



URUGUAY





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1. Introduction:

American and European emissions limits, with respective test cycles, are applied. There are no emissions laboratories in the country, because of this tests carried out by international homologation agencies are accepted.

2. Vehicle categories:

2.1. Categories for application with European limits

Category	Sub-category	Passengers Capacity	Curb Weight (kg)	Reference Mass (kg)
M	M1	≤ 8	-	-
	M2	> 8	≤ 5000	-
	M3	> 8	> 5000	-
N	N1	Class I	-	≤ 1250
		Class II	-	> 1250 ≤ 1700
		Class III	-	> 1700
	N2	-	> 3500 ≤ 12000	-
	N3	-	> 12000	-

M = Passenger vehicle

N = Commercial vehicle

2.2. Categories for application with U.S. limits

Category	Sub-category	Passengers capacity	Curn Weight (kg)	Gross Vehicle Weight (kg)	Reference Mass (kg)
LDV	-	≤ 12	≤ 2720	≤ 3856	-
LCV	LCV1	> 12	> 2720	≤ 3856	≤ 1700
	LCV2				> 1700
HDV	-	-	> 2720	> 3856	-

LDV = Light Duty Vehicle

LCV = Light Commercial Vehicle

HDV = Heavy Duty Vehicle

3. Emission limits:

3.1. Limits for light vehicles

European limits

Category	Sub-category	Fuel	Application Date	Phase	CO (g/km)	HC + NOx (g/km)	PM (g/km)	HC Evaporated SHED method (g/test)	
M	M1	Gasoline	In force	Euro 1	2,72	0,97	-	2	
		Diesel			2,72	0,97	0,14	-	
N	N1	Gasoline	In force	Euro 1	2,72	0,97	-	2	
					Class II	5,17	1,4	-	2
					Class III	6,9	1,7	-	2
		Diesel	In force	Euro 1	2,72	0,97	0,14	-	
					Class II	5,17	1,4	0,19	-
					Class III	6,9	1,7	0,25	-

U.S. Limits

Category	Sub-category	Fuel	Application Date	Phase	CO (g/km)	HC (g/km)	NOx (g/km)	HCHO (g/km)	PM (g/km)	CO Idling (%)	HC Evaporado Método SHED (g/test)
LDV	-	Gasoline	In Force	Tier 0	2	0,3	0,6	0,03	-	0,5	6
		Diesel			2	0,3	0,6	-	0,124	0,5	-
LCV	LCV1	Gasoline	In Force	Tier 0	2	0,3	0,6	0,03	-	0,5	6
		Diesel			2	0,3	0,6	-	0,124	0,5	-
	LCV2	Gasoline	In Force	Tier 0	6,2	0,5	1,4	0,06 / 0,1 *	-	0,5	6
		Diesel			6,2	0,5	1,4	-	0,16	0,5	-

* If the sum of hydrocarbons and aldehydes does not exceed 0.50 g/km

3.2. Limits for heavy duty vehicles

European limits

Category	Sub-category	Fuel	Application Date	Phase	CO (g/kW-h)	HC (g/kW-h)	NMHC (g/kW-h)	CH4 (g/kW-h)	NOx (g/kW-h)	PM (g/kW-h)	Opac. (m ⁻¹)	Obs.
M and N	M2, M3 N2, N3	Diesel	In force	Euro III	2,1	0,66	-	-	5,0	0,1 / 0,13 *	-	ESC
					5,45	-	0,78	-	5,0	0,16 / 0,21 *	-	ETC
					-	-	-	-	-	-	0,8	ELR
		CNG	In force	Euro III	5,45	-	0,78	1,6	5,0	0,16 / 0,21 *	-	ETC

U.S. Limits

Category	Sub-category	Fuel	Application Date	Phase	CO (g/bHp)	HC (g/bHp)	NOx (g/bHp)	PM (g/bHp)
HDV	Except urban bus	Diesel	In force	EPA 98	15,5	1,3	4,000	0,1
HDV	Urban bus	Diesel	In force	EPA 98	15,5	1,3	4,000	0,05

3.3. Limits for motorcycles

Not applicable.

3.4. Off-road vehicles

Not applicable.

4. Other regulations:

4.1. Durability

Not applicable.

4.2. OBD

Not applicable.

5. Control requirements:

5.1. Emissions Conformity of Production

Not applicable.

5.2. In-use vehicle emissions inspection

Not applicable.

6. Fuels:

6.1. Reference fuel

International specifications are accepted.

6.2. Commercial fuels

6.2.1. Gasoline

Property	Requirement						Unity	Test method
	Special 87 SP		Super 95 SP		Premium 97 SP			
	Min.	Max.	Min.	Max.	Min.	Max.		
Appearance	Clear and bright		Clear and bright		Clear and bright		-	Visual
Color	Green		Yellow		Orange		-	Visual
Copper corrosion (3h at 50°C)	-	1	-	1	-	1	-	ASTM D130
Vapor tension	-	-	-	-	-	-	-	-
April - October	-	12	-	12	-	12	psi	ASTM D323, D4953, D5191
November - March	-	10,5	-	10,5	-	10,5	psi	
RON	87	-	95	-	97	-	-	ASTM D2699, D2700
MON	75	-	81	-	83	-	-	
Octane index	81	-	88	-	90	-	-	
Lead	-	0,013	-	0,013	-	0,013	g/l	E.A.A.
Washed gums	-	5	-	5	-	5	mg/100ml	ASTM D381
Sulfur	-	700	-	700	-	500	ppm	ASTM D4045, D5453
Distillation	-	-	-	-	-	-	-	-
10% vol. evaporated	-	67	-	67	-	70	°C	ASTM D86
50% vol. evaporated	75	120	75	120	75	120		
90% vol. evaporated	-	200	-	200	-	200		
End point	-	225	-	225	-	225		
Residue	-	2	-	2	-	2	% v/v	
Olefins	-	25	-	25	-	25	% v/v	ASTM D1319, D6730
Oxygen	-	2,7/3,5*	-	2,7/3,5*	-	2,7/3,5*	% m/m	ASTM D6293
Ethanol	-	10	-	10	-	10	% v/v	ASTM D6293, D6730
Benzene	-	1,5	-	1,5	-	1,5	% v/v	ASTM D5443, D6293, D6730
Aromatics	-	40	-	45	-	45	% v/v	ASTM D1319, D5443, D6730
Oxidation stability at 100 °C	240	-	240	-	240	-	minutes	ASTM D525
Additives	with		with		with		-	-

* With addition of 10% ethanol

6.2.2. Diesel

Property	Requirement				Unity	Test method
	Gas Oil		Gas Oil Special			
	Min.	Max.	Min.	Max.		
Density at 15°C	-	-	820	860	kg/m ³	ASTM D1298, D4052
Flashpoint	45	-	45	-	°C	ASTM D93
kinematics viscosity at 37,8°C	1,8	5,8	2	4,5	cSt	ASTM D445
Universal Saybolt Viscosity at 37,8°C	32	45	32	41	s	ASTM D88
Cetane index	-	-	48	-	-	ASTM D976
Cetane number	45	-	48	-	-	ASTM D613
Color	-	2	-	2	-	ASTM D1500
Oxidation stability	-	-	-	25	g/m ³	ASTM D2274
Copper corrosion (3h at 50°C)	-	3	-	1	-	ASTM D130
Water and sediments	-	0,05	-	0,05	% v/v	ASTM D2709
Distillation	-	-	-	-	-	-
90% vol. recovered	-	360	-	360	°C	ASTM D86
Sulfur	-	0,7	-	0,05	% m/m	ASTM D4294, D1552, D5453
Conradson Carbon Residue in 10% of distillation residue	-	0,15	-	0,15	% m/m	ASTM D189, D4530
Ash	-	0,005	-	0,005	% m/m	ASTM D482
Cold filter plugging point Abril a Outubro	-	0	-	0	°C	IP 309 ASTM D6371
Pour point	-	-5	-	-5	°C	ASTM D97
Particles	-	-	Report		mg/l	ASTM D2276
Biodiesel	-	5	-	5	% v/v	EN 14078

7. Trends:

No trends known.