

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Fuel cell technologies –
Part 6-106: Micro fuel cell power systems – Safety – Indirect Class 8 (corrosive)
compounds**

**Technologies des piles à combustible –
Partie 6-106: Systèmes à micropiles à combustible – Sécurité – Composés
(corrosifs) indirects de classe 8**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FUEL CELL TECHNOLOGIES –

**Part 6-106: Micro fuel cell power systems – Safety –
Indirect Class 8 (corrosive) compounds**

FOREWORD

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IEC 62282-6-106 has been prepared by IEC technical committee 105: Fuel cell technologies. It is an International Standard.

This first edition, together with the other parts of the IEC 62282-6-1XX series, cancels and replaces IEC 62282-6-100:2010 and IEC 62282-6-100:2010/AMD1:2012.

This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 62282-6-100:2010 and IEC 62282-6-100:2010/AMD1:2012:

- a) A new structure has been set up: IEC 62282-6-101 covers the general safety requirements common to all fuel types whereas IEC 62282-6-102 and subsequent parts of the IEC 62282-6-1XX series cover particular requirements for individual fuel types.

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

Draft	Report on voting
105/1017/FDIS	105/1025/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.

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.

A list of all parts in the IEC 62282 series, published under the general title *Fuel cell technologies*, can be found on the IEC website.

This document is to be used in conjunction with IEC 62282-6-101:2024 and is not to be used as a stand-alone document. This document provides additional requirements specific to corrosive fuel formulations, which apply in addition to the general requirements specified in IEC 62282-6-101:2024. The (sub)clause numbers in this document are aligned with those of IEC 62282-6-101:2024 and are intended to provide additional information and refined requirements, as appropriate.

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.

NOTE The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 12 months from the date of publication.

FUEL CELL TECHNOLOGIES –

Part 6-106: Micro fuel cell power systems – Safety – Indirect Class 8 (corrosive) compounds

1 Scope

This part of IEC 62282 covers micro fuel cell power systems, micro fuel cell power units and fuel cartridges using hydrogen produced from UN Class 8 (corrosive) borohydride formulations as fuel. These systems and units use proton exchange membrane (PEM) fuel cell technologies. The designs include fuel processing subsystems to derive hydrogen gas from the corrosive fuel formulation.

IEC 62282-6-101:2024, Figure 1 is applicable.

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 62282-6-101:2024, *Fuel cell technologies – Part 6-101: Micro fuel cell power systems – Safety – General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62282-6-101 and the following 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

fuel

corrosive (UN Class 8) formulation of borohydride compounds used as fuel for an indirect PEM micro fuel cell power system

Note 1 to entry: The formulation may contain a non-hazardous activator to facilitate the production of hydrogen, or an inhibitor, such as an alkali metal hydroxide, to modulate or inhibit the production of hydrogen from the corrosive fuel formulation or both. The formulation may be solid or liquid, or may include both solid and liquid components that are combined during fuel processing.

Note 2 to entry: This document only applies to corrosive (UN Class 8) compounds which can be processed to evolve hydrogen gas (e.g. through contact with water, non-hazardous or corrosive aqueous solutions, or an activator, or both).

Note 3 to entry: Guidance on the classification of materials, including mixtures, can be found in the current edition of the United Nations Recommendations on the Transport of Dangerous Goods, Model Regulations.