

INTERNATIONAL ELECTROTECHNICAL COMMISSION

IEC 60086-4
Edition 5.0 2019-04

PRIMARY BATTERIES –

Part 4: Safety of lithium batteries

INTERPRETATION SHEET 1

This interpretation sheet has been prepared by IEC technical committee 35: Primary cells and batteries.

The text of this interpretation sheet is based on the following documents:

DISH	Report on voting
35/1445/DISH	35/1448/RVDISH

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

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.

Question 1

In looking at IEC 60086-4 Edition 5.0 2019-04, I thought it was difficult to understand all of the marking requirements for swallowable batteries as well as the purpose of those requirements. Could you provide a detailed explanation?

Answer 1

The following list of statements reflects the intention of Table 9 and presents an interpretation of certain parts of Clause 9, and Annex F:

- a) Table 9 is intended to summarize requirements that are found in the text, namely in 7.2 a), 9.1 and 9.2, and in Annex F.

- b) The structure of table 9 is similar to the list in 9.1 (items "a" to "f") and 9.2 (items "a" thru "b").
- c) From item a) in 9.2 it is not clear what exactly is required to appear on the packaging and what on the battery: the safety sign alone (Table D.1 item E, or Figure F.1) or the complete product safety label (Figure 9).

The purpose of measures to prevent accidental ingestion of batteries is to eliminate the opportunity for children to get stuck batteries in the oesophagus.

The battery that requires measures to prevent accidental ingestion is a swallowable battery size which fits within the limits of the ingestion gauge and is applied to direct sale in consumer-replaceable applications in which children have opportunity to contact swallowable batteries.

There is no description requiring the marking of Caution for ingestion on battery/cell with a diameter of 20 mm or more in the text. However, due to the consideration of measures to prevent accidental ingestion, it was determined that the marking of Caution for ingestion on a battery/cell with a diameter of 20 mm or more is needed and its requirement is shown in Table 9. Therefore, a pictogram must be engraved as a substitute of Caution for ingestion due to a battery/cell with a diameter of 20 mm or more having no space to display the marking.

The type of "caution for ingestion" that is required on the immediate packaging of swallowable batteries is one of the safety signs as shown in Figure F.1. Where there is enough space on the packaging, additional information per Figure 9 (the safety label or only its text) can be printed on the packaging or accompanying safety information about battery handling.

Table 1 of this Interpretation Sheet summarizes the requirements for marking of lithium button cells.

Table 1 – Marking requirements for swallowable batteries

Diameter	Requirement(s)
$d < 16 \text{ mm}$	Cautionary advice in the form of the words KEEP OUT OF REACH OF CHILDREN or the safety symbol E of Table D.1 on the immediate packaging.
$16 \text{ mm} \leq d < 20 \text{ mm}$	Child resistant packaging and cautionary advice in the form of the words KEEP OUT OF REACH OF CHILDREN or the safety symbol E of Table D.1 on the immediate packaging.
$d \geq 20 \text{ mm}$	Child resistant packaging, cautionary advice in the form of the words KEEP OUT OF REACH OF CHILDREN or the safety symbol E of Table D.1 on the immediate packaging, and the safety symbol E of Table D.1 on the positive side of the battery.
NOTE If applicable, the cautionary advice in the form of words should appear in one or more languages as appropriate for the market on which the cells and batteries are placed.	

Question 2

From 9.2 and in particular 9.2 a), it is not clear which kind of batteries are intended for direct sale in consumer-replaceable applications?

Answer 2

The kind of batteries that are included are those with general packaging such as blister packs sold in stores and on the internet, batteries packed with equipment and batteries which are contained in equipment and can be replaced by the consumer.

Question 3

Annex F is marked as "Informative", however "requirements" is stated in the title of Table 9. When referring to Table 9, do we have to consider Annex F as "normative" ?