

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Secondary cells and batteries containing alkaline or other non-acid electrolytes –**

**Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications**

**Accumulateurs alcalins et autres accumulateurs à électrolyte non acide –**

**Exigences de sécurité pour les accumulateurs portables étanches, et pour les batteries qui en sont constituées, destinés à l'utilisation dans des applications portables**



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### **SECONDARY CELLS AND BATTERIES CONTAINING ALKALINE OR OTHER NON-ACID ELECTROLYTES –**

### **SAFETY REQUIREMENTS FOR PORTABLE SEALED SECONDARY CELLS, AND FOR BATTERIES MADE FROM THEM, FOR USE IN PORTABLE APPLICATIONS**

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International Standard IEC 62133 has been prepared by subcommittee 21A: Secondary cells and batteries containing alkaline or other non-acid electrolytes, of IEC technical committee 21: Secondary cells and batteries.

This second edition cancels and replaces the first edition published in 2002. It constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- update of assembly of cells into batteries (5.5);
- addition of design recommendations for lithium system only (5.6.2);
- separation of nickel systems and lithium systems (Clause 6);

- addition of specific requirements and tests for lithium systems (Clause 8);
- addition of charging of secondary lithium-ion cells for safe use (Annex A).

The text of this standard is based on the following documents:

FDIS	Report on voting
21A/503/FDIS	21A/509/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The following difference exists in the countries indicated below:

Subclause 8.3.9: Design evaluation – Forced internal short circuit only applies to Korea, Japan, Switzerland and France.

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## SECONDARY CELLS AND BATTERIES CONTAINING ALKALINE OR OTHER NON-ACID ELECTROLYTES –

### SAFETY REQUIREMENTS FOR PORTABLE SEALED SECONDARY CELLS, AND FOR BATTERIES MADE FROM THEM, FOR USE IN PORTABLE APPLICATIONS

#### 1 Scope

This International Standard specifies requirements and tests for the safe operation of portable sealed secondary cells and batteries (other than button) containing alkaline or other non-acid electrolyte, under intended use and reasonably foreseeable misuse.

#### 2 Normative references

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

IEC 60050-482, *International Electrotechnical Vocabulary – Part 482: Primary and secondary cells and batteries*

IEC 61951-1, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Portable sealed rechargeable single cells – Part 1: Nickel-cadmium*

IEC 61951-2, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Portable sealed rechargeable single cells – Part 2: Nickel-metal hydride*

IEC 61960, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Secondary lithium cells and batteries for portable applications*

ISO/IEC Guide 51, *Safety aspects – Guidelines for their inclusion in standards*

#### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-482 and ISO/IEC Guide 51, as well as the following apply.

##### 3.1

##### **safety**

freedom from unacceptable risk

##### 3.2

##### **risk**

a combination of the probability of occurrence of harm and the severity of that harm

##### 3.3

##### **harm**

physical injury or damage to the health of people or damage to property or to the environment