

# Gas Mixtures: Silane in N<sub>2</sub>, H<sub>2</sub>, He

## SiH<sub>4</sub> Mixes

Component	SiH <sub>4</sub>	N <sub>2</sub>	H <sub>2</sub>	He
Grade	4N8	5N	5N	5N
Purity, %	99.998	99.999	99.999	99.999
Oxygen	≤5 ppmv	≤3.0 ppmv	≤2.0 ppmv	≤2.0 ppmv
Nitrogen	≤5 ppmv		≤5.0 ppmv	≤3.0 ppmv
Argon	≤40 ppmv			
Carbon Dioxide		≤1.0 ppmv	≤1.0 ppmv	≤1.0 ppmv
Carbon Monoxide		≤1.0 ppmv	≤1.0 ppmv	≤1.0 ppmv
Methane		≤1.0 ppmv	≤0.5 ppmv	≤1.0 ppmv
Carbon Dioxide + Carbon Monoxide	≤10 ppmv			
Water	≤3 ppmv	≤3.0 ppmv	≤3.0 ppmv	≤3.0 ppmv
Hydrogen	≤5,000 ppmv			
Chlorosilanes	≤10 ppmv			
Resistivity, N-type (ohm-cm)	>5,000			

SHIP	CAS No.	7803-62-5	7727-37-9	1333-74-0	7440-59-7
	UN Number	UN 2203	UN 1066	UN 1049	UN 1046
DOT Shipping Name	Silane	Nitrogen, compressed	Hydrogen, compressed	Helium, compressed	
DOT Classification	2.1 Flammable Gas	2.2 Non-Flammable Gas	2.1 Flammable Gas	2.2 Non-Flammable Gas	
DOT Label	FLAMMABLE GAS	NON-FLAMMABLE GAS	FLAMMABLE GAS	NON-FLAMMABLE GAS	
Specific Volume @STP	0.755 m <sup>3</sup> /Kg	0.86 m <sup>3</sup> /Kg	12.0 m <sup>3</sup> /Kg	6.04 m <sup>3</sup> /Kg	
	12.1 ft <sup>3</sup> /lb	13.9 ft <sup>3</sup> /lb	191.3 ft <sup>3</sup> /lb	96.2 ft <sup>3</sup> /lb	
Molecular Weight	32.13 g/mol	28.01 g/mol	2.02 g/mol	4.0 g/mol	
CGA/DISS/JIS	350/632/W22-14L				

- All mixes are manufactured to "Certified" grade – custom grades are available upon request
- Pneumatic valves, DIN and JIS connections are available upon request
- STP = 21°C or 70°F and 101.3 KPa or 1 atm
- Pure gas Technical and Ship data above are reported for reference only

CYLINDER	SiH <sub>4</sub>	43.8	7.3	← Cylinder internal volume, liters
	Concentration	<b>QB/QF</b>	<b>UB/UF</b>	← <b>Cylinder Size</b>
	Range (c)	N <sub>2</sub> , H <sub>2</sub> , He	N <sub>2</sub> , H <sub>2</sub> , He	← Balance Gas
	50 ppm ≤ c < 15%	208	35	← Content, cf (minimum, nominal)*
15% ≤ c < 50%	167	28		

**Note on cylinder sizes:** Unless otherwise specified, cylinders will be provided as follows:  
**All mixes >1%: QF/UF**  
**All mixes <1%: QB/UB**

\*please inquire for exact cylinder content