



MARITIME SAFETY COMMITTEE  
77th session  
Agenda item 11

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## FIRE PROTECTION

### Use of halon as a fire-extinguishing medium on ships constructed before 1 July 1994

Submitted by the European Commission (EC)

#### SUMMARY

**Executive summary:** This document reminds the Committee of the environmental impact of halons and informs the Committee of the European Community's regulation EC 2037/2000 on "Substances that deplete the ozone layer".

**Action to be taken:** Paragraph 10

**Related documents:** FP 47/INF.5 and FP 47/16

#### Background

1 Paragraph 14.10 of the report of the forty-seventh session of the Sub-Committee on Fire Protection (FP 47/16) noted with appreciation the submission by the United States (FP 47/INF.5) providing information on the activities of the Halons Technical Options Committee (HTOC) of the United Nations Environment Programme (UNEP). The European Commission (EC) would like to take this opportunity to whole-heartedly endorse the 'Conclusion' (section 3.6) of the Draft of the Merchant Shipping Case Study for the 2003 HTOC Assessment Report, which is reproduced in the annex to document FP 47/INF.5. Indeed, this summary is considered worthy of duplication in this paper.

*"It is important that the marine industry closely monitor the change in availability of replenishment halon around the world. This is a dynamic situation and it will only be through pre-planning that owners and authorities are going to be well prepared for the inevitable halon shortage. It would be the recommendation of the HTOC that all parties to the Montreal Protocol and all members of the International Maritime Organization continually remind the marine industry of the importance of preparing for this problem."*

2 The EC would also like to take this opportunity to comment on some of the points referred to in the above Draft of the Merchant Shipping Case Study, especially section 3.3 'Mandatory Halon Decommissioning Regulations'.

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## Introduction

3 Although halons represent less than 2% by weight of the historic production of chlorofluorocarbons (CFCs) refrigerants, they are considered to be responsible for up to 25% of the ozone layer depletion due to their high ozone depletion potential<sup>1</sup>. Ozone in the stratosphere is vital for protecting the earth from harmful ultraviolet (UV) radiation from the sun. A thinning of the protective ozone layer results in an increased amount of UV reaching the surface of the earth. Increased UV has been linked with increases in skin cancer, eye cataracts, suppression of the immune system, decreased crop yields and reduction of phytoplankton in the oceans.

4 Halon gases were listed as controlled substances under the Montreal Protocol, an international environmental treaty established under the auspices of UNEP, the aim of which is to encourage the replacement of all ozone depleting substances with substances or procedures that do not deplete the ozone layer. The international fire protection community, faced in the early 1990's with the impending loss of halons as fire-fighting chemicals, undertook extensive research and development into alternatives that were less environmentally damaging than halons. The fire protection community's proactive action resulted in a wide range of alternatives becoming available in a relatively short time period.

5 In recognition of the highly damaging impact of halons on the ozone layer and the alternatives available, the Parties to the Montreal Protocol agreed to cease production and consumption of halons in industrialised countries from 1 January 1994. Elimination of the production and consumption of halon in non-industrialised countries is well advanced in preparation for the phase out on 1 January 2010.

6 In keeping with multinational agreements on the phase out of halon, resolution MSC.27(61) adopted an amendment<sup>2</sup> to SOLAS chapter II-2 that prohibited new halon installations on all ships from 1 July 1994. The terminology associated with halon and its alternatives was subsequently addressed by resolution MSC.99(73)<sup>3</sup>. However, the phase out of halon on ships constructed before 1 July 1994 has not, to date, been addressed by an amendment to SOLAS.

## Action being taken within the European Union

7 In October 2000, the European Community's regulation EC 2037/2000 on "Substances that deplete the ozone layer" came into force. This regulation applies to EU-flagged ships constructed before 1 July 1994. The scope of the application of this regulation does not apply to non-EU-flagged ships. However, such vessels may be affected by this regulation as a result of servicing and maintenance provisions for halon fire protection systems being unavailable in EU ports.

8 Annex VII of this regulation bans the use of halon except for critical uses, which are those uses where alternatives have yet to be developed. Users of halon for critical uses are exempt from the phase out until such time that the exemption is eliminated following the Management Committee procedures described in Article 18 of the regulation. Of relevance to this proposal, the regulation allows the use of halon "for the making inert of occupied spaces where flammable liquid and/or gas release could occur ... in existing cargo ships".

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<sup>1</sup> UNEP-DTIE. 1999. Eliminating Dependency on Halons. UN publication ISBN 92-807-1783-9.

<sup>2</sup> Resolution MSC.27(61) "Adoption of Amendments to the International Convention for the Safety of life at Sea"; adopted 11 December 1992; introduced the 1994 amendments to SOLAS Chapter II-2 Regulation 5.3.1

<sup>3</sup> SOLAS Resolution MSC.99(73) "Adoption of Amendments to the International Convention for the Safety of Life at Sea (1974)" adopted 5 December 2000 Regulation 10.4.1.3.

9 “Cargo ships” was not defined in the regulation as it was intended not to restrict the category of cargo ships that could qualify for this exemption. Shortly after the regulation came into force, the European Commission provided a definition of “inerting” to the Management Committee that it believed is commonly used by the industry which is “the pre-emptive release of halon in response to a potential fire or explosion into an occupied space in which a flammable, hazardous condition prevails and at a concentration which will render the atmosphere within the enclosure incapable of supporting combustion”. The Management Committee meets twice a year to discuss *inter alia* implementation of this regulation and consists of representatives of the European Commission and of the competent authorities in Member States.

10 In practice, this exemption applies to very few cargo vessels. This is consistent with the intent of the regulation, which is to limit the amount of halon used for critical uses. All non-critical uses of halon on EU-flagged cargo ships, which is the majority of halon use, must be decommissioned and destroyed by 31 December 2003.

11 The EC notes the availability of alternatives to halon for ships which was well-summarised in the above-mentioned HTOC-UNEP Merchant Shipping Case Study which states:

“In addition to other established agents that had been found acceptable for the protection of shipboard machinery spaces, namely carbon dioxide, high expansion foam and water spray, IMO has developed approval guidelines and test methods for three new types of systems for machinery space protection: water mist, other gaseous agents and aerosol systems. With the development of these guidelines and methods, there have been many halocarbon, inert gas, water mist and aerosol extinguishing systems installed on both new ships and existing ships”.

12 The Committee is invited to note that the European Commission with suitable co-sponsorship will be putting forward a document to MSC 78 requesting the IMO to begin substantive work on a final phase out for halon on ships constructed before 1 July 1994.

#### **Action requested of the Committee**

13 The Committee is invited to note the information provided, particularly the possible implications on non-EU flagged vessels as outlined in paragraph 7 above.