

Fuel Quality Standards (Petrol) Determination 2019

I, Melissa Price, Minister for the Environment, make the following determination.

Dated 18 March 2019

Melissa Price

Minister for the Environment

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1 Name

This instrument is the *Fuel Quality Standards (Petrol) Determination 2019*.

2 Commencement

This instrument commences on 1 October 2019.

3 Authority

This instrument is made under section 21 of the *Fuel Quality Standards Act 2000*.

4 Definitions

Note: A number of expressions used in this instrument are defined in section 4 of the Act, including the following:

(a) ***fuel***

(b) ***supply***

In this instrument:

***Act*** means the *Fuel Quality Standards Act 2000*.

***ASTM*** followed by an alphanumeric code means the testing method developed under that code by the standards development organisation called ASTM International.

***CAS no.****,*for a parameter, means the Chemical Abstracts Service Registry number for the parameter.

***petrol*** does not include aviation gasoline (avgas) supplied for use in aircraft.

***pool average*** for aromatic content, means the average amount of aromatics in all batches of petrol across all grades manufactured in Australia, or imported, by a supplier in each 12 months starting on 1 January.

***mg/kg*** means milligrams per kilogram, and is equivalent to ‘parts per million’ or ‘ppm’ by mass.

***% v/v*** means per cent volume by volume and is equivalent to ‘volume %’, ‘vol %’ and ‘% vol’.

***% m/m*** means per cent mass by mass, and is equivalent to ‘mass %’, ‘% mass’ and ‘weight %’.

5 Fuel standard for petrol

(1) In relation to a parameter mentioned in an item of the following table, petrol must comply with the specification for that parameter mentioned in that item.

(2) For subsection (1), compliance with the specification for a parameter is determined by using the testing method for that parameter mentioned in that item of the table.

| Item | Parameter | Specification | Testing Method |
| --- | --- | --- | --- |
| 1 | Aromatics | Between commencement and 31 December 2021:  45% v/v maximum with a 42% v/v maximum pool average across all grades  On and from 1 January 2022:  45% v/v maximum with a 35% v/v maximum pool average across all grades | ASTM D1319 |
| 2 | Benzene | 1.0% v/v maximum | ASTM D5580 |
| 3 | Copper corrosion—3 h at 50°C | Class 1 | ASTM D130 |
| 4 | Diisopropyl ether (DIPE, CAS no. 108‑20‑3) | 1% v/v maximum | ASTM D4815 |
| 5 | Distillation—final boiling point | 210°C maximum | ASTM D86 |
| 6 | Ethanol | 10% v/v maximum | ASTM D4815 |
| 7 | Ethyl tertiary butyl ether (ETBE, CAS no. 637‑92‑3) | 1% v/v maximum | ASTM D4815 |
| 8 | Existent gum—washed | 5 mg/100 mL maximum | ASTM D381 |
| 9 | Induction period—oxidation stability | 360 minutes minimum | ASTM D525 |
| 10 | Lead | 5 mg/L maximum | ASTM D3237 |
| 11 | Methyl tertiary butyl ether (MTBE, CAS no. 1634-04-4) | 1% v/v maximum | ASTM D4815 |
| 12 | Motor octane number (MON) | 91 RON grade:  81.0 minimum  95 RON grade:  85.0 minimum | ASTM D2700 |
| 13 | Olefins | 18% v/v maximum | ASTM D1319 |
| 14 | Oxygen | Petrol without ethanol:  2.7% m/m maximum  Petrol with ethanol:  3.9% m/m maximum | ASTM D4815 |
| 15 | Phosphorous | 1.3 mg/L maximum | ASTM D3231 |
| 16 | Research octane number (RON) | 91 RON grade:  91.0 minimum  95 RON grade:  95.0 minimum | ASTM D2699 |
| 17 | Sulfur | Between commencement and 30 June 2027:  91 RON grade:  150 mg/kg maximum  95 RON grade:  50 mg/kg maximum  On and from 1 July 2027:  All grades: 10 mg/kg maximum | ASTM D5453 |
| 18 | Tertiary butyl alcohol (TBA, CAS no. 75‑65‑0) | 0.5% v/v maximum | ASTM D4815 |

(3) Specifications set out in the table apply to all grades of petrol unless otherwise stated.

(4) Any ethanol component of petrol must comply with the fuel standard for ethanol in section 6.

(5) Compounds containing phosphorous must not be added to petrol.

6 Fuel standard for ethanol

(1) In relation to a parameter mentioned in an item of the following table, ethanol in petrol must comply with the specification for that parameter mentioned in that item.

(2) For subsection (1), compliance with the specification for a parameter is determined by using the testing method for that parameter mentioned in that item of the table.

| Item | Parameter | Specification | Testing Method |
| --- | --- | --- | --- |
| 1 | Acidity—as acetic acid | 0.006% m/m maximum | ASTM D7795 |
| 2 | Appearance | Clear and bright and visibly free of suspended or precipitated contaminants | ASTM D4806 |
| 3 | Copper | 0.1 mg/kg maximum | EN 15837 (as modified in CEN/TS 15293) |
| 4 | Denaturant | 1–1.5% v/v denaturant | ASTM D5501 |
| 5 | Ethanol | 95.6% v/v minimum | ASTM D5501 |
| 6 | Inorganic chloride | 10 mg/kg maximum | ASTM D7328 |
| 7 | Methanol | 0.5% v/v maximum | ASTM D5501 |
| 8 | pHe | 6.5–9.0 | ASTM D6423 |
| 9 | Solvent washed gum | 5.0 mg/100 mL maximum | ASTM D381 |
| 10 | Sulfate | 4.0 mg/kg maximum | ASTM D7328 |
| 11 | Sulfur | 10 mg/kg maximum | ASTM D5453 |
| 12 | Water | 1.0% m/m maximum | ASTM E1064 |

(3) The denaturant component of ethanol must be petrol.