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SMS, SVERIGES MEKANSTANDARDISERING

SVENSK STANDARD SS-EN 27 201-1

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Brand och räddning — Släckmedel — Halogenkolväten — Del 1: Specifikationer för halon 1211 och 1301 (ISO 7201-1:1989)

Den europeiska standarden EN 27 201-1:1994 gäller som svensk standard. EN 27 201-1:1994 ikraftsätter ISO 7201-1:1989. Detta dokument innehåller den officiella engelska versionen av EN 27 201-1:1994.

Standarden ersätter SS-ISO 7201.

Motsvarigheten och aktualiteten i svensk standard till de publikationer som omnämns i denna standard framgår av "Katalog över svensk standard", som årligen ges ut av SIS. I katalogen redovisas internationella och europeiska standarder som fastställts som svenska standarder och övriga gällande svenska standarder.

Fire protection — Fire extinguishing media — Halogenated hydrocarbons — Part 1: Specifications for halon 1211 and halon 1301 (ISO 7201-1:1989)

The European Standard EN 27 201-1:1994 has the status of a Swedish Standard. EN 27 201-1:1994 endorses ISO 7201-1:1989. This document contains the official English version of EN 27 201-1:1994.

This standard supersedes the Swedish Standard SS-ISO 7201.

Swedish Standards corresponding to documents referred to in this Standard are listed in "Catalogue of Swedish Standards", annually issued by SIS. The Catalogue lists, with reference number and year of Swedish approval, International and European Standards approved as Swedish Standards as well as other Swedish Standards.

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Descriptors: Fire protection, fire extinguishing installations, hydrocarbons, halohydrocarbons, specifications, safety, tests

English version

**Fire protection — Fire extinguishing media —
Halogenated hydrocarbons — Part 1: Specifications for
halon 1211 and halon 1301 (ISO 7201-1:1989)**

Protection contre l'incendie — Agents
extincteurs — Hydrocarbures halogènes —
Partie 1: Spécifications pour les halons 1211
et 1301 (ISO 7201-1:1989)

Brandbekämpfung — Löschmittel Halogenierte
Kohlenwasserstoffe — Teil 1: Spezifikationen
für Halon 1211 und Halon 1301
(ISO 7201-1:1989)

This European Standard was approved by CEN on 1994-05-16. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

The endorsement of the International Standard ISO 7201-1:1989 as a European Standard was recommended by the Technical Committee CEN/TC 191, the secretariat of which is held by the BSI.

This European Standard is only available in the English and French versions.

This European Standard shall be given the Status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 1994, and conflicting national standards shall be withdrawn at the latest by November 1994.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Switzerland and the United Kingdom.

In accordance with CEN Regulations the Foreword to the ISO Standard is not included in this European Standard. The following warning, which does not appear in the Foreword to the ISO Standard, is included here with the agreement of CEN/TC 191.

Warning

Halon 1211 and halon 1301 are listed in the Montreal Protocol on substances that deplete the Ozone layer. There are agreements which limit their use. Users of this European Standard are advised to consult the relevant authorities on these matters when supplying or handling halon 1211 or halon 1301.

Compliance with this European Standard does not in itself confer immunity from legal obligations.

Endorsement notice

The text of the International Standard ISO 7201-1:1989 was approved by CEN as a European Standard without any modification.

Fire protection — Fire extinguishing media — Halogenated hydrocarbons —

Part 1: Specifications for halon 1211 and halon 1301

1 Scope

This part of ISO 7201 specifies requirements for the following halogenated hydrocarbons for use as fire extinguishing media:

- a) halon 1211 [bromochlorodifluoromethane (CF₂ClBr)];
- b) halon 1301 [bromotrifluoromethane (CF₃Br)].

This part of ISO 7201 does not deal with the conditions of use of these products in fire fighting equipment. Such equipment (portable fire extinguishers, fixed installations, etc.) will be dealt with in future International Standards.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 7201. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 7201 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3363 : 1976, *Fluorochlorinated hydrocarbons for industrial use — Determination of acidity — Titrimetric method.*

ISO 3427 : 1976, *Gaseous halogenated hydrocarbons (liquified gases) — Taking of a sample.*

ISO 5789 : 1979, *Fluorinated hydrocarbons for industrial use — Determination of non-volatile residue.*

3 Definition

For the purpose of this part of ISO 7201, the following definition applies.

halon: A halogenated hydrocarbon used as a fire extinguishing medium.

NOTE — The following numbering system is used to identify halons. The word "halon" is followed by a number, usually of four digits, giving, in turn, the number of carbon, fluorine, chlorine and bromine atoms. Terminal zeros are omitted. Thus halon 1211 is bromochlorodifluorobromomethane (CF₂ClBr) and halon 1301 is bromotrifluoromethane (CF₃Br).

4 Requirements

Halons 1211 and 1301 shall comply with the requirements of table 1, when tested by the appropriate method of test specified in clause 6.

Table 1 — Requirements

Property	Requirements	
	Halon 1211	Halon 1301
Purity, % (mol/mol) min.	99,0	99,6
Acidity, ppm by mass, max.	3,0	3,0
Water content, ppm by mass, max.	20	10
Non-volatile residue, % (m/m) max.	0,01	0,01
Halogen ion	Passes test	Passes test
Suspended matter or sediment	None visible	None visible

5 Sampling

Samples of halons shall be taken from the manufacturer's shipping container using the method specified in ISO 3427.¹⁾

1) The sampling bottle should be capable of safely resisting the vapour pressure of the sample at the highest temperature that could be encountered.

6 Methods of test

6.1 General

For all tests, the sample shall be taken from the liquid phase.

6.2 Purity

Determine the purity by gas-liquid chromatography, using generally accepted laboratory techniques.

6.3 Acidity

Determine the acidity by the appropriate method specified in ISO 3363.

6.4 Water content

Determine the water content by the orthodox Karl Fischer method or by any other method giving equivalent results.

6.5 Non-volatile residue

Determine the non-volatile residue by the method specified in ISO 5789.

6.6 Halogen ions

Mix 5 g of the sample with 5 ml of absolute methanol containing several drops of a saturated methanolic silver nitrate (AgNO_3) solution. The resulting solution shall exhibit no turbidity or precipitation of silver halide.

6.7 Suspended matter or sediment

Examine the liquid phase of the sample visually.

7 Packaging and labelling

7.1 Halons shall be shipped and stored in containers which will not alter the medium or be detrimentally affected by it.

NOTE — The containers may need to comply with national regulations.

7.2 Containers shall be marked with the following information:

- a) supplier's name and address;
- b) "Halon 1211" or "Halon 1301", as appropriate;
- c) package identification number;
- d) the number of this part of ISO 7201, i.e. ISO 7201-1;
- e) recommended storage precautions.