Irish Aviation Authority

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Údarás Eitlíochta na hÉireann

Foirgneamh na hAmanna 11–12 Sráid D'Olier Baile Átha Cliath 2, Éire

AAM No. 16 Revision: 00 Date: 10.10.2025



Title: Portable Halon Fire Extinguishers – end dates for aircraft use

Advisory Memoranda are provided for information purposes only and must not be misconstrued as formally adopted Acceptable Means of Compliance (AMC) or as Guidance Material (GM).

1. Introduction

This memorandum reminds pilots and owners of light aircraft of their obligations to remove portable halon fire extinguishers from aircraft by 31 December 2025, in accordance with European environmental and aviation safety regulations. This AAM is applicable to General Aviation aircraft with unpressurised cabins (with 9 passengers or fewer) and small rotorcraft (CS-27).

2. Background

Halon fire extinguishing agents (such as Halon 1211, Halon 1301 and Halon 2402) have been widely used in aviation due to their effectiveness and low weight.

However, halons are **ozone-depleting substances** controlled under the **Montreal Protocol** and EU environmental legislation (notably Regulation (EU) 2024/590 on substances that deplete the ozone layer).

To comply with international obligations, ICAO and the European Commission have mandated the phase-out of halon use, including portable halon fire extinguishers in aircraft cabins and cockpits.

3. Key Requirements for Light Aircraft

From 31 December 2025, halon portable fire extinguishers may no longer be carried on board light aircraft.

Aircraft owners and operators must:

- Identify any installed or portable halon fire extinguishers in their aircraft.
- Arrange for removal and environmentally responsible recycling/reclamation of halon extinguishers.
- Replace them with approved, halon-free extinguishers suitable for aviation use.
- Update aircraft documentation (modification/alteration status, equipment list, Minimum Equipment List, if applicable) to reflect the change.

4. Safety Considerations

Replacement extinguishers should be:

- Aviation approved (to a relevant standard such as ETSO-2C515 'Aircraft Halocarbon Clean Agent Hand-Held Fire Extinguisher' or equivalent).
- Installed by modification/alteration to consider:
 - a. Extinguishing agent should be appropriate to the kinds of fires likely to occur
 - b. Extinguisher rating (cabin volumes to 5.66 m³ rating U.S.- UL 2B:C is acceptable)
 - c. The hazard of toxic gas concentration
 - d. Fire extinguisher location should not interfere with pilot's view or systems operation
 - e. Fire extinguisher supporting structure
 - f. Emergency procedures

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Aircraft weight and balance documentation should be checked after installation.

Note: In case of replacement of a Halon 1211 handheld extinguisher with a 2-BTP handheld extinguisher having the same UL rating, of similar dimensions, shape and mass (within a 10 % variation), located in the same position, and similar accessibility (release and removal), typically no additional substantiation for the modification/alteration is necessary.

For EASA certified aircraft, refer to CS-STAN CS-SC108a — Exchange of handheld fire extinguishers for halon-free type.

5. Compliance & Enforcement

After 31 December 2025, carriage of halon extinguishers will be considered a regulatory non-compliance and may result in enforcement action during airworthiness reviews, ramp inspections, or audits.

Certificates of Airworthiness, Airworthiness Review Certificates or Flight Permits may not be issued/renewed for aircraft which have halon fire extinguishers in the cabin or cockpit unless an exemption is in place.

Insurance and liability implications may also arise if non-compliance is discovered following an incident.

6. Further Guidance

Operators should consult their continuing airworthiness management organisation (CA(M)O) or maintenance provider e.g. ILAS/NMAI for approved replacement options.

Guidance on disposal of halon is available from national environmental agencies and authorised waste disposal contractors.

EASA and ICAO publications on halon replacement provide technical reference material for operators. In Ireland, the Environmental Protection Agency publications provide additional information regarding ozone-depleting halon.

- Environmental Protection Agency Ozone Depleting Substances
- SKYbrary Halon Fire Extinguishers
- EASA CS-23 Amendment 3 Change Information

X Action Required:

- **1.** Inspect your aircraft now for halon extinguishers.
- **2.** Arrange for replacement with compliant alternatives.
- **3.** Ensure proper recovery through authorised channels.

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X Recycling

Please note that halons contained in fire extinguishers must be recovered for recycling or reclamation once the cylinders have been removed from the aircraft. Their destruction is prohibited unless there is documented evidence that the purity of the recovered or recycled halon does not technically allow its reclamation and subsequent re-use. Undertakings destroying halons in such cases shall keep this documentation for at least 5 years. Such documentation shall be made available, upon request, to the Environmental Protection Agency or to the EU Commission.

The necessity for recycling or reclamation of halons is to ensure that sufficient quantities of halons remain available for their use in other permitted aviation fire suppression situations (as new halon production no longer occurs under the terms of the Montreal Protocol on substances that deplete the Ozone Layer).

When waste, halons cylinders are classified as hazardous waste and can only be managed by appropriately authorised waste facilities. The companies listed at the following link may deal with such waste: <u>Authorised Waste Facilities That Are Known To Cater For The Management Of Waste Refrigerants | Environmental Protection Agency</u>