

# PHOSPHINE - (PH<sub>3</sub>)

# Phoenix - 5.5

<b>DESCRIPTION :</b> A colorless, poisonous, flammable, liquefied, high-pressure gas shipped at its vapor pressure of 40,8 Barg at 21° C	to form such structures as emitters, source-drains, and collector contacts (usually high ppm to percentage mixtures with nitrogen); for doping polycrystalline silicon for interconnects or certain capacitors; for forming borophosphosilicate glasses (usually percentage mixtures with silane); and for ion implantation (usually 15 % PH <sub>3</sub> balance hydrogen mixtures in small cylinders)	<b>ADR Item No.</b> : 2, 2 TF
		<b>ADR</b> Label 2.3 Toxic gas Label 2.1 Flammable gas
<b>APPLICATIONS :</b> N-type dopant, for epitaxial silicon (usually ppm mixtures with hydrogen balance gas), for doping selected regions of a silicon wafer using deposition/diffusion techniques		<b>MSDS REFERENCE</b> : 100
		<b>CHEMICAL ABSTRACTS</b> : 7803-51-2
		<b>UN No.</b> : 2199

PRODUCT		PRESSURE BARG	VALVE TYPE	VALVE OUTLET DIN 477 No	VALVE MATERIALS OF CONSTRUCTION
CYLINDER	CONTENTS				
10H(A)	2,5 kg	40,8	Diaphragm	1	Stainless Steel
10H	4,5 kg	40,8	Diaphragm	1	Stainless Steel
50H	15 kg	40,8	Diaphragm	1	Stainless Steel

PRODUCT CHARACTERISTICS	PRAXAIR SPECIFICATIONS	METHOD OF ANALYSIS (SEE KEY)
<b>MINIMUM PURITY</b>	<b>99,9995 %</b>	
Argon + Oxygen (Ar + O <sub>2</sub> )	≤ 1 ppm	S
Arsine (AsH <sub>3</sub> )	≤ 0,1 ppm	O
Carbon Dioxide (CO <sub>2</sub> )	≤ 0,1 ppm	S
Carbon Monoxide (CO)	≤ 0,1 ppm	S
C <sub>2</sub> -C <sub>5</sub> Hydrocarbons	≤ 0,1 ppm	B
Methane (CH <sub>4</sub> )	≤ 0,1 ppm	S
Nitrogen (N <sub>2</sub> )	≤ 2 ppm	S
Water (H <sub>2</sub> O)	≤ 1 ppm	E

**Notes :**

- Assay is determined by the exclusion of hydrogen.

- ◆ Cylinder sizes, contents, valve types and valve connections other than those indicated above are available on request.
- ◆ All expressions for concentration are for gas phase, by volume unless otherwise noted.
- ◆ MSDS Ref.: More detailed Safety Information can be obtained from the Material Safety Data Sheet No. 100

Key to Analytical Techniques			
A	Gas Chromatograph with Thermal Conductivity Detector	D	Specific Oxygen Analyzer
B	Gas Chromatograph with Flame Ionization Detector	E	Specific Water Analyzer
C	Gas Chromatograph with Ultrasonic Detector	F	Total Hydrocarbon Analyzer
		G	Infrared
		H	Proprietary
		I	Gas Chromatograph with Helium Ionization Detector
		J	Flame Ionization with Methanizer
		K	Gas Chromatograph - Photo Ionization
		L	Gas Chromatograph - Flame Photometric
		M	Mass Spectrometry
		N	Wet Chemical
		O	Gas Chromatograph with Discharge Ionization Detector
		P	Gas Chromatograph with Methanizer Carbonizer
		Q	Gas Chromatograph with Electrolytic Conductivity
		R	Gas Chromatograph with Reduction Gas Analyzer
		S	Gaschromatograph with High Frequency Discharge Detector

**IMPORTANT**

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