

For Comments Only

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

(Not to be reproduced without the permission of BIS or used as an Indian Standard)

भारतीय मानक मसौदा

अंतरिक्ष प्रणालियां — अंतरिक्ष वाहनों के लिए लिथियम आयन की बैटरी — डिज़ाइन और सत्यापन
की अपेक्षाएं

Draft Indian Standard

**SPACE SYSTEMS — LITHIUM ION BATTERY FOR SPACE
VEHICLES — DESIGN AND VERIFICATION REQUIREMENTS**

ICS: 49.140

Air and Space Vehicles Sectional Committee, TED 14

**Last date for receipt of comments is
26/09/2023**

Air and Space Vehicles Sectional Committee, TED 14

NATIONAL FOREWORD

(Formal Clause to be added later)

The text of ISO standard is proposed for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standard for which Indian Standard also exists. The corresponding Indian Standard, which is to be substituted in its respective places, is listed below along with its degree of equivalence for the edition indicated. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendment.

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
IEC 61960 Secondary cells and batteries containing alkaline or other non-acid electrolytes — Secondary lithium cells and batteries for portable applications	IS 16047 (Part 3) : 2018/ IEC 61960-3:2017 Secondary Cells and Batteries Containing Alkaline or Other Non-Acid Electrolytes — Secondary Lithium Cells and Batteries for Portable Applications Part 3 Prismatic and Cylindrical Lithium Secondary Cells, and Batteries Made From Them (<i>first revision</i>)	Identical under dual numbering

The technical committee has reviewed the provisions of the following International Standard referred in this adopted standard and has decided that it is acceptable for use in conjunction with this standard. For undated references, the latest edition of the referenced document applies, including any corrigenda and amendment.

<i>International Standard</i>	<i>Title</i>
ISO 24113	Space systems — Space debris mitigation requirements

Attention is drawn to the possibility that some of the elements of this standard may be the subject of patent rights. The Bureau of Indian Standards shall not be held responsible for identifying any or all such patent rights.

This Standard also makes a reference to the BIS Certification Marking of the Product. Details of which is given in National Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*).’

SCOPE

This International Standard specifies design and minimum verification requirements for lithium ion rechargeable (including lithium ion polymer) batteries for space vehicles.

Lithium ion secondary electrochemical systems use intercalation compounds (intercalated lithium exists in an ionic or quasi-atomic form within the lattice of the electrode material) in the positive and in the negative electrodes.

The focus of this International Standard is on “battery assembly” and cell is described as “component cells” to be harmonized with other industrial standards and regulations.

“Performance”, “safety”, and “logistics” are the main points of view to specify.

This International Standard does not address “disposal” or “recycle”; however, some recommendations regarding disposal are suggested.

FOR COMPLETE TEXT OF THE DOCUMENT KINDLY REFER ISO 17546 : 2016 or CONTACT:

P. V. Srikanth
Scientist- D & Head
Transport Engineering Department
Bureau of Indian Standards
9 Bahadur Shah Zafar Marg
New Delhi 110 002
Email: ted@bis.org.in, hted@bis.org.in
Telefax: 011- 2323 6311

Doc: TED 14 (22950) WC
ISO 17546 : 2016
July 2023

NATIONAL ANNEX A
(National Foreword)

A-1 BIS CERTIFICATION MARKING

A-1.1 The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark