

# Mixtures: Isotopic Carbon Dioxide Lasers

## DESCRIPTION

Spectra Gases manufactures, analytically certifies and exports customized blends for ring military and scientific applications. Our organization is the largest global manufacturer for laser gas products and can provide virtually any gas mixture or component pure gas specified by the customer. If desired, pure  $^{13}\text{CO}_2$ ,  $\text{C}^{18}\text{O}_2$ , and inert gases are available.

ISOTOPIC CARBON DIOXIDE LASERS*			
<b><math>^{13}\text{CO}_2</math> Lasers</b>			
Component	Concentration	Purity or Enrichment	Recommended Regulators
$^{13}\text{CO}_2$	15.0 – 20.0%	$\geq 99.0$ atom %	Model 7140
$\text{N}_2$	15.0 – 20.0%	Research Grade	Model 7220
Xe	5.0%	Research Grade	
He	Balance	Research Grade	
<b><math>\text{C}^{18}\text{O}_2</math> Lasers</b>			
Component	Concentration	Purity or Enrichment	Recommended Regulators
$\text{C}^{18}\text{O}_2$	15.0 – 20.0%	$\geq 97.0$ atom %	Model 7140
$\text{N}_2$	15.0 – 20.0%	Research Grade	Model 7220
Xe	5.0%	Research Grade	
He	Balance	Research Grade	
<b>Natural Abundant <math>\text{CO}_2</math> Lasers</b>			
Component	Concentration	Purity or Enrichment	Recommended Regulators
$\text{CO}_2$	Various	Research Grade	Model 7140
$\text{N}_2$	Various	Research Grade	Model 7220
Xe	Various	Research Grade	
He	Balance	Research Grade	

\*Varying isotopic and non isotopic concentrations are available.  
This represents typical ranges for isotopic carbon dioxide laser mixtures.

CYLINDER INFORMATION		
Cylinder Size	Valve Outlet	Approximate Volume Cu.Ft./Liters
1	580	265 / 7500
2	580	212 / 6000
3	580	71 / 2700
4	580	35 / 1000
D1	580	18 / 500

(Continued)



<b>SHIPPING DATA</b>	
DOT Classification	Non Flammable Gas
DOT Label	Nonflammable gas
Transport Canada Classification	2.2
UN Number	Un 1956
Hazards	Affixiant
Toxicity (TLV)	50 ppm CO & 5000 ppm CO <sub>2</sub>
Flammability Range (in air)	Non flammable
Odor	None