
**Road vehicles — Information for first
and second responders —**

**Part 4:
Propulsion energy identification**

*Véhicules routiers — Information pour les premier et second
intervenants —*

Partie 4: Identification de l'énergie de propulsion

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Published in Switzerland

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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 on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 36, *Safety and impact testing*.

A list of all parts in the ISO 17840 series can be found on the ISO website.

Introduction

The time from the moment of the accident until the person is treated in the hospital is often referred to as the “golden hour”. Longer time directly affects the chances of recovery for the accident victims.

In a road vehicle accident, a quick and correct identification of the propulsion fuel and/or propulsion energy by the rescue team promotes the correct action with respect to the vehicle technology concerned.

This document provides a uniform scheme for identification of the fuel and/or energy used for the propulsion of a road vehicle. It also provides a way to communicate the related hazards to the first responders.

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Road vehicles — Information for first and second responders —

Part 4: Propulsion energy identification

1 Scope

This document defines the labels and related colours for indication of the fuel and/or energy used for propulsion of a road vehicle, especially for the case of new vehicle technology and/or power sources, including hybrid drive lines.

The communication of propulsion energy and related hazards is made in a logical and modular way to facilitate the understanding.

This document is applicable to passenger cars, buses, coaches, light and heavy commercial vehicles according to ISO 3833.

This document does not cover fuels being part of truck cargo.

The usage of the label includes, but is not limited to, the rescue sheet (ISO 17840-1 and ISO 17840-2¹⁾) and the emergency response guide (ISO 17840-3²⁾).

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 17840-1, *Road vehicles — Information for first and second responders — Part 1: Rescue sheet for passenger cars and light commercial vehicles*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 17840-1 apply.

ISO and IEC maintain terminological 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>

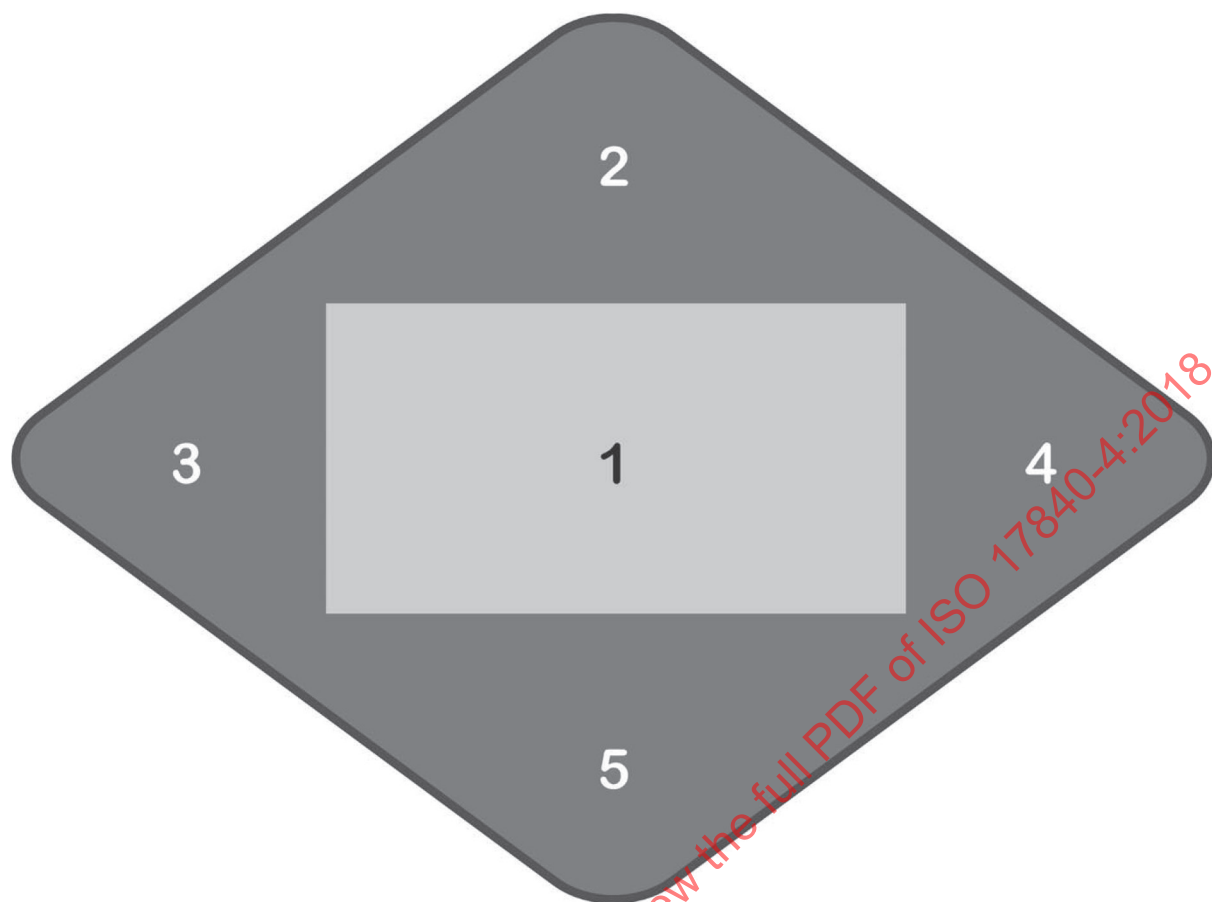
4 Layout and contents of a propulsion fuel/energy identification label

4.1 Label shape and appearance

The label shall be diamond shaped with defined zones according to [Figure 1](#). The width of label should be approximately 1,4 times the height. Corners may be either pointed or rounded.

1) Under preparation. Stage at time of publication: ISO/DIS 17840-2.

2) Under preparation. Stage at time of publication: ISO/DIS 17840-3.



Key

- 1 centre zone
- 2 upper zone
- 3 left zone
- 4 right zone
- 5 lower zone

Figure 1 — Label appearance and zones

4.2 Label dimensions and other characteristics

General recommendations in ISO 3864-1 should be followed to ensure that the label has the appropriate dimensions to be readable and clear to understand. Size shall be adapted to the intended use.

All information in the label shall be shown as pictogram and not as text. The label appearance shall be identical worldwide. Pictograms shall not be translated.

4.3 Label zones

The respective zones of the label are reserved for the categories of information shown in [Table 1](#). For order of appearance when using several fuels/energies, see [4.6](#).

Table 1 — Label zone information categories

Zone	Information category
Centre (see Table 3)	First energy source
Upper (see Table 4)	Second energy source
Left (see Table 5)	Gas behaviour due to density
Right (see Table 6)	State of aggregation of stored gaseous fuel
Lower	Reserved for future use

4.4 Colour definitions

Colour definitions according to [Table 2](#) should be used.

Table 2 — Colour definitions

Colour	RGB code	Fuel / Propulsion energy
Grey	127,127,127	Liquid group 1 (Diesel, Bio Diesel, ...)
Dark red	139,0,0	Liquid group 2 (Petrol/Gasoline, Ethanol, ...)
Light blue	0,176,240	Hydrogen group (including fuel cell propulsion)
Green	0,176,80	Compressed, Liquid Gas group (CNG, LPG, DME, ...)
White	255,255,255	Cryogen Gas Group (LNG, ...)
Orange	255,165,0	High voltage (Class B voltage)

NOTE 1 RGB colour components as expressed in terms of digital 8-bit per channel (from 0 to 255).

NOTE 2 Colours are in accordance with ISO 17840-1, ISO 17840-2 and ISO 17840-3.

The propulsion energy identification label shall be understandable also in greyscale version.

4.5 Colour coding principles

The background of the label is the colour of the first energy source.

4.6 Pictograms for use in the respective zone

Pictograms and zone descriptions according to [Tables 3](#) to [6](#) shall be used.

For vehicles using hybrid or flexible fuel propulsion, the following priority order of appearance shall be applied for the first energy source shown in the centre zone:

- 1) Gaseous fuel;
- 2) Electric energy;
- 3) Liquid fuel.

Table 3 — Centre zone pictograms

First energy source	Pictogram (Text or image)	Note	Order of appearance
Liquefied Petroleum Gas	LPG	Application of ISO 7000-2489	1
Compressed Natural Gas	CNG	—	1
Liquefied Natural Gas	LNG	—	1
Di-Methyl Ether (Gas)	DME	—	1
Hydrogen	H₂	—	1
Electric High Voltage (Class B)		IEC 60417-5036	2
Fuel of liquid group 1 (Diesel, Bio Diesel, ...)		ISO 7000-1541	3

Table 3 (continued)

First energy source	Pictogram (Text or image)	Note	Order of appearance
Fuel of liquid group 2 (Petrol/Gasoline, Ethanol, ...)		ISO 7000-0245	3

Table 4 — Upper zone pictograms

Second energy source	Pictogram (Text or image)	Note	Order of appearance
Electric High Voltage (Class B)		IEC 60417-5036	—
Fuel of liquid group 1 (Diesel, Bio Diesel, ...)		ISO 7000-1541	—
Fuel of liquid group 2 (Petrol/Gasoline, Ethanol, ...)		ISO 7000-0245	—

Table 4 (continued)

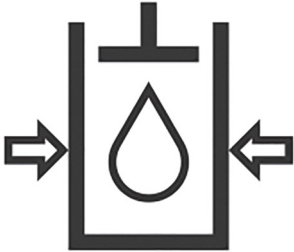
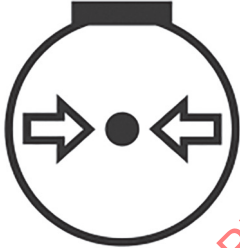
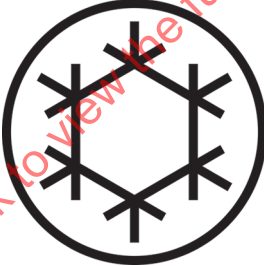
Second energy source	Pictogram (Text or image)	Note	Order of appearance
High pressure hydraulic oil accumulator (powered by compressed gas)		ISO 7000-1413	—

Table 5 — Left zone pictograms

Gas behaviour due to density	Pictogram (Text or image)	Note
Gas, lighter than air		ISO 7000-3615
Gas, heavier than air		ISO 7000-3616
Gas, heavier or lighter than air E.g. LNG		ISO 7000-3617

Table 6 — Right zone pictograms

State of aggregation ^a of stored gaseous fuel	Pictogram (Text or image)	Note
Liquid		ISO 7000-1056
Compressed		ISO 7000-2977
Cryogenic		ISO 7000-3608

^a Aggregation of the fuel in the gas tank.

4.7 Layout of complete label according to this document

[Annex A](#) provides a set of labels for common cases of propulsion fuel and propulsion energy, and hybrid combinations. For a case covered in [Annex A](#), the label shall be designed accordingly. For cases not covered in [Annex A](#), the principles of this document shall be followed, using the [Annex A](#) sample labels for guidance.

Annex A
(normative)

Sample labels

Labels designed in accordance with the principles of this document are shown in Table A.1.

Table A.1 — Sample labels

Description	Colour version of label
Vehicle on CNG	
Vehicle on LPG	
Vehicle on LNG	