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**Electric Vehicles—Safety Specifications**

**电动汽车 安全要求**

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**Issued by the General Administration of Quality Supervision, Inspection and  
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## Foreword

This Standard is equivalent to ISO/DIS 6469.1: 2000 *Electric vehicles-Safety specification Part 1: On-board energy storage*. Difference between this Standard and ISO/DIS 6469.1: 2000:

1. For scope of application in this Standard, “Electric passenger vehicle whose max working voltage of onboard circuit is less than 1000 V (AC) or 1500 V (DC) and to electric commercial vehicle whose max design total mass is not more than 3500 kg, and the max design mass of electric vehicle is more than 3500 kg” in ISO/DIS 6469.1 changed the 1000 V (AC) as 660 V (AC) and changed the 1500 V (DC) as 1000V (DC) according to *Standard Voltage* GB 156.
2. The reference standards changed as National Standard, added GB 156 on the basis of ISO/DIS 6469.1.
3. Deleted the Clause 4 in ISO/DIS 6469.1.

Annex A and Annex B of this Standard is suggestive.

This Standard was proposed by State Bureau of Machine Building Industry.

This Standard was under the jurisdiction of National Technical Committee on Road Vehicles of Standardization Administration of China.

Draft units of this Standard are China Automotive Technology and Research Center and Tsinghua University.

Main drafters of this Standard are Zhao Jingwei, Sunhui, Sun Lin, Chen Quanshi, Lun Jingguang.

# Electric Vehicles-Safety Specification

## Part 1: On-board Energy Storage

### 1 Scope

This standard specifies the safety specification for on-board energy storage of electric vehicle propulsion system to ensure the safety of users and vehicle environment.

This Standard is applicable to electric passenger vehicle whose max working voltage of onboard circuit is less than 660 V (AC) or 1000 V (DC) (according to GB 156), and to electric commercial vehicle whose max design total mass is not more than 3500 kg, and the max design mass of electric vehicle is more than 3500 kg that can refer to this standard.

This Standard is not applicable to guide assembly, maintenance and repair of electric vehicle.

### 2 Normative References

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB 2893-2001 Safety colours

GB 2894-1996 Safety signs

GB 4208-1993 Degrees of protection provided by enclosure (IP code)

GB 156-1993 Standard voltages

GB/T 5465.2-1996 Graphical symbols for use on electrical equipment

### 3 Terms and Definitions

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

#### 3.1 Battery cell

Electrochemical energy storage device, consisting of positive and negative electrodes, and an electrolyte, of which the nominal voltage is the electrochemical couple nominal voltage

#### 3.2 Battery module or battery monobloc

Grouping of interconnected cells in a single mechanical and electrical unit

#### 3.3 Battery pack

Single mechanical assembly comprising battery modules and retaining frames or trays, but possibly including other components (e.g. for topping-up and temperature control)

#### 3.4 Traction battery

Collection of all traction battery packs which are electrically connected, for the supply of energy to the power train

#### 3.5 Battery connection terminal

Live part outside the enclosure of the battery pack, intended for transmitting electrical energy

#### 3.6 Creepage distance



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