

EXPLANATORY STATEMENT

Issued by the Authority of the Minister for Climate Change and Energy

Fuel Quality Standards Act 2000

Fuel Quality Standards (Petrol) Determination 2024

Legislative Authority

The *Fuel Quality Standards Act 2000* (the Act) provides the legislative framework for regulating the quality of fuel supplied in Australia. The Act seeks to reduce the level of pollutants and emissions arising from the use of fuel that may cause environmental and health problems; facilitate the adoption of better engine and emission control technology; allow the more effective operation of engines and ensure that, where appropriate, information about fuel is provided when the fuel is supplied.

Section 21 of the Act provides that the Minister may, by legislative instrument, determine a fuel standard in respect of a specified kind of fuel.

The *Fuel Quality Standards (Petrol) Determination 2024* is made for the purposes of the relevant provisions in section 21 of the Act.

Purpose

The purpose of the *Fuel Quality Standards (Petrol) Determination 2024* (the 2024 Petrol Determination) is to give effect to the changes to petrol quality recommended through the review of fuel quality from 2021–2023 (the Review). In line with the recommendations, the 2024 Petrol Determination sets out various chemical and physical properties of petrol (known as parameters), the specifications for each of those parameters, and testing methods to be used to ascertain whether the fuel has met the specification for each parameter. The 2024 Petrol Determination replaces the *Fuel Quality Standards (Petrol) Determination 2019* (the 2019 Petrol Determination).

The 2024 Petrol Determination changes the aromatic hydrocarbons (aromatics) specification in petrol. From 15 December 2025, the aromatics limit for petrol with a research octane number (RON) of between 95 and 97.9 (the 95 RON grade) will reduce from 45 per cent to 35 per cent.¹ The aromatics specification in other grades (91 RON and 98 RON) remains unchanged.

The 2024 Petrol Determination also adjusts the commencement date for the 10 milligrams per kilogram (mg/kg) (equivalent to 10 ‘parts per million’ or ‘ppm’ by mass) sulfur limit across all grades (also referred to as ultra-low sulfur petrol). The commencement date for the new ultra-low sulfur limit is 15 December 2025.

Background

The Australian Government regulates the quality of fuel sold in Australia to:

- reduce noxious emissions from vehicles

¹ The aromatics limit is a percentage by volume.

- allow the introduction of better vehicle technologies
- allow effective operation of engines.

Poor fuel quality can damage the environment, vehicles, and our health. Fuel quality and vehicle noxious emissions standards are closely linked as petrol quality is critical to vehicle engine performance and effective emissions controls.

Aromatics

In 2021, the Government commenced the Review. The Review assessed whether Australia's fuel quality would enable the implementation of more stringent noxious emissions standards for light vehicles (Euro 6d standards), assessing specifically the aromatics limit in petrol.

Australia's petrol quality is not aligned with international best practice. Australia's maximum limit of aromatics in petrol is 45 per cent with a maximum pool average content of 35 per cent. However, 85 per cent of the global light vehicle fleet is sold in countries that have a maximum limit of 35 per cent aromatics in petrol.

The Federal Chamber of Automotive Industries (FCAI) represents the views of light vehicle importers in Australia. The FCAI has stated that vehicle importers cannot import the latest vehicle technology into the Australian market without higher quality petrol being available. This is because Euro 6d vehicles require ultra-low sulfur and low aromatics (35 per cent maximum volume) petrol to achieve the best performance and longevity.

The Review concluded that introducing Euro 6d standards required a grade of petrol with a maximum aromatics limit of 35 per cent. The Review found that reducing the aromatics limit to 35 per cent in the 95 RON grade of petrol in 2025 and implementing Euro 6d standards from 2025 to 2028 would provide the highest net present value of the options considered. The 2024 Petrol Determination legislates the change to petrol quality recommended through the Review.

Sulfur

In 2019, the Government legislated a 10 ppm sulfur limit for all grades of petrol to commence from 2027.

In July 2022, the Government brought forward the reduction of the sulfur limit in petrol from 2027 to 2024. Since that time, Australia's refineries have stated that unavoidable disruptions in supply chains are impacting completion timeframes for the necessary infrastructure upgrades to produce ultra-low sulfur petrol. The refineries are unable to supply ultra-low sulfur petrol to the Australian market until these upgrades are complete.

The 2024 Petrol Determination adjusts the implementation date for ultra-low sulfur petrol by 12 months from December 2024 to December 2025. This maintains the policy of introducing ultra-low sulfur petrol as soon as possible while maintaining Australia's fuel security and responding flexibly to the obstacles the fuel industry is facing.

Impact and Effect

The 2024 Petrol Determination makes changes to the parameters for aromatics and sulfur.

Between the date this instrument commences and 14 December 2025, there is a 45 per cent maximum limit with a 35 per cent maximum pool average on aromatics across all grades. From 15 December 2025, there will be a 35 per cent maximum limit on aromatics for the 95 RON grade of petrol. Other grades of petrol will have a 45 per cent maximum limit on aromatics. All grades will have a 35 per cent maximum pool average on aromatics.

Between the date this instrument commences and 14 December 2025, there is a maximum limit on sulfur of 150 ppm for 91 RON and 50 ppm for 95 RON. From 15 December 2025, there will be a maximum limit on sulfur limit of 10 ppm for all grades.

There have also been minor stylistic changes to bring the standard into line with best practice drafting styles, such as changing the formatting of column headings in the table.

Consultation

Aromatics changes

In 2021, the then Department of Industry, Science, Energy and Resources (DISER) engaged independent advisors GHD and ACIL Allen to undertake a cost-benefit analysis (CBA) on improving fuel quality standards to enable the Euro 6d standards to be implemented in Australia. GHD, ACIL Allen and DISER met with 22 key industry stakeholders over a period of two months and held a government stakeholder webinar in late 2021, to determine the net benefits and regulatory burden of the policy options. Stakeholders included domestic refiners, fuel importers, the automotive industry, consumer representatives, health and environment interest groups, and state and Commonwealth government agencies.

Following initial stakeholder engagement, DISER's consultants engaged with importers and domestic refiners to develop the cost impacts used in the CBA. DISER finalised the options for analysis. DISER undertook focussed consultation with specific stakeholders to further explore issues raised through the first round of consultation.

In November 2022, the Department of Climate Change, Energy, the Environment and Water (DCCEEW) publicly released the *Better Fuel for Cleaner Vehicles* draft Regulation Impact Statement (draft RIS), seeking comments and further information from relevant industry stakeholders on the options put forward in the CBA.

The draft RIS considered options to bring Australia's fuel quality into closer alignment with best-practice international standards. This would ensure that the latest vehicle emission control systems can operate effectively and allow for the introduction of Euro 6d standards for light vehicles.

DCCEEW's preferred option was to adopt a 35 per cent limit on aromatics for 95 RON petrol in 2025. This would allow the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA) to phase in the Euro 6d standards for light vehicles from 2025 to 2028.

DCCEEW received 28 submissions, mostly representing either the petroleum sector (refineries, suppliers and distributors), the vehicle/automotive industry or community health stakeholder groups.

There were a variety of responses to the draft RIS. Overall, respondents acknowledged DCCEEW's preferred option as technically feasible, and one which offers policy certainty for the introduction of the Euro 6d standards.

The findings of the draft RIS were finalised in the 2023 [Impact Analysis: Improving Australia's fuel and vehicle emissions standards](#) (Impact Analysis), published jointly with DITRDCA (Office of Best Practice Regulation [OBPR] reference number OBPR22-02515).

The Impact Analysis concluded that the preferred option would allow for the introduction of the Euro 6d standards at the highest net present value for Australia, while also maintaining Australia's fuel security.

This approach also includes a review in 2030, after the implementation of the Euro 6d standards. The review will assess the implementation of the new fuel quality and noxious emissions standards and consider whether any further changes are needed to improve air quality and reduce greenhouse gas emissions from light vehicles.

Consultation on sulfur changes

There has been longstanding consultation with stakeholders regarding the sulfur level in Australian petrol.

Extensive consultation in 2016–2018 with the fuel, vehicle, and community health sectors informed the original decision to introduce an ultra-low sulfur limit in petrol from 2027. Detailed information on the consultation can be found in the *Better Fuel for Cleaner Air* Regulation Impact Statement (2018 RIS) (OBPR ID 20699).

In 2022, at the time the decision was made to bring the ultra-low sulfur implementation date forward to 2024, there was unanimous support from industry (both the fuel and vehicle sectors). The Federal Chamber of Automotive Industries endorsed the changes, stating that the sulfur reduction was a 'very important step' towards the regulation of Australian fuels in line with advanced global automotive markets.

In 2023, the refineries stated they were facing unforeseen delays to capital works projects needed to produce ultra-low sulfur petrol. DCCEEW engaged extensively with the fuel industry (refineries and importers) to understand the impact of this problem on fuel security and the fuel supply chain. The broader fuel industry (refineries and importers) is supportive of the adjustment to commencement noting that no real alternative options exist and the change would not adversely affect them.

The Office of Impact Analysis (OIA) advised that an addendum to the 2018 RIS should be published regarding the adjustment to the sulfur commencement date. This is available at: [Better Fuel for Cleaner Air - December 2023 Addendum | The Office of Impact Analysis \(pmc.gov.au\)](#).

Consultation with the Fuel Standards Consultative Committee

Subsection 24A(1) of the Act provides that, with limited exceptions, the Minister must consult the Fuel Standards Consultative Committee prior to making a determination under section 21. In accordance with subsection 24A(1), the Minister consulted with the Committee

prior to making the 2024 Petrol Determination, including on the specific changes which have been introduced since the 2019 Petrol Determination.

Details and operation

The 2024 Petrol Determination lists testing methods that are used to determine compliance with each parameter. The testing methods are intended to be incorporated as in force at the time the 2024 Petrol Determination commences, in line with section 14 of the *Legislation Act 2003*. These testing methods are primarily developed by ASTM International, an internationally recognised standards development organisation, or the testing methods describe procedures for analytical laboratories to follow. The instrument also relies on testing methods developed by the European Committee for Standardization (CEN). The use of such standards is necessary and consistent with the Australian Government's policy of harmonisation with international standards where appropriate.

The standards are publicly available and may be purchased as a PDF on the ASTM International website (<https://www.astm.org/products-services/standards-and-publications.html>) and on the iTeh website ([CEN/TS 15293:2011 - Automotive fuels - Ethanol \(E85\) automotive fuel - Requirements and test methods](#)). CEN standards may also be purchased from [CEN National Members](#), [CEN Affiliates](#), [European Committee for Electrotechnical Standardization \(CENELAC\) National Committees](#) and [CENELEC Affiliates](#).

While access to the standards is not free of charge, it is expected that standards that are mentioned in the 2024 Petrol Determination would be industry best practice and would already be widely used and accessed by affected members of industry. Therefore, it can be reasonably expected that those who must comply with the standards outlined in the 2024 Petrol Determination would already have access to those standards to carry out their business or meet their professional obligations.

Consistent with subsection 21(5) of the Act, the Minister had regard to the objects of the Act in making this instrument. The 2024 Petrol Determination commences on the day after registration.

The 2024 Petrol Determination is a legislative instrument for the purposes of the *Legislation Act 2003*.

Details of the 2024 Petrol Determination are set out in [Attachment A](#).

Other

The 2024 Petrol Determination is compatible with the human rights and freedoms recognised or declared under section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*. A full statement of compatibility is set out in [Attachment B](#).

Details of the *Fuel Quality Standards (Petrol) Determination 2024*

Section 1 – Name

1. Section 1 provides that the name of the instrument is the *Fuel Quality Standards (Petrol) Determination 2024* (the 2024 Petrol Determination).

Section 2 – Commencement

2. Section 2 provides that the instrument commences on the day after registration.

Section 3 – Authority

3. Section 3 provides that the 2024 Petrol Determination is made under section 21 of the *Fuel Quality Standards Act 2000* (the Act).

Section 4 – Definitions

4. Section 4 provides for definitions of terms used in the 2024 Petrol Determination.

Section 5 – Fuel standard for petrol

5. Section 5 provides that petrol supplied in Australia must comply with specifications relating to the specified parameters. These parameters relate to certain physical and chemical properties found in petrol.
6. Compliance with the specification for each parameter is determined using specified testing methods. These testing methods are identified in reference to codes developed by the international standards development organisation called ASTM International.
7. The table in this section details each parameter and its corresponding specification and testing method. The specifications set out in the table apply to all grades of petrol unless otherwise stated.
8. The 2024 Petrol Determination changes the specification for the parameters for aromatics and sulfur. From 15 December 2025, the maximum allowable percentage of aromatics is reduced from 45 per cent to 35 per cent in the 95 RON grade of petrol (petrol with a RON between 95 to 97.9). There are no changes to the aromatics specification for other grades of petrol. The maximum limit on sulfur in petrol is also reduced to 10 ppm across all grades of petrol from 15 December 2025.
9. Any ethanol component of petrol must comply with the fuel standard for ethanol in Section 6.

Section 6 – Fuel standard for ethanol

10. Section 6 provides that ethanol in petrol supplied in Australia must comply with specifications relating to the specified parameters. These parameters relate to certain physical and chemical properties found in ethanol in petrol.

11. Compliance with the specification for each parameter is determined using specified testing methods set out in column 3 of the table. These testing methods are identified in reference to codes developed by the international standards development organisation called ASTM International.
12. The table in this section details each parameter and its corresponding specification and testing method.

Statement of Compatibility with Human Rights

Prepared in accordance with Part 3 of the Human Rights (Parliamentary Scrutiny) Act 2011

Fuel Quality Standards (Petrol) Determination 2024

This instrument is compatible with human rights and freedom recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*.

Overview of instrument

The *Fuel Quality Standards (Petrol) Determination 2024* (the 2024 Petrol Determination) sets out the parameters, specifications and testing methods for petrol supplied in Australia.

The 2024 Petrol Determination changes the aromatic hydrocarbons (aromatics) and sulfur specifications in petrol. From 15 December 2025, the maximum allowable percentage of aromatics is reduced from 45 per cent to 35 per cent in the 95 RON grade of petrol (petrol with a RON between 95 to 97.9). There are no changes to the aromatics specification for other grades of petrol. The maximum limit on sulfur in petrol is also reduced to 10 ppm across all grades of petrol from 15 December 2025.

Human Rights implications

The 2024 Petrol Determination engages the right to health in the right to health in Article 12(1) of the International Covenant on Economic, Social and Cultural Rights (the ICESCR).

Right to health

Article 12(1) of the ICESCR makes provision in relation to the right to health, specifically the right to the enjoyment of the highest attainable standard of physical and mental health. Article 12(2)(b) includes the improvement of all aspects of environmental hygiene as a step to be taken to achieve the full realisation of the right to health. In its *General Comment No 14 (August 2000)*, the United Nations Committee on Economic, Social and Cultural Rights stated that this encompasses the prevention and reduction of human exposure to harmful substances (at [15]).

The 2024 Petrol Determination seeks to promote the right to health under Article 12 of the ICESCR by reducing the level of pollutants and emissions arising from the use of petrol that may cause environmental and health problems. The 2024 Petrol Determination seeks to achieve this by reducing the sulfur limit to 10 ppm, across all grades of petrol; and by reducing aromatics limit to 35 per cent, by volume, in the 95 RON grade of petrol. This reduces air pollution from the combustion of petrol.

Conclusion

This instrument is compatible with human rights as it promotes the right to health.

The Hon. Chris Bowen MP
Minister for Climate Change and Energy