



PARAGUAY





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1. Introduction:

There are no emission limits applicable for homologation in Paraguay.

2. Vehicle categories:

Not applicable

3. Emission limits:

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

Performed according to vehicle type and age.

Type of vehicle	Vehicle age (years)	Periodicity (months)
Public transport of passengers	6	12
	> 6 e 13	6
	> 13	4
Others	All	12

Fuel	Model Year	Altitude (m)	CO (%)	HC (ppm)	Smoke (m ⁻¹)	
					Natural aspirated or Turbo with LDA *	Turbo
Gasoline CNG	≤ 1979	-	7	700	-	-
	1980 - 1988	-	6.5	700	-	-
	1989 - 1991	-	6	700	-	-
	1992 - 1996	-	5	700	-	-
	≥ 1997	-	1.5	700	-	-
Ethanol	≤ 1979	-	7	1100	-	-
	1980 - 1988	-	6.5	1100	-	-
	1989 - 1991	-	6	1100	-	-
	1992 - 1996	-	5	1100	-	-
	≥ 1997	-	1.5	1100	-	-
Diesel	All	≤ 350	-	-	1.7	2.1
		> 350	-	-	2.5	2.8

* LDA is a control device of the fuel injection pump to adjust the fuel quantity to the turbocharger

6. Fuels:

6.1. Reference fuel

Not applicable

6.2. Commercial fuels

6.2.1. Gasoline

Property	Requirement								Unity	Test method
	RON 85		RON 85 Especial		RON 95		RON 97			
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		
Aspect	Clear		-		Clear		Clear		-	Visual (ASTM D1298)
Ethanol	-	24	-	24	-	24	-	0	-	ASTM D4806
Color	Light yellow		Red		Blue		Green		-	Visual
Sulfur	-	400	-	-	-	400	-	400	ppm	ASTM D1266, D3120, D4294
Distillation	-	-	-	-	-	-	-	-	-	-
10% vol. evaporated	-	70	-	70	-	70	-	70	°C	ASTM D86
50% vol. evaporated	65	120	55	118	60	120	77	120		
90% vol. evaporated	-	190	-	190	-	190	-	190		
End Point	-	225	-	225	-	225	-	225		
Residue	-	2	-	2	-	2	-	2	% v/v	
Aromatics	-	35	-	-	-	35	-	35	% v/v	ASTM D5769
Benzene	-	1	-	-	-	1	-	1	% v/v	ASTM D6277, D5769
Copper corrosion (3h at 50°C)	-	1	-	1	-	1	-	1	-	ASTM D130
Reid Vapor Pressure	-	-	6	13,5	-	-	-	-	Psig	ASTM D323
Vapor pressure at 37,8°C	-	-	-	-	-	-	-	-	-	ASTM D4953, D5190, D5191, D5482
October to March	49	93	-	-	49	93	42	79	kPa	
April to September	54	98	-	-	54	98	47	84		
Gums	-	5	-	5	-	5	-	5	mg/100ml	ASTM D381
RON	85	-	85	-	95	-	97	-	-	ASTM D2699
Density at 15°C	inform		-	-	inform		inform		kg/m ³	ASTM D1298, D4052
Lead	-	0,013	-	0,013	-	0,013	-	0,013	g/l	ASTM D3237, D3116
Oxidation Stability	-	-	-	240	-	-	-	-	minutes	ASTM D525
Additive	Authorized		-	-	Authorized		Authorized		-	Inform method

6.2.1.2. Imported gasoline

Property	Requirement						Unity	Test Method
	RON 85		RON 95		RON 97			
	Min.	Max.	Min.	Max.	Min.	Max.		
Aspect	Clear		Clear		Clear		-	Visual (ASTM D1298)
Ethanol	-	0	-	0	-	0	-	ASTM D4806
Color	Yellow		Blue		Green		-	Visual
Sulfur	-	400	-	400	-	400	ppm	ASTM D1266, D3120, D4294
Distillation	-	-	-	-	-	-	-	-
10% vol. evaporated	-	70	-	70	-	70	°C	ASTM D86
50% vol. evaporated	77	120	77	120	77	120		
90% vol. evaporated	-	190	-	190	-	190		
End point	-	225	-	225	-	225		
Residue	-	2	-	2	-	2	% v/v	
Aromatics	-	35	-	35	-	35	% v/v	ASTM D5769
Benzene	-	1	-	1	-	1	% v/v	ASTM D6277, D5769
Copper corrosion (3h at 50°C)	-	1	-	1	-	1	-	ASTM D130
Reid Vapor Pressure	-	-	-	-	-	-	Psig	ASTM D323
Vapor pressure at 37,8°C	-	-	-	-	-	-	-	-
October to March	42	79	42	79	42	79	kPa	ASTM D4953, D5190, D5191, D5482
April to September	47	84	47	84	47	84		
Gums	-	5	-	5	-	5	mg/100ml	ASTM D381 Immediately after adding ethanol, if applicable
RON	85	-	95	-	97	-	-	ASTM D2699
Density at 15°C	infom		infom		infom		kg/m ³	ASTM D1298, D4052
Lead	-	0,013	-	0,013	-	0,013	g/l	ASTM D3237, D3116
Oxidation Stability	-	-	-	-	-	-	minutes	ASTM D525
Additive	Authorized		Authorized		Authorized		-	Inform method

6.2.2. Diesel

6.2.2.1. National diesel

Property	Requirement						Unity	Test Method
	Type I		Type II		Type III			
	Min.	Max.	Min.	Max.	Min.	Max.		
Aspec	Clear		Clear		Clear		-	Visual (ASTM D1298)
Water and sediments	-	0,1	-	0,1	-	0,1	% v/v	ASTM D1796
kinematics viscosity at 40°C	1,9	5	1,9	5	1,9	5	cSt	ASTM D445, D7042
Densidade at 15°C	Inform		Inform		Inform		kg/m ³	ASTM D1298, D4052
Color	-	2,5	-	2,5	-	2,5	-	ASTM D1500
Sulfur	-	500	-	2000	-	4000	ppm	ASTM D129
Aromatics	-	15	-	15	-	15	% v/v	ASTM D1319
Distillation	-	-	-	-	-	-	-	-
90% vol. Recovered	-	370	-	370	-	370	°C	ASTM D86
Flash point	50	-	50	-	50	-	°C	ASTM D93
Copper corrosion (3h at 50°C)	-	2	-	2	-	2	-	ASTM D130
Ash	-	0,02	-	0,02	-	0,02	% m/m	ASTM D482
Cetane number	50	-	48	-	45	-	-	ASTM D613
Cetane index	50	-	48	-	45	-	-	ASTM D976
Pour point	-	-	-	-	-	-	-	-
Summer	-	8	-	8	-	8	°C	ASTM D97
Winter	-	-5	-	-5	-	-5		
Ramsbottom Carbon Residue in 10% of distillation residue	-	0,25	-	0,3	-	0,25	% m/m	ASTM D524
Additives	Authorized		Authorized		Authorized		-	Inform method

6.2.2.2. Imported diesel

Property	Requirement						Unity	Test Method
	Type I		Type II		Type III			
	Min.	Max.	Min.	Max.	Min.	Max.		
Aspec	Clear		Clear		Clear		-	Visual (ASTM D1298)
Water and sediments	-	0,1	-	0,1	-	0,1	% v/v	ASTM D1796
kinematics viscosity at 40°C	1,9	5	1,9	5	1,9	5	cSt	ASTM D445, D7042
Densidade at 15°C	Inform		Inform		Inform		kg/m ³	ASTM D1298, D4052
Color	-	2,5	-	2,5	-	2,5	-	ASTM D1500
Sulfur	-	500	-	2500	-	5000	ppm	ASTM D1298, D4052
Aromatics	-	15	-	15	-	15	% v/v	ASTM D1319
Distillation	-	-	-	-	-	-	-	-
90% vol. recovered	-	370	-	370	-	370	°C	ASTM D86
Flash point	50	-	50	-	50	-	°C	ASTM D93
Copper corrosion (3h at 50°C)	-	2	-	2	-	2	-	ASTM D130
Ash	-	0,02	-	0,02	-	0,02	% m/m	ASTM D482
Cetane number	50	-	48	-	45	-	-	ASTM D613
Cetane index	50	-	48	-	45	-	-	ASTM D976
Pour point	-	-	-	-	-	-	-	-
Summer	-	8	-	8	-	8	°C	ASTM D97
Winter	-	-5	-	-5	-	-5		
Ramsbottom Carbon Residue in 10% of distillation residue	-	0,25	-	0,25	-	0,25	% m/m	ASTM D524
Additives	Authorized		Authorized		Authorized		-	Inform method

7. Trends:

No trends known.