

PURE GASES

HALOCARBON 134a CH₂FCF₃ (Tetrafluoroethane)

General Characteristics: A colorless, nonflammable and noncorrosive gas. Decomposes at high temperatures to toxic substances.
Health Hazards: A simple asphyxiant

GAS GRADE/PURITY SPEC.	CYLINDER SIZE	CONTENTS	EQUIPMENT RECOMMENDATIONS
ULSI GRADE Min. Purity 99.997%		- See Electronic Gases Section -	
C.P. GRADE Min. Purity 99.9% (Liquid Phase)	¹ DRD	50 lbs	Single-stage high purity regulator, refer to page 142
	¹ DRE	30 lbs	High purity lecture bottle regulator, refer to page 148
	LB	0.5 lb	

TECHNICAL INFORMATION

Molecular Weight	102	Dot Name	Tetrafluoroethane
Specific Volume	3.166CF/lb	UN No.	UN1078
Fire Potential	Nonflammable	Dot Class	2.2
TLV-TWA	None established	Dot Label	Nonflammable Gas
CGA Valve	660 / 1/4 inch flare	Cas Registry	811-97-2
LB	180	Cylinder Pressure @ 70°F	110 psig

¹Size DRD & DRE are nonreturnable cylinder with 1/4 inch flare outlet.

HELIUM He

General Characteristics: A colorless, flammable gas.
Health Hazards: A simple asphyxiant.

GAS GRADE/PURITY SPEC.	CYLINDER SIZE	CONTENTS	EQUIPMENT RECOMMENDATIONS
SCIENTIFIC GRADE Min. Purity 99.99999% Total Impurities less than 100 ppb	AL80	77 CF	Stainless-steel high purity double-stage regulator, refer to page 146
	Certificate of Analysis Provided With Each Cylinder.		Stainless-steel lecture bottle regulator, refer to page 149
VLSI GRADE Min. Purity 99.9999%	- See Electronic Gases Section -		
RESEARCH GRADE Min. Purity 99.9995% N ₂ < 2 ppm, H ₂ O < 1 ppm O ₂ < 1 ppm, THC < 0.4 ppm	049	293 CF	Double-stage high purity regulator, refer to page 137
	044	245 CF	
	016	85 CF	High purity lecture bottle regulator, refer to page 148
ULTRA HIGH PURITY Min. Purity 99.999% Total impurities < 10 ppm	049	293 CF	
	044	245 CF	
	016	85 CF	
	LB	2 CF	
HIGH PURITY Min. Purity 99.995% H ₂ O < 10 ppm, O ₂ < 10 ppm	049	293 CF	
	044	245 CF	
	016	85 CF	
	LB	2 CF	
HIGH PRESSURE Min. Purity 99.995%	3HP (3500 psig)	513 CF	• Piston regulator, refer to page 147
	2HP (6000 psig)	329 CF	
LIQUID HELIUM Min. Purity 99.999%	30L	30 Liters	• Multishield liquid helium container, please ask our representative
	60L	60 Liters	
	100L	100 Liters	
	• Other sizes available on request. • Special rental rates apply.		

TECHNICAL INFORMATION

Molecular Weight	4.003	Dot Name	Helium, Compressed or refrigerated liquid
Specific Volume	96.7CF/lb	UN No.	UN1046
Fire Potential	Nonflammable	Dot Class	2.2
TLV-TWA	None established	Dot Label	Nonflammable Gas
CGA Valve	580, 3HP-677, 2HP-680	Cas Registry	7440-59-7
LB	180		