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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

MH/T 1020-2018

**Specification for transport of lithium batteries by air
(English Translation)**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces and abolishes MH/T 1020-2013 "Lithium Battery Air Transport Specification". Compared with MH/T 1020-2013, the main technical changes Change as follows.

- Added the definitions of "rated capacity", "nominal voltage" and "power bank" (see 3.7,

3.8, 3.10);

- Deleted the definitions of "single cell battery" and "prototype sample lithium battery cell or battery" (2013 edition 3.3, 3.6);

- Added abbreviations (see Chapter 4);

- Added the prohibition of transportation restriction clause in accordance with the special regulation A201 (see 5.4.1);

- Increased the state-of-charge limit for transporting lithium-ion batteries separately (see 5.4.2);

- Deleted the provisions of lithium batteries approved for transportation in accordance with A88 (Chapter 6 of the 2013 edition);

- Increased the number of lithium battery equipment and spare lithium batteries carried by passengers (see 7.5);

- Added the requirement for passengers to carry the power bank on the plane (see 7.7);

- The contents of Table 1 and Table 2 are revised, "net weight" is changed to "net quantity", and "composite package" is changed to "collective packaging", the "hazard label" is changed to "lithium battery hazard label", and the "lithium battery handling label" is changed to "lithium battery mark", Added restrictions on state of charge and collective packaging (see Table 1, Table 2, 2013 Edition Table 1, Table 2);

- Modified the format and content of Table 3, and increased the limit on the number of lithium batteries carried by passengers (see Table 3, 2013 Edition Table 3);

- Amended Appendix A, adopting new lithium battery danger label and lithium battery mark (see Appendix A, 2013 edition Appendix A);

- Amended Appendix B, added 965IB fill-in sample and nuclear power status description sample (see Appendix B, 2013 edition Appendix B);

- Added Appendix C, and added an air waybill filling sample (see Appendix C).

This standard was proposed and interpreted by the Transportation Department of the Civil Aviation Administration of China.

This standard is under the jurisdiction of the China Academy of Civil Aviation Science and Technology.

1 Scope

This standard specifies the restrictions and operating specifications for air transportation of lithium batteries.

This standard applies to air transportation of lithium battery cargo and baggage.

This standard does not apply to air mail transportation of lithium batteries.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

MH/T 1030 Air transport regulations for dangerous goods carried by passengers and crew
IATA "Dangerous Goods Regulations" (2018 Edition) ICAO Doc 9284-AN/905 "Technical Instructions for the Safe Air Transport of Dangerous Goods" (2017-2018 Edition) United Nations "Recommendations on the Transport of Dangerous Goods-Manual of Tests and Standards"/ST/SG/AC.10/11/Rev.6

3 Terms and definitions

The following terms and definitions apply to this document.

Battery cell

A single, enclosed electrochemical device consisting of a positive electrode and a negative electrode with a potential difference between the two electrodes.

Battery

Two or more battery cells connected together by a circuit and installed with necessary devices such as housing, electrode terminals, markings and Protection devices, etc.

Note: A single cell battery is considered a battery cell in this standard.

Lithium metal cell or battery A battery cell or battery with lithium metal or lithium alloy as the anode.

Lithium ion cell or battery both the positive and negative electrodes do not have metallic lithium, but are battery cells or batteries in which ionic or atomic-like lithium is embedded in the lattice of the positive and negative electrode materials.

Note: Lithium-ion battery cells or batteries are usually rechargeable secondary batteries. Lithium polymer battery cells or batteries that use lithium ion chemistry are classified in this standard MH the class is a lithium ion battery cell or battery.

Button battery

A small circular battery whose overall height is smaller than its diameter.

Rated energy

The energy value of the battery cell or battery under specified conditions announced by the manufacturer.

Note: The unit of rated energy is watt-hour (Wh), and the calculation method is to multiply the nominal voltage (in volts (V)) by the rated capacity (in ampere-hours) (Ah) is the unit).

Rated capacity

The capacity of a battery cell or battery measured under the load, temperature and voltage cut-off point specified by the manufacturer.

Note: The unit is ampere hour (Ah) or milliampere hour (mAh).

Nominal voltage

Used to mark or identify the approximate value of the battery cell or battery voltage.

Note: The nominal voltage is not the output voltage, nor the input voltage.

Lithium content

The mass of lithium in lithium metal or lithium alloy battery cells or battery anodes.

3.10

Power bank

It is composed of a lithium battery cell or battery, a corresponding circuit and a casing. The main function is to provide a stable DC output power for other equipment Power source, and can be carried by the user with a small mobile power supply.

Note: During the transportation of luggage, the power bank is regarded as a spare lithium battery carried by the passenger or crew; when the cargo is transported, the power bank is regarded as a lithium battery rather than a device containing a lithium battery.

4 Abbreviations

The following abbreviations apply to this document.

ELI Lithium-ion battery with exception ELM exception lithium metal battery IMP Information Exchange Program PED portable electronic equipment PMED portable electronic medical equipment RBI completely restricted single lithium ion battery RBM completely restricted single lithium metal battery as per Section IA and IB of PI 968) RLI completely restricted lithium-ion battery with equipment RLM completely restricted lithium metal battery with equipment

5.1 Quality Management Plan

The manufacturer of the lithium battery cell or lithium battery shall have compliance with ICAO Doc 9284-AN/905 (hereinafter referred to as ICAO TI) and IATA "Dangerous the quality management plan stipulated in the Product Regulations (hereinafter referred to as IATA DGR).