

LIST OF GASES

1) Gases

a) Reactive Gas Mixtures (Analyzer Calibration) : -

Component	Concentration	Balance
Ammonia	10-500 ppm	Air or Nitrogen
Chlorine	2-1000 ppm	Nitrogen
Carbon Monoxide	10-2000 ppm	Air or Nitrogen
Ethylene Oxide	5-100 ppm	Nitrogen
Hydrogen Cyanide	5-20 ppm	Nitrogen
Hydrogen Chlorine	3-1000 ppm	Nitrogen
Hydrogen Sulfide	5 ppm – 1% vol.	Air or Nitrogen
Nitric Oxide	5-900 ppm	Nitrogen

Nitrogen Dioxide	3-200 ppm	Air or Nitrogen
Phosphine	0.5-15 ppm	Nitrogen
Silane	5-10 ppm	Nitrogen
Sulfur Dioxide	2-100 ppm	Air or Nitrogen

b)

Non Reactive Mixtures (Analyzer Calibration)

Component	Concentration	Balance
Benzene	1-5 ppm	Air
Butane	10 ppm – 0.9% vol.	Air
Carbon Dioxide	50 ppm – 100% vol.	Air or Nitrogen
Ethylene	10 ppm – 1.35% vol.	Air
Helium	100% vol.	N/A
Hexane	10 ppm – 0.48% vol.	Air
Hydrogen	10 ppm – 2.0% vol.	Air or Nitrogen
Isobutylene	10 ppm – 100 ppm	Air

Methane	10 ppm – 2.5% vol.	Air or Nitrogen
Methyl Chloride	10 ppm – 300 ppm	Air
Methylene Chloride	10 ppm – 200 ppm	Air
Oxygen	0.4% - 100% vol.	Nitrogen
Pentane	10 ppm – 0.75% vol.	Air
Propane	10 ppm – 1.1% vol.	Air
Propylene	50 ppm – 5.6% vol.	Nitrogen
Toluene	10 ppm – 100 ppm	Air or Nitrogen
Zero Air	20.9% Oxygen	Nitrogen
Nitrogen	100% vol.	N/A

c)

Mixtures of Lighting Industry

Use of pure inert mixtures contributes to the sophistication of light bulbs.

Krypton in Argon	Pure Krypton
------------------	--------------

Neon in Argon	Pure Neon
---------------	-----------

d)

Cement Industry Application

Use of pure inert mixtures contributes to the sophistication of light bulbs.

05-10% O2 in N2	10% CH4 in Argon (P-10)	Low CO and O2 in N2
1-2% Carbon Monoxide in N2	Ultra High Pure Nitrogen	2% Hydrogen in Nitrogen
5% Methane in Argon (P-5)	Zero Grade Nitrogen	

e)

Instrumentation Gas Application

Purging and Zero Gas for sampling equipment and measuring instruments

Fuel Gas for FID - 40% H2 Bal He

Process Gas for ECD / Spectrometer P - 10, P - 5 Gas, 5 - 10% CH4 Bal Ar

For Gross Calorific Value measurement

Explosive Gas Mixture: Propane, Methane, CO mixtures in air

Total Hydrocarbon and Analyzer Gases

f)

Petrochemicals & Refineries Application

Accurate analysis of multicomponent Gas streams as well as control measurements of Petrochemical and Refineries require accurate Calibration Standards.

Propylene + Hydrogen + Carbon Monoxide in the ratio of 1:1:1
1500 ppm Ethylene + 1500 ppm Hydrogen + 10% Propane + Propylene
100 ppm Ethane + 100 ppm Ethylene + 100 ppm Propylene + 100 ppm Butane + Nitrogen
1% Methane + 1% Ethane + 1% Methane + 2% 1-Butene + 2% N-Butane + 30% Ethane + Propane
30% Propane + 1% Propylene + 20% iso-Butane + 0.5% iso-Pentane + Nitrogen

g)

Fertilizer Industry Application

50 PPM CO ₂ + 50 PPM CO + 50 PPM CH ₄ + 0.3% Ar + 24.5% N ₂ + H ₂
0.1% Ethylene + 0.3% Ar + 0.5 Ethane + 9.2% CH ₄ + 9.5% CO + 18.63% CO ₂ + 19.7% N ₂ + H ₂
0.1% I-Butane + 0.1% N-Butane + 0.1% I-Pentane + 0.1% N-Pentane + 0.1% N ₂ + 1.5% Propane + %% CO ₂ + 7.2% Ethane + CH ₄

h)

**Research Grade Pure Industrial Gases / Liquid
Ex-Stock**

SF6	i Butane	Methyl Bromide
n Butane	Propane	HCL
Methane	Sulphur Hexafluride	Iso-Octane
Ethane	Sulphur Di Oxide (SOX)	Vinyl Chloride
Propane	Carbonyl Sulphide	Dimethyl Sulphide
Iso-Butane	Trichloro Ethylene	Methyl Ethyl Ketone
n-Butane	N-Heptane	Butyl Chloride
Iso-Pentane	N-Octane	Gysum
n-Pentane	N-Decane	Pinene
Carbondioxide	N-Nonane	P-Xylene
n-Hexane	1-Hexene	Neo Pentane
Nitrogen	2-Methyl 1-Pentene	Methyl Pentane Cyclo
Synthetic Air	2-Pentene	Pentane

Ammonia	Carbon di sulphide	Hexane
Acetylene	Benzene	1-3 Butadiene
Argon	Toluene	Ethyl Acetylene
1-Butene	Xylene	Vinyl Acetylene
Trans-2-Butene	Nitro Benzene	Propene
Cis-2-Butene	Acetone	2-Methyl Propene
Iso-Butylene	Methanol	Nonane
1,3-Butadiene	Nitrous Oxide	Chloro Ethane
Carbon Monoxide	Nitrogen Di Oxide	1,2 Dichloro Ethane
Chlorine	3-Methyl 1-Pentene	O-Xylene
Cyclo-Propane	Acetaldehyde	Ethyl Benzene
Ethylene	Ethanol	Di Chloro Ethane
Ethylene Oxide	1-Pentene	m-Xylene
Ethyl Mercaptan	2-Methyl 2-Butene	Hydrogen Bromide

Hydrogen	Cis-2-Pentene	Methyl Cyclohexane
Hydrogen Sulphide	Trans-2-Pentene	Xenon
Helium	Acetic Acid	Krypton
Hydrogen Chloride	1-2 Butadiene	2-Methyl-1-Butene
Methyl Acetylene	Cyclo-Pentane	2 Methyl Pentane
Methyl Mercaptane	Nitric Oxide	Dimethyl Ether
Neon	Methyl Bromide	Octane
Propylene	Cyclo Hexane	Ethyl Chloride
Propadiene	Carbondioxide	Silane
Oxygen	Propane	

i) **Isotopic Gas : -**

Deutirium xe-129- kripton, helium-3.	

j)

Analysis of Natural Gas

Lab Name		
	CSL Pvt. Ltd.	
Detector		
	TCD	
Carrier		
	N2	
Column		
	Porapak-Q	
Sample		
	Natural Gas	
Vol. Inj.		
	1 ml	
Temp		
	Initial 40, Hold 2 min nal	
	180, Ramp 10	
	Nitrogen (2.06%)	
	Methane (79.71%)	
	Carbon Di-Oxide (5.06%)	
	Ethane (7.03%)	

	Propane (3.49%)		
	Iso Butane (0.55%)		
	N-butane (0.55%)		
	Iso Pentane (0.51%)		
	N-Pentane (0.49%)		
	N-Hexane (0.33%)		

UHP Grade Speciality Gas

k)

Instrument Gases

Component	Purity	
Hydrogen	100.00%	
Helium	100.00%	

Nitrogen	100.00%	
Argon	100.00%	
Synthetic Air	100.00%	
Methane 5%	bal Argon	
Methane 10%	bal Argon	

l)

Lighting Gases

Argon	Krypton	
Neon	Xenon	

m)

Hydrocarbon Gases

Methane	Ethane	
---------	--------	--

Propane	Butane	
Pentane	Heptane	
Ethene	Ethylene	
Acetylene	Butylene	
N-butane	Iso-butane	
Iso-butylene	1,2 butadiene	
1,3butadiene	1-butene	
Cis-2-butene	Trans-2-butene	
Benzene	Ethyl acetylene	
Methyl chloride	Methyl acetylene	
Ethyl chloride	Propylene	
Propadiene	Methyl bromide	
Carbon monoxide		

Hydrogen Chloride	Methyl Bromide	
Carbonyl Sulfide	Iso - butylene	
Butane	Propane	

q)

**UHP Special Pure Grade Certified H2
(99.9999%)**

CSL provides ultra UHP H2 by special purification process for critical H2 R&D application. We assure you that UHP H2 is far better compared to other grades available in the market. CSL can supply free sample if requested for testing purposes.