

Specialty Gases for Oil & Gas

Where you are.
Where you need to be.
We are here too.



ALPHAGAZ™ - Pure Gases



ALPHAGAZ™

ALPHAGAZ™ is our pure gases product range, successfully launched worldwide and dedicated to laboratory and analysis. In addition to perfect gas, Air Liquide is now adding a new ergonomic valve to provide improved safety and simplicity of use.

Product range that meets the needs of analytical applications:

- Guaranteed low critical impurity levels.
- Two levels of purity:
 - **ALPHAGAZ™ 1**, for accuracy of analysis from % to ppm,
 - **ALPHAGAZ™ 2**, for high accuracy of analysis from ppm to ppb.



ALPHAGAZ™ 1

ALPHAGAZ™ 2

Specifications Ar, H₂, He, N₂, O₂

H₂O < 3 ppm
O₂ < 2 ppm*
C_nH_m < 0,5 ppm

*except for O₂ **except for H₂

H₂O < 0,5 ppm
O₂ < 0,1 ppm*
CO₂ < 0,1 ppm
CO < 0,1 ppm
C_nH_m < 0,1 ppm
H₂ < 0,1 ppm**

Air

H₂O < 3 ppm
CO < 1 ppm
CO₂ < 1 ppm
C_nH_m < 0,1 ppm

H₂O < 0,5 ppm
CO < 0,1 ppm
CO₂ < 0,1 ppm
C_nH_m < 50 ppb
SO₂ < 10 ppb
NO_x < 10 ppb

CO₂, N₂O, C₂H₂ (consult us)

SMARTOP™

The new, innovative cylinder packaging, tested and approved in analytical laboratories:

- Protective and ergonomic cap ensures comfort and security.
- Ergonomic valve allows for more efficient and accurate work:
 - Thanks to the volume indicator you always know the available volume,
 - By simply moving the lever you can quickly open and close the valve,
 - **SMARTOP™** is equipped with Residual Pressure Valve and Non-Return Valve that prevent contamination due to atmospheric backflow.



Your needs - Our solutions

Whether operating in upstream, midstream or downstream **Air Liquide** offers **complete and innovative solutions** to meet your most stringent **quality and traceability needs**.

UPSTREAM
MIDSTREAM
DOWNSTREAM



Customer Applications

- Compositional analysis
- Sulfur compounds speciation
- Petroleum Geochemistry
- Research & Development
- Quality control
- Process control
- Emission monitoring
- Safety detection

Air Liquide offer

- Products:
 - ALPHAGAZ™ pure gases,
 - Instrumentation mixtures,
 - Accredited and non-accredited calibration mixtures,
 - Proficiency testing programs.
- Exclusive cylinder treatments to ensure stability of the most difficult mixtures including very low level sulfur components.
- Comprehensive inventory of hydrocarbon standards to meet demanding needs.
- Maintenance, technical audit, training and cylinder management services.
- Gas handling equipment and installations, including high purity gas generators.

ALPHAGAZ™ and Scott™ Mixtures

Traceable gas and liquid calibration mixtures:

- Multi-component hydrocarbon and non-hydrocarbon mixtures for compositional and noble gas analysis,
- Sulfur standards for compounds speciation,
- Gas stable isotope mixtures for petroleum geochemistry,
- Proficiency testing programs to assess accuracy of your measurements,
- PNA / PIANO standards for naphta, gasoline and other refinery fractions analysis.

In refillable, non-refillable or piston cylinders.

Certified under ISO 17025 / ISO guide 34 Laboratory Accreditation.

Global production capabilities

- Air Liquide operates over 30 mixture production plants strategically positioned across the world.
- FLOXFILL™ Specialty Gases – Air Liquide innovative and compact mixture production plant for implementation within the proximity of our customers. Standardized plant with the most advanced technology in Specialty Gases mixture production.
- Dedicated export organizations in USA, UK and the Netherlands to deliver products to our customers around the globe.



Lead time reliability:

- Manufacturing within the proximity of our customers,
- Most advanced production tools in all geographies,
- Dedicated organizations for Specialty Gases.



Creating value for our customers

Safety, Quality, Reliability

Air Liquide, as a Group, is committed to effectively and constantly reducing the exposure of customers and partners to occupational and industrial risks. The Health, Safety and Environment consciousness, encompassing leadership, organization and operational components, guide all organizations worldwide towards zero accidents.

Innovation & Expertise

For more than a century, researchers and engineers with their diversity of talents, skills and spirit of innovation have been reaching worldwide excellence through scientific know-how and expertise.

Research and Development network:

- 8 R&D Centers,
- 1000 Researchers & Experts of 35 nationalities,
- Over 3000 patented innovations.

Air Liquide continuously invents, designs and delivers state-of-the-art solutions providing performance and efficiency to customers and their operations.

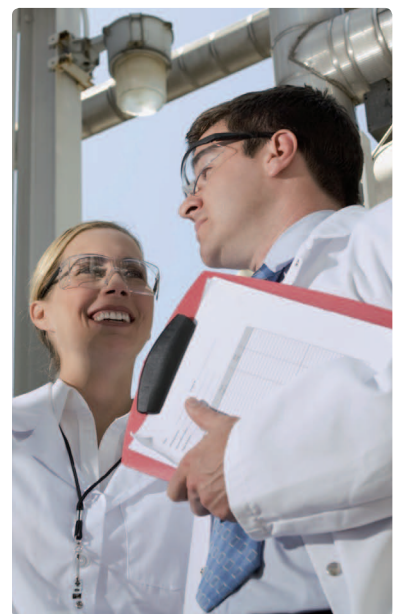
Air Liquide leads global innovation:

- Collaborating in open, dynamic and adaptable long-term partnerships,
- Conducting research with world-class academics,
- Extending our partnership networks in developing economies.

Creating value-added solutions for our customers is one of our top priorities. As a spearhead for innovation, R&D plays a major role in delivering competitive technologies.

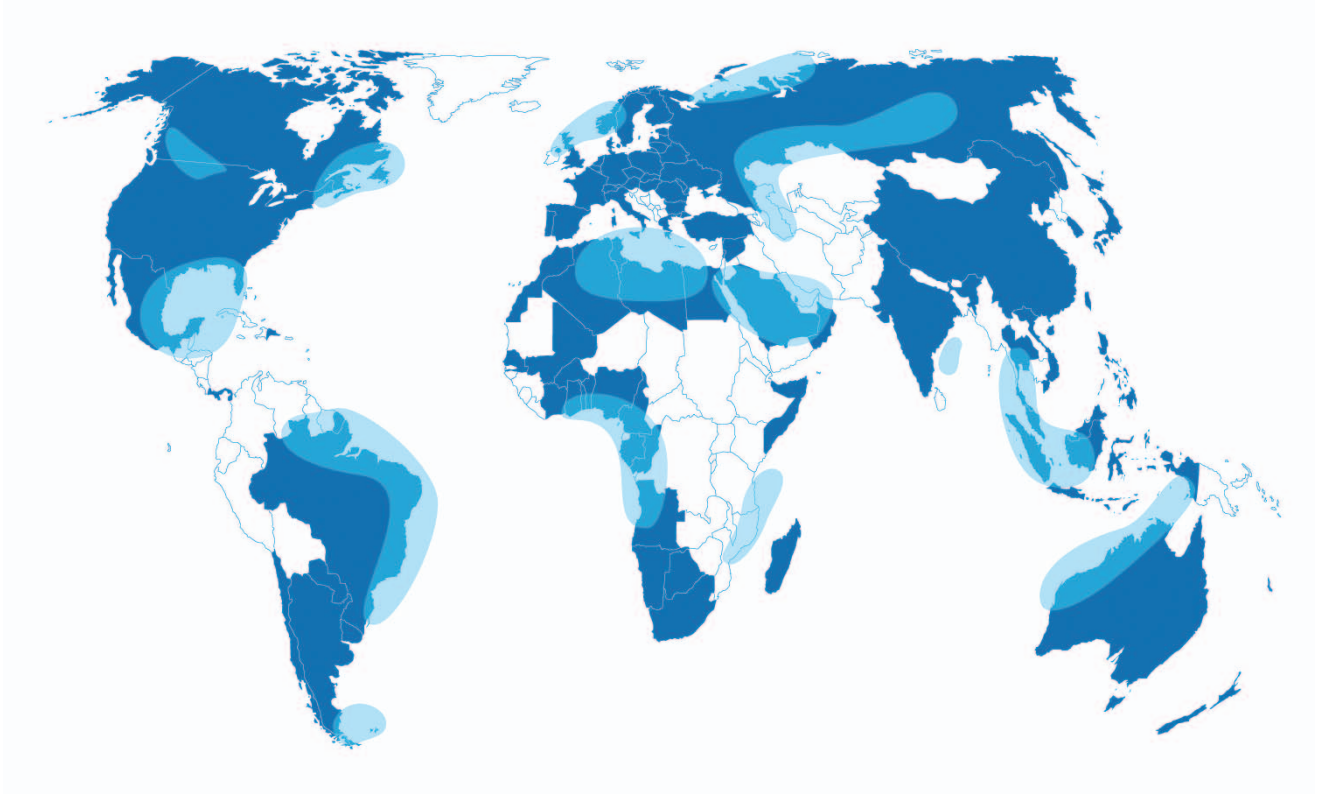
**We understand your business
and deliver valuable solutions for
your specific requirements.**

Safety first



Air Liquide International Presence

Through our global presence, we operate in more than 90 % of Oil & Gas supply bases.



We think global and act local

Established and experienced local organizations are supported by a global organization for account management, industrial proficiency, worldwide supply chain and enhanced competitiveness.

