



# BOLIVIA



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## 1. Introduction

The country allows the importation of new and used vehicles up to five years old. For new vehicles, American and European emissions limits, with respective test cycles, are applied. For used ones, limits and test procedures are the same as those applied in the in-use vehicle emissions inspection program.

The use of diesel is only permitted in vehicles with engines of at least 4000 cm<sup>3</sup>.

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		Passenger capacity	Gross Vehicle Weight (kg)	Reference Mass (kg)
Light vehicles	M1	-	≤ 6	≤ 2500	-
	N1	Cat 1	> 6	> 2500 ≤ 3500	≤ 1250
		Cat 2			> 1250 ≤ 1700
		Cat 3			> 1700
Heavy duty vehicles	-	-	> 3500	-	

### 2.2. Categories for application with U.S. limits

Category	Sub-category	Passenger capacity	Curb Weight (kg)	Gross Vehicle Weight (kg)	Reference Mass (kg)
Light vehicles	Passenger vehicle	≤ 12	-	≤ 3860	-
	LDT1	≤ 12	≤ 2722	≤ 2722	≤ 1701
	LDT2				> 1701
	LDT3			> 2722	≤ 1701
	LDT4			≤ 3860	> 1701
Heavy duty vehicles	-	-	-	> 3860	-

## 3. Emission limits

### 3.1. Limits for light vehicles

#### European limits

Sub-category		Fuel	Application	Phase	CO (g/km)	HC + NO <sub>x</sub> (g/km)	PM (g/km)
M1	-	Gasoline	In force	Euro 1	2,72	0,97	0,14
	-	Diesel	In force	Euro 1	3,16	1,13	0,18
N1 M1 > 6 passeng.	Cat 1	Gasoline	In force	Euro 1	2,7	0,97	0,14
	Cat 2				5,17	1,4	0,19
	Cat 3				6,9	1,7	0,25
	Cat 1	Diesel	In force	Euro 1	3,16	1,13	0,18
	Cat 2				6,6	1,6	0,22
	Cat 3				8	2	0,22

## U.S. Limits

Sub-category	Fuel	Application	Phase	CO (g/km)	HC (g/km)	NOx (g/km)	PM (g/km)
Passenger vehicle	Gasoline	In force	Tier 0	2,13	0,26	0,63	-
	Diesel	In force	Tier 0	2,13	0,26	0,63	0,13
LDT1	Gasoline	In force	Tier 0	6,25	0,5	0,75	-
	Diesel	In force	Tier 0	6,25	0,5	0,75	0,16
LDT2	Gasoline	In force	Tier 0	6,25	0,5	1,6	-
	Diesel	In force	Tier 0	6,25	0,5	1,6	0,08
LDT3	Gasoline	In force	Tier 0	6,25	0,5	0,75	-
	Diesel	In force	Tier 0	6,25	0,5	0,75	0,16
LDT4	Gasoline	In force	Tier 0	6,25	0,5	1,6	-
	Diesel	In force	Tier 0	6,25	0,5	1,6	0,08

## 3.2. Limits for heavy duty vehicles

### European limits

Sub-category	Fuel	Application	Phase	CO (g/kW-h)	HC (g/kW-h)	NOx (g/kW-h)	PM (g/kW-h)
All	All	In force	Euro I	4	1,1	8	0,36

### U.S. Limits

Sub-category	Fuel	Application	Phase	CO (g/bHP-h)	HC (g/bHP-h)	NOx (g/bHP-h)	PM (g/bHP-h)
All	All	In force	EPA 94 Urban Bus	15,5	1,3	5	0,07

## 3.3. Limits for motorcycles and tricycles

Not applicable

## 3.4. Off-road vehicles

Not applicable

## 3.5. Emission of crankcase gases

Zero emissions for light and heavy vehicles with natural aspirated engines.

## 4. Other regulations

### 4.1. Durability

Not applicable

### 4.2. OBD

Not applicable

### 4.3. Fuel consumption

Not applicable

## 5. Control requirements

### 5.1. Emissions Conformity of Production

Not applicable

## 5.2. In-use vehicle emissions inspection

Performed only in some regions. Periodicity set by each region administration.

Vehicle Type	Fuel	Model Year	Altitude (m)	CO (%)	HC (ppm)		Opacity	
					Altitude ≤ 1800 m	Altitude > 1800 m	k(m-1)	(%)
All	Gasoline	≤1997	-	6	600	650	-	-
		1998- 2004	-	2.5	400	450	-	-
		≥ 2005 *	-	0.5	125	125	-	-
	CNG	≤ 1979	-	2.5	600	650	-	-
		1998 - 2004	-	2.5	400	450	-	-
		≥ 2005 *	-	0.5	125	125	-	-
	Diesel	-	≤ 1500	-	-	-	2.44	65
		-	> 1500 ≤ 3000	-	-	-	2.8	70
		-	> 3000 ≤ 4500	-	-	-	3.22	75

\* After three years of use, limits applied are from model year 1998 to 2004

## 6. Fuels

### 6.1. Reference fuel

International specifications are accepted.

### 6.2. Commercial fuels

#### 6.2.1. Gasoline

Property	Requirement								Unity	Test Method
	Especial				Premium					
	09/01 to 03/31		04/01 to 08/31		09/01 to 03/31		04/01 to 08/31			
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.			
Density at 15,6°C	inform		inform		inform		inform		kg/m <sup>3</sup>	ASTM D 1298, 4052
V/L Ratio = 20 (760 mmHg)	56	-	51	-	56	-	51	-	°C	ASTM D 2533
Vapor pressure at 38°C	7	9	7	9.5	7	9	7	9.5	Psig	ASTM D 323, 4953, 5191
Lead	-	0.013	-	0.013	-	0.013	-	0.013	g/l	ASTM D 3237, 5059
Copper strip corrosion	-	1	-	1	-	1	-	1	-	ASTM D130
Gums	-	5	-	5	-	5	-	5	mg/100ml	ASTM D 381
Sulfur	-	0.05	-	0.05	-	0.05	-	0.05	% m/m	ASTM D 1266, 2622, 4294
RON	85	-	85	-	95	-	95	-	-	ASTM D 2699
MON	inform		inform		inform		inform		-	ASTM D 2700
IAD (MOM+RON)/2	inform		inform		inform		inform		-	-
Color	colorless to yellowish		colorless to yellowish		violet		violet		-	Visual
Appearance	crystalline		crystalline		crystalline		crystalline		-	Visual
Calorific power	inform		inform		inform		inform		BTU/lb	ASTM D 240
Distillation Engler (760 mmHg)										
10% vol. evaporated	-	65	-	60	-	65	-	60	°C	ASTM D 86
50% vol. evaporated	77	118	77	116	77	118	77	116		
90% vol. evaporated	-	190	-	185	-	190	-	185		
End point	-	225	-	225	-	225	-	225		
Residue	-	2	-	2	-	2	-	2	% v/v	
Aromatics	-	42	-	42	-	48	-	48	% v/v	ASTM D 1319
Olefins	-	18	-	18	-	18	-	18	% v/v	
Benzene	-	3	-	3	-	3	-	3	% v/v	ASTM D 4053, 5134, 3606
Magnesium	-	18	-	18	-	18	-	18	mg/l	ASTM D 3831
Oxygen	-	2.7	-	2.7	-	2.7	-	2.7	% m/m	ASTM D 2504, 4815

### 6.2.2. Diesel

Property	Requirement				Unity	Test method
	Eastern *		Western			
	01/09 to 31/03		01/09 to 31/03			
	Min.	Max.	Min.	Max.		
Specific mass at 15,6°C	0,8	0,88	0,8	0,88	kg/m <sup>3</sup>	ASTM D 1298, 4052
Copper strip corrosion	-	3	-	3	-	ASTM D130
Sulfur	-	0,5	-	0,5	% m/m	ASTM D 2622, 1552, 1266
Pour Point	-	4,8	-	-1,1	°C	ASTM D 97
Flash Point	45	-	45	-	°C	ASTM D 93
Appearance	crystalline		crystalline		-	Visual
kinematics viscosity at 40°C	1,7	5,5	1,7	5,5	CSt	ASTM D 445
Cetane index	45	-	45	-	-	ASTM D 976, 4737
Cetane number	42	-	42	-	-	ASTM D 613
Ramsbottom Carbon residue	-	0,25	-	0,25	% m/m	ASTM D 524, 4530, 189
Ash	-	0,02	-	0,02	% m/m	ASTM D 482
Wather and Sediments	-	0,05	-	0,05	% m/m	ASTM D 1796
Distillation Engler (760 mmHg)						
90% vol. evaporated	282	371	282	371	°C	ASTM D 86
Calorific power	inform		inform		BTU/lb	ASTM D 240
Color ASTM	-	4	-	4	-	ASTM D 1500
Aromatics	-	25	-	25	% v/v	ASTM D 1319

\* **Eastern:** Santa Cruz, Beni, Pando and La Paz, Cochabamba, Tarija and Chuquisca

### 7. Trends

No trends known.