



CHEMIX

Specialty Gases and Equipment

Established In the year 2006,
CHEMIX is one of the most dedicated
firms engaged in manufacturing and
supplying a wide range of ultra-high
purity gases, Gas Mixtures, Calibration
Gas Mixtures and Gas Handling Equip-
ment.

CHEMIX Takes up turn-key proj-
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Company Profile

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OUR VISION & MISSION

- Supply of right Specialty Gas Product On Time – Every Time
- Support Customers technically for using the right in the right fashion

QUALITY POLICY

- Understand Customer Requirement Correctly, supply & support Accordingly
- Maintain traceability records.
- Build up customer data along with feedback information
- Assess the Vendors
- Maintain safety & Housekeeping

Our Products

CHEMIX is a Professionally Manufacture and supplier of special gas Products. In addition to this we offer services for Analysis of gases & AMC for Gas Handling Equipment's and Gas distribution System

ULTRA HIGH PURE GAS



GAS MIXTURE



PROCESS GAS MIXTURE



CALIBRATION GAS STANDARD



GAS HANDLING EQUIPMENT

Ultra High Pure Gas

CHEMIX handles specific range of Ultra High Pure Gases to match the need of the niche market of critical applications. CHEMIX High Pure Gases are guaranteed to be free of critical contaminants that can cause instrument interference and chromatographic column degradation.

CHEMIX High Pure Gases listed below are available in various grades depending on specific impurity level (specification of the gases are available on requirement) and in different cylinder sizes. MSDS is furnished while supplying the product.



Ultra High Pure Gas

| NAME | FORMULA | GRADES(PURITY) |
|-----------------------|---------------------------------|--|
| Air | - | Zero, Synthetic, Synthetic HC Free, Research Grade |
| Acetylene | C ₂ H ₂ | 3.0N(99.9%), AAS, Instrument |
| Ammonia | NH ₃ | 2.5N(99.5%), 3.0N(99.9%), 5.0N(99.999%) |
| Argon | Ar | Zero, 5.0N(99.999%), 5.5N(99.9995%), 5.8N(99.9995%), Research Grade |
| Carbon Monoxide | CO | 2.5N(99.5%), 3.0N(99.9%), 3.7N(99.97%), 4.5N(99.995%) |
| Carbon Dioxide | CO ₂ | 3.0N(99.9%), 4.0N(99.99%), 4.5N(99.995%), 5.0N(99.999%) |
| Ethane | C ₂ H ₆ | 2.0N(99%), 3.0N(99.9%) |
| Ethylene | C ₂ H ₄ | 2.5N(99.5%), 3.5N(99.95%) |
| Helium | He | 4.5N(99.995%), 4.7N(99.997%),5.0N(99.999%), 5.5N(99.9995%),6.0N(99.9999%) |
| Hydrogen | H ₂ | Zero, 4.0N(99.99%), 5.0N(99.999%), 5.5N(99.9995%), 6.0N(99.9999%), |
| Hydrogen Sulphide | H ₂ S | 2.5N(99.5%) |
| 1 Butene | 1C ₄ H ₈ | 2.5N(99.5%) |
| Iso Butane | 1C ₄ H ₁₀ | 2.5N(99.5%) |
| Krypton | Kr | 2.5N(99.5%) |
| Methane | CH ₄ | 2.5N(99.5%), 3.5N(99.95%), 4.5N(99.995%), 5.0N(99.999%) |
| N-Butane | C ₄ H ₁₀ | 2.5N(99.5%) |
| Nitric Oxide | NO | 2.5N(99.5%) |
| Nitrogen | N ₂ | Zero, 4.0N(99.99%), 5.0N(99.999%),5.5N(99.9995%), 6.0N(99.9999%),Research Grade |
| Nitrous Oxide | N ₂ O | 2.5N(99.5%) |
| Neon | Ne | 5.0N(99.999%) |
| Oxygen | O ₂ | 2.5N(99.5%),5.0N(99.999%),Research Grade |
| Propane | C ₃ H ₈ | 2.5N(99.5%) |
| Propylene | CEH ₆ | 2.5N(99.5%) |
| Sulphur Dioxide | SO ₂ | 2.5N(99.5%),3.0N(99.9%),3.8N(99.98%) |
| Sulphur Hexa Flouride | SF ₆ | 3.0N(99.9%), 3.8N(99.98%), 4.0N(99.99%) |
| Xenon | Xe | 5.0N(99.999%) |

Zero Grade & Carrier Gas

- While setting Baseline in Gas Chromatography or setting zero in direct analyzer, It is essential that the impurities of carrier gases & zero grade gases are minimal so that baseline and zero setting could be done faster & without any interference
- Our Zero Grade gases as well Carrier Gases are specifically certified to serve the purpose



Gas Mixture

Gas Mixture can be classified into two groups.

- Homogenous PROCESS GAS MIXTURE : made from High Pure gases in particular composition homogenous & without any impurity.
- High Accuracy CALIBRATION GAS STANDARD : made from High pure gases at a specified & certified composition homogenous & without any impurity

CHEMIX has the capability and expertise to meet your needs. Here we present a list of pure gases which are input or ingredients (Raw Material) to make standard or customized gas mixture as required by the User.



Process Gas Mixture



Using Pure Gases as ingredient - Process Gas mixtures are Prepared and mixed to attain homogeneity for particular process to achieve desired result.

Few Examples of Process Gas Mixtures are listed Below:-

| | |
|----------|---|
| P-10 | $\text{CH}_4\text{-}10\% + \text{Ar}90\%$ |
| P-5 | $\text{CH}_4\text{-}5\% + \text{Ar-}95\%$ |
| Carbogen | $\text{CO}_2\text{-}5.0\% + \text{O}_2 \text{ Balance}$ |

DLCO

- $\text{CO } 900\text{-}1000\text{PPM} + \text{O}_2 21\% + \text{N}_2 \text{ Balance}$
- $\text{CO } 0.3\% + \text{He } 10\% + \text{O}_2 21\% + \text{N}_2 \text{ Balance}$
- $\text{CO-}0.4\% + \text{Ne } 0.5\% + \text{C}_2\text{H}_2 0.5\% + \text{O}_2 21\% + \text{N}_2 \text{ Balance}$
- $\text{CO } 1000\text{PPM} + \text{CO}_2 200\text{PPM} + \text{O}_2 21\% + \text{N}_2 \text{ Balance}$

Process Gas Mixture

ENTONOX

Nitrous Oxide 50% + Oxygen 50%

Laser Gas Shield

- CO₂ 5% + N₂ 13% to 55% + Helium Balance
- CO 2-4% + CO₂ 6-8% + N₂ 6-8% + Helium Balance
- H₂ 4% + N₂ 5% + CO₂ 15% + Helium Balance
- H₂ 0.4 + CO 4% + CO₂ 8% + N₂ 8% + Helium Balance
- Neon 8.3-20% + Helium Balance

Welding Gas Shield

Argon 20% + Helium Balance

2% to 30% CO₂ + Argon Balance

2% TO 10% Nitrogen + Argon Balance

2%B to 10% Hydrogen + Argon Balance

Lighting Industry

10%, 50%, 75% Argon in Neon

80%, 98% Argon in Hydrogen

Krypton 10% + Argon Balance

Argon 25% +Krypton Balance

Krypton 74% +Neon 25% +Argon Balance

ANAEROBIC

Hydrogen 3% + CO₂ 97%

CO₂ 0.5-10% + N₂ Balance

AEROBIC

CO₂ 0.5-10% + O₂ Balance

CO₂ 0.5-10% + Air Balance

Calibration Gas Standard



Calibration Gas Mixture - more emphatically a degree of measurement – is our prime product. Gravimetric filling method as per ISO 6142 where the components are added sequentially using traceable weights and improvised manometer method as per ISO 6146 are followed. For Analysis, various GC method and direct analysis methods as per IS, ISO and ASTM standards are used in the laboratory.

Laboratory is maintained as per ISO 17025 (NABL). For Certification , ISO 6141-2015 is being followed.

Calibration gas can be homogenous mixture of any composition of gases at any particular concentration permitted by a laws of Physics & Chemistry.

User can send an enquiry for any composition mentioning the range or the tolerance.

Calibration Gas Standard

Medical Gases

Standard for Clinical Blood Gas Analyzer

DLCO

CO₂ 0.5-12.0% + N₂ Balance
Balance

CO₂ 3.0-12.0% + Oxygen Balance
Balance

CO₂ 3-12% + O₂ 5-23% + N₂ Balance
N₂ Balance

* CO 900-1000PPM + O₂ 21% + N₂

* CO 0.3% + He 10% + O₂ 21% + N₂

* CO 0.3% + CH₄ 0.3% + O₂ 21% +

SLOPE & SPAN Gas for Blood Standard

CO₂ 2-12% + O₂ 5-25% + N₂ Balance
CO₂ 10% + N₂ Balance

ENTONOX

* Nitrous Oxide 50% + Oxygen 50%

Neonatal Pediatric Gases

NO 10-25PPM + N₂ Balance

NO 450-500PPM + N₂ Balance

NO 900-1000PPM + N₂ Balance

NO₂ 9.5PPM + N₂ Balance

NO₂ 10PPM + N₂ Balance

NO₂ 10-12.5PPM + Air Balance

ANAEROBIC

* Hydrogen 3% + CO₂ 97%

* CO₂ 0.5-10% + N₂ Balance

AEROBIC

* CO₂ 0.5-10% + O₂ Balance

* CO₂ 0.5-10% + Air Balance

Medical Laser Gas Mixture

CO₂ 4.5-9% + N₂ 13.5-5% + Helium Balance

CO₂ 1-10% + CO 1-10% + N₂ 1-10% + Helium Balance

Calibration Gas Standard

ENVIRONMENTAL MONITORING POLLUTION CONTROL

STANDARD FOR AIR MONITORING

Carbon dioxide 0-300PPM in Air

Carbon monoxide 0-3PPM in Air

Hydrogen Sulphide 0-10PPM in Air

NO₂ 0-100PPM in Air

Propane 0-1PPM in Air

Hexane 1600PPM + CO N8% + CO₂ 13% + N₂ Balance

Sulphur Dioxide PPM in N₂

CO₂-6-13% + CO-1-8% + Propane 300-3000PPM + N₂ Balance

STANDARD FOR VEHICLE EMISSION STANDARD

Propane 300-3000PPM + CO 1-8% + CO₂ 6-12% + N₂ Balance

NO 100-2000PPM + N₂ Balance

CO 900-1000PPM + N₂ Balance

Ammonia 10-500PPM + N₂ Balance

Methane 2000-2500ppm + Air Balance

Calibration Gas Standard

HYDROCARBON GAS MIXTURE

BTU GAS MIXTURE

CH_4 87.0-97.0% + C_2H_6 1.5-7.0% + C_3H_8 0.1-1.5% + IC_4H_{10} 0.01-0.03%

LIQUID MIXTURE

Benzene 55% + 1-butene 23% + 1,3 Butadiene 22%

1,3- Butadiene 0.8% + cis-2-Butene 10% + trans-2-butene 10% + trans-1-butene 30% + iso-butylene Balance

Benzene 54.5% + trans-2-Butene 15% + cis-2-butene 7% + trans-2-Butene 0.5 + 1,3 Butadiene 23%

STANDARD FOR DGA (DISSOLVED GAS ANALYZER)

CH_4 100-1000PPM + C_2H_6 100-1000PPM + C_2H_4 100-1000PPM + C_2H_2 5000PPM + CO 5000PPM + CO_2 50-5000PPM + N_2 4000-20% + Air Balance

NATURAL GAS STANDARD

CO_2 -1% + O_2 0.25% + N_2 1.25% + CH_4 85% + C_2H_6 5.50% + C_3 3% + IC_4 % + NC_4 1% + IC_5 0.50% + C_6 1%

STANDARD FOR RGA GAS MIXTURE

Methane 1.5% + Ethane 2.5% + Ethylene 2.5% + Propane 2.5% + Propylene 5% + Iso-butane 3% + n-butane 3% + 1-butene 3% + trans-2-butene 3% + H_2 2% + CO_2 1% + CO 1% + ISO-PENTANE 2% + N-PENTANE 2% + N_2 60%

Calibration Gas Standard

REFRIGERANT GAS

R744-50%+R1270-50%

R744-50%+R134A-50%

R744-50%+R600-50%

LEL GAS STANDARD

50%LEL LPG In Air Balance

60%LEL Methane in Air Balance

H₂ 50%LEL IN AIR BALANCE

50%LEL Propane in Air Balance

FRUIT RIPENING GASES

Ethylene 99.5%

5% Ethylene + N₂ Balance

FIRE EXTINGUISHER GAS MIXTURE

IG 541

IG 55

IG 100

Gas Handling Equipment

WE HAVE LISTED DOWN FOLLOWING GAS HANDLING EQUIPMENTS.

Gas Pressure Regulator

Flow Meter

Point Of Use Regulator

Gas Manifold

Gas Purification Panel

Gas Tubing / Piping

Gas Distribution System

Gas Scrubbers

Gas Generators

High Pressure Flexible Connection (HOSE)

Cylinder Auto Change Over System

Cylinder Storage Cabinet

Cylinder Trolley

Leak Detection and Safe Handling

Fume Chamber



Gas Pressure Regulator

- * **Body of the Regulators are made from either Chrome Plated Brass or Stainless Steel depending on gas service**
- * **All regulators have Stainless Steel Diaphragm or Piston for accurate and stable Pressure Control**
- * **Design of the Regulator depends on Upstream pressure, Downstream pressure and Working pressure**
- * **Regulators connection depends on its mounting of regulator either directly to the Cylinder or Manifold or in Line. The inlet and outlet connection**
- * **Gas Service also an important feature for selection of regulator**



Point of use Regulator & Gas Flow Meter

POINT OF USE REGULATOR

Specific Regulator at Point of use depending on the service, pressure and flow are supplied.

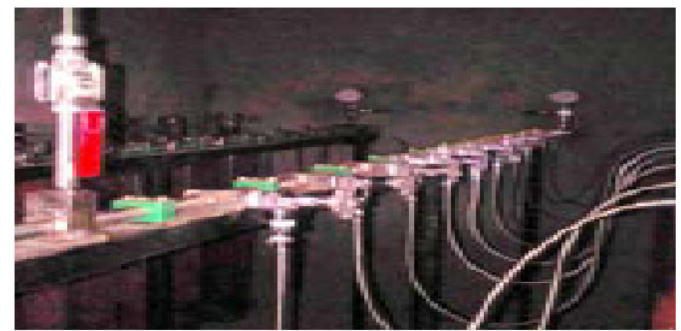
GAS FLOW METER

Flow meter is used to regulate the flow of gas in to the system. Different types of flow meters are available depending on service, flow range and list counts. Depending on uses Rota meter, Mass flow meter or Mass flow controllers can be supplied.



Gas Manifold System

Gas Manifold is the first step for the Gas Distribution System. There are different types of manifolds like Cylinder Mount, Single Cylinder Manifold, 2-Cylinder-Manifold, Multiple Cylinders Manifold & Gas Bank. Usually change-over systems are connected with manifold.



Gas Distribution System

Whether any particular gas is being distributed to various points of usage or various gases are being channelized into one system in the laboratory, proper gas distribution system is very essential for the right result. We design gas distribution systems on the basis of various parameters essentially required for the application.



Gas Cabinets

CHEMIX Gas Cabinets & Panels are designed to dispense gases in a controlled manner to a given process and protect the surroundings from exposure to gases & chemicals. Any industry using or processing hazardous gases should consider GC for safe handling. We design Gas Cabinet and control panel thereof on the basis of physical properties of the gases, cylinder size, pressure and flow required for the process including precautions related to safety and hazards.



Hydrogen Drier

Whenever a process requires moisture – free flow of gas we design ‘Gas Driers’ to take care of the specific need. It can be for Hydrogen or Air or Nitrogen gas flow at a particular Dew point or PPM level of moisture - we have the solution. We design driers for uninterrupted service confirming the service, Quantum of gas flow, build-up pressure, Temperature, Running time, Input contamination and output moisture level. Design, manufacturing & commissioning includes mechanical design & selection of material in conjugation with electronic parameter & control system and chemical for adsorption.



Gas Purification Panel

Carrier Gases in laboratory are connected with Gas Purification Panel for reduction of impurities particularly Oxygen, Moisture & Hydrocarbon. The Regulator, Pressure Gauge and Valves (toggle) are connected in the Purification Panel for controlling the gas flow into the system. Various combination of Oxy-Trap, HC- Trap and Moisture Trap are available.



Gas Tubing/Piping

We supply and install Gas Pipelines and Tubing with fittings and fixtures and also orbital welding as required. We design, fabricate and commission the system, for various laboratories. We take up turnkey projects.



Gas Alarm & Safe Handling

While using toxic, flammable and hazardous gases in any system, it is essential to check any leakage in the system for safe handling and ensuring the safety of personnel in the Laboratory and the environment. Leak Detectors which are fitted with specific sensors are used to detect any leakage in the system.



Fume Chamber

While handling various chemicals in laboratory, it is absolutely necessary to protect laboratory personnel and surrounding from vapors and gases beyond permissible limit. Scientific Fume Chambers being used with proper extractor and flow control mechanism to serve the purpose. We supply various types of fume chambers depending on the chemical used and detailed application.



Gas Cylinder Trolley

To move cylinder from one place to other place, cylinder trolleys are being used. Specific trolleys for different Sizes of cylinders are available. We also supply Staircase trolleys.



Gas Scrubbers

Gas Scrubbers Hazardous gases, while emitting from the outlets in various laboratories, need to be neutralized using proper desiccants or channelized through a device containing required chemicals before releasing into the atmosphere. We supply Scrubbers in standard model as well as customized design specific to customer needs.



Gas Generators

Gas Generators Our range of generators include Cryogenic, Adsorption & Membrane technologies to meet all typical flow pressure & purity requirements of onsite gas generation. We supply Gas Generators for analytical instrumentation including Hydrogen Generators





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