



SF₆ Sulfur Hexafluoride Gas

Product Specification Sheet

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SF₆ – Sulfur Hexafluoride

Sulfur Hexafluoride (SF₆) is an inorganic, colorless, odorless, and non-flammable gas. SF₆ primary use is in the electrical industry as a gaseous dielectric medium for high-voltage circuit breakers, switchgear, and other electrical equipment, often replacing oil filled circuit breakers (OCBs) that can contain harmful PCBs. SF₆ gas under pressure is used as an insulator in gas insulated switch gear (GIS) because it has a much higher dielectric strength than air or dry nitrogen. This property makes it possible to significantly reduce the size of electrical gear.

Specifications

99.99% SF₆ Grade:

SF ₆ 99.99% Grade Maximum Properties	
Sulfur Hexafluoride	99.99%
Oxygen (O ₂)	< 75 ppmw
Nitrogen (N ₂)	< 200 ppmw
Water (H ₂ O)	< 5 ppmv
Hydrolyzable Fluoride, expressed as HF	< 0.3 ppmw
Carbon Tetrafluoride (CF ₄)	< 75 ppmw
Toxicity	None

99.999% SF₆ Ultra High Purity Grade:

SF ₆ 99.999% Ultra High Purity Grade Maximum Impurities	
Sulfur Hexafluoride	99.999%
Air (O ₂ + N ₂)	< 4 ppmw
Water (H ₂ O)	< 2 ppmv
Carbon Tetrafluoride (CF ₄)	< 0.5 ppmw
Acidity (Expressed as HF)	< 0.05 ppmw
Hydrolysable Fluorides	< 0.2 ppmw
Carbon Monoxide (CO)	< 0.5 ppmw
Carbon Dioxide (CO ₂)	< 0.5 ppmw

Appearance, Safety Requirements: Colorless gas, compressed under pressure. Non-flammable, non-explosive, has a moderate general toxic action in inhalation contact.

Physical Constants	
Chemical Formula	SF ₆
Molecular Weight	146.065
Specific Volume @ +70°F (+21.1°C)	2.648 ft ³ /lb., 0.165 m ³ /kg
Critical Pressure	545.34. psia, 37.59 bar
Critical Temperature	113.97°F, 45.54°C
Specific Gravity @ 70°F, 1 atm (Air=1)	5.043
Hazardous Class	2.2
Vapor Pressure	320 psig
Boiling Point	-82.7°F, -63.72°C