

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



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**Primary batteries –  
Part 6: Guidance on environmental aspects**

**Piles électriques –  
Partie 6: Recommandation sur les aspects liés à l'environnement**



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ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## PRIMARY BATTERIES –

## Part 6: Guidance on environmental aspects

## FOREWORD

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International Standard IEC 60086-6 has been prepared by IEC technical committee 35: Primary cells and batteries.

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

FDIS	Report on voting
35/1436/FDIS	35/1440/RVD

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60086 series, published under the general title *Primary batteries*, can be found on the IEC website.

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

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- withdrawn,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

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## INTRODUCTION

Every product has some effect on the environment during its manufacture, distribution, use, and disposal. These effects can range from slight to significant; they can be short-term or long-term; and they can occur at the global, regional, or local level. Provisions in battery standards can significantly influence the extent of these environmental effects.

Environmental stewardship in the battery industry embraces a multiplicity of activities, from design, manufacturing, transportation, storage, and recycling, to disposal of the batteries.

There are often questions on the applicability of regulations to batteries. This document provides guidance on regulations applicable and not applicable to batteries, as well as procedures for measuring environmental characteristics.

## PRIMARY BATTERIES –

### Part 6: Guidance on environmental aspects

#### 1 Scope

This part of IEC 60086 applies to all chemistries of portable primary cells and batteries standardized in the 60086 series.

The purpose of this document is to provide guidance on the proper scientific protocols for testing the environmental performance of batteries; the symbols used to convey messages for collection, recycling, or other ideas; and the aspects and functional unit(s) to be included in assessing the environmental impact of batteries with modern life-cycle analysis techniques.

#### 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 60086-1:2015, *Primary batteries-Part 1: General*

ASTM Standard D 93-79 or D 93-80, *Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester*

ASTM Standard D 3278-78, *Standard Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus*

United States EPA Publication SW-846, Method 1110A “*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*”

United States EPA Publication SW-846, Method 1311 “*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*”

United States EPA Publication SW-846, Method 9040C “*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*”

#### 3 Terms and definitions

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

##### **cadmium free**

battery that contains less than 20 parts per million cadmium per the weight of the entire battery