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**Limits and Measurement Methods for Emissions from  
Light-Duty Vehicles (China 6)**  
**轻型汽车污染物排放限值及测量方法**  
**(中国第六阶段)**

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# CONTENTS

Foreword .....	I
1 Scope.....	1
2 Normative References .....	1
3 Terms and Definitions .....	2
4 Pollution Control Requirements .....	5
5 Type Test.....	6
6 Extensions to Type Test.....	12
7 Conformity of Production.....	15
8 In-Service Conformity .....	18
9 Implementation of this Standard .....	19
Annex A (Normative) Information on type test .....	20
Annex B (Informative) Format of type test report .....	37
Annex C (Normative) Test of exhaust emissions after a cold start at normal temperature (Type I Test) ..	41
Annex D (Normative) Test of real driving emissions (Type II Test) .....	151
Annex E (Normative) Test of crankcase emissions (Type III Test) .....	208
Annex F (Normative) Test of evaporative emissions (Type IV Test) .....	210
Annex G (Normative) Durability test of pollution control devices (Type V Test) .....	228
Annex H (Normative) Test of CO, THC and NOx exhaust emissions after a cold start at low temperature (Type VI Test).....	242
Annex I (Normative) Test of refueling emissions (Type VII Test) .....	246
Annex J (Normative) On-board Diagnostics (OBD) System.....	261
Annex K (Normative) Specifications of reference fuels .....	347
Annex L (Normative) Special requirements for vehicles fueled with LPG or NG.....	352
Annex M (Normative) Type test of replacement pollution control device as separate technical unit ...	354
Annex N (Normative) Requirements for ensuring conformity of production .....	362
Annex O (Normative) In-Service Conformity .....	364
Annex P (Normative) Requirements for vehicles that use a reagent for the exhaust after-treatment system.....	374
Annex Q (Normative) Emissions test procedure for a vehicle equipped with a periodically regenerating system.....	378
Annex R (Normative) Hybrid Electric Vehicle (HEV) Test .....	383

# Limits and Measurement Methods for Emissions from Light-Duty Vehicles (China 6)

## 1 SCOPE

This Standard applies to the light-duty vehicles, including hybrid electric vehicles, powered by positive-ignition engines or compression-ignition engines, with a maximum design speed  $\geq 50$  km/h.

This Standard specifies the limits and measurement methods for emission pollutants at normal and low ambient temperatures, real driving emissions (RDE), crankcase emissions, evaporative emissions and refueling emissions, and technical requirements and measurement methods for the durability of pollution control devices and on-board diagnostic (OBD) systems of light duty vehicles equipped with positive-ignition engines.

This Standard specifies the limits and measurement methods for emission pollutants at normal ambient temperatures, real driving emissions and crankcase emissions, and technical requirements and measurement methods for the durability of pollution control devices and on-board diagnostic (OBD) systems of light duty vehicles equipped with compression-ignition engines.

This Standard specifies the requirements and verification for type test of light duty vehicles, check and verification methods of conformity of production and in-service conformity.

This Standard also specifies the special requirements for vehicles fueled with Liquefied Petroleum Gas (LPG) or Natural Gas (NG).

This Standard also specifies the type test procedure for replacement pollution control devices as separate technical units intended to be fitted on light duty vehicles with respect to pollutant emissions.

This Standard also stipulates the technical requirements for vehicles that use a reagent for the exhaust after-treatment system and the procedure for emission test of vehicles equipped with periodical regeneration systems.

At the manufacturer's request, type test can be performed for Category M<sub>1</sub>, M<sub>2</sub> and N<sub>2</sub> vehicles with the maximum mass  $> 3,500$  kg but  $\leq 4,500$  kg in accordance with this standard.

If a vehicle covered by this Standard has passed the type test in accordance with GB 17691 (CHINA VI), such vehicle may be exempted from type test according to this standard.

The light-duty vehicles fueled by the fuel types that are not contained in Annex K shall also comply with the requirements of this standard.

## 2 NORMATIVE REFERENCES

The standard refers to the following normative documents or the provisions contained therein. For undated references, the latest edition of the referenced document applies.

GB 1495	Limits and measurement methods for noise emitted by accelerating motor vehicles
GB 3847	Limits and measurement methods for exhaust smoke from C.I.E., (Compression Ignition Engine) and vehicle equipped with C.I.E.,
GB 7258	Safety specifications for power-driven vehicles operating on roads
GB/T 15089	Classification of power-driven vehicles and trailers
GB 17691	Limits and measurement methods for exhaust pollutants from compression ignition and gas fueled positive ignition engines of vehicles (III, IV, V)
GB18285	Limits and measurement methods for exhaust pollutants from vehicles equipped ignition engine under two-speed idle conditions and simple driving mode conditions
GB/T 19001	Quality management systems - Requirements
GB/T 27630	Guideline for Air Quality Assessment of Passenger Car
HJ/T 390	Technical Requirement for Environmental Protection Product - Control System of Fuel Evaporative Pollutants from Vehicle WITH Gasoline Engine
HJ 509	Determination of Platinum, Palladium and Rhodium loading in the vehicle-used ceramic catalytic converters Inductive Coupled Plasma-Optical Emission Spectrometry and Inductive Coupled Plasma-Mass Spectrometry

ISO 2575	Road vehicles - Symbols for controls, indicators and tell-tales
ISO 8422-1991	Sequential sampling plans for inspection by attributes
ISO 15031-7	Road vehicles - Communication between vehicle and external equipment for emissions-related diagnostics - Part 7: Data link security (dated March 15, 2001)
EN 1822	High efficiency air filters (EPA, HEPA and ULPA)

### 3 TERMS AND DEFINITIONS

For the purpose of this standard, the following terms and definitions apply.

#### 3.1

Light-duty vehicle

"Light-duty vehicle" means the category M<sub>1</sub>, M<sub>2</sub> and N<sub>1</sub> vehicles with the maximum mass of not exceeding 3,500 kg.

#### 3.2

Vehicle of Category M<sub>1</sub>, M<sub>2</sub>, N<sub>1</sub> and N<sub>2</sub>

According to GB/T 15089,

Category M<sub>1</sub> refers to the passenger vehicle with no more than 9 seats, including the driver's seat.

Category M<sub>2</sub> refers to the passenger vehicle with more than 9 seats including the driver's seat, and the maximum mass of not exceeding 5,000 kg.

Category N<sub>1</sub> refers to the goods vehicle with the maximum mass of not exceeding 3,500 kg.

Category N<sub>2</sub> refers to the goods vehicle with the maximum mass of more than 3,500 kg, but not more than 12,000kg.

#### 3.3

Vehicle of category I

Means the M<sub>1</sub> vehicle with no more than 6 seats including the driver's seat, and the maximum mass of not exceeding 2,500 kg.

#### 3.4

Vehicle of category II

All vehicles covered by this Standard except the vehicles of category I.

#### 3.5

Hybrid electric vehicle (HEV)

"Hybrid electric vehicle (HEV)" means a vehicle that is able to, at least, obtains power from both of the following on-vehicle energy storage device:

- A consumable fuel;
- A rechargeable electrical energy/power storage device.

#### 3.6

Bi-fuel vehicle

"Bi-fuel vehicle" means a vehicle that can run on both gasoline and a gaseous fuel, but is designed to run on only one fuel at a time.

#### 3.7

Mono-fuel gas vehicle

"Mono-fuel gas vehicle" means a vehicle that is designed to run on a gaseous fuel (i.e., LPG or NG), or a vehicle that can run on both gaseous fuel (LPG or NG) and gasoline, but gasoline is intended for emergency purposes or engine starting only, and the gasoline tank shall have a volume of not exceeding 15 liters.

#### 3.8

Reference mass (RM)

"Reference mass" means the unladen kerb mass of the vehicle increased by a uniform figure of 100 kg.

#### 3.9

Test mass (TM)

"Test mass" means the sum of the vehicle reference mass, mass of optional equipment <sup>(1)</sup> and the representative load mass <sup>(2)</sup>.

#### 3.10

<sup>(1)</sup> <sup>(2)</sup> Refer to the definition in Appendix CC.



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