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

Item	Parameter	Specification	Testing Method
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

Item	Parameter	Specification	Testing Method
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.