

Working paper No. FQ-05-02
(5th informal meeting on Fuel Quality,
Geneva, 12 January 2010,
agenda items 2 and 3.2)

IPIECA and OICA discussions on harmonization of Gasoline and Diesel parameters

EURO II – EURO IV

Report back to FQ informal group

Gasoline parameters¹	Euro 2 emissions enabling fuel²	Euro 3 emissions enabling fuel³	Euro 4 emissions enabling fuel⁴	Test method
Sulphur (mg/kg or ppm)	≤ 500	≤ 150	≤ 50 ⁵	EN ISO 20846 EN ISO 20884
Metal Content				
Lead (g/l)	no intentional addition, with max ≤ 0,013	no intentional addition, with max ≤ 0,005	no intentional addition, with max ≤ 0,005	EN 237
Manganese (mg/l)	TBD	TBD	TBD	[ICP]
Iron (mg/l)	TBD	TBD	TBD	[ICP]
Potassium (mg/l)	TBD	TBD	TBD	[ICP]
Phosphorus (mg/l)	no intentional addition	no intentional addition	no intentional addition	[EN 14107]
Oxygen % (m/m)	[≤ 2,7] ⁶	TBD	TBD	EN 1601 EN 13132
Oxygenates % (v/v) - methanol - ethanol	[≤ 3,0] ⁷ [≤ 5,0] ⁸	TBD	TBD	EN 1601 EN 13132
RVP (kPa)	To be explained in text and addressed later	To be explained in text and addressed later	To be explained in text and addressed later	EN 13016/1 DVPE
Density (kg/m ³)	To be addressed later	To be addressed later	To be addressed later	EN ISO 3675 EN ISO 12185
RON (-)	To be addressed later	To be addressed later	To be addressed later	EN ISO 5164
MON (-)	To be addressed later	To be addressed later	To be addressed later	EN ISO 5163

See Good Housekeeping and Enforcement from PCFV brochure and CEN/TR 15367

¹ See UN-ECE R. 83.03 and R.49

¹ See UN-ECE R. 83.05 (row A) and R.49

¹ See UN-ECE R. 83.05 (row B) and R.49

¹ UNEP decision taken at the 4th global PCFV meeting, 14 - 15 December 2005 at UNEP Headquarters in Nairobi, Kenya.

¹ Oxygen content would correspond to max ethanol content for Euro 3 and 4

¹ Methanol content remains the same for Euro 3 and 4

¹ Ethanol content would be permitted to increase to max 10% for Euro 3 and 4

Diesel fuel parameters¹	Euro 2 emissions enabling fuel²	Euro 3 emissions enabling fuel³	Euro 4 emissions enabling fuel⁴	Test method
Sulphur (mg/kg)	≤ 500	≤ 350	≤ 50 ⁵	EN ISO 20846 EN ISO 20884
Ash % (m/m)	≤ 0,01	≤ 0,01	≤ 0,01	EN/ISO 6245
Total Contamination (mg/kg)	≤ 24	≤ 24	≤ 24	EN 12662
Cetane Number	To be addressed later	To be addressed later	To be addressed later	EN ISO 5165
Cetane Index	To be addressed later	To be addressed later	To be addressed later	EN ISO 4264
Density (kg/m ³) at 15°C	[800 - 860]	TBD	TBD	EN ISO 3675 EN ISO 12185
Viscosity (mm ² /s)	To be explained in text	To be explained in text	To be explained in text	EN ISO 3104
Flash Point (°C)	To be explained in text	To be explained in text	To be explained in text	EN ISO 2719
FAME % (v/v)	≤ 5	≤ 5	≤ 5	EN 14078
Water (mg/kg)	To be explained in text	To be explained in text	To be explained in text	EN ISO 12937
Lubricity (micron)	[≤ 460]	[≤ 460]	[≤ 460]	ISO 12156-1

⁹ See Good Housekeeping and Enforcement from PCFV brochure and CEN/TR 15367

¹⁰ See UN-ECE R. 83.03 and R. 49

¹¹ See UN-ECE R. 83.05 (row A) and R. 49 See UN-ECE 83.05 (row B) and R. 49

¹² UNEP decision taken at the 4th global PCFV meeting, 14 - 15 December 2005 at UNEP Headquarters in Nairobi, Kenya.

¹³ If DPF, 10 ppm max [required].