

Australian/New Zealand Standard™

**The storage and handling of liquid and
liquefied polyfunctional isocyanates**

AS/NZS 4081:2001

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee CH-009, Safe Handling of Chemicals. It was approved on behalf of the Council of Standards Australia on 16 February 2001 and on behalf of the Council of Standards New Zealand on 16 February 2001. It was published on 6 March 2001.

The following interests are represented on Committee CH-009:

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Manufacturers and industrial users of polyfunctional isocyanates
Consultants to the chemicals industry

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OF
AS/NZS 4081:2001
The storage and handling of liquid and liquefied polyfunctional isocyanates

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Technical Committee CH-009 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

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NOTES

Australian/New Zealand Standard™

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PREFACE

This Standard was prepared by Joint Standards Australia/New Zealand Committee CH-009, Safe Handling of Chemicals, in response to a request from the Plastics and Chemicals Industry Association (PACIA) to update AS 4081—1993. The review has come about as a result of changes in technology, the development of other Standards that overlapped sections of the previous edition, and changes to regulatory requirements.

This new edition is a result of a comprehensive review of practices relating to the storage and handling of polyfunctional isocyanates (PFIs). The continued importance of polyfunctional isocyanates in industry (especially in the polyurethane foam industry), and their reactivity and toxicology, make it necessary to provide responsible guidance on safe and proven methods for their storage, loading and discharge. Requirements for ship discharge and transport have been removed from this revision of the Standard, as these are covered in other documents.

This Standard provides general requirements for the safe storage and handling of all polyfunctional isocyanates, with a particular emphasis on requirements for toluene diisocyanate (TDI), which is the most common polyfunctional isocyanate in industrial use.

The series of Standards covering the storage and handling of dangerous goods and other chemicals 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
- 2022 Anhydrous ammonia—Storage and handling (known as the SAA Anhydrous Ammonia Code)
- 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)
- 2927 The storage and handling of liquefied chlorine gas
- 3780 The storage and handling of corrosive substances
- 3846 The handling and transport of dangerous cargoes in port areas
- 3961 Liquefied natural gas —Storage and handling
- 4326 The storage and handling of oxidizing agents
- 4332 The storage and handling of gases in cylinders

AS/NZS

- 1596 Storage and handling of LP Gas
- 3833 The storage and handling of mixed classes of dangerous goods in packages and intermediate bulk containers
- 4452 The storage and handling of toxic substances
- 4681 The storage and handling of Class 9 (miscellaneous) dangerous goods and articles

The requirements of this Standard have been aligned with the current requirements of regulatory authorities, emergency services, environmental authorities, and National Occupational Health and Safety Commission (NOHSC) publications.

Australian and New Zealand references are separated by a slash (/).

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 is only for information and guidance.

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

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	6
1.2 APPLICATION	6
1.3 REFERENCED DOCUMENTS.....	6
1.4 DEFINITIONS.....	6
1.5 PACKAGING.....	13
1.6 MARKING (LABELLING).....	13
1.7 SECURITY OF STORAGE AREAS	13
SECTION 2 REQUIREMENTS FOR THE STORAGE AND HANDLING OF PACKAGES	
2.1 SCOPE OF SECTION	14
2.2 LOCATION OF STORE.....	14
2.3 USE OF FIRE WALLS AND VAPOUR BARRIERS	14
2.4 GENERAL REQUIREMENTS FOR PACKAGE STORES.....	15
2.5 EQUIPMENT AND SYSTEMS FOR FILLING AND EMPTYING PACKAGES	15
2.6 HANDLING PRECAUTIONS.....	16
SECTION 3 REQUIREMENTS FOR PRIMARY BULK STORAGE INSTALLATIONS	
3.1 SCOPE OF SECTION	18
3.2 BULK STORAGE SYSTEMS.....	18
3.3 LOCATION AND SEPARATION OF TANKS.....	20
3.4 BUNDS AND COMPOUNDS.....	21
3.5 TRANSFER FROM PRIMARY BULK STORAGE TO TRANSPORT TANKS OR TANKERS.....	23
SECTION 4 REQUIREMENTS FOR PROCESSING INSTALLATIONS	
4.1 SCOPE OF SECTION	27
4.2 BULK STORAGE SYSTEMS.....	27
4.3 TANK OVERFLOW COLLECTION SYSTEM.....	28
4.4 CONTROL OF VAPOUR EMISSIONS	28
4.5 VACUUM RELIEF SYSTEM.....	29
4.6 PRESSURE RELIEF SYSTEM.....	29
SECTION 5 OPERATIONAL AND PERSONNEL SAFETY	
5.1 SCOPE OF SECTION	30
5.2 GENERAL PRECAUTIONS.....	30
5.3 CONTROL OF EXPOSURE	30
5.4 PERSONNEL SAFETY.....	31
5.5 PERSONNEL TRAINING.....	32
5.6 PERSONAL PROTECTIVE EQUIPMENT (PPE)	32
5.7 SAFETY SHOWER AND EYE WASH	33
5.8 FIRST AID	33
5.9 PLACARDING.....	34
5.10 HOUSEKEEPING	34
5.11 INSPECTION OF PLANT AND EQUIPMENT.....	35
5.12 CONSTRUCTION AND MAINTENANCE WORK	35

	<i>Page</i>
SECTION 6 EMERGENCY MANAGEMENT	
6.1 SCOPE OF SECTION	37
6.2 PLANNING FOR EMERGENCIES	37
6.3 MANIFEST	39
6.4 PLACARDING.....	39
6.5 MANAGEMENT OF LEAKS AND SPILLS	39
SECTION 7 FIRE PROTECTION	
7.1 SCOPE OF SECTION	41
7.2 FIRE HAZARDS	41
7.3 FIRE PROTECTION MEASURES	41
7.4 PORTABLE FIRE EXTINGUISHERS.....	44
7.5 HOSE REELS.....	45
7.6 FIRE HYDRANTS	45
7.7 MONITORS	46
7.8 AUTOMATIC SPRINKLER SYSTEMS	46
7.9 PIPING AND PUMPING SYSTEMS	46
7.10 WATER SUPPLY	48
7.11 FIRE WATER RETENTION.....	48
7.12 FIRE PROTECTION REQUIREMENTS	48
SECTION 8 WASTE STORAGE AND DISPOSAL	
8.1 SCOPE OF SECTION	49
8.2 STORAGE OF WASTES	49
8.3 WASTE MANAGEMENT	49
8.4 PRE-DISPOSAL TREATMENT	49
8.5 METHODS OF DISPOSAL.....	50
APPENDICES	
A EXAMPLES OF COMMON POLYFUNCTIONAL ISOCYANATES.....	51
B HEALTH HAZARDS OF POLYFUNCTIONAL ISOCYANATES	52
C LIST OF REFERENCED DOCUMENTS	54
D FILLING AND EMPTYING OF PACKAGES	57
E TRANSFER OPERATIONS FOR PRIMARY BULK STORAGE	60
F VAPOUR SCRUBBING SOLUTION	62
G FORM FOR VISITORS AND CONTRACTORS	63
H MEDICAL EXAMINATION.....	64
I EXAMPLE OF MEDICAL FORM.....	65
J FIRST AID	66
K BIBLIOGRAPHY OF DOCUMENTS PROVIDING GUIDELINES ON THE PREPARATION OF EMERGENCY PLANS	67
L INFORMATION TO BE PROVIDED TO EMERGENCY SERVICES	68
M DECONTAMINATION.....	69

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
The storage and handling of liquid and liquefied polyfunctional isocyanates

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out requirements and recommendations for the safe storage and handling of liquid and liquefied polyfunctional isocyanates (PFIs) (as defined in Clause 1.4.38), in packages, intermediate bulk containers (IBCs) and bulk. It applies to PFIs that are dangerous goods, as well as to PFIs that are not classified as dangerous goods.

NOTES:

- 1 Appendix A provides examples of common PFIs and the various designations that are applied to them.
- 2 Appendix B outlines the hazards of PFIs.
- 3 PFIs are usually imported in bulk and may be packaged into smaller quantities for use by processors. PFIs are also imported as packages, usually with a nominal capacity of 205 L, but smaller packages are available.

1.2 APPLICATION

This Standard applies in locations that are generally industrial or commercial in nature, including laboratories where the provisions of this Standard are additional to those of AS 2243.10.

This Standard does not apply to —

- (a) the land transport of PFIs, which is covered by the ADG Code/NZS 5433 if they are dangerous goods; or
- (b) storage in port areas.

The requirements of this Standard apply in conjunction with, but do not take precedence over, any government regulations that apply in any area.

NOTES:

- 1 An installation may come under the regulatory control of several authorities having different areas of responsibility, and an approval from one authority does not necessarily constitute an approval from others.
- 2 The *Building Code of Australia* (BCA)/*New Zealand Building Code* (NZBC) provides minimum requirements for all matters pertaining to building work.

1.3 REFERENCED DOCUMENTS

A list of the documents referred to in this Standard is provided in Appendix C.

1.4 DEFINITIONS

For the purposes of this Standard the definitions given below apply.