

## Praxair's Gas Grade Recommendations

Analytical Method/ Detector	Page Number	Carrier and Support Gases	Analytical Range Sensitivity		Type of Analysis Impurity Considerations
<b>Optical Spectrometry</b>			< 100 ppm	> 100 ppm-	
<b>Adsorption</b>					<b>Polyatomic and Heteroatomic Compounds</b>
<b>NDR</b> (Non-dispersive Infrared)	C2/3	Air	AI 0.0HC	AI 0.0Z	
	C44/45	N <sub>2</sub>	NI 4.8Z	NI 4.8Z	
<b>IR</b> (Dispersive Infrared)					
-FTIR	C6/7	Ar	AR 4.8OF	AR 5.0UH	<b>Polyatomic and Heteroatomic Compounds</b> During matrix isolation, oxygen can oxidize a sample. Moisture interferes with IR spectra. Impurities coinciding with quantified peaks can cause inaccuracies.
(Fourier Transform Infrared)	C44/45	N <sub>2</sub>	NI 5.0UH	NI 5.0UH	
-FG/GFC (Correlation)					
<b>AA</b> (Atomic Absorption)	C1	C <sub>2</sub> H <sub>2</sub>	AC 2.6 AA	AC 2.6AA	<b>Elemental Analysis</b> Impurities can cause the flame to discolor or burn unevenly. Furnace atmospheres require low oxygen and moisture levels to maintain instrument sensitivity.
<b>Combustion Gases</b>	C12	n-C <sub>4</sub> H <sub>10</sub>	BU 2.5IS	BU 2.5IS	
	C32/33	H <sub>2</sub>	HY 4.5Z	HY 4.5Z	
	C49	N <sub>2</sub> O	NS 2.5AA	NS 2.5AA	
	C2/3	Air	AI 0.0Z	AI 0.0Z	
	C6/7	Ar (Flameless)	AR 5.0UH	AR 5.0UH	
	C44/45	N <sub>2</sub>	NI 5.0UH	NI 5.0UH	
<b>NMR</b> (Nuclear Magnetic Resonance)	C65	LHe	Liquid	Liquid	<b>Analysis of Molecular Structure</b>
	C66	LN <sub>2</sub>	Liquid	Liquid	

## Legend

**AA** – Atomic Absorption  
**UH** – Ultra High Purity  
**RS** – Research/Chromatographic  
**Z** – Zero  
**HC** – Hydrocarbon Free  
**IS** – Instrument  
**OF** – Oxygen Free  
**TG** – Trace Analytical  
**EC** – Electron Capture Detector

Please refer to designated page numbers in for available cylinder styles, contents, and other information.

Refer to the Instrumentation Mixture Summary on Page E5 for additional information regarding mixtures.