# Australian Standard™

The storage and handling of liquefied natural gas



This Australian Standard was prepared by Committee ME-070, Liquefied Natural Gas—Storage and Handling. It was approved on behalf of the Council of Standards Australia on 14 March 2005.

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The following are represented on Committee ME-070:

Australian Chamber of Commerce and Industry Department of Employment, Education and Training, N.T. The Australian Gas Association

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AS 3961—2005

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### **PREFACE**

This Standard was prepared by the Standards Australia Committee ME-070, Liquefied Natural Gas—Storage and Handling in response to requests from authorities and industries to review and supersede AS 3961—1991.

The objective of this Standard is to provide requirements for the design, construction and operation of installations for the storage and handling of liquefied natural gas (LNG), covering installations of atmospheric-type tanks for supplying marine terminals, pipeline peak saving, and pressure tanks.

This edition is technically equivalent to that published in 1991. However, referenced documents have been revised and updated, and minor editorial changes have been made to reflect the style of more recent Australian Standards for the storage and handling of dangerous goods.

This Standard has been modelled on two other Australian Standards. AS/NZS 1596, *The storage and handling of LP Gas*, was used because of the similarities between LP Gas and LNG. AS 1940, *The storage and handling of flammable and combustible liquids*, was also used, as atmospheric LNG storage has similarities with flammable liquids storage. Expertise from the cryogenics industry has also been valuable. Liquefied natural gas has many unique properties requiring specific safety measures. This Standard is therefore based on an amalgamation of requirements drawn from various sources, but tailored to suit the particular safety issues of LNG.

The Standard has been arranged to cater for the distinctions between the two basic types of LNG storage and handling systems, being pressure tanks and road or rail tankers, and atmospheric tanks for marine and pipeline transport systems.

The terms 'normative' and 'informative' have been used in this Standard 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 provides information and guidance only.

The series of Standards covering the storage and handling of dangerous goods presently comprises the following Standards:

AS

- 1894 The storage and handling of non-flammable cryogenic and refrigerated liquids
- 1940 The storage and handling of flammable and combustible liquids
- 2507 The storage and handling of agricultural and veterinary chemicals
- 2714 The storage and handling of hazardous chemical materials—Class 5.2 substances (organic peroxides)
- 3780 The storage and handling of corrosive substances
- 3846 The handling and transport of dangerous cargoes in port areas
- 4326 The storage and handling of oxidizing agents
- 4332 The storage and handling of gases in cylinders

AS/NZS

- 1596 The storage and handling of LP Gas
- 2022 Anhydrous ammonia—Storage and handling
- 2927 The storage and handling of liquefied chlorine gas

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## AS/NZS

- 3833 The storage and handling of mixed classes of dangerous goods in packages and intermediate bulk containers
- 4081 The storage and handling of liquid and liquefied polyfunctional isocyanates
- 4452 The storage and handling of toxic substances
- The storage and handling of Class 9 (miscellaneous) dangerous goods and articles



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