



Noxious Emission Limits for Light Vehicles (up to 3.5 tonnes GVM) at Euro 2 to 6 levels

December 2023

Euro 2

Adopted in ADR 79/00 from 1/1/2003 (for newly approved petrol models) and from 1/1/2004 (for all new petrol vehicles)

Adopted in ADR 79/00 from 1/1/2002 (for newly approved diesel models) to 1/1/2003 (for all new diesel vehicles)

Class	Reference mass (RW) (kg)	Carbon monoxide (CO) (g/km)	Carbon monoxide (CO) (g/km)	Total hydrocarbons and oxides of nitrogen (THC+NOx) (g/km)	Total hydrocarbons and oxides of nitrogen (THC+NOx) (g/km)	Mass of particulates (PM) (g/km)
Engine ¹		PI	CI	PI	CI	CI
M₁	All ²	2.2	1.0	0.5	0.7	0.08
N₁	RW ≤ 1250	2.2	1.0	0.5	0.7	0.08
N₁	>1250 but ≤ 1700	4.0	1.25	0.6	1.0	0.12
N₁	>1700	5.0	1.5	0.7	1.2	0.17

¹ PI – Positive Ignition (Petrol and LPG), CI – Compression Ignition (Diesel)

² Except Category M vehicles with a maximum mass over 2,500 kg and category M vehicles with more than 6 seats, which were subject to N category limits.

Euro 3

Adopted in ADR 79/01 for petrol vehicles from 1/1/2005 (for newly approved models) and from 1/1/2006 (for all new vehicles))

Class	Reference mass (RW) (kg)	Carbon monoxide (CO) (g/km)	Carbon monoxide (CO) (g/km)	Total Hydrocarbons (THC) (g/km)	Oxides of nitrogen (NOx) (g/km)	Oxides of nitrogen (NOx) (g/km)	Total hydrocarbons and oxides of nitrogen (THC+NOx) (g/km)	Mass of particulates (PM) (g/km)
Engine ³		PI	CI	PI	PI	CI	CI	CI
M₁	All ⁴	2.3	0.64	0.20	0.15	0.50	0.56	0.05
N₁	≤ 1305	2.3	0.64	0.20	0.15	0.50	0.56	0.05
N₁	>1305 but ≤ 1760	4.17	0.80	0.25	0.18	0.65	0.72	0.07
N₁	> 1760	5.22	0.95	0.29	0.21	0.78	0.86	0.10

³ PI – Positive Ignition (Petrol and LPG), CI – Compression Ignition (Diesel)

⁴ Except Category M vehicles with a maximum mass over 2,500 kg, which were subject to N category limits.

Euro 4

Adopted in ADR 79/01 from 1/1/2006 (for newly approved diesel models) to 1/1/2007 (for all new diesel vehicles)

Adopted in ADR 79/02 from 1/7/2008 (for newly approved models) and from 1/7/2010 (for all new vehicles)

Class	Reference mass (RW) (kg)	Carbon monoxide (CO) (g/km)	Carbon monoxide (CO) (g/km)	Total Hydrocarbons (THC) (g/km)	Oxides of nitrogen (NOx) (g/km)	Oxides of nitrogen (NOx) (g/km)	Total hydrocarbons and oxides of nitrogen (THC+NOx) (g/km)	Mass of particulates (PM) (g/km)
Engine ⁵		PI	CI	PI	PI	CI	CI	CI
M₁	All ⁶	1.0	0.50	0.10	0.08	0.25	0.30	0.025
N₁	≤ 1305	1.0	0.50	0.10	0.08	0.25	0.30	0.025
N₁	>1305 but ≤ 1760	1.81	0.63	0.13	0.10	0.33	0.39	0.04
N₁	> 1760	2.27	0.74	0.16	0.11	0.39	0.46	0.06

⁵ PI – Positive Ignition (Petrol and LPG), CI – Compression Ignition (Diesel)

⁶ Except Category M vehicles with a maximum mass over 2,500 kg, which were subject to N category limits.

Euro 5

Adopted in ADR 79/03⁷ from 1/11/2013 (for newly approved models) and ADR 79/04 from 1/11/2016 (for all new vehicles)

Class	Reference mass (RW) (kg)	Carbon monoxide (CO) (mg/km)	Carbon monoxide (CO) (mg/km) CI	Total Hydrocarbons (THC) (mg/km)	Non-methane Hydrocarbons (NMHC) (mg/km)	Oxides of nitrogen (NO _x) (mg/km)	Oxides of nitrogen (NO _x) (mg/km)	Combined mass of total hydrocarbons and oxides of nitrogen (THC+NO _x) (mg/km)	Mass of particulates (PM) (mg/km)	Mass of particulates (PM) (mg/km)	Number of Particles (#/km)
Engine⁸		PI	CI	PI	PI	PI	CI	CI	PI ⁹	CI	CI
M ₁	All ¹⁰	1,000	500	100	68	60	180	230	4.5	4.5	6x10 ¹¹
N ₁	≤ 1305	1,000	500	100	68	60	180	230	4.5	4.5	6x10 ¹¹
N ₁	>1305 but ≤ 1760	1,810	630	130	90	75	235	295	4.5	4.5	6x10 ¹¹
N ₁	> 1760	2,270	740	160	108	82	280	350	4.5	4.5	6x10 ¹¹

⁷ ADR 79/03 required compliance with the “core” Euro 5 technical requirements of UN Regulation 83/06, but:

- allowed the provision of PM mass emissions data based on the previous UN R83/05 (Annex 4) Type I test procedure (with a PM mass emissions limit of 0.005g/km) in lieu of data collected under the revised test procedure (Annex 4a of UN R83/06) which specifies a limit of 0.0045g/km);
- accepted a relaxed OBD threshold limit (80mg/km) for PM mass for M and N category vehicles of reference mass >1760kg;
- did not require compliance with the PM number limit specified for diesel vehicles in UN R83/06;
- did not require compliance with the In Use Performance Ratio for OBD systems in UN R83/06;
- did not require the NO_x monitoring for petrol vehicles specified in UN R83/06; and
- only required flex fuel vehicles to meet the Type VI (low temperature) test when tested on petrol.

⁸ PI – Positive Ignition (Petrol and LPG), CI – Compression Ignition (Diesel)

⁹ Direct injection petrol vehicles only

¹⁰ Except Category M vehicles designated as special social purpose vehicles

Euro 6

Adopted in ADRs 79/05, 111/00¹¹ and 112/00¹² from 1/12/2025 (for newly approved models) and from 1/7/2028 (for all new vehicles)

Class	Reference mass (RW) (kg)	Carbon monoxide (CO) (mg/km)	Carbon monoxide (CO) (mg/km)	Total Hydrocarbons (THC) (mg/km)	Non-methane Hydrocarbons (NMHC) (mg/km)	Oxides of nitrogen (NOx) (mg/km)	Oxides of nitrogen (NOx) (mg/km)	Combined mass of total hydrocarbons and oxides of nitrogen (THC+NOx) (mg/km)	Mass of particulates (PM) (mg/km)	Mass of particulates (PM) (mg/km)	Number of Particles (#/km)	Number of Particles (#/km)
Engine¹³		PI	C	PI	PI	PI	CI	CI	PI ¹⁴	CI	PI ¹⁵	CI
M	All	1,000	500	100	68	60	80	170	4.5	4.5	6x10 ¹¹	6x10 ¹¹
N ₁	≤ 1305	1,000	500	100	68	60	80	170	4.5	4.5	6x10 ¹¹	6x10 ¹¹
N ₁	>1305 but ≤ 1760	1,810	630	130	90	75	105	195	4.5	4.5	6x10 ¹¹	6x10 ¹¹
N ₁	> 1760	2,270	740	160	108	82	125	215	4.5	4.5	6x10 ¹¹	6x10 ¹¹

¹¹ ADR 111/00 adopts the Euro 6d laboratory tests for exhaust emissions, evaporative emissions, durability and on-board diagnostics adopted in UN Regulation 154

¹² ADR 112/00 adopts the Euro 6d on-road emissions testing requirements adopted in UN Regulation 168

¹³ PI – Positive Ignition (Petrol and LPG), CI – Compression Ignition (Diesel)

¹⁴ Direct injection petrol vehicles only

¹⁵ Direct injection petrol vehicles only