

AS/NZS 1596, *The storage and handling of LP Gas*

AS/NZS 2022, *Anhydrous ammonia—Storage and handling*

AS/NZS 3833, *The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers*

AS/NZS 4081, *The storage and handling of liquid and liquefied polyfunctional isocyanates*

AS/NZS 4452, *The storage and handling of toxic substances*

AS/NZS 4681, *The storage and handling of Class 9 (miscellaneous) dangerous goods and articles*

AS/NZS 5026, *The storage and handling of Class 4 dangerous goods*

The terms “normative” and “informative” have been used in this Standard to define how appendices apply. A “normative” appendix is an integral part of the Standard, whereas an “informative” appendix is for information only.

Statements expressed as mandatory terms in notes and footnotes to figures and tables are deemed to be requirements of this Standard.

Notes that appear in the main text of the Standard are intended to provide information only.

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The storage and handling of liquefied chlorine gas

Section 1 Scope and general

1.1 Scope

This Standard sets out requirements and recommendations for the safe storage and handling of liquefied chlorine gas in sites where chlorine is used, e.g. water treatment facilities and sites where chlorine containers are stored e.g. transport depots. It also provides requirements and recommendations for vaporizers, chlorinators and other parts of systems in which chlorine is reticulated and distributed.

NOTE 1 Physical and chemical data for chlorine is provided in Appendix A.

NOTE 2 The hazardous properties of chlorine are discussed in Appendix B.

For the purposes of this Standard, quantities are expressed in kilograms (kg).

This Standard is written for end users in water treatment in particular; however, parts of the Standard will apply to other end users.

1.2 Application

Australian and Australian/New Zealand Standards are voluntary. They do not include contractual, legal or statutory requirements. Voluntary Standards do not replace laws with which users of Standards are understood to comply and which take precedence.

NOTE Refer to the National Construction Code (NCC) for all matters relating to building works.

This Standard does not apply to —

(a) manufacture of chlorine gas and associated storage of containers at these sites;

(b) chlorination of swimming pools by means of powders or liquids, e.g. calcium hypochlorite, isocyanurates or sodium hypochlorite solution;

(c) transport of liquefied chlorine gas, which is covered by other rules and codes, e.g. the ADG Code;

(d) handling and transport of chlorine in port areas which, in Australia, is covered by AS 3846.

1.3 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 1210, *Pressure vessels*

AS 1345, *Identification of the contents of piping, conduits and ducts*

AS 1530.1, *Methods for fire tests on building materials, components and structures, Part 1: Combustibility test for materials*

AS 1530.4, *Methods for fire tests on building materials, components and structures, Part 4: Fire-resistance tests for elements of construction*

AS 1603.5, *Automatic fire detection and alarm systems, Part 5: Manual call points*

AS 1668.2, *The use of ventilation and airconditioning in buildings, Part 2: Mechanical ventilation in buildings*