

APPENDIX N TO SUBPART G OF PART 82 [RESERVED]

APPENDIX O TO SUBPART G OF PART 82—SUBSTITUTES LISTED IN THE SEPTEMBER 27, 2006 FINAL RULE, EFFECTIVE NOVEMBER 27, 2006

FIRE SUPPRESSION AND EXPLOSION PROTECTION SECTOR—TOTAL FLOODING SUBSTITUTES—ACCEPTABLE SUBJECT TO USE CONDITIONS

End-use	Substitute	Decision	Conditions	Further information
Total flooding	Gelled Halocarbon/ Dry Chemical Suspension (Envirogel) with sodium bicarbonate additive.	Acceptable subject to use conditions.	Use of whichever hydrofluorocarbon gas (HFC-125, HFC-227ea, or HFC-236fa) is employed in the formulation must be in accordance with all requirements for acceptability (i.e., narrowed use limits) of that HFC under EPA's SNAP program.	Use of this agent should be in accordance with the safety guidelines in the latest edition of the NFPA 2001 Standard for Clean Agent Fire Extinguishing Systems, for whichever hydrofluorocarbon gas is employed, and the latest edition of the NFPA 2010 standard for Aerosol Extinguishing Systems. Sodium bicarbonate release in all settings should be targeted so that increased blood pH level would not adversely affect exposed individuals. Users should provide special training, including the potential hazards associated with the use of the HFC agent and sodium bicarbonate, to individuals required to be in environments protected by Envirogel with sodium bicarbonate additive extinguishing systems. Each extinguisher should be clearly labeled with the potential hazards from use and safe handling procedures. See additional comments 1, 2, 3, 4, 5

FIRE SUPPRESSION AND EXPLOSION PROTECTION SECTOR—TOTAL FLOODING SUBSTITUTES—
ACCEPTABLE SUBJECT TO USE CONDITIONS—Continued

End-use	Substitute	Decision	Conditions	Further information
Total flooding	Powdered Aerosol D (Aero-K [®] , Stat-X [®]).	Acceptable subject to use conditions.	For use only in normally unoccupied areas.	<p>Use of this agent should be in accordance with the safety guidelines in the latest edition of the NFPA 2010 standard for Aerosol Extinguishing Systems.</p> <p>For establishments manufacturing the agent or filling, installing, or servicing containers or systems to be used in total flooding applications, EPA recommends the following:</p> <ul style="list-style-type: none"> —Adequate ventilation should be in place to reduce airborne exposure to constituents of agent; —An eye wash fountain and quick drench facility should be close to the production area; —Training for safe handling procedures should be provided to all employees that would be likely to handle containers of the agent or extinguishing units filled with the agent; —Workers responsible for clean up should allow for maximum settling of all particulates before reentering area and wear appropriate protective equipment; and —All spills should be cleaned up immediately in accordance with good industrial hygiene practices. <p>See additional comments 1, 2, 3, 4, 5.</p>

FIRE SUPPRESSION AND EXPLOSION PROTECTION SECTOR—TOTAL FLOODING SUBSTITUTES—
ACCEPTABLE SUBJECT TO USE CONDITIONS—Continued

End-use	Substitute	Decision	Conditions	Further information
Total flooding	Powdered Aerosol E (FirePro®).	Acceptable subject to use conditions.	For use only in normally unoccupied areas.	Use of this agent should be in accordance with the safety guidelines in the latest edition of the NFPA 2010 standard for Aerosol Extinguishing Systems. For establishments manufacturing the agent or filling, installing, or servicing containers or systems to be used in total flooding applications, EPA recommends the following: —Adequate ventilation should be in place to reduce airborne exposure to constituents of agent; —An eye wash fountain and quick drench facility should be close to the production area; —Training for safe handling procedures should be provided to all employees that would be likely to handle containers of the agent or extinguishing units filled with the agent; —Workers responsible for clean up should allow for maximum settling of all particulates before reentering area and wear appropriate protective equipment; and —All spills should be cleaned up immediately in accordance with good industrial hygiene practices. See additional comments 1, 2, 3, 4, 5.
Total flooding	Phosphorous Tribromide (PBr ₃).	Acceptable subject to use conditions.	For use only in aircraft engine nacelles.	For establishments manufacturing the agent or filling, installing, or servicing containers or systems, EPA recommends the following: —Adequate ventilation should be in place and/or positive pressure, self-contained breathing apparatus (SCBA) should be worn; —Training for safe handling procedures should be provided to all employees that would be likely to handle containers of the agent or extinguishing units filled with the agent; and —All spills should be cleaned up immediately in accordance with good industrial hygiene practices. See additional comments 1, 2, 3, 4, 5.

Additional comments:

- 1—Should conform to relevant OSHA requirements, including 29 CFR 1910, subpart L, Sections 1910.160 and 1910.162.
- 2—Per OSHA requirements, protective gear (SCBA) should be available in the event personnel should reenter the area.
- 3—Discharge testing should be strictly limited to that which is essential to meet safety or performance requirements.
- 4—The agent should be recovered from the fire protection system in conjunction with testing or servicing, and recycled for later use or destroyed.
- 5—EPA has no intention of duplicating or displacing OSHA coverage related to the use of personal protective equipment (e.g., respiratory protection), fire protection, hazard communication, worker training or any other occupational safety and health standard with respect to halon substitutes.