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Interested committees:

Title: Draft BS EN 63635 Ed.1.0 BS EN 63635 Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary sodium ion cells and batteries for use in industrial applications.

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- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



21A/937/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER: IEC 63635 ED1	
DATE OF CIRCULATION: 2025-06-06	CLOSING DATE FOR COMMENTS: 2025-08-01
SUPERSEDES DOCUMENTS: 21A/878/NP, 21A/917/RVN	

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:	HORIZONTAL FUNCTION(S):
ASPECTS CONCERNED: Safety	

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 local regulations or technical reasons that may exist and should be considered should this proposal proceed, recognizing that failure to address such requirements could result in the need for new or existing "In Some Countries" clauses. (SEE [AC/22/2007](#) OR [NEW GUIDANCE DOC](#)).

TITLE:

Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary sodium ion cells and batteries for use in industrial applications

NOTE FROM TC/SC OFFICERS:

After two Project Team meetings, the resolution of comments (21A_917_RVN) has been presented to IEC SC21A WG5 during the SC21A WGs Spring Meeting on 2025-04-10 and approved.

The first CD is proposed for onboarding in OSD and entering the commenting phase from the NC.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary sodium ion cells and batteries for use in industrial applications

FOREWORD

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IEC 63635 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. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
XX/XX/FDIS	XX/XX/RVD

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

The language used for the development of this International Standard is English [change language if necessary].

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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

- reconfirmed,
- withdrawn, or
- revised.

INTRODUCTION

The following items were listed in the bibliography but not cited in the text. Please find a suitable place to cite them to justify their inclusion in the bibliography:

IEC 61959:2004, *Secondary cells and batteries containing alkaline or other non-acid electrolytes - Mechanical tests for sealed portable secondary cells and batteries* [IEC 61959:2004 \[1\]](#)

IEC 62620:2014, *Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for use in industrial applications* [IEC 62620:2014 \[2\]](#)

1 Scope

This document specifies requirements and tests for the product safety of secondary sodium ion cells and batteries used in industrial applications, including stationary applications.

This document covers sodium ion cells and batteries for industrial applications (hereinafter referred to as cells and batteries). The following are some examples of applications that utilize cells and batteries under the scope of this document:

- Stationary applications: telecom, uninterruptible power supplies (UPS), electrical energy storage system, utility switching, emergency power, and similar applications.
- Motive applications: forklift truck, golf cart, automated guided vehicle (AGV), railway vehicles, and marine vehicles, with the exception of road vehicles.

Since this document covers batteries for various industrial applications, it includes those requirements which are common and minimum to the various applications.

Electrical safety is included only as a part of the risk analysis of [Clause 8](#). In regard to details for addressing electrical safety, the end use application standard requirements need to be considered.

This document applies to cells and batteries. If the battery is divided into smaller units, the smaller unit can be tested as the representative of the battery. The manufacturer clearly declares the tested unit. The manufacturer can add functions, which are present in the final battery to the tested unit.

This document addresses first life cells and batteries. Reuse, repurpose, second life use or similar are not taken into considered by this document.

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 60695-10-2, *Fire hazard testing - Part 10-2: Abnormal heat - Ball pressure test method*

IEC 60695-11-10:2013, *Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods*

IEC 61000-4-2, *Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test*

3 Terms and definitions

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

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

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://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

[SOURCE: ISO/IEC Guide 51:2014, 3.9, modified - deletion of Note 1 to entry.]

3.3

harm

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

[SOURCE: ISO/IEC Guide 51:2014, 3.1]

3.4

hazard

potential source of harm

[SOURCE: ISO/IEC Guide 51:2014, 3.2]

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 not intended by the supplier, but which can result from readily predictable human behaviour

[SOURCE: ISO/IEC Guide 51:2014, 3.7, modified - "or system" has been replaced with "process or service" and notes to entry deleted.]

3.7

secondary sodium ion cell

secondary cell where electrical energy is derived from the insertion/extraction reactions of sodium ions or oxidation/reduction reaction of sodium between the negative electrode and the positive electrode

Note 1 to entry: The cell typically has an electrolyte that consists of a sodium salt and organic solvent compound in liquid, gel or solid form and has a metal or a laminate film casing. It is not ready for use in an application because it is not yet fitted with its final housing, terminal arrangement and electronic control device.

[SOURCE: IEC 63056:2020 [3], 3.7, modified – "Lithium" in term, definition and Note 1 to entry has been replaced with "sodium".]

3.8

large secondary sodium ion cell

secondary sodium ion cell with a total mass of more than 500 g

Note 1 to entry: This term is referred to as large cell in this document.

3.9

cell block

group of cells connected together in parallel configuration with or without protective devices (e.g. fuse or positive temperature coefficient device) and monitoring circuitry

Note 1 to entry: It is not ready for use in an application because it is not yet fitted with its final housing, terminal arrangement and electronic control device.

[SOURCE: IEC 63056:2020 [3], 3.8.]

3.10 module

group of cells connected together in a series, parallel or series-parallel configuration with or without protective devices (e.g. fuse or positive temperature coefficient device) and monitoring circuitry

[SOURCE: IEC 63056:2020 [3], 3.9, modified – In the definition, "series and/or parallel configuration" has been replaced with "a series, parallel or series-parallel configuration".]

3.11 battery pack

energy storage device which comprises one or more cells or modules electrically connected

Note 1 to entry: It includes monitoring circuitry which provides information (e.g. cell voltage) to a battery pack system.

Note 2 to entry: It may incorporate a protective housing and be provided with terminals or other interconnection arrangement.

[SOURCE: IEC 63056:2020 [3], 3.10, modified – In the definition, "and has monitoring circuitry which provides information (e.g. cell voltage) to a battery system to influence the battery's safety, performance and/or service life" has been deleted and Note 1 to entry has been added.]

3.12 battery system battery

system which comprises one or more cells, modules or battery packs

Note 1 to entry: It has a battery management system capable of controlling current in case of overcharge, overcurrent, overdischarge, and overheating.

Note 2 to entry: Overdischarge cutoff is not mandatory only if sodium ion cell/battery safety is not compromised under this operating condition.

Note 3 to entry: The battery system may have cooling or heating units, and some even contain charge and discharge modules and inverter modules.

Note 4 to entry: More than one battery system may constitute a larger battery system.

[SOURCE: IEC 63056:2020 [3], 3.11, modified – In the definition, "and has a battery management system capable of controlling current in case of overcharge, overcurrent, overdischarge, and overheating" has been deleted and Note 1 to entry has been added. In Note 3 to entry, "and some even contain charge and discharge modules and inverter modules" has been added.]

3.13 large secondary sodium battery

sodium battery packs with a total mass of more than 12 kg

Note 1 to entry: This term is referred to as large battery in this document.

3.14 battery management system BMS

set of protection functions associated with a battery to prevent overcharge, overcurrent, overtemperature, under-temperature and, if applicable, overdischarge and which monitors