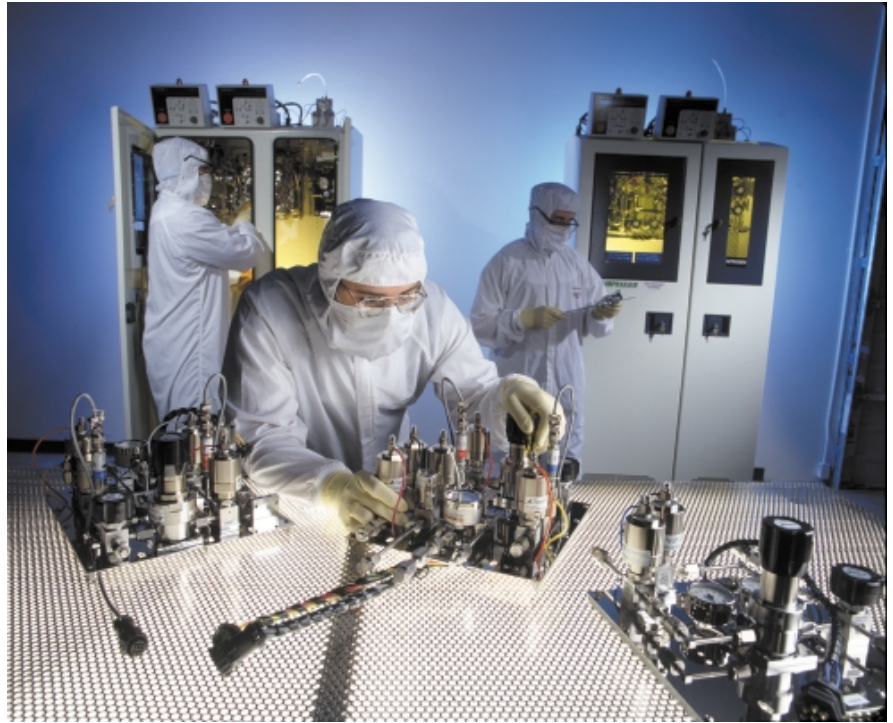


Praxair is committed to providing the semiconductor industry with the highest quality products, technology and services available. Through our ISO certification and Quality Assurance Program, including statistical process control, Praxair maintains strict procedures for monitoring and controlling product quality.

Types of Semiconductor Process Gases

Praxair's semiconductor process gases play a significant role in the manufacture of semiconductor devices. The gases are used throughout all stages of fabrication – from the growing of single silicon crystals, through the steps of wafer fabrication, to final assembly and packaging.

This table lists the primary process gases used for semiconductor fabrication. Other gases are also available.



Classification of Some Selected Semiconductor Process Gases

Silicon-Precursor Gases	Dopant Gases	Etchant Gases	Atmospheric/Purge Gases	Reactant Gases
Dichlorosilane (SiH ₂ Cl ₂)	Arsine (AsH ₃)	Boron Trichloride (BCl ₃)	Argon (Ar)	Ammonia (NH ₃)
Disilane (Si ₂ H ₆)	Boron Trifluoride (BF ₃)	Chlorine (Cl ₂)	Helium (He)	Carbon Dioxide (CO ₂)
Germane (GeH ₄)	Boron Trifluoride	FMAT (C ₄ F ₈ O)	Hydrogen (H ₂)	Nitrous Oxide (N ₂ O)
Silane (SiH ₄)	Enriched (11BF ₃)	Halocarbon-14 (CF ₄)	Nitrogen (N ₂)	Sulfur Dioxide (SO ₂)
Silicon Tetrachloride (SiCl ₄)	Diborane (B ₂ H ₆)	Halocarbon-22 (CHClF ₂)	Oxygen (O ₂)	Tungsten Hexafluoride (WF ₆)
Silicon Tetrafluoride (SiF ₄)	Phosphine (PH ₃)	Halocarbon-23 (CHF ₃)	Xenon (Xe)	
Trichlorosilane (SiHCl ₃)		Halocarbon-41 (CH ₃ F)		
Trimethylsilane ((CH ₃) ₃ SiH)		Halocarbon-116 (C ₂ F ₆)		
		Halocarbon-218 (C ₃ F ₈)		
		Halocarbon-C318 (C ₄ F ₈)		
		Hydrogen Bromide (HBr)		
		Hydrogen Chloride (HCl)		
		Nitrogen Trifluoride (NF ₃)		
		Sulfur Hexafluoride (SF ₆)		