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NATIONAL STANDARD OF THE
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ICS 29.220

K 82

GB 21966-2008 / IEC 62281:2004

**Safety of primary and secondary lithium cells and batteries
during transport**

锂原电池和蓄电池在运输中的安全要求

(IEC 62281:2004, IDT)

Issued on: June 18, 2008

Implemented on: July 01, 2009

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of the People's Republic of China.**

Table of Contents

Foreword	3
Introduction.....	4
1 Scope.....	6
2 Normative references	6
3 Terms and definitions.....	6
4 Requirements for safety	10
5 Type testing, sampling and re-testing	11
6 Test methods and requirements.....	13
7 Information for safety	23
8 Instructions for packaging and handling during transport	24
9 Marking.....	25
Bibliography	27

Foreword

Clauses 4, 5, 6 and 9 of this Standard are mandatory clauses. Requirements specified in this Standard do not apply in those cases where special provisions given in the relevant regulations of China (see 7.3), provide exemptions.

This Standard is identical to IEC 62281:2004 “Safety of primary and secondary lithium cells and batteries during transport”.

This Standard was proposed by China National Light Industry Council.

This Standard shall be under the jurisdiction of National Technical Committee on Primary Battery of Standardization Administration of China (SAC/TC 176).

Main drafting organizations of this Standard: National Light Industry Battery Quality Supervision and Inspection Center, Changzhou Daily Battery Co., Ltd., Power Glory Battery Tech (Shenzhen) Co., Ltd., Fujian Nanping NanFu Battery Co., Ltd., Wujiang Battery Product Testing Laboratory of Mechanical and Electrical Products Testing Center of Jiangsu Entry-Exit Inspection and Quarantine Bureau, Shenzhen Able New Energy Co., Ltd.

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This Standard is issued for the first time.

Safety of primary and secondary lithium cells and batteries during transport

1 Scope

This Standard specifies test methods and requirements for primary and secondary (rechargeable) lithium cells and batteries to ensure their safety during transport (other than for recycling or disposal). Requirements specified in this Standard do not apply in those cases where special provisions given in the relevant regulations of China (see 7.3), provide exemptions.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB 8897.4 Primary batteries - Part 4: Safety of lithium batteries (GB 8897.4-2002, IEC 60086-4:2000, IDT)

IEC 61960 Secondary cells and batteries containing alkaline or other non-acid electrolyte - Secondary lithium cells and batteries for portable applications

3 Terms and definitions

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

3.1

aggregate lithium content

Total lithium content or lithium equivalent content of the cells comprising a battery.

3.2

battery

One or more cells electrically connected by permanent means, fitted in a case, with terminals, markings and protective devices, etc., as necessary for use.

3.3

International Civil Aviation Organization (ICAO) and in the Dangerous Goods Regulations published by the International Air Transport Association (IATA)⁵⁾.

7.3.3 Sea transport

Regulations concerning sea transport of lithium batteries are specified in the International Maritime Dangerous Goods (IMDG) Code published by the International Maritime Organization (IMO)⁶⁾.

7.3.4 Land transport

Regulations concerning road and railroad transport are specified on a national or multilateral basis. Whilst an increasing number of regulators adopt the UN Model Regulations, it is recommended that country-specific transport regulations be consulted before shipping.

7.4 Display and storage

- a) Store batteries in well ventilated, dry and cool conditions

High temperature or high humidity may cause deterioration of the battery performance and/or surface corrosion.

- b) Do not stack battery cartons on top of each other exceeding a height specified by the manufacturer

If too many battery cartons are stacked, batteries in the lowest cartons may be deformed and electrolyte leakage may occur.

- c) Avoid storing or displaying batteries in direct sun or in places where they get exposed to rain

When batteries get wet, their insulation resistance may be impaired and self-discharge and corrosion may occur. Heat may cause deterioration.

- d) Store batteries in their original packing

When batteries are unpacked and mixed they may be short-circuited or damaged.

8 Instructions for packaging and handling during transport

8.1 Quarantine

Packages that have been crushed, punctured or torn open to reveal contents shall not be transported. Such packages shall be isolated until the shipper has been consulted, has

⁵⁾ Refer to the bibliography.

⁶⁾ Refer to the bibliography.

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