IG-55 INERT GAS AGENT

DESCRIPTION

IG-55 is an odorless, colorless, electrically non-conductive combination of gases present in the atmosphere. (See Physical Properties Table for additional information). It is stored as a compressed gas within a Fike inert gas cylinder assembly at pressures of 200 bar and 300 bar (2900 psi and 4351 psi). When discharged into a protected space, IG-55 is clear, does not obscure vision**,** and leaves no residue. IG-55 has zero ozone-depleting potential and zero global warming potential.

EXTINGUISHING METHOD

IG-55 extinguishes a fire by reducing the residual oxygen concentration within the protected area to a level that will no longer support combustion.

APPROVALS

- Underwriters Laboratories (UL)
- Underwriters Laboratories of Canada (ULC)
- Factory Mutual (FM)
- United States EPA Significant New Alternative Policy (SNAP) report

For detailed certification listings, please reference the respective agency website.

USE AND LIMITATIONS

IG-55 can be used on the following Class of hazards:

Class A & C: Electrical and Electronic Hazards
Telecommunications Facilities
High-value assets where the associated downtime would be costly

Class B: Flammable liquids and gases

IG-55 shall NOT be used on fires involving the following materials:

1) Chemicals or mixtures of chemicals capable of rapid oxidation in the absence of air, such as Cellulose Nitrate and Gunpowder
2) Reactive metals, such as Lithium, Sodium, Potassium, Magnesium, Titanium, Zirconium, Uranium, and Plutonium
3) Metal hydrides, such as Sodium Hydride and Lithium Aluminum Hydride
4) Chemicals capable of undergoing auto-thermal decomposition, such as Organic Peroxides and Hydrazine

EXPOSURE LIMITATIONS

The discharge of clean agent systems to extinguish a fire can result in potential hazards to personnel from the natural form of the clean agent or from the products of combustion that result from exposure of the agent to the fire or hot surfaces.

Unnecessary exposure of personnel either to the natural agent or to the products of decomposition shall be avoided. Means shall be provided to limit exposure to no longer than 5 minutes. Unprotected personnel shall not enter the protected area during or after discharge.

The following additional exposure limitations shall apply.

Occupancy Status	Design Concentration (Corresponding Oxygen Concentration at Sea Level)	Maximum Human Exposure Time
Normally Occupied Space	Up to 43% (12%)	5 minutes
	43% to 52% (12% to 10%)	3 minutes
Normally Un-Occupied Space	52% to 62% (10% to 8%)	30 seconds
Un-Occupied Space	Above 62% (8% or lower)	0 seconds (Personnel **CANNOT** be exposed)

NOTE: Fike does not recommend an Inert Gas system be used in Normally Occupied spaces where the design concentration required is above 52%.

PHYSICAL PROPERTIES

Chemical Name (Chemistry)	50% Nitrogen (N_2) 50% Argon (Ar)
Molecular Weight	33.95
Boiling point at 760 mm Hg	-310.2°F (-190.1°C)
Freezing point	-327.5°F (-199.7°C)
Critical temperature	-210.5°F (-134.7°C)
Critical pressure	602 psia (4,150 kPa)
Specific heat, vapor at constant pressure (1 atm) and 77°F (25°C)	0.187 Btu/lb °F (0.782 kJ/kg °C)
Heat of vaporization at boiling point	77.8 Btu/lb (181 kJ/kg)
Relative dielectric strength at 1 atm at 734 mm Hg, 77°F (25°C) (N_2 = 1.0)	1.01
Solubility of water in Agent at 77°F (25°C)	0.006%