



VENEZUELA





VENEZUELA

1. Introduction:

American and European emissions limits, with respective test cycles, are applied.

There are no emissions laboratories in the country, because of this test reports carried out by international homologation agencies are accepted.

2. Vehicle categories:

2.1. Categories for application with European limits

Category	Sub-category		Passengers Capacity	Gross Vehicle Weight (kg)	Reference Mass (kg)
Light Vehicles	M1	-	9	≤ 3500	-
	N1	Cat 1	> 9	≤ 3500	≤ 1250
		Cat 2			> 1250 ≤ 1700
		Cat 3			> 1700
Heavy Duty Vehicles	N2 N3 M2 M3	-	-	> 3500	-

M = Passenger vehicle

N = Commercial vehicle

Category	Sub-category	Passengers Capacity	Curb Weight (kg)	Frontal Area (m ²)	Gross Vehicle Weight (kg)	Reference Mass (kg)
Light Vehicles	-	12	-	-	≤ 3860	-
Medium Vehicles	Type 1	> 12	≤ 2724	≤ 4,18	≤ 3860	≤ 1700
	Type 2					> 1700
Heavy Duty Vehicles	-	-	> 2724	> 4,18	> 3860	-
	Type 1	-	> 2724	> 4,18	> 3860 ≤ 6350	-
	Type 2	-	> 2724	> 4,18	> 6350	-

3. Limites de emissões :

3.1. Limites para veículos leves

Limites europeus

Sub-category		Fuel	Application Date	Phase	CO (g/km)	HC + NOx (g/km)	PM (g/km)	HC Evaporated SHED method (g/test)
M1	-	Gasoline	In force	Euro 1	2,72	0,97	-	2
	-	Diesel	In force	Euro 1	2,72	0,97	0,14	-
N1 M1 > 6 passeg.	Cat 1	Gasoline	In force	Euro 1	2,72	0,97	-	2
	Cat 2				5,17	1,4	-	2
	Cat 3				6,9	1,7	-	2
	Cat 1	Diesel	In force	Euro 1	2,72	0,97	0,14	-
	Cat 2				5,17	1,4	0,19	-
	Cat 3				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)	PM (g/km)	HC Evaporado Método SHED (g/test)
Light Vehicles	-	Gasoline	In force	Tier 0	2,1	0,25	0,62	-	2
		Diesel	In force	Tier 0	2,1	0,25	0,62	0,12	-
Medium Vehicles	Type 1	Gasoline	In force	Tier 0	6,25	0,5	0,75	-	2
	Type 2				6,25	0,5	1,06	-	2
	Type 1	Diesel	In force	Tier 0	6,25	0,5	0,75	0,16	-
	Type 2				6,25	0,5	1,06	0,28	-

3.2. Limits for heavy duty vehicles

European limits

Category	Sub-category	Fuel	Application Date	Phase	CO (g/kW-h)	HC (g/kW-h)	NOx (g/kW-h)	PM (g/kW-h)
Heavy Duty Vehicles	N2, N3 M2, M3	Diesel	In force	Euro I	4,5	1,1	8,0	0,36/0,63*

* For engines with max power 85 kW

U.S. limits

Category	Sub-category	Fuel	Application Date	Phase	CO (g/bHp)	HC (g/bHp)	NOx (g/bHp)	PM (g/bHp)	HC Evaporated SHED method (g/test)
Heavy Duty Vehicles	Type 1	Gasoline	In force	EPA 91	14,4	1,1	5,0	-	-
	Type 2				37,1	1,9	5,0	-	-
	Type 1/2	Diesel	In force	EPA 91	15,5	1,3	5,0	0,25	-

3.3. Limits for motorcycles

Not applicable.

3.4. Off-road vehicles

Not applicable.

4. Other regulations:

4.1. Durability

Fuel	Category	GVW (kg)	Durability	
			Exhaust Emission	Evaporative Emissions
Gasoline	Light	-	80.000 km or 5 years	160.000 km or 10 years
	Medium	-	80.000 km or 5 years	192.000 km or 11 years
	Heavy	-	176.000 km or 8 years	176.000 km or 10 years
Diesel	Light	-	80.000 km or 5 years	-
	Medium	-	80.000 km or 5 years	-
	Heavy	≤ 8850	176.000 km or 8 years	-
		> 8850 ≤ 14980	296.000 km or 8 years	-
		> 14980	464.000 km or 8 years	-

4.2. OBD

Not applicable.

5. Control requirements:

5.1. In-use vehicle emissions inspection

Vehicle Type	Fuel	Model Year	GVW (kg)	Idling Speed		Acceleration		Opacity (free acceleration)		
				CO (%)	HC (ppm)	CO (%)	HC (ppm)	K (m-1)	HSU	
All	Gasoline	< 1990	-	7	1000	7	1000	-	-	
		1990	-	4.5	600	4.5	600	-	-	
		< 2000	-	1.2	220	1.2	220	-	-	
		≥ 2000	< 3500	1.2	220	1.2	220	-	-	
		≥ 3500	3	300	3	300	-	-		
	Diesel	< 1990	-	-	-	-	-	-	3.7	80
		≥ 1990	-	-	-	-	-	-	2.8	70
< 2000		-	-	-	-	-	-	-	-	
	> 2000	-	-	-	-	-	-	1.6	50	

6. Fuels:

6.1. Reference fuel

International specifications are accepted.

6.2. Commercial fuels

6.2.1. Gasoline

Property	Requirement		Unity	Test method
	Without Pb			
	Min.	Max.		
Sulfur	-	0,06	% m/m	COVENIN 1826
Copper corrosion (3h at 50°C)	-	1	-	COVENIN 872
Distillation	-	-	-	-
Initial Point	30	-	°C	COVENIN 850
10% vol. evaporated	-	70		
50% vol. evaporated	77	121		
90% vol. evaporated	-	195		
End point	-	225		
Residue	-	2	% v/v	
Evaporated percentage at 70°C	Inform		-	-
Oxidation Stability	240	-	minutes	COVENIN 873
Gums	-	5	mg/100ml	COVENIN 874
RVP (Reid Vapor Pressure)	-	65	kPa	COVENIN 875 ASTM D5191
Lead	-	0,013	g/l	COVENIN 2048 ASTM D5059
IBV (Vapor Lock Index)	-	14,5	-	-
IAD (Anti-knock Index)	91	-	% v/v	COVENIN 893
MON	87	-	-	

6.2.2. Diesel

Property	Requirement		Unity	Test Method
	Medium			
	Min.	Max.		
Water and sediments	-	0,1	% v/v	COVENIN 422
Sulfur	-	0,5	% m/m	COVENIN 1133
Ash	-	0,01	% m/m	COVENIN 2900
Coper corrosion (3h at 50°C)	-	2	-	COVENIN 872
Distillation - 90% vol. recovered	-	360	-	COVENIN 850
Flash point	60	-	°C	COVENIN 425
Carbon residue in 10% of residue	-	0,15	% m/m	COVENIN 879
kinematic viscosity at 40°C	1,6	5,2	cSt	COVENIN 424
Color	-	2,5	-	COVENIN 890
Pour point		0	°C	COVENIN 877
Density at 15°C	Inform		°C	COVENIN 1143
Cetane number	43	-	-	COVENIN 1134

7. Trends:

No trends known.