AS 5602:2026

Australian STANDARD®

STANDARDS Australia

Flammable liquids — Road tank vehicle bottom loading and vapour transfer



AS 5602:2026

This Australian Standard® was prepared by ME-057, Road Tankers For Hazardous Liquids And Gases. It was approved on behalf of Standards Australia's Standards Development and Accreditation Committee on 18 August 2026.

This Standard was published on 4 September 2026.

The following are represented on Committee ME-057:

- Australasian Convenience and Petroleum Marketers Association
- Australasian Explosives Industry Safety Group
- Australasian Fire and Emergency Service Authorities Council
- Australia New Zealand Industrial Gas Association
- Australian Industry Group
- Australian Institute of Petroleum
- Chemistry Australia
- Commercial Vehicle Industry Association of Australia
- Department of Local Government, Industry Regulation and Safety – Western Australia
- Department of Transport and Main Roads (QLD)
- Engineers Australia
- Gas Energy Australia
- Heavy Vehicle Industry Australia
- National Bulk Tanker Association
- National Heavy Vehicle Regulator
- National Transport Commission
- SafeWork SA
- Truck Industry Council

This Standard was issued for comment as DR AS 5602:2026

Status of this document

Standards Australia publications are periodically reviewed to ensure their ongoing relevance and accuracy. This document may be withdrawn, revised, or superseded at any time. To verify this document's current status, visit:

www.standards.org.au

ISBN: 978 1 76175 901 7

Australian Standard®

Flammable liquids — Road tank vehicle bottom loading and vapour transfer

First published as AS 5602-2009.
This document AS 5602:2026.

© Standards Australia Limited 2026

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth).

Users must not use the content in this publication in combination with artificial intelligence (AI) tools for any purpose, unless they have the express prior written consent from Standards Australia.

How to read this Standard

This page explains the meaning of the language and structure of this Standard.

Refer to Standards Australia's Standardisation Guide 006 for more details about drafting rules.

Australian and Australian/New Zealand Standards are voluntary unless they are referenced in legislation or called up in contracts.

Requirements

To conform to a Standard, all requirements in the Standard need to be met.

A requirement is any statement in the Standard which uses the word "shall".

Recommendations, permissions and possibilities

The following words are commonly used in Standards, but statements using them do not have to be followed to conform to the Standard:

(a) "should" means that something is recommended.

(b) "may" means that something is permitted.

(c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

(i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.

(ii) The Scope states what the Standard is about, what it covers and what it does not cover.

(iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.

(iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

A Standard may also include other parts, such as the following:

(1) A normative appendix sets additional requirements that need to be conformed to.

(2) An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will explain when those requirements apply.

(3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

Preface

This Standard was prepared by Standards Australia Committee ME-057, Road Tankers For Hazardous Liquids And Gases, to supersede AS 5602—2009, *Refined petroleum products—Vehicle bottom loading and vapour recovery*.

The objective of this document is to specify general requirements for the design, construction, testing, maintenance and inspection of bottom loading, overfill prevention and vapour transfer equipment on road tank vehicles for flammable liquids, and their interface with loading facility fill stands.

The major changes in this edition are as follows:

(a) The Scope clause has been revised to better align with the Standard's purpose.

(b) Normative references and Terms and definitions clauses have been updated to incorporate required documents and additional industry terms.

(c) Adaptor specifications and locations now reflect industry Standards.

(d) Coupler specifications have been removed as they are outside the scope of this document.

(e) Vapour transfer systems, adaptors, couplers, and hoses have been updated to reflect industry standards and allow for flexibility in loading flow rates.

(f) Vapour transfer piping and valve requirements have been added.

(g) Overfill detection equipment has been revised to align with industry standards, and overfill earth connection requirements and sensor settings have been added.

(h) Electrical requirements, tanker compartment content verification, and brake interlock driveaway protection requirements are new additions.

(i) Interlocking with the fill stand has been updated to reflect in-scope vehicle requirements.

(j) Vehicle internal valve requirements, product recognition and crossover prevention, and maintenance testing and inspection requirements have been added.

(k) Appendix A, providing typical cargo bottom loading facility design features, has been added to assist manufacturers and designers in ensuring tanker and loading facility compatibility.

(l) Unloading with vapour recovery has been removed as it is outside the scope of this document.

© Standards Australia Limited 2026

Contents

Page

Preface ..... **v**

Section 1 Scope and general **1**
1.1 Scope 1
1.2 Normative references 1
1.3 Terms, definitions and abbreviated terms 2
1.4 Road tank vehicles 3

Section 2 Product connections for loading **4**
2.1 General 4
2.2 Adaptor specification 4
2.3 Location of API adaptors for petroleum fuels 4

Section 3 Vapour transfer **6**
3.1 Transfer system 6
3.1.1 General 6
3.1.2 Where API adaptors are required for petroleum fuels 6
3.1.3 For systems where API adaptors are not required 6
3.2 Vapour transfer adaptors and couplers for petroleum fuel loaded via API adaptors 6
3.2.1 General 6
3.2.2 Vapour transfer couplers 7
3.2.3 Vapour transfer adaptors 7
3.3 Vapour transfer hose 7
3.4 Vapour transfer piping 7
3.5 Vapour transfer valve 8

Section 4 Vehicle overfill prevention system **9**
4.1 Road tank vehicle and cargo loading facility compatibility 9
4.2 Overfill detection equipment 9
4.3 Overfill earth connection 9
4.4 Overfill sensor settings 12
4.5 Electrical requirements 12
4.6 Tanker compartment content verification 13

Section 5 Interlocking with the fill stand **14**

Section 6 Brake interlock driveaway protection **15**

Section 7 Vehicle internal valves **16**

Section 8 Product recognition and crossover prevention **17**

Section 9 Maintenance, inspection and testing **18**
9.1 Regular inspection and maintenance intervals 18
9.2 Performance testing 18

Appendix A (informative) **Typical cargo bottom loading facility design features** **19**

Bibliography **21**

© Standards Australia Limited 2026

Australian Standard®

Flammable liquids — Road tank vehicle bottom loading and vapour transfer

Section 1 Scope and general

1.1 Scope

This document specifies general requirements for the design, construction, testing, maintenance and inspection of bottom loading, overfill prevention and vapour transfer equipment on road tank vehicles for flammable liquids, and their interface with loading facility fill stands.

The purpose of this document is to ensure that all road tank vehicles for flammable liquids fitted for bottom loading and vapour transfer are compatible and can therefore be safely loaded at corresponding fill stands equipped for bottom loading and vapour transfer.

It also covers the vapour transfer connection requirements for road tank vehicles unloading flammable liquids into receiving tanks.

This document applies to the following:

(a) Product connections for loading.

(b) Vapour connections.

(c) Overfill prevention systems.

(d) Compatibility with the fill stand.

(e) Requirements when unloading.

(f) Requirements when vapour transfer is not required.

This document covers those elements that need to be standardized in order to achieve safe operation.

1.2 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. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

AS 2809.1, *Road tank vehicles for dangerous goods, Part 1: General requirements for all road tank vehicles*

AS 2809.2, *Road tank vehicles for dangerous goods, Part 2: Road tank vehicles for flammable liquids*

AS/NZS 60079.14 *Explosive atmospheres, Part 14: Design selection, erection and initial inspection*

A-A-59326, *Coupling halves, quick-disconnect, cam-locking type*

EN 13081, *Tanks for transport of dangerous goods - Service equipment for tanks - Vapour collection adaptor and coupler*

EN 13082, *Tanks for transport of dangerous goods - Service equipment for tanks - Vapour transfer valve*

EN 13083, *Tanks for transport of dangerous goods - Service equipment for tanks - Adaptor for bottom loading and unloading*

© Standards Australia Limited 2026