SLOVENSKI STANDARD
oSIST prEN IEC 62133-1:2024

01-september-2024

Sekundarni členi in baterije z alkalnimi ali drugimi nekislinskimi elektroliti - Varnostne zahteve za prenosne zatesnjene sekundarne člene in za baterije, narejene iz njih, za uporabo v prenosnih napravah - 1. del: Nikljevi sistemi

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 - Part 1: Nickel systems

Sekundärzellen und -batterien mit alkalischen oder anderen nicht säurehaltigen Elektrolyten - Sicherheitsanforderungen für tragbare gasdichte Sekundärzellen und daraus hergestellte Batterien für die Verwendung in tragbaren Geräten - Teil 1: Nickel-Systeme

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 - Partie 1: Systèmes au nickel

iTeh Standards
(https://standards.iteh.ai)
Document Preview
oSIST prEN IEC 62133-1:2024
https://standards.iteh.ai/catalog/standards/sist/5c3924bc-552e-426a-ab42-3b2e1aac21c6/osist-pren-iec-62133-1-2024

Ta slovenski standard je istoveten z: **prEN IEC 62133-1:2024**

ICS:

29.220.30	Alkalni sekundarni členi in baterije	Alkaline secondary cells and batteries

oSIST prEN IEC 62133-1:2024 **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

iTeh Standards
(https://standards.iteh.ai)
Document Preview

oSIST prEN IEC 62133-1:2024
https://standards.iteh.ai/catalog/standards/sist/5a3924bc-552e-4266-ab42-3b2e4ace29c6/osist-pren-iec-62133-1-2024

oSIST prEN IEC 62133-1:2024

21A/890/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 62133-1 ED2**	
DATE OF CIRCULATION: **2024-06-21**	CLOSING DATE FOR VOTING: **2024-09-13**
SUPERSEDES DOCUMENTS: **21A/865/CD, 21A/886/CC**	

IEC SC 21A : SECONDARY CELLS AND BATTERIES CONTAINING ALKALINE OR OTHER NON-ACID ELECTROLYTES

SECRETARIAT: France	SECRETARY: Mr Jean-Marie Bodet
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 21	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.

FUNCTIONS CONCERNED:

☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☒ SAFETY

☒ SUBMITTED FOR CENELEC PARALLEL VOTING	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING
Attention IEC-CENELEC parallel voting The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting. The CENELEC members are invited to vote through the CENELEC online voting system.	

iTeh Standards
(https://standards.iteh.ai)
Document Preview
oSIST prEN IEC 62133-1:2024
https://standards.iteh.ai/catalog/standards/sist/5e2024bc-552e-4266-ab42-3b2e4ace29c6/osist-pren-iec-62133-1-2024

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any relevant “In Some Countries” clauses to be included should this proposal proceed. Recipients are reminded that the CDV stage is the final stage for submitting ISC clauses. (SEE AC/22/2007 OR NEW GUIDANCE DOC).

TITLE:

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 - Part 1: Nickel systems

PROPOSED STABILITY DATE: 2025

oSIST prEN IEC 62133-1:2024

NOTE FROM TC/SC OFFICERS:

During SC21A / WG3 Spring Meeting on April 2024-04-23, the resolution of the comments made on IEC62133-1 ED2 CD (21A/865/CD) have been presented to the WG3 experts and approved by the Secretary and the Chair. It has also been approved to move from CD to the CDV entering the Enquiry Stage.

The Revised Comments have been distributed to the Participating National Committees on 2024-04-26, 2023 (21A/886/CC).

iTeh Standards
(https://standards.iteh.ai)
Document Preview

oSIST prEN IEC 62133-1:2024
https://standards.iteh.ai/catalog/standards/sist/5a3924bc-552e-4266-ab42-3b2e4ace29c6/osist-pren-iec-62133-1-2024

oSIST prEN IEC 62133-1:2024

CONTENTS

iTeh Standards
(https://standards.iteh.ai)
Document Preview
oSIST prEN IEC 62133-1:2024
https://standards.iteh.ai/catalog/standards/sist/...-62133-1-2024

oSIST prEN IEC 62133-1:2024

47

50

53

54

iTeh Standards
(https://standards.iteh.ai)
Document Preview

oSIST prEN IEC 62133-1:2024
https://standards.iteh.ai/catalog/standards/sist/5a3924bc-552e-4266-ab42-3b2e4ace29c6/osist-pren-iec-62133-1-2024

oSIST prEN IEC 62133-1:2024

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

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 –

Part 1: Nickel systems

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.

3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.

4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.

5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.

6) All users should ensure that they have the latest edition of this publication.

7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.

8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62133-1 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 first edition cancels and replaces the second edition of IEC 62133 published in 2012. It constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 62133:2012:

– separation of lithium systems into a separate Part 2;

iTeh Standards (https://standards.iteh.ai) Document Preview
oSIST prEN IEC 62133-1:2024

oSIST prEN IEC 62133-1:2024

– inclusion of button cell requirements.

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

FDIS	Report on voting
21A/619/FDIS	21A/627/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.

A list of all parts of the IEC 62133 series, published under the general title *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*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

iTeh Standards
(https://standards.iteh.ai)
Document Preview

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

oSIST prEN IEC 62133-1:2024
https://standards.iteh.ai/catalog/standards/sist/5a3924bc-552e-4266-ab42-3b2e4ace29c6/osist-pren-iec-62133-1-2024

oSIST prEN IEC 62133-1:2024

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 –

Part 1: Nickel systems

1 Scope

This part of IEC 62133 specifies requirements and tests for the safe operation of portable sealed secondary nickel cells and batteries containing alkaline electrolyte, under intended use and reasonably foreseeable misuse.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 60050-482:2004, *International Electrotechnical Vocabulary – Part 482: Primary and secondary cells and batteries* (available at http://www.electropedia.org)

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*

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

iTeh Standards (https://standards.iteh.ai) Document Preview
https://standards.iteh.ai/catalog/standards/sist/5a3924bc-552e-4266-ab42-3b2e4ace29c6/osist-pren-iec-62133-1-2024

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
safety
freedom from unacceptable risk

3.2
risk
combination of the probability of occurrence of harm and the severity of that harm

oSIST prEN IEC 62133-1:2024

3.3
harm
physical injury or damage to the health of people or damage to property or to the environment

3.4
hazard
potential source of harm

3.5
intended use
use of a product, process or service in accordance with specifications, instructions and information provided by the supplier

3.6
reasonably foreseeable misuse
use of a product, process or service in a way which is not intended by the supplier, but which may result from readily predictable human behaviour

3.7
secondary cell
basic manufactured unit providing a source of electrical energy by direct conversion of chemical energy, that consists of electrodes, separators, electrolyte, container and terminals, and that is designed to be charged electrically

3.8
secondary battery
assembly of secondary cell(s) ready for use as a source of electrical energy characterized by its voltage, size, terminal arrangement, capacity and rate capability

Note 1 to entry: Includes single cell batteries.

iTeh Standards
(https://standards.iteh.ai)
Document Preview

3.9
leakage
unplanned, visible escape of liquid electrolyte

oSIST prEN IEC 62133-1:2024
https://standards.iteh.ai/catalog/standards/sist/5a3924bc-552e-4266-ab42-3b2e4ace29c6/osist-pren-iec-62133-1-2024

3.10
venting
release of excessive internal pressure from a cell or battery in a manner intended by design to preclude rupture or explosion

3.11
rupture
mechanical failure of a cell container or battery case induced by an internal or external cause, resulting in exposure or spillage but not ejection of materials

3.12
explosion
failure that occurs when a cell container or battery case opens violently and major components are forcibly expelled

3.13
fire
emission of flames from a cell or battery

3.14
portable battery
battery for use in a device or appliance which is conveniently hand-carried