

SVENSK STANDARD

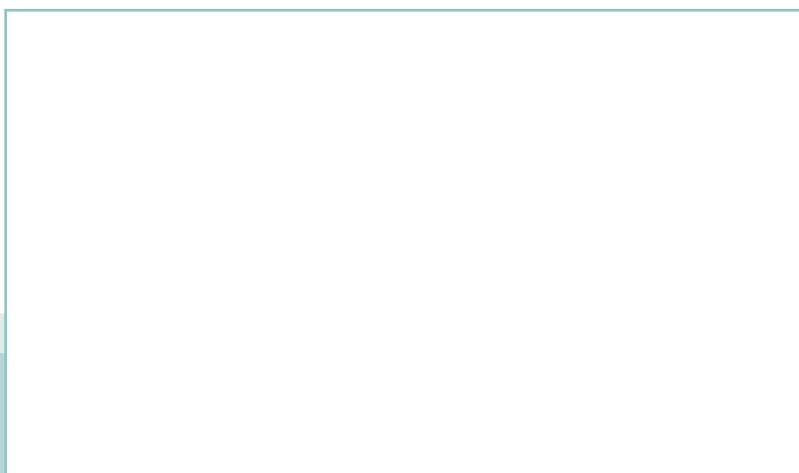
SS-741:2017

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Märkning av gas-, vätske- och ventilationsinstallationer

Identification marking for gas, liquid and ventilating installations



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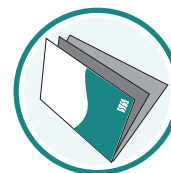
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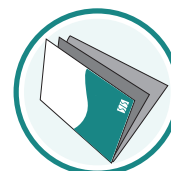
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Denna standard fastställdes 2017-08-18 som SS 741:2017 och har utgivits i svensk språkversion. Detta dokument återger SS 741:2017 i engelsk språkversion. De båda språkversionerna gäller parallellt.

Denna standard ersätter SS 741:2013, utgåva 7.

This standard was approved and published 2017-08-18 as SS 741:2017 in Swedish. This document contains the English language version of SS 741:2017. The two versions are valid in parallel.

This standard supersedes the Swedish Standard SS 741:2013, edition 7.

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Denna standard är framtagen av kommittén för Revidering av SS 741, SIS/TK 118/AG 01

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

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SS 741:2017 (E)

Introduction

This is a revision of SS 741:2013, and this edition differs from edition 7 primarily by alignment with AFS 2014:43^[1] *Chemical Hazards in the Working Environment, Provisions of the Swedish Work Environment Authority with amendment of the Provisions and General Recommendation of the Swedish Work Environment Authority (AFS 2011:19) on Chemical Hazards in the Working Environment* by addition of the GHS04 hazard pictogram.

The term Corrosive and Toxic Gases is introduced in this edition 8 and pipelines containing these shall thus be marked with the colour violet. In addition, pressurised gases are defined in section 3.

The priority rules for the hazard pictograms according to article 26 in the CLP Regulation^[2] are described in Table A.1 in Annex A.

The majority of the figures have been redrawn to illustrate the real conditions better.

Labelling of pipelines containing medical gases is no longer covered with reference to SIS HB 370^[3].

1 Scope

This standard contains instructions for identification marking for gas, liquid and ventilating installations.

EXAMPLES Pipelines, tanks, cisterns, ducts for comfort ventilation, valves, loading and unloading areas.

The standard covers labelling of sources of chemical hazards according to AFS 2014:43^[1] and hazardous chemical products according to the CLP Regulation (EC 1272/2008^[2]), with the exception of explosive substances, mixtures and objects as well as organic peroxides, Type A, and self-reactive substances and mixtures, Type A.

Labelling according to this standard provides information about the installation's contents in order to draw attention to the risks associated with these. This standard does not specify any requirements on, or need for, signs or labelling that provide information about the installation itself, for example, about the inspection interval.

Labelling of pipelines for medical and medical device gases is not covered by this standard.

2 Normative references

This standard does not contain any normative references to other standards.

3 Terms and definitions

3.1

container

collective term for cisterns, tanks and other vessels

3.2

flammable gases

gases or mixtures of gases that can ignite in air at a temperature of +20 °C and an atmospheric pressure of 101.3 kPa and correspond to Flammable Gases, Categories 1 and 2 according to the CLP Regulation (hazard statements H220 or H221).

3.3

flammable liquids

liquids with flash points +100 °C or lower. This includes liquids that are classified as Flammable Liquids according to the CLP Regulation, i.e. liquids with flash points that do not exceed +60 °C (hazard statements H224, H225 or H226).

NOTE 1 to entry Liquids with flash points not exceeding +60 °C are to be labelled according to the CLP Regulation with hazard pictograms containing flame and constitute hazardous chemical products pursuant to AFS 2014:43^[1].

3.4

hazard identification number

two- or three-digit code according to the regulation on the transport of dangerous goods, which states the main dangerous properties of a product

NOTE 1 to entry Transport of dangerous goods, for further information see, among others, ADR-S^[4] and RID-S^[5].

3.5

hazardous chemical product

chemical product that has been classified for one or more hazardous properties according to the CLP Regulation

3.6

hazard statement

a phrase assigned to a hazard category pursuant to the CLP Regulation, which describes the hazard that is associated with a substance or a mixture

NOTE 1 to entry The hazard statements that apply for a product are given in the safety datasheet, in the section 2.2 – labelling information.

3.7

hazard pictogram

graphical composition according to the CLP Regulation, which holds a black symbol on a white background with a red edge line, which has the purpose of illustrating the product's hazardous properties

NOTE 1 to entry The hazard pictograms that apply for a product are given in the safety datasheet, in the section 2.2 – labelling information.

3.8

corrosive gases and liquids

gases and liquids that are classified as Corrosive or Causes Skin Irritation, Category 1A, 1B or 1C, or as Causes Serious Eye Damage or Eye Irritation, Category 1, according to the CLP Regulation (hazard statements H314 or H318)

3.9

pressurised gases

gases with an overpressure of at least 200 kPa (2 bar) at 20 °C

NOTE 1 to entry Compressed gases, condensed gases, dissolved gasses and cooled condensed gases belongs to this category. A gas that is otherwise harmless, e.g. air with 200 kPa overpressure, is classified as a hazardous chemical product according to the CLP Regulation. Also, consult the Swedish Work Environment Authority's guidance on chemical hazards, e.g. steam, hot water and compressed air^[6].

3.10

toxic gases and liquids

gases and liquids that are classified as Acute Toxicity, Category 1, 2 or 3, according to the CLP Regulation (hazard statements H300, H301, H310, H311, H330 or H331)

3.11

chemical hazard

chemical substance or several chemical substances combined, which can lead to illness or accident due to

- its harmful properties,
- its properties when it concerns the way the substances are used or occur,
- its temperature,
- reducing the level of oxygen gas in the air
- increasing the risk of fire, explosion or another dangerous chemical reaction.

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3.12

comfort ventilation

ventilation where the primary purpose is to create a comfortable indoor climate

3.13

oxidizing gases

gases or gas mixtures that are classified as Oxidizing Gases, Category 1 according to the CLP Regulation (hazard statement H270)

3.14

oxidizing liquids

liquids that are classified as Oxidizing Liquids, Category 1, 2 or 3, according to the CLP Regulation (hazard statements H271 or H272)

3.15

identification by process function

naming (numbering) of objects in a process section

EXAMPLES Pipe number, position number, function number or tag number

3.16

safety data sheet

document that conveys safety information about hazardous substances and mixtures according to the REACH Regulation (EU Regulation 1907/2006^[7])

NOTE 1 to entry The purpose of the safety data sheet is to provide information about the product's hazardous properties and to make it possible for users to take the measures necessary to protect the health of humans and safety in the workplace. The purpose of the safety data sheet is also to provide information to protect the environment. The supplier of a substance or a mixture provides professional users of the product with a safety data sheet.

3.17

UN number

identification number according to the regulations for transport of dangerous goods comprising four digits, which is assigned to each substance or group of substances with the same inherent properties

NOTE 1 to entry Transport of dangerous goods, for further information see, among others, ADR-S^[4] and RID-S^[5].

4 General requirements

Labelling (including colour marking) shall be easily visible and guarantee that confusion does not occur.

The labelling shall be permanent and resistant to the environment in which it is placed. For example, take into consideration chemical resistance, temperature and UV radiation.

The labelling information shall be placed on tape, identification tags, signs or similar that are affixed to pipelines and containers, as well as on or next to components, in a secure manner.

Text, arrows and other symbols shall have such a form, size and placing that they are easy to understand. The text shall be straight with sans-serif typeface, such as Arial.

NOTE When labelling an installation containing a hazardous chemical product, information about the product is taken from the safety data sheet for the product.

5 Labelling of pipelines

5.1 Label text for the content of the pipeline

The label text shall be

- the product's name

or

- another designation that describes the product's function, unless it concerns a hazardous chemical product or flammable liquid. According to AFS 2014:43^[1] or ^[6], in these cases, the product's name shall always be given.

The content of the pipeline shall not be described only by the chemical formula.

On a pipeline used for different products, with the same hazardous properties, the product names can be indicated by a collective designation.

Where necessary, the values of the pressure, temperature, chemical formula and similar shall be specified.

Feed pipelines shall be specified with Tillopp or Till [Feed or Supply] and return pipelines with Retur or Från [Return or Extract].

Where applicable, pipelines can also be provided with a pipe number (identification by process function).

If the product's name and/or designation is given by colour marking, the contrast colours according to table 1 shall be used.

5.2 Colour marking for pipelines for gas or liquid

Pipelines for gas or liquid shall be marked with colour according to table 1. Information about colour codes is provided in table 2.

If the pipeline contains a hazardous chemical product with several hazardous properties, it shall be marked with the colour for the dominating hazard. For ranking dominant hazard, the tables in Annex B can be used.

NOTE Consult SIS HB 370 ^[3] for colour marking of pipelines for medical and medical device gases.

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Table 1 – Colour marking of pipelines for gases (except medical and medical device gases) and liquids

Content	Colour ^f	Hazard statement according to the CLP Regulation	Contrast colour
Flammable gases	Orange	H220, H221	Black
Flammable liquids ^a	Brown	H224, H225, H226 ^g	White
Oxidizing gases and liquids ^{b, c}	Yellow	H270, H271, H272	Black
Corrosive and/or toxic gases and liquids ^b	Violet	H300, H301, H310, H311, H314, H318, H330, H331	White
Air, vacuum	Light blue		Black
Water steam	Grey		Black
Water	Green		White
Fresh water (purified) ^d	Blue		White
Pulp, suspensions	Light red		Black
Other gases ^b	Light brown		Black
Other liquids ^e	Black		White
Fire protection	Red		White

^a Also pyrophoric liquids, organic peroxides and self-reactive substances and mixtures are to be marked with brown colour (hazard statement H241, H242 and H250).

^b For corrosive and/or toxic gases, a new colour applies effective from this edition of this standard.

^c Hydrogen peroxide with concentration ≥ 20 % shall be marked with the colour yellow.

^d The colour blue for water is also to be used for installations where there is both freshwater and lake/seawater present. The colour blue is also used for specially purified water, e.g. feedwater, deionised/distilled water or similar as well as for the end product, clean water, in treatment plants.

^e The colour black is also used for sewer and surface water mains or water with large mixture of another liquid, for example, coolant systems with glycol mixtures greater than 25 %.

^f For information about colour codes, see table 2.

^g Flammable liquids with flash point greater than 60 °C do not have a hazard statement.

Table 2 – Colour codes

Content	Colour	Colour coding			
		PMS ^a	NCS ^b	RAL ^c	RGB ^d
Flammable gases	Orange	021C	1080-Y50R	2008	237-110-0
Flammable liquids	Brown	478C	5030-Y70R	8004	112-56-36
Oxidizing gases and liquids	Yellow	116C	1070-Y10R	1023	247-209-23
Corrosive and/or toxic gases and liquids	Violet	2583C	4040-R50B	4008	158-77-171
Air, vacuum	Light blue	305C	1030-B30G	6027	105-204-230
Water steam	Grey	423C	4502-Y	7042	148-148-143
Water	Green	347C	2060-G	6024	0-153-89
Fresh water (purified)	Blue	285C	2060-R90B	5015	26-117-207
Pulp, suspensions	Light red	183C	1040-R	3015	252-140-161
Other gases	Light brown	729C	3030-Y30R	1011	196-143-94
Other liquids	Black	Black	9500	9005	0-0-0
Fire protection	Red	485C	1080-Y90R	3020	212-46-18

^a PMS = Pantone Matching System.
^b NCS = Natural Colour System (see SS 31411 edition 2^[8])
^c RAL = RAL Colour Collection
^d RGB = Red Green Blue (additive colour scale adapted to visual display units and HTML coding).