
Safety information for the content of piping systems and tanks —

Part 1: Piping systems

*Informations de sécurité relatives au contenu des systèmes de
tuyauteries et des réservoirs —*

Partie 1: Systèmes de tuyauteries



This document is a preview generated by EKO



COPYRIGHT PROTECTED DOCUMENT

© ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 General requirements	2
5 Elements of safety information systems for piping	3
5.1 General.....	3
5.2 Colour coding to identify the nature of the content in the piping.....	3
5.3 Content name.....	5
5.4 Flow direction indicators.....	6
5.5 Warning signs and GHS pictograms.....	7
6 Technical and operational information	8
6.1 General.....	8
6.2 Additional safety information.....	8
6.3 Additional technical information.....	8
6.4 Supplementary identification colours.....	8
7 Layout requirements	9
8 Installation of safety information systems for piping	10
9 Maintenance, inspection and revision	11
Annex A (informative) Standard colours and equivalent colour codes	12
Annex B (informative) Observation distance	13
Annex C (informative) Examples of safety information systems	17
Annex D (informative) Firefighting systems	23
Annex E (informative) Maritime piping systems	24
Bibliography	26

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 ISO/TC 145, *Graphical symbols*, Subcommittee SC 2, *Safety identification, signs, shapes, symbols and colours*.

A list of all parts in the ISO 20560 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

Continuous growth in mobility of labour has resulted in a need to standardize safety information and form a coherent system for non-verbal exchange of information that consists of distinct elements to identify hazards related to the content of piping systems and tanks. Every element of the safety information system defined in this document communicates specific information. When combined on a pipe marking, these elements inform the viewer, in a unique and simplified way, of potential hazards so accidents can be prevented and an appropriate response to emergency situations can be efficiently accomplished.

The use of this document is expected to reduce risk by providing a means of improved training and education to reduce possible confusion for people working with and near piping systems in both normal and emergency situations.

The use of a standardized safety information system does not replace proper work methods, instructions or accident prevention training and measures. Education is an essential part of any system that provides safety information.

Many different countries' national pipe marking standards were reviewed during the development of this document. Important design concepts contained in these standards were incorporated into this document.

NOTE Some countries' statutory regulations could differ in some respect from the requirements given in this document.

Safety information for the content of piping systems and tanks —

Part 1: Piping systems

IMPORTANT — The colours represented in the electronic file of this document can be neither viewed on screen nor printed as true representations. For the purposes of colour matching see [Table 2](#) and [Table 5](#), which provide colorimetric and photometric properties, and [Annex A](#), which provides references from colour order systems.

1 Scope

This document specifies safety information for overground piping systems related to the content of the piping system and associated hazards for the purpose of accident prevention, reducing risks to health and providing information for use in case of an emergency.

This document does not cover piping that is buried.

Safety signing of the hazards in an area is not part of this document.

This document can also be used for marine structures and ships.

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 7010, *Graphical symbols — Safety colours and safety signs — Registered safety signs*

UNITED NATIONS, *Globally harmonized system of classification and labelling of chemicals (GHS)*, eighth revised edition, New York and Geneva, 2019, United Nations [viewed 18 May 2020]. Available from: http://www.unece.org/fileadmin/DAM/trans/danger/publi/ghs/ghs_rev08/ST-SG-AC10-30-Rev8e.pdf

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

additional safety information

information typically presented in the form of text, numbers or both to indicate details related to the *safety information system* ([3.8](#))

EXAMPLE Pressure or temperature.