

AS ISO 19880.8:2021
ISO 19880-8:2019



STANDARDS
Australia



Gaseous hydrogen — Fuelling stations

Part 8: Fuel quality control



AS ISO 19880.8:2021

This Australian Standard® was prepared by ME-093, Hydrogen Technologies. It was approved on behalf of the Council of Standards Australia on 03 May 2021.

This Standard was published on 11 June 2021.

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This Standard was issued in draft form for comment as DR AS ISO 19880.8:2021.

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ISBN 978 1 76113 313 8

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First published as AS ISO 19880.8:2021.

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Preface

This Standard was prepared by the Standards Australia Committee ME-093, Hydrogen Technologies.

The objective of this document is to specify the protocol for ensuring the quality of the gaseous hydrogen at hydrogen distribution facilities and hydrogen fuelling stations for proton exchange membrane (PEM) fuel cells for road vehicles.

This document is identical with, and has been reproduced from, ISO 19880-8:2019, *Gaseous hydrogen — Fuelling stations — Part 8: Fuel quality control*.

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The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee TC 197, *Hydrogen technologies*.

A list of all parts in the ISO 19880 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document was developed to specify how the quality of gaseous hydrogen fuel for road vehicles which use PEM fuel cells can be assured. The document discusses hydrogen quality control approaches for routine and non-routine conditions, as well as quality assurance plans. It is based upon best practices and experience from the gaseous fuels and automotive industry. ISO 21087 describes the requirements for analytical methods to measure the level of contaminants found in the gaseous hydrogen fuel.

NOTES

Australian Standard®

Gaseous hydrogen — Fuelling stations

Part 8: Fuel quality control

1 Scope

This document specifies the protocol for ensuring the quality of the gaseous hydrogen at hydrogen distribution facilities and hydrogen fuelling stations for proton exchange membrane (PEM) fuel cells for road vehicles.

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.

ISO 19880-1, *Gaseous hydrogen — Fuelling stations — Part 1: General requirements*

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:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 authority having jurisdiction AHJ

organization, office or individual responsible for approving a facility along with an equipment, an installation, or a procedure

3.2 indicator species

one or more *constituents* (3.3) in the gas stream which can signal the presence of other chemical constituents because it has the highest probability of presence in a fuel produced by a given process

3.3 constituent

component (or compound) found within a hydrogen fuel mixture

3.4 contaminant

impurity (3.9) that adversely affects the components within the *fuel cell system* (3.6) or the hydrogen storage system

Note 1 to entry: An adverse effect can be reversible or irreversible.

3.5 filter

equipment to remove undesired *particulates* (3.15) from the hydrogen