

Halon Options Chapter Revisions - Handhelds

Doug Ferguson – Boeing Commercial Airplanes

Bradford Colton – Halotron Division, American Pacific Corporation

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Options to Halons for use in Handheld Fire Extinguishers is addressed in Section 4.3 of DOT/FAA/AR-99/63 and:

- Identifies the requirements for handheld fire extinguishers in aircraft, including the mandate that aircraft with a passenger capacity greater than 31 have one or more (depending on passenger capacity) Halon 1211 or equivalent extinguishers.
- Discusses toxicity, effectiveness, ODP and GWP for various agents.
- Summarizes the use of the potential Halon option agents identified in 2002 results in a weight penalty of 1.4 to 2.6 and a volume penalty of 1.9 to 2.9 when compared to Halon 1211.

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Section 4.3.1 addresses Halocarbons and Halocarbon Blends

- FICs and HFCs were identified as the most likely agents to have the lowest restrictions imposed owing to environmental considerations.
- Some general characteristics and concerns of PFCs and HCFCs were identified.
- Table 18 is a rating matrix for candidate Halocarbons for handhelds, identifying agent, Cup Burner Extinguishment Concentration %, Known or Potential Environmental Regulatory Restrictions, and Toxicity Based on Cardiac Sensitization NOAEL.

Section 4.3.2 addresses Carbon Dioxide

Section 4.3.3 addresses Combination Agents and Foam

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Section 4.3 Areas to be changed:

Three agents have passed the MPS and have been UL listed since the 2002 release of the document. The characteristics of these options will be discussed. BTP will be added to Table 18 and other paragraphs in Section 4.3 as applicable.

BTP (BromoTrifluoroPropene)

Preliminary studies show high potential for BTP as a handheld replacement agent.

Cup burner studies indicate 4.6 % concentration required

Cardiac Sensitization NOAEL similar to Halon 1211 on a per pound basis – however the amount of BTP required for a same-size fire is slightly greater than Halon 1211.

Some agents currently in Table 18 are no longer commercially available. Consideration will be given to removing these agents from the table.