→ Datasheet

Phosphine. PH_3

Product information

PH_3 is a p-type implant material used in semiconductors. Diluted PH_3/H_2 mix is used in PECVD deposition of TFT for flat panel display and epi nMOS Si:P:C Source/Drain (S/D) in logic/DRAM. It is also a plasma / ion immersion doping source in FPD.

Characteristics

Flammable. Liquefied, colorless gas with an odor similar to rotten fish. Ignites spontaneously in air. Gas density is heavier than air.

Physical data

Molecular weight	[g/mol]	33.998		
Boiling point	at 1.013 bar [°C]	-87.74	at 14.5 psi [°F]	-125.91
Density	at 1.013 bar, 15 °C [kg/m³]	.1.449	at 1 atm., 70 °F [lb/ft³]	0.089
Vapor pressure	at 0 °C [bar]	22.37	at 32 °F [psi]	324.4
	at 20 °C [bar]	35.16	at 70 °F [psi]	522.11
Flammability range in air (% volume)		1.6 - 98.0 Pyrophoric		

Product specification

Purity grade	Typical purity	Typical impurities [ppm]						
		N_2	Ar +O_2	CO	CO_2	AsH_3	THC(CH_4)	H_2O
5.2N	≥99.9992 %	≤1	≤1	≤1	≤1	≤2	≤1	≤1
4.6N	≥99.996 %	≤20	≤4	≤1	≤2	≤5	≤4	≤2

Contact our team for higher grade or different specification products.

Shipping information

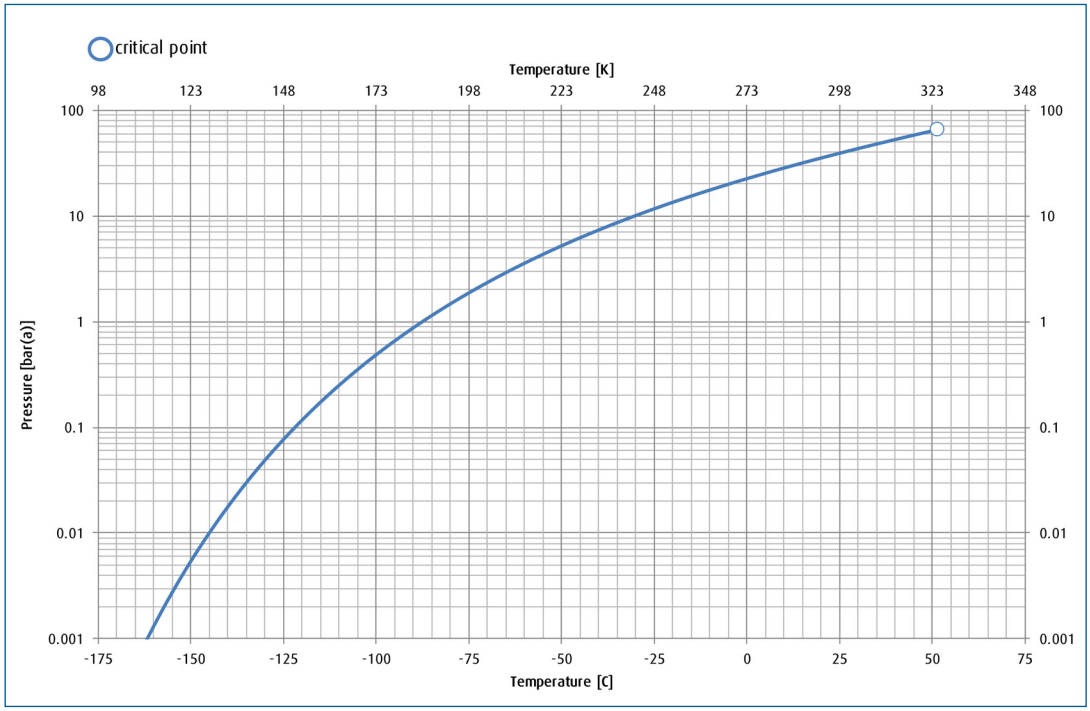
UN number	CAS number	EC number	DOT label	Hazard labels required
2199	7803-51-2	232-260-8	Poison gas	ADR Class 2, 2 TF DOT Class 2.3

Packaging information

	Package options	Cylinder designation	Cylinder internal volume	Cylinder material	Cylinder diameter	Cylinder height to valve outlet	Cylinder tare weight	Fill contents	Pressure (psig) @ 70° F	Valve outlet	Valve material
US	Cylinder	302	46 L	Aluminum	9.8 in	53 in	98 lb	30 lb	470	CGA 632	SS
	Cylinder	152	29.5 L	Aluminum	8 in	49.5 in	49.5 lb	10 lb	470	CGA 632	SS
	Cylinder	32	6L	Aluminum	6.9 in	15.6 in	15 lb	2 lb	470	CGA 632	SS
	Cylinder	2	0.44L	Steel	2 in	14.25 in	3.5 lb	0.15 lb	470	CGA 632	SS
EU	Cylinder	10L	10L	Aluminum	140 mm	865 mm	12 kg	1 kg	300	DIN 1	SS
	Cylinder	2L	2L	Aluminum	115 mm	275 mm	1.5 kg	2.5 kg	300	DIN 1/CGA 632	SS
China	Cylinder	470L	470L	Steel	610 mm	450 mm	1100 kg	Note (1)	Note (1)	CGA 632	SS
	Cylinder	47L	47L	Steel	237 mm	1500 mm	65 kg	Note (1)	Note (1)	CGA 632	SS

Note (1) Fill contents and pressure dependent on concentration desired

Vapor pressure curve



Additional information

The information, recommendations, and data contained in this publication are intended to give basic guidance for safe handling and use of gases. For more information, please refer to Safety Data Sheets. You can locate these through the Linde Safety Data Sheet Search. It is essential for the safe use of gases that personnel are properly trained and are fully aware of the possible hazards. Further information and advice on any matter relating to the safe handling or use of these products may be obtained from the nearest Linde office.

Please visit www.linde.com/electronics for Linde Electronics sales offices information.