



Johnson Matthey Catalysts

CATALYTIC EMISSIONS CONTROL - KEY FACTS

Emissions Legislation

Vehicle exhaust emissions are regulated by legislation limiting the amount of pollutants that vehicles can emit. The emissions legislation for European Union countries is summarised in the tables below:

Mandatory Petrol Car Limits in g/km (grams per kilometre)				
TYPE OF POLLUTANT				
Year	CO	HC+NO _x	HC	NO _x
1993	2.72	0.97	-	-
1997	2.20	0.50	-	-
2000#	2.30	-	0.20	0.15
2005#	1.00	-	0.10	0.08

change of test cycle. No 40 seconds warm-up

Mandatory Diesel Car Limits in g/km (grams per kilometre)				
TYPE OF POLLUTANT				
Year	CO	HC+NO _x	NO _x	PM
1993	2.72	0.97	-	0.14
1997				
IDI	1.00	0.70	-	0.08
DI	1.00	0.90*	-	0.10*
2000	0.64	0.56	0.50	0.05
2005	0.50	0.30	0.25	0.025

* until 30 Sept 1999

Implementation Dates			
Standard, Year	Vehicle Type	New Models	All Models
Stage 1, 1993	Petrol & Diesel	1 July 1992	31 Dec 1992
Stage 2, 1997	Petrol & Diesel	1 Jan 1996	1 Jan 1997
Stage 3, 2000	Petrol & Diesel	1 Jan 2000	1 Jan 2001
Stage 4, 2005	Petrol & Diesel	1 Jan 2005	1 Jan 2006

CO – Carbon Monoxide
HC – Hydrocarbons

NO_x – Oxides of Nitrogen
PM – Particulate Matter

Mandatory Maximum Sulphur Limits PPM		
Year	Petrol	Diesel
2000	150 (50*)	350 (50*)
2005	50	50

* with fiscal incentives

- Revision of the test cycle. Deletion of the 40 seconds warm-up. Separate cold start test at -7C.
- Improved On Board Diagnostics (OBD) required on petrol vehicles from 2000 and diesel vehicles from 2003.
- Durability requirement extended from 80,000 km in 2000 to 100,000 km in 2005.
- Improvements in fuel quality, including fuel sulphur reduction.
- Member states may grant fiscal incentives for the early introduction of 2005 emissions limits and fuel specifications from 2000.
- Leaded fuels phased out by 2000 (derogation in special circumstances).
- Fiscal incentives permitted for retrofitting catalytic converters.

Stage 5 standards for passenger cars expected to be announced in 2005, for introduction in 2010.