Vehicle Standard (Australian Design Rule 79/05 – Emission Control for Light Vehicles) 2024

Made under section 12 of the *Road Vehicle Standards Act 2018*

Explanatory Statement

Approved by the Hon Catherine King MP, Minister for Infrastructure, Transport, Regional Development and Local Government

February 2024

CONTENTS

1. LEGISLATIVE AUTHORITY

1.1. National Road Vehicle Standards

Vehicle Standard (Australian Design Rule 79/05 – Emission Control for Light Vehicles) 2023, also referred to as ADR 79/05, is made under section 12 of the *Road Vehicle Standards Act 2018* (the Act). Section 12 of the Act allows the Minister to determine National Road Vehicle Standards.

1.2. Exemption from Sunsetting

ADR 79/05 is exempt from the sunsetting provisions of the *Legislation Act 2003.*

Source of the Exemption

A standard made under section 12 of the Act is not subject to the sunsetting provisions of section 50 of the *Legislation (Exemptions and Other Matters) Act 2003* through section 12 of the *Legislation (Exemptions and Other Matters) Regulation 2015* (table item 56C). A similar exemption was previously granted in respect of national road vehicle standards made under section 7 of the *Motor Vehicle Standards Act 1989* (MVSA) (item 40, section 12 of the *Legislation (Exemptions and Other Matters) Regulation 2015*). This exemption is important to ensure that ADR 79/05 continues to remain in force, and available to regulators and industry.

Justification of Exemption

It is appropriate that standards made under section 12 of the Act, also known as the Australian Design Rules (ADRs), remain enduring and effective to regulate ongoing road worthiness of vehicles throughout their useful life and reduce regulatory burden on vehicle manufacturers.

Intergovernmental dependencies

The exemption concerns ADRs which facilitate the establishment and operation of the intergovernmental vehicle standard regime that Commonwealth, State and Territory governments rely on to regulate the safety of vehicles on public roads.

The Commonwealth uses the ADRs as the basis on which approvals to supply types of road vehicles to the market are granted under the *Road Vehicle Standards Rules 2019*. States and territories use the ADRs as the primary criteria on which vehicles are assessed for road worthiness. This ‘in-service’ aspect is dependent on the date of manufacture, which determines the applicable version of the ADRs against which the vehicle can be assessed. The ability to rely on national standards is particularly relevant given the long service life of vehicles – the average age of vehicles in Australia is 12.1 years.

While the ADRs are regularly updated to reflect changes in technology, it is not possible to apply these new standards retrospectively to vehicles that are already in use. With former ADRs kept on the Federal Register of Legislation, State and Territory governments can use them to ensure vehicles continue to comply with the ADRs that were in force when they were first supplied to the market.

In the event that the Commonwealth could not justify the maintenance of the ADRs, State and Territory governments would be compelled to create their own vehicle standards. Whilst this could mean adopting the substance of the lapsed ADRs as an interim measure, the differing needs and agendas of each State and Territory

government may result in variations to in-service regulations. Having different vehicle standards across the states and territories would make the scheme operate contrary to the underlying policy intent of the Act which is to set nationally consistent performance-based standards.

Commercial dependencies

The effect on vehicle manufacturers to redesign existing models to comply with new ADRs would present a burden and be a costly and onerous exercise. Manufacturers should not be expected to continually go back to redesign existing vehicles. Furthermore, ongoing product recalls to comply with new ADRs would undermine consumer confidence with significant financial impact to manufacturers. This exemption allows vehicle manufacturers to focus their efforts to ensure new models supplied to the market continue to comply.

Review of Australian Design Rules

Despite exemption from sunsetting, ADRs are subject to regular reviews, as resources permit, and when developments in vehicle technology necessitate updates to requirements. Comprehensive parliamentary scrutiny is available through these reviews.

Reviews of the ADRs ensure the ongoing effectiveness of a nationally consistent system of technical regulations for vehicle design, which are closely aligned, wherever appropriate with leading international standards such as United Nations regulations. This enables a rapid introduction of the latest technological advances into the Australian market, while also contributing to the industry's cost competitiveness in the domestic market.

1.3 International Harmonisation

A majority of Australian road vehicle standards such as ADR 79/05 harmonise closely with international regulations. This is so that manufacturers can more easily comply with regulation, and so that regulations capture the well-developed views of the international community. This ultimately leads to safer and cheaper products for Australians.

ADRs often directly incorporate United Nations (UN) Regulations as an appendix, where the appendix provides the technical requirements of the ADR and the rest of the ADR facilitates its application to Australia. To this end, Section 6 creates exemptions and alternate procedures. For instance, manufacturers are exempt from requirements that pertain to UN type approvals, and instead, need to comply with the approvals process set out in the Act. Likewise, Section 7 provides for the acceptance of certain alternative standards that have equivalent requirements to the appendix. For instance, a vehicle covered by a type approval under the UN Regulation would be deemed to comply with the ADR.

2. PURPOSE AND OPERATION

2.1. Overview of the ADR

Clause 2.1 advises this national road vehicle standard sets exhaust emission requirements for light duty road motor vehicles (passenger (MA, MB, MC and MD category) and goods carrying (NA category) vehicles with a gross vehicle mass up to 3,500kg) to reduce the public health impacts of exhaust emissions produced by light duty road motor vehicles.

Noxious exhaust emissions such as oxides of nitrogen (NOx) and particulate matter (PM), can cause respiratory and cardiovascular illnesses and cancer. Light duty road motor vehicles, particularly petrol and diesel vehicles, are a significant source of noxious air pollutants, particularly in areas with high volumes of vehicle traffic.

2.2. Design Requirement

Clause 5.1 requires all vehicles subject to the ADR to meet the requirements specified in Appendix A of this standard, as varied by Section 6 Exemptions and Alternative Procedures together with the requirements of ADR 111/00 and ADR 112/00, or one of the alternative standards specified in Section 7.

Clauses 5.1.1 and 5.1.2 state that pure electric and hydrogen fuel cell vehicles are not required to comply with Appendix A or the alternative standards in Section 7, if they are fitted with a label or emblem indicating the vehicle is a battery electric or hydrogen fuel cell vehicle.

Appendix A is based on the forthcoming 08 series of amendments to UN Regulation No. 83 – *Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements*, which was agreed at the 190th session of the World Forum for the Harmonisation of Vehicle Regulations on 21 June 2023[1]. UN Regulation 83/08 adopts the latest requirements adopted in European Union (EU) Regulation 2017/1151 for idle emissions, crankcase emissions, exhaust emissions in low temperature conditions and auxiliary emission systems. It also adopts the laboratory testing requirements of UN Regulation 154 and real-world emission testing requirements of UN Regulation 168 by reference. These are based on the equivalent tests adopted in European Union (EU) Regulation 2017/1151.

Light duty vehicles conforming to ADR 79/05 will need to be designed to produce significantly lower emissions of oxides of nitrogen and particulates. To meet the performance-based requirements of the ADR, most light duty diesel vehicles will need be fitted with a selective catalytic reduction (SCR) system (which uses a consumable reagent to break down oxides of nitrogen) to reduce the production of oxides of nitrogen. Most petrol vehicles will need to be fitted with a particulate filter to burn off particulate emissions produced from the combustion process.

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[1] The 08 series of amendments to United Nations (UN) Regulation 83 *Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements* (ECE/TRANS/WP.29/2023/57) was adopted by the Administrative Committee for the United Nations 1958 Agreement Concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations on 21 June 2023. Vehicles complying the technical requirements of this regulation will be accepted as complying with this ADR, once it enters into force.

2.3. Exemptions and Alternative Procedures

Exemptions

Clause 6.1 creates exemptions from some requirements of Appendix A (forthcoming UN R168) which pertain to gaining a Type Approval in the UN context. This is because they are not required in the Australian context where the Commonwealth administers approvals through the Act and the ADRs. Consequently, manufacturers supplying new vehicles to Australia are exempt from most administrative (non-technical) requirements of forthcoming UN R83/08.

Clause 6.1 states that compliance with sections 3 (with the exception of Clause 3.4.9), 4, 8, 9, 10, 11, 12, and 13 and Annex 1, 2, 3 and 4 of UN R83/08 are not required for the purposes of complying with ADR 79/05. This is because they refer to administrative requirements to obtain and maintain a Type Approval under the UN 1958 Agreement.

Alternative Procedures

Clause 6.2 states that documentation required in specified parts of Appendix A need not be supplied in an application for a vehicle or component type approval under the *Road Vehicle Standards Rules* but must be recorded in the supporting information held by the manufacturer and supplied to the Department on request.

Clauses 6.3, 6.4, 6.5. and its subclauses clarify how references to 'the 07 series of Amendments to this Regulation' in Appendix A shall be interpreted for the purposes of this ADR.

Clause 6.6 advises that the references to 'Technical Service' in Clause 6.5.2 of Annex 8 of Appendix A shall be read as 'Approved Testing Facility'. This clarifies how this provision is intended to apply under the Road Vehicle Standards Legislation.

2.4. Alternative Standards

Section 7 sets out standards that are considered to be equivalent to ADR 79/05. If a vehicle meets the requirements of one of these standards, it also complies with ADR 79/05. These alternative standards are acceptable because they are expected to achieve an equivalent policy outcome. Vehicle manufacturers have the flexibility to demonstrate compliance to ADR 79/05 through clause 5.1 and Appendix A as varied by Section 6 Exemptions and Alternative Procedures, or through Section 7 Alternative Standards.

Clause 7.1 identifies UN Regulation No. 83 – *Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements,* incorporating the 08 or later series of amendments as an acceptable alternative standard. UN Regulation 83/08 is based on the latest noxious emission requirements adopted in European Union (EU) Regulation 2017/1151.

Clause 7.2 identifies United Nations Regulation No. 49 – *Uniform provisions concerning the measures to be taken against the emission of gaseous and particulate pollutants from compression-ignition engines and positive ignition engines for use in vehicles*, incorporating the 06 or 07 series of amendments, as an acceptable alternative standard, if the vehicle meets the Stage C or later requirements. These are the sixth and seventh series of amendments to the original internationally agreed standard for heavy vehicle noxious emissions. This UN Regulation may apply to light duty vehicles, if their reference mass exceeds 2,610kg or is an eligible variant of a vehicle with a reference mass exceeding 2,610kg.

Clause 7.3 identifies the Commission Regulation (EC) No 2017/1151 of the European Parliament and of the Council of 1 June 2017 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Commission Regulation (EC) No 692/2008 as an acceptable alternative standard. This is the equivalent European regulation adopting the 'Euro 6d' and 'Euro 6e' emission requirements for light duty vehicles.

Clause 7.4, identifies the technical requirements of the United States Code of Federal Regulations (CFR) Title 40, Part 86 – Control of air pollution from new and in-use motor vehicles and new and in-use motor vehicle engines certification and test procedures, Tier 3 requirements as specified by Subpart S 86.1811-17 Exhaust Emission standards for light-duty vehicles, light-duty trucks and medium-duty passenger vehicles as an acceptable alternative standard. This is the current US noxious emissions standard for light duty vehicles and was considered to be sufficiently equivalent in stringency to the 'Euro 6d' standards in the Impact Analysis to support the introduction of ADR 79/05.

Clause 7.4.1 advises vehicles meeting the US standard must meet the applicable US requirements for useful life, not to exceed test requirements, on board diagnostic system requirements and rules regarding use of auxiliary emission control devices. Clause 7.4.2 states this may be demonstrated by a certificate of conformity issued by US Environmental Protection Agency or a test report.

Clause 7.4.3 advises that vehicles meeting this standard to be tested a designated location, using driving cycles and conditions that may reasonably be expected to be encountered in normal operation and use, for the purposes of investigating a potential defeat device. This is consistent with the requirements of the US standard, which provide for the regulator to perform or require additional testing for this purpose.

3. MATTERS INCORPORATED BY REFERENCE

Section 12 of the Act allows the Minister to incorporate a broad range of documents, both as in force at a particular time and as in force from time to time, when making national vehicle standards. This ensures that Australia's legislative framework is well-prepared for future developments in the international road vehicle space. ADR 79/05 makes use of this provision as specified below.

3.1. Other Legislative Instruments

Clause 4.1.2 of ADR 79/05 includes a reference to the Vehicle Standard (Australian Design Rule Definitions and Vehicle Categories) 2005 (which may also be cited as the Australian Design Rule – Definitions and Vehicle Categories). This sets out definitions for many terms used in the ADRs, including the vehicle categories used in ADR applicability tables.

Clauses 4.1.3 and 6.2 includes a reference to the Road Vehicle Standards Rules 2019 (the Rules), which specify administrative requirements for a vehicle or component type approval.

Clauses 4.1.4, 4.1.5, 5.1 and its subclauses 5.1.1 and 5.1.2 includes a reference to Vehicle Standard (Australian Design Rule 111/00 – Advanced Emission Control for Light Vehicles) 2023. This vehicle standard sets a range of emission control requirements for light vehicle exhaust emissions.

Clause 5.1 also includes a reference to Vehicle Standard (Australian Design Rule 112/00 – Control of Real Driving Emissions for Light Vehicles) 2023. This vehicle standard sets a range of emission control requirement for light vehicle exhaust emissions in real world conditions.

Clauses 6.3, 6.4, 6.5. and its subclauses include a reference to Vehicle Standard (Australian Design Rule 79/04 – Emission Controls for Light Vehicles) 2011. This vehicle standard sets a range of emission control requirements for light vehicle exhaust emissions.

The ADRs may be freely accessed online through the Federal Register of Legislation. The website is www.legislation.gov.au.

In accordance with subsection 12 of the Act, each of these ADRs are incorporated as in force or existing from time to time. The ellipses (…) indicates the version(s) (e.g. 00, 01 etc.) of the ADR in force at the time.

3.2. International Vehicle Regulations

United Nations Regulations and/or Resolutions

Clauses 6.3, 6.4 and 6.5 includes a reference to the 07 series of amendments UN Regulation No. 83 – *Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements)*. This is the previous UN Regulation for light vehicle noxious emissions.

Clause 7.1 includes a reference to UN Regulation No. 83 – *Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements,* incorporating the 08 or later series of amendments as an acceptable alternative standard. UN Regulation 83/08 is based on the requirements for idle emissions, crankcase emissions, exhaust emissions in low temperature conditions and auxiliary emission systems adopted in European Union (EU) Regulation 2017/1151.

Clause 7.2 includes a reference to Supplement 4 to the 06 series of amendments or later to United Nations Regulation No. 49 – *Uniform provisions concerning the measures to be taken against the emission of gaseous and particulate pollutants from compression-ignition engines and positive ignition engines for use in vehicles*. This

regulation is based on the international (Euro VI) standards for heavy vehicle noxious emissions.

Appendix A (which adopts the text of UN Regulation 83/08) includes a number of references to UN vehicle regulations and resolutions. Further information on these references can be found in table 1.

Table 1 – UN Regulations and Resolutions referenced in Appendix A.

UN Regulations/Resolutions	**References in Appendix A**
Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.6.	*Cl.1.1, 4.2.1* *Annex 1, Cl.0.4* *Annex 2, Cl. 0.4*
United Nations Regulation No. 24 - Uniform provisions concerning: *I. The approval of compression ignition (C.I.) engines with regard to the emission of visible pollutants* *II. The approval of motor vehicles with regard to the installation of C.I. engines of an approved type* *III. The approval of motor vehicles equipped with C.I. engines with regard to the emission of visible pollutants by the engine* *IV. The measurement of power of C.I. engine*	*Cl.3.1.1(d), 12.2.1(b), 12.2.2(b), 12.2.3(b)* *Annex 2, Cl.2.4*
UN Regulation No. 83 - Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements	*Cl.2.1.1, 5.3.5.1.2, 12.2.1(a), 12.2.2(a), 12.2.3(a)* *Annex 2* *Annex 3, Cl.(a)* *Annex 6, Cl.2.3* *Annex 8, Cl.2.1.1, 2.2.1, 2.2.2, 2.3.1, 2.4.1, 2.4.2, 2.5.1, 2.6.1, 3.2, 3.2.1, 3.3.1, 4.2.3, 4.2.5, 4.2.7, 5.1.1, 5.2.1.4, 5.3.1, 5.3.2, 5.3.3, 5.4.1,*

UN Regulations/Resolutions	**References in Appendix A**
UN Regulation No. 85 - Uniform provisions concerning the approval of internal combustion engines or electric drive trains intended for the propulsion of motor vehicles of categories M and N with regard to the measurement of net power and the maximum 30 minutes power of electric drive trains	*Cl.3.1.1(d), 12.2.1(c), 12.2.2(c), 12.2.3(c)* *Annex 3(b)*
UN Regulation No. 154 - Uniform provisions concerning the approval of light duty passenger and commercial vehicles with regards to criteria emissions, emissions of carbon dioxide and fuel consumption and/or the measurement of electric energy consumption and electric range (WLTP).	*Cl.2, 3.1.1(a)(d), 3.3.7, 3.4.10, 5.1.1, 5.1.5.1, 7.1.1, 9.8, 12.2.1(d), 12.2.2(d),* *Annex 1 - Cl.0.2.3.1,* *Annex 2 – Appendix 2 – Cl.1* *Annex 3(c)* *Annex 4, Cl.3(b), Cl.5.3, Table A4/2. Cl.5.10.3* *Annex 4 – Appendix 2* *Annex 4 - Appendix 5, Table 1, Table 2* *Annex 5, Cl.2.2.1* *Annex 6, Cl.2.1, 2.3* *Annex 8, Cl.3.5* *Annex 10, Cl.1.1* *Annex 10a, Cl.1.1* *Annex 11, Cl. 1, 1.1 1.2*

UN Regulations/Resolutions	**References in Appendix A**
United Nations Regulation No. 168 – Uniform provisions concerning the approval of light duty passenger and commercial vehicles with regards to real driving emissions (RDE)	*Cl.9.8, 12.2.1(e), 12.2.2(e), 12.2.3(e)* *Annex 1 - Cl.0.2.3.3,* *Annex 4, Cl.3(a), Cl.5.3, 5.6, 5.7.2* *Annex 4 - Appendix 5, Table 1, Table 2*

The Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.6, and the UN Regulations (including Regulations 24, 83, 85, 154 and 168), may be freely accessed online through the UN World Forum for the Harmonization of Vehicle Regulations (WP.29) [2]. The WP.29 website is www.unece.org/trans/main/welcwp29.html.

In accordance with subsections 14(1)(b) and 14(2) of the *Legislation Act 2003*, each of these UN documents are incorporated as in force on the date this national road vehicle standard is made.

European Union (EU) Regulations

Clause 7.3 includes a reference to Commission Regulation (EC) No 2017/1151 of the European Parliament and of the Council of 1 June 2017 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Commission Regulation (EC) No 692/2008 as an acceptable alternative standard. This is the equivalent European regulation adopting the 'Euro 6d' and 'Euro 6e' emission requirements for light duty vehicles.

European Union regulations including Regulation (EU) No 2017/1151 and Regulation (EC) No. 715/2007 may be freely accessed online through the EUR-Lex website. The English version of the EUR-Lex website eur-lex.europa.eu/homepage.html?locale=en.

[2] UN Regulation No. 168 (ECE/TRANS/WP.29/2023/77) and the 08 series of amendments to UN Regulation 83 (ECE/TRANS/WP.29/2023/57) were adopted by the Administrative Committee for the United Nations 1958 Agreement Concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations on 21 June 2023. These regulations will officially enter into force under the UN 1958 Agreement in January 2024.

In accordance with subsections 14(1)(b) and 14(2) of the *Legislation Act 2003*, the EU regulation is incorporated as in force on the date this national road vehicle standard is made.

United States Code of Federal Regulations (US CFR)

Clause 7.4 includes the technical requirements of the United States Code of Federal Regulations (CFR), Part 86 – Control of air pollution from new and in-use motor vehicles and new and in-use motor vehicle engines certification and test procedures, Tier 3 requirements as specified by Subpart S 40 CFR 86.1811-17 Exhaust Emission standards for light-duty vehicles, light-duty trucks and medium-duty passenger vehicles, as an alternative. This is the equivalent US noxious emission standards for light vehicles, which apply to some lighter vehicles within the scope of ADR 111/00.

The US CFR may be freely accessed online at www.ecfr.gov.

In accordance with subsections 14(1)(b) and 14(2) of the *Legislation Act 2003*, these provisions of the US CFR are incorporated as in force on the date this national road vehicle standard is made.

3.3. Technical standards

Appendix A (which adopts the text of UN Regulation 83/08) includes a number of references to technical standards developed by organisations. These are:

- American Society for Testing and Materials (ASTM)
- International Organization for Standardization (ISO)
- International Electrotechnical Commission (IEC)
- European Committee for Standardization (CEN)

Table 2 contains a list of the standards referenced in Appendix A.

ASTM standards may be freely accessed online through the ASTM International Reading Room. This requires the user to register using an email and password. The ASTM International Reading Room website is www.astm.org/readinglibrary/.

ISO, CEN, and IEC Technical Standards are available for purchase from Intertek Inform (formerly SAI Global). Intertek Inform's website is: https://www.intertekinform.com/en-au/

Subject to copyright conditions, people may also view a copy of these documents at the Offices of the Department of Infrastructure, Transport, Regional Development, Communications and the Arts in Canberra.

While not freely available, these standards are all readily accessible and widely used by vehicle manufacturers and test facilities as part of their professional libraries. Section 49 of the explanatory memorandum for the Road Vehicle Standards Bill 2018 explains the importance of being able to incorporate technical standards that are not available free of charge and this arrangement was accepted by the Parliament through the passing of the Road Vehicle Standards Bill 2018.

In accordance with subsections 14(1)(b) and 14(2) of the *Legislation Act 2003*, each of these standards are incorporated as in force on the date this national road vehicle standard is made.

Table 2 – Technical Standards adopted by reference in Appendix A

Technical Standard	**References in Appendix A**
ASTM D 3231 - Standard Test Method for Phosphorus in Gasoline	*Annex 10*, *Tables*, *Type*: *Petrol (E10)* *Type*: *Ethanol (E75)*
ASTM E 1064 - Standard Test Method for Water in Organic Liquids by Coulometric Karl Fischer Titration	*Annex 10, Table, Type: Ethanol (E75)*
ASTM D 6423 - Standard Test Method for Determination of pHe of Denatured Fuel Ethanol and Ethanol Fuel Blends	*Annex 10, Table:* *Type: Ethanol (E75)*
ASTM D 1613 - Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products	*Annex 10, Table, Type Ethanol (E75)*
EN ISO 5164 - Petroleum products - Determination of knock characteristics of motor fuels - Research method	*Annex 10*, *Tables*, *Type*: *Petrol (E10)* *Type*: *Ethanol (E75)*
EN ISO 5163 - Petroleum products - Determination of knock characteristics of motor and aviation fuels - Motor method	*Annex 10*, *Tables*, *Type*: *Petrol (E10)* *Type*: *Ethanol (E75)*
EN ISO 12185 - Crude petroleum and petroleum products - Determination of density - Oscillating U-tube method	*Annex 10*, *Tables*, *Type*: *Petrol (E10)* *Type*: *Ethanol (E75)*
EN 13016-1 - Liquid petroleum products - Vapour pressure - Part 1: Determination of air saturated vapour pressure (ASVP) and calculated dry vapour pressure equivalent (DVPE)	*Annex 10, Tables, Type: Petrol (E10)* *Type: Ethanol (E75)*
EN ISO 20846 - Petroleum products - Determination of sulfur content of automotive fuels - Ultraviolet fluorescence method	*Annex 10, Tables, Type: Petrol (E10)* *Type: Ethanol (E75)*
EN ISO 20884 - Petroleum products - Determination of sulfur content of automotive fuels - Wavelength-dispersive X-ray fluorescence spectrometry	*Annex 10, Tables Type: Petrol (E10)* *Type: Ethanol (E75)*
EN 12937 - Petroleum products — Determination of water — Coulometric Karl Fischer titration method	*Annex 10, Table, Type: Petrol (E10)*

Technical Standard	**References in Appendix A**
EN-ISO 3405 - Petroleum and related products from natural or synthetic sources - Determination of distillation characteristics at atmospheric pressure	*Annex 10, Table, Type: Petrol (E10)*
EN 22854 - Liquid petroleum products — Determination of hydrocarbon types and oxygenates in automotive-motor gasoline and in ethanol (E85) automotive fuel — Multidimensional gas chromatography method	*Annex 10, Table, Type: Petrol (E10)*
EN 238 - Liquid petroleum products - Petrol - Determination of the benzene content by infrared spectrometry	*Annex 10, Table, Type: Petrol (E10)*
EN-ISO 7536 - Petroleum products - Determination of oxidation stability of gasoline - Induction period method	*Annex 10, Tables, Type: Petrol (E10)* *Type: Ethanol (E75)*
EN-ISO 6246 - Petroleum products - Gum content of fuels - Jet evaporation method	*Annex 10, Tables, Type: Petrol (E10)* *Type: Ethanol (E75)*
EN-ISO 2160 - Petroleum products - Corrosiveness to copper - Copper strip test	*Annex 10, Tables, Type: Petrol (E10)* *Type: Ethanol (E75)*
EN 237 - Liquid petroleum products - Petrol - Determination of low lead concentrations by atomic absorption spectrometry	*Annex 10, Table, Type: Petrol (E10)*
EN 1601 - Liquid petroleum products - Determination of organic oxygenate compounds and total organically bound oxygen content in unleaded petrol - Method by gas chromatography (O-FID)	*Annex 10, Table, Type: Ethanol (E75)*
EN 13132 - Liquid petroleum products - Unleaded petrol - Determination of organic oxygenate compounds and total organically bound oxygen content by gas chromatography using column switching	*Annex 10, Table, Type: Ethanol (E75)*
EN 14517 - Liquid petroleum products - Determination of hydrocarbon types and oxygenates in petrol - Multidimensional gas chromatography method	*Annex 10, Table, Type: Ethanol (E75)*

Technical Standard	**References in Appendix A**
EN 228 - Automotive fuels - Unleaded petrol - Requirements and test methods	*Annex 10, Tables, Type: Petrol (E10), footnote 2* *Type: Ethanol (E75)*
EN 15487 - Ethanol as a blending component for petrol - Determination of phosphorus content - Ammonium molybdate spectrometric method	*Annex 10, Table, Type: Ethanol (E75)*
EN 15489 - Ethanol as a blending component for petrol - Determination of water content - Karl Fischer coulometric titration method	*Annex 10, Table, Type: Ethanol (E75)*
ISO 6227 - Chemical products for industrial use — General method for determination of chloride ions — Potentiometric method	*Annex 10, Table, Type: Ethanol (E75)*
EN 15492 - Ethanol as a blending component for petrol - Determination of inorganic chloride and sulfate content - Ion chromatographic method	*Annex 10, Table, Type: Ethanol (E75)*
EN 15490 - Ethanol as a blending component for petrol - Determination of pHe	*Annex 10, Table, Type: Ethanol (E75)*
EN 15491 - Ethanol as a blending component for petrol - Determination of total acidity - Colour indicator titration method	*Annex 10, Table, Type: Ethanol (E75)*
EN 15376 - Automotive fuels - Ethanol as a blending component for petrol - Requirements and test methods	*Annex 10, Table Type: Petrol (E10), footnote 4, Type: Ethanol (E75), footnote 7*
ISO/EN ISO 4259 - Petroleum products – Determination and application of precision data in relation to methods of test	*Annex 10, Tables, Type: Petrol (E10), footnote 1 Type: Ethanol (E75), footnote 1*
EN ISO/IEC 17020 - Conformity assessment — Requirements for the operation of various types of bodies performing inspection	*Cl.2.40*
EN ISO/IEC 17025 - Testing and calibration laboratories	*Cl.2.40*

Technical Standard	**References in Appendix A**
ISO 31000:2018 — Risk Management — Principles and guidelines	*Cl.5.4*
ISO 3779 - Road vehicles — Vehicle identification number (VIN) — Content and structure	*Annex 4 – Appendix 5, Table 2*
ISO 2416:1992 - Passenger cars — Mass distribution	*Annex 1, Cl.2.6, footnote 4*
DIN EN 60050-482 - International Electrotechnical Vocabulary (IEV) - Part 482: Primary and secondary cells and batteries	*Annex 4 – Appendix 5, Table 1, ID 32*

4. CONSULTATION

4.1. General Consultation Arrangements

It has been longstanding practice to consult widely on proposed new or amended vehicle standards. For many years, there has been active cooperation between the Commonwealth and the state/territory governments, as well as consultation with industry and consumer groups. Much of the consultation takes place within institutional arrangements established for this purpose. The analysis and documentation prepared in a particular case, and the bodies consulted, depend on the degree of impact the new or amended standard is expected to have on industry or road users.

Proposals that are regarded as significant need to be supported by an Impact Analysis meeting the requirements of the Office of Impact Analysis (OIA) as published in the *Australian Government Guide to Policy Impact Analysis* where the decision maker is the Australian Government's Cabinet, the Prime Minister, minister, statutory authority, board or other regulator.

The Impact Analysis evaluating the costs and benefits of the ADR package mandating Euro 6d equivalent standards and associated changes to fuel quality standards conform to the requirements established by the OIA. The reference number for this Impact Analysis is OBPR22-02515.

4.2. Specific Consultation Arrangements

A draft Impact Analysis 'Light Vehicle Emission Standards for Cleaner Air' was posted on the Department's website for public comment from 20 October 2020 to 26 February 2021.

Formal feedback was received from members of the public, government agencies, industry bodies, health and environmental organisations. A majority of the feedback received strongly or conditionally supported the implementation of new ADRs mandating Euro 6d for light vehicles from the mid-2020s.

The Department also consulted members of its Vehicle Standards Consultative Forum on an exposure draft of ADR 79/05 in January 2024. This forum comprises representatives of government (Australian and state/territory), the manufacturing and operational arms of the industry (including organisations such as the Federal Chamber of Automotive Industries and the Australian Trucking Association) and organisations representing consumers and road users (such as the Australian Automobile Association).

5. REGULATORY IMPACT

There are costs associated with mandating Euro 6 equivalent noxious emission standards for light vehicles, but the related Impact Analysis shows that there will be positive net benefits. Overall, it is estimated that the implementation of ADR 79/05, in conjunction with ADR 111/00 (Advanced Emission Control for Light Vehicles) and ADR 112/00 (Control of Real Driving Emissions from Light Vehicles) and associated amendments to the Fuel Quality Standards (Petrol) Determination from 2025 will result in a net benefit of $4,508 million by 2040 and a benefit-cost ratio of 3.44. The estimated health benefits and fuel savings from this package ($6,338 million by 2040) were found to outweigh any expected increases in capital costs for light vehicle manufacturers ($1,484 million over the same period) and associated capital and operating costs for refineries and importers to supply a Euro 6 compatible grade of petrol ($334.7 million by 2040).

6. STATEMENT OF COMPATIBILITY WITH HUMAN RIGHTS

The following Statement is prepared in accordance with Part 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011.*

6.1. Overview

ADR 79/05 specifies minimum performance-based requirements for exhaust emissions produced by light vehicles to reduce air pollution and associated health impacts borne by the community.

6.2. Human Rights Implications

ADR 79/05 engages the following human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*.

Right to life and right to health

Article 6(1) of the International Covenant on Civil and Political Rights (ICCPR) includes a duty on governments to take appropriate steps to protect the right to life of those within its jurisdiction. The United Nations Committee General Comment 6 (1982) states: '…the Committee has noted that the right to life has been too often narrowly interpreted. The expression "inherent right to life" cannot properly be understood in a restrictive manner, and the protection of this right requires that States adopt positive measures.'

Article 12 (1) of the International Covenant on Economic Social and Cultural Rights (ICESCR) contains the right to health – that is, the right to the enjoyment of the highest attainable standard of physical and human health. The ICESCR has stated that the right to health extends to the underlying determinants of health such as a healthy environment.

A key objective of ADR 79/05 is to promote the right to life and the right to health (and a healthy environment) by ensuring that road vehicles imported into Australia, or introduced for use in transport in Australia for the first time are fitted with technologies that minimise noxious emissions that can impact on the quality of the air we breathe increase the risk of heart and lung diseases and cancers. ADR 79/05 is intended to achieve this objective by setting stricter limits on noxious exhaust emissions and stricter test procedures for new road vehicles supplied to Australia.

6.3. Conclusion

ADR 79/05 is compatible with human rights because it promotes the protection of human rights and to the extent that it may limit human rights, those limitations are reasonable, necessary and proportionate.