

SiH₄

Properties: It is a malodorous, colorless, toxic gas at room temperature and atmospheric pressure. Silicane compounds are usually unstable, flammable and explosive, and burn explosively in air or halogenated gases. It decomposes slowly in water and is almost insoluble in ethanol, ether, benzene, chloroform and carbon tetrachloride.

Uses: Polysilicon/monocrystalline silicon preparation, silicon-based thin film deposition; pan-semiconductor industry.

· Identifier

Chemical Formula	SiH ₄
CAS No.	7803-62-5
EINECS No.	232-263-4

· Physical and chemical properties

Molecular weight	32.12 g/mol	Flash point	/	Reactivity	Spontaneous combustion can occur when contacting air
Appearance	colorless gas	Melting point	-185℃	Solubility	Soluble in water, almost insoluble in ethanol, ether, and benzene
Density	1.114 g/cm ³	Boiling point	-112℃	Storage	Shady and cool, well-ventilated

· Impurities

Impurities	Unit	Specification	Impurities	Unit	Specification
H ₂	ppmv	≤20	CH ₄	ppmv	≤0.05
O ₂ +Ar	ppmv	≤0.06	H ₂ O	ppmv	≤0.5
N ₂	ppmv	≤0.5	Si ₂ H ₆	ppmv	≤0.3
CO	ppmv	≤0.1	Total Chlorosilanes	ppmv	≤0.1
CO ₂	ppmv	≤0.1			

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