



Fuel Quality Standards (Ethanol E85) Determination 2019

I, Angus Taylor, Minister for Energy and Emissions Reduction, make the following determination.

Dated 18 September 2019

Angus Taylor
Minister for Energy and Emissions Reduction

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1 Name

This instrument is the *Fuel Quality Standards (Ethanol E85) 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*
- (c) *inspector*

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.

CEN/TS followed by a numeric code means the testing method developed under that code by the European Committee for Standardization.

DVPE means dry vapour pressure equivalent.

E85 means a mixture of petrol and ethanol that is supplied or represented as E85 fuel.

Note: Section 5 requires the fuel to be 70–85% v/v ethanol.

EN followed by a numeric code means the testing method developed under that code by the European Committee for Standardization.

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

petrol has the same meaning as in the *Fuel Quality Standards (Petrol) Determination 2019*.

% *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 E85

- (1) In relation to a parameter mentioned in an item of the following table, E85 must comply with the specification for that parameter mentioned in that item.

| Item | Parameter | Specification | Testing Method |
|------|----------------------------------|---|--|
| 1 | Acidity—as acetic acid | 0.006% m/m maximum | ASTM D7795 |
| 2 | Benzene | 0.35% v/v maximum | ASTM D5580 |
| 3 | Copper | 0.10 mg/kg maximum | EN 15837 (as modified in CEN/TS 15293) |
| 4 | Distillation—final boiling point | 210°C maximum | ASTM D86 |
| 5 | Ethanol | 70–85% v/v | ASTM D6839 |
| 6 | Ethers—5 or more C atoms | 1.0% v/v maximum | ASTM D6839 |
| 7 | Inorganic chloride | 10 mg/kg maximum | ASTM D7328 |
| 8 | Lead | 5 mg/L maximum | ASTM D3237 |
| 9 | Methanol | 0.5% v/v maximum | ASTM D5501 |
| 10 | Motor octane number (MON) | 87 minimum | (See note) |
| 11 | Oxidation stability | 360 minutes minimum | ASTM D525 |
| 12 | pHe | 6.5–9.0 | ASTM D6423 |
| 13 | Phosphorus | 1.3 mg/L maximum | ASTM D3231 |
| 14 | Research octane number (RON) | 100 minimum | (See note) |
| 15 | Solvent washed gum | 5.0 mg/100 mL maximum | ASTM D381 |
| 16 | Sulfate | 4.0 mg/kg maximum | ASTM D7328 |
| 17 | Sulfur | From commencement 52 mg/kg maximum From 1 July 2027 10 mg/kg maximum | ASTM D5453 |
| 18 | Vapour pressure (DVPE) at 37.8°C | 38–63 kPa | ASTM D5191 |
| 19 | Water | 1.0% m/m maximum | ASTM E1064 |

Note : Testing methods for determining the MON and RON of E85 are not yet available. The minimum targets specified in the table are interim targets until a testing method is available. These minimum targets allow for engine calibration.

- (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.

Note: The testing methods listed in the table are the methods that will be used by inspectors and other persons authorised to conduct tests on fuel under the Act to determine whether the fuel complies with the relevant fuel standard. Subsection (2) does not

prevent other persons (including persons supplying fuel) from using other test methods to ensure that the fuel complies with the relevant fuel standard.

- (3) Any petrol component of E85 must meet the requirements of the fuel quality standard for petrol set out in the *Fuel Quality Standards (Petrol) Determination 2019*.
- (4) Any ethanol component of E85 must meet the requirements of the fuel quality standard for ethanol set out in the *Fuel Quality Standards (Petrol) Determination 2019*.