

ELECTRONIC GAS

PHOSPHORUS PENTAFLUORIDE PF₅

Phosphorus Pentafluoride is a highly toxic, colorless, non-flammable, strongly fuming gas with an irritating odor. It reacts with water to form hydrogen fluoride and phosphoric acid. It is used as an ion implantation gases in some cases. It is shipped as a liquefied gas in size 7X or 4X cylinder.

Container Information

CYLINDER SIZE	CONTENTS	Pressure @ 21.1°C Valve Outlet DOT Shipping Description:	^a 400 psig, ^b 290 psig CGA-330 / DISS-642 Phosphorus Pentafluoride 2.3, UN 2198, Poison Inhalation Hazard Hazard Zone B Poison Gas 15 7647-19-0
	GRAMS		
^a 4X	454		
^b 7X	47	DOT Shipping Labels DOT Guide No. CAS Registry No.	

Specifications

COMPONENT PHOSPHORUS PENTAFLUORIDE	SEMICONDUCTOR 99.0% min
Nitrogen	< 300 ppm
Oxygen	< 20 ppm
Hydrogen Chloride	< 50 ppm
SHELF LIFE: 1 year	

Physical Properties

Molecular Weight	125.966
Flammability Limits in air	Non-flammable
Specific Gravity, Gas @ 70°F(21.1°C), 1 atm(Air=1)	4.46
Density, Gas @ 70°F(21.1°C), 1 atm	0.322lbs/ft ³ (5.18g/l)
Specific Volume, Gas @ 70°F(21.1°C), 1 atm	3.1ft ³ /lb (0.193l/g)
Boiling Point @ 1 atm	-120.1°F (-84.5°C)
Melting Point @ 75.1 psia (518 kPa)	-136.8°F (-93.8°C)
Critical Temperature	66.1°F (19°C)
Critical Pressure	492.3 psia (33.9 bar)
Toxicity TLV-TWA	2.5 mg/m ³