SAMPLE

Requirements for Total Flooding Clean Extinguishing Agent

1. Scope

This sample specification is intended to assist parties that may be creating their own specifications for a total flooding clean extinguishing agent for use in fixed fire-fighting systems. This sample specification is for reference purposes only and the party creating the specification is solely responsible for its specification.

This document specifies the minimum requirements for a total flooding clean extinguishing agent for use in fixed fire-fighting systems.

The clean extinguishing agent shall meet the following minimum requirements.

2. Material Requirements

The clean extinguishing agent shall be electrically nonconductive and of sufficient purity to prevent deposition of residue after discharge from a gaseous fire-extinguishing system.

2.1. Product Purity	99.0 mole% minimum
2.2. Nonvolatile Residue	0.05 g/100 mL agent (by gravimetric method)
2.3. Dielectric Strength	> 2.0 relative to dry N_2 at 1 atm (by dielectric breakdown method)

3. Performance Requirements

The clean extinguishing agent shall have *Component Recognition* per UL 2166 Halocarbon Clean Agent Extinguishing System Units and *Certificate Type Approval* per IMO MSC/Circ. 848 on Revised Guidelines for the Approval of Fixed Gas Fire-Extinguishing Systems. The agent shall have minimum extinguishing concentrations for class A and Class B fuels using the methods detailed in ISO 14520 (**S**tandard covering Gaseous Fire-extinguishing Systems) and UL 2166 as follows:

3.1. Minimum Extinguishing Concentration/Class A Fuels	≤ 3.5% v/v
3.2. Minimum Extinguishing Concentration/Class B Fuels	≤ 4.4% v/v
3.3. Cup-Burner Heptane Flame Extinguishing Concentration	≤ 4.5% v/v

4. Environmental Requirements

The clean extinguishing agent shall have approval for use in normally occupied areas under the US EPA Significant New Alternatives Policy (SNAP) as an alternative to halon.

4.1. Atmospheric Lifetime	< 14 days
4.2. Ozone-Depletion Potential	0
4.3. Global Warming Potential	1

*2001 IPCC Method

5. Safety Requirements

In order to provide a large margin of safety, the clean extinguishing agent shall have toxicological properties as defined below.

5.1. No Observed Adverse Effect Level*	≥ 10% v/v
5.2. Lowest Observable Adverse Effect Level*	> 10% v/v

* based upon acute toxicity endpoints including cardiac sensitization