



Vehicle Standard (Australian Design Rule 79/04 — Emission Control for Light Vehicles) 2011

as amended

made under section 7 of the

Motor Vehicle Standards Act 1989

This compilation was prepared on 16 May 2012 taking into account amendments up to *Vehicle Standard (Australian Design Rule 79/04 – Emission Control for Light Vehicles) 2011 Amendment 1*

Volume 1 contains Clauses 0.1–6 and the Notes

Volume 2 contains Appendix A

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0.1 NAME OF STANDARD [see Note 1]

0.1.1 This Standard is the *Vehicle Standard (Australian Design Rule 79/04 — Emission Control for Light Vehicles) 2011*.

0.1.2 This Standard may also be cited as ADR 79/04.

0.2 COMMENCEMENT [see Note 1]

0.2.1 This Standard commences on the day after it is registered.

1 SCOPE

1.1 This vehicle standard prescribes the exhaust and evaporative emissions requirements for light vehicles in order to reduce air pollution.

2 APPLICABILITY AND IMPLEMENTATION

2.1 This vehicle standard is applicable to all M and N category vehicles with a Gross Vehicle Mass less than or equal to 3.5 tonnes, notwithstanding the reference mass provisions of paragraph 1.1 of Appendix A.

2.2 This vehicle standard applies from 1 November 2016 in relation to vehicles produced with a *'Date of Manufacture'* on or after 1 November 2016.

2.3 To the extent of any inconsistency, the applicability date specified in clause 2.2 applies in lieu of any dates specified in Appendix A.

3 DEFINITIONS

3.1 For the purposes of clause 2.2, "date of manufacture" means the date the vehicle is available in Australia in a condition which will enable an identification plate to be lawfully affixed to the vehicle.

4 REQUIREMENTS

4.1 Vehicles which comply with the emissions limits and technical requirements of Appendix A, including all the applicable tests specified in paragraph 5.2 of Appendix A, and as varied by Part 5 of this vehicle standard, will be accepted as complying with this vehicle standard.

5 EXEMPTIONS AND ALTERNATIVE PROCEDURES

- 5.1 The following provisions of Appendix A do not apply to this vehicle standard:
- Section 3 Application for Approval
 - Section 4 Approval
 - Section 6 Modifications of the vehicle type
 - Section 8 Conformity of production
 - Section 9 In-service conformity
 - Section 10 Penalties for non-conformity of production
 - Section 11 Production definitely discontinued
 - Section 12 Transitional provisions
 - Section 13 Names and addresses of technical services responsible for conducting approval tests, and of administrative departments
 - Appendix 1 Procedure for verifying the conformity of production requirements if the production standard deviation given by the manufacturer is satisfactory
 - Appendix 2 Procedure for verifying the conformity of production requirements if the production standard deviation given by the manufacturer is either not satisfactory or not available
 - Appendix 3 In-service conformity check
 - Appendix 4 Statistical procedure for in-service conformity check
 - Appendix 5 Responsibilities for in service conformity
 - Annex 1 Engine and vehicle characteristics and information concerning the conduct of tests
 - Annex 2 Communication
 - Annex 3 Arrangements of the Approval Mark
- 5.2 In section 5 of Appendix A, the entire text regarding small volume manufacturers immediately following the heading “5. Specifications and tests” is deleted.
- 5.3 Notwithstanding that Section 8 and 9 and Appendices 1, 2, 3, 4 and 5 of Appendix A have been declared not applicable in clause 5.1 of this vehicle standard, the requirements and procedures set out in these appendices are deemed acceptable for the purposes of demonstrating compliance with the conformity requirements of this vehicle standard.
- 5.4 For the purposes of the Type VI test specified in paragraph 5.3.5 of Appendix A, flex fuel ethanol vehicles that meet the applicable hydrocarbon (HC) emission limit for N₁ Class III vehicles in column L₂ of the table to paragraph 5.3.5.2 of Appendix A when tested on the ethanol (E75) reference fuel in paragraph 2 of Annex 10 of Appendix A, shall be deemed to meet the HC emission limit for this test on ethanol.
- 5.5 In Table A to paragraph 5.2 of Appendix A, footnote 3 is amended to read “The ethanol (E75) reference fuel specified in paragraph 2 of Annex 10 of Appendix A shall be used for this test.”

5.6 The Ethanol (E75) reference fuel specification in paragraph 2 of Annex 10 of Appendix A is amended to read:

Type: Ethanol (E75)

Parameter	Unit	Limits ¹		Test method ²
		Minimum	Maximum	
Research octane number, RON		95.0	-	EN ISO 5164
Motor octane number, MON		85.0	-	EN ISO 5163
Density at 15 °C	kg/m ³	Report		ISO 12185
Vapour pressure	kPa	50.0	60.0	EN ISO 13016-1 (DVPE)
Sulphur content ^{3, 4}	mg/kg	-	10	EN ISO 20846 EN ISO 20884
Oxidation stability	minutes	360		EN ISO 7536
Existent gum content (solvent washed)	mg/(100 ml)	-	4	EN ISO 6246
Appearance This shall be determined at ambient temperature or 15 °C whichever is higher.		Clear and bright, visibly free of suspended or precipitated contaminants		Visual inspection
Ethanol and higher alcohols ⁷	% V/V	70	80	EN 1601 EN 13132 EN 14517
Higher alcohols (C3-C8)	% V/V	-	2.0	
Methanol	% V/V		0.5	
Petrol ⁵	% V/V	Balance		EN 228
Phosphorus	mg/l		0.3 ⁶	EN 15487 ASTM D 3231
Water content	% V/V		0.3	ASTM E 1064 EN 15489
Inorganic chloride content	mg/l		1	ISO 6227 - EN 15492
pHe		6.50	9.0	ASTM D 6423 EN 15490
Copper strip corrosion (3h at 50 °C)	Rating	Class 1		EN ISO 2160
Acidity, (as acetic acid CH ₃ COOH)	% m/m (mg/l)	-	0.005 (40)	ASTM D 1613 EN 15491
Carbon/hydrogen ratio		report		
Carbon/oxygen ratio		report		

¹ The values quoted in the specifications are "true values". In establishment of their limit values the terms of ISO 4259 Petroleum products - Determination and application of precision data in relation to methods of test have been applied. When fixing a minimum value, a minimum difference of 2R above zero was taken into account. When fixing a maximum and minimum value, the minimum difference used was 4R (R = reproducibility). Notwithstanding this procedure, which is necessary for technical reasons, fuel manufacturers shall aim for a zero value where the stipulated maximum value is 2R and for the mean value for quotations of maximum and minimum limits. Where it is necessary to clarify whether fuel meets the requirements of the specifications, the terms of ISO 4259 shall be applied.

² In cases of dispute, the procedures for resolving the dispute and interpretation of the results based on test method precision, described in EN ISO 4259 shall be used.

³ In cases of national dispute concerning sulphur content, either EN ISO 20846 or EN ISO 20884 shall be called up similar to the reference in the national annex of EN 228.

⁴ The actual sulphur content of the fuel used for the Type VI Test shall be reported.

⁵ The unleaded petrol content can be determined as 100 minus the sum of the percentage content of water and alcohols.

⁶ There shall be no intentional addition of compounds containing phosphorus, iron, manganese, or lead to this reference fuel.

⁷ Ethanol to meet specification of EN 15376 is the only oxygenate that shall be intentionally added to this reference fuel.

- 5.7 For the purposes of calculating the Lambda value when tested at ‘high idle speed’ in accordance with Paragraph 5.3.7.3. of Appendix A on the ethanol (E75) reference fuel in paragraph 2 of Annex 10 of Appendix A:
- the Atomic ratio of hydrogen to carbon shall be 2.61; and
 - the Atomic ratio of oxygen to carbon shall be 0.329.
- 5.8 For the purposes of determining the total mass of Hydrocarbons emitted in accordance with paragraph 6.6.2. of Annex 4a of Appendix A, when tested on the ethanol (E75) reference fuel in paragraph 2 of Annex 10 of Appendix A, the density shall be 0.886 g/l.
- 5.9 For the purposes of determining the correction for dilution air concentration in accordance with paragraph 6.6.4 of Annex 4a of Appendix A, when tested on the ethanol (E75) reference fuel in paragraph 2 of Annex 10 of Appendix A, the dilution factor shall be calculated as follows:

$$DF = \frac{12.7}{C_{CO_2} + (C_{HC} + C_{CO}) \cdot 10^{-4}}$$

6 ALTERNATIVE STANDARDS

- 6.1 The technical requirements of United Nations Economic Commission for Europe Regulation No. 83 *Uniform provisions concerning the approval of vehicles with regard to the emissions of pollutants according to engine fuel requirements*, Revision 4, incorporating the 06 series of Amendments, are deemed to be equivalent to the technical requirements of this vehicle standard.

Notes to the *Vehicle Standard (Australian Design Rule 79/04 — Emission Control for Light Vehicles) 2011*

Note 1

The *Vehicle Standard (Australian Design Rule 79/04 — Emission Control for Light Vehicles) 2011* (in force under section 7 of the *Motor Vehicle Standards Act 1989*) as shown in this compilation is amended as indicated in the Tables below.

Table of Instruments

Title	Date of FRLI Registration	Date of commencement	Application, saving or transitional provisions
<i>Vehicle Standard (Australian Design Rule 79/04 — Emission Control for Light Vehicles) 2011</i>	5 Oct 2011 (see F2011L02016)	6 Oct 2011	
<i>Vehicle Standard (Australian Design Rule 79/04 — Emission Control for Light Vehicles) 2011 Amendment 1</i>	15 May 2012 (see F2012L01035)	16 May 2012	—

Table of Amendments

ad. = added or inserted am. = amended rep. = repealed rs. = repealed and substituted

Provision affected	How affected
C. 5.4.....	ad. F2012L01035
C. 5.5.....	ad. F2012L01035
C. 5.6.....	ad. F2012L01035
C. 5.7.....	ad. F2012L01035
C. 5.8.....	ad. F2012L01035
C. 5.9.....	ad. F2012L01035
