



# Gases, Technologies, and Services to Help You Succeed

For over 80 years, Air Products' customers have counted on us to deliver more than just gases. Our unique understanding of the industries we serve has delivered more uptime, lowered long-term costs, raised productivity, and enhanced safety.



**Our approach to customer relationships is based on understanding your needs first. That way we can offer the right gases, technologies, and services to help you compete more effectively.**

**An extensive industrial gas plant network . . . dedicated to maintaining our 99.95% reliability record of providing on-time deliveries to the flow, purity, and pressure you specify.**

### Customer Services

- 24/7 Customer Service Center  
**800-224-2724**
- Technical Information Center  
**800-752-1597**  
or [gastech@airproducts.com](mailto:gastech@airproducts.com)
- MyAirProducts Customer Portal  
[airproducts.com/myairproducts](http://airproducts.com/myairproducts)
- Online Fact Book  
[airproducts.com/factbook](http://airproducts.com/factbook)

### Express/Emergency Services

- Temporary or emergency nitrogen and hydrogen supply (APEX Express Service) **800-273-9427**
- Emergency Response **800-523-9374**

### Safety Services

- Material Safety Data Sheets  
[airproducts.com/msds](http://airproducts.com/msds)
- Safetygrams  
[airproducts.com/safetygrams](http://airproducts.com/safetygrams)
- Safety awareness/process training
- Refresher training
- SARA 312 compliance

### Technical Services

- Analytical services
- Computational modeling
- Engineering design and support
- 24/7 equipment maintenance and repair
- Gas management
- Installation, start-up, and upgrade services
- KeepCOLD® MRI services
- On-site generated gases unit operations
- Operator training
- Plant services for customer owned plants
- Process optimization and efficiency audits
- Purity and flow verification
- Site services—inspections, troubleshooting, de-icing, tank cooldowns, etc.
- Smart Tank Monitoring

### Modes of Supply

#### Cylinders

- Distributor network for cylinders and hard goods

#### Delivered Gas

- High-pressure hydril tubes

#### Delivered Liquefied Gas

- Cryoease® microbulk on-site storage tanks
- Liquid bulk storage and vaporization
- APEX mobile nitrogen and hydrogen pumping systems

#### On-site Generation

(Sale of Gas or Sale of Equipment)

- Membrane Solutions
- PRISM® pressure and vacuum swing adsorption systems (N<sub>2</sub> and O<sub>2</sub>)
- PRISM on-site hydrogen generation systems
- On-site cryogenic plants

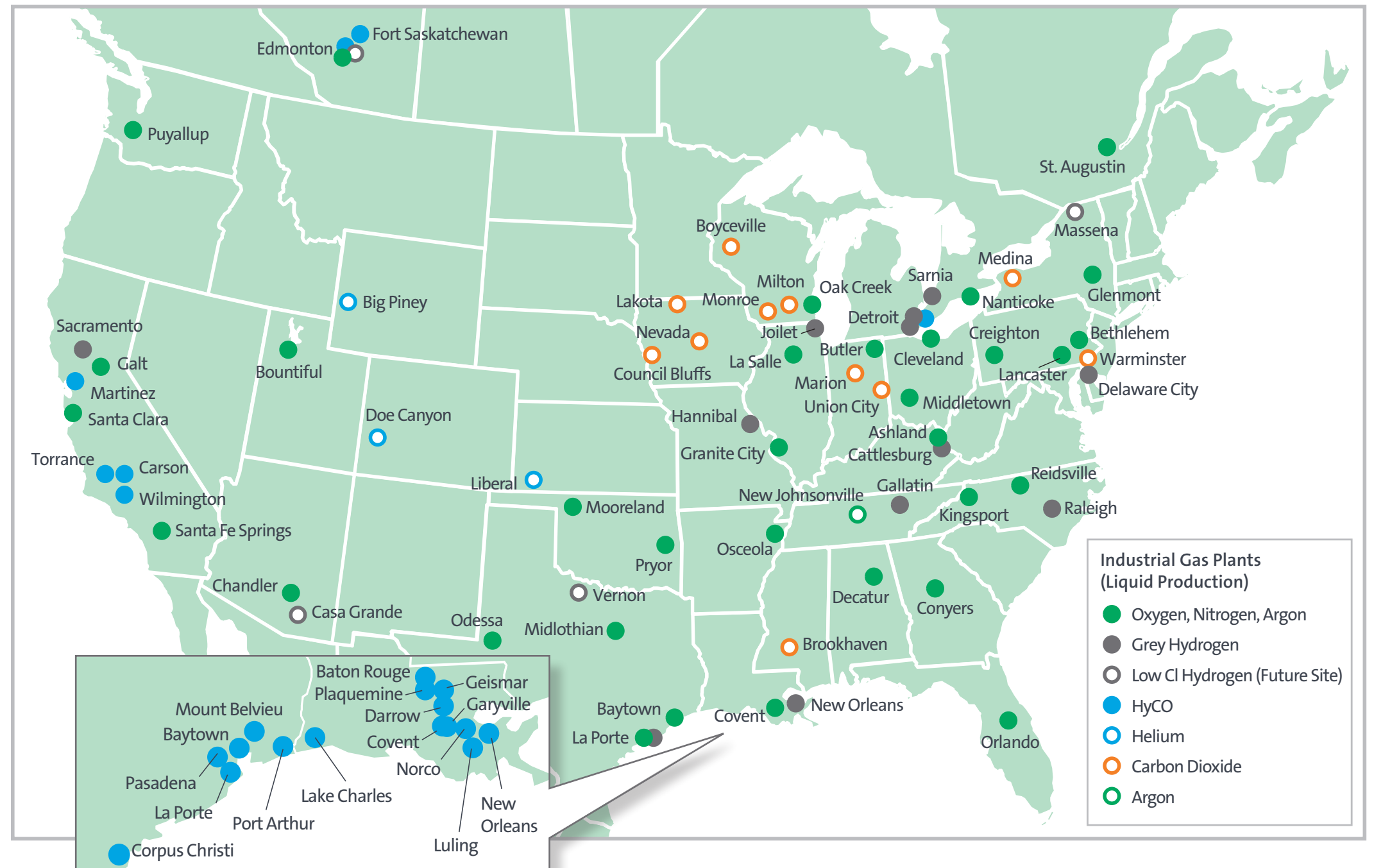
#### Pipeline Supply

#### Air Products Smart Technology

- Cleanfire® oxy-fuel technologies for glass
- Cryo-Condap® solvent recovery
- Cryogenic hydrogen compressor
- Flammability analysis
- Freshline® food packaging, cooling, chilling, and freezing technologies
- Halia™ wastewater solutions
- SmartFuel® high-pressure hydrogen dispensers
- Inert wave soldering
- KeepCOLD® MRI filling & maintenance services
- SmartFuel® mobile fueler hydrogen supply
- PolarFit™ ultra-fine-grinding mill
- Proprietary combustion and oxygen enrichment technologies
- Solutions for decarbonization
- Solutions for metals processing/heat treating

#### Gas Applications Labs

- Food freezing
- Clean energy
- Combustion diagnostics
- Cryogrinding
- Metals processing
- Hydrogen reactions
- Advanced controls
- Deflashing
- Electronics packaging



**To discuss your gas need or request a quote call 800-654-4567 or email us at [info@airproducts.com](mailto:info@airproducts.com).**

## Industrial, Medical and Specialty Gases for Diverse Applications

### Argon

- Blanketing/inerting
- Degassing
- Electronic package sealing
- Glass filling
- Hot isostatic processing
- Metal refining
- Metals heat treating
- Plasma arc cutting
- Plasma cleaning
- Powder atomization
- Pressure testing
- Purging
- Quenching
- Silicon ingot inerting
- Stirring
- Thermal spray
- Welding

### CO<sub>2</sub>

- Beverage carbonation
- CO<sub>2</sub> Snowing
- Dry ice
- Enhanced Oil Recovery (EOR)
- Flame suppression
- Food freezing, cooling, chilling
- Food packaging
- Greenhouse growing
- Laser cutting
- Machine or parts cooling
- Metal shrouding
- Modified atmosphere packaging (MAP)
- pH neutralization
- Pellet blasting
- Pulp washing (paper)
- Reactant or catalyst chemical
- Remineralization
- Supercritical CO<sub>2</sub> with solvents
- Steel bottom stirring
- Tower cleaning
- Wafer cleaning
- Welding shielding

### Helium

- Airbags
- Analytical
- Balloon inflation
- Breathing atmospheres
- Fiber optics cooling and shielding
- Glass coating (carrier gas)
- Glass refining (bubbling)
- Inerting
- Lasers
- Leak detection
- LED/compound semiconductors
- Lifting
- MRI magnet cooling and filling
- Oil and gas-offshore
- Pressurizing/purging
- Quenching
- Scientific/NMR
- Silicon wafer processing
- Thermal spray

### Hydrogen

- Catalyst regeneration
- Combustion
- Decarbonization
- Flame cutting, polishing
- Fuel cells
- Glass melting/softening
- Glass-tin bath atmosphere
- Hydrogenation
- Hydrotreating
- Hydroprocessing
- Integrated circuit fabrication
- Metals heat treating
- NG Blending
- Reducing atmospheres
- Rocket propulsion
- Thermal spray
- Turbine cooling
- Welding/cutting

### Nitrogen

- Blanketing/inerting
- Carrier gas
- Cryogenic cooling
- Cryogenic grinding
- Cryopreservation cryotherapy
- Curing
- Deflashing
- Drying
- Electronics soldering
- Food freezing, cooling, chilling
- Food packaging
- Glass-tin bath atmosphere
- Laser cutting
- Machining
- Materials testing
- Metals processing/heat treating
- MRI magnet cooling and filling
- Oilfield services/fracking
- Plant commissioning
- Pressure testing
- Process cooling
- Purging
- Reaction cooling
- Slag splashing
- Stirring
- Thermal spray cooling

### Oxygen

- Breathing (medical gas)
- Combustion
- Cutting/welding
- Fermentation
- Hyperbaric oxygen therapy
- Oxygen enrichment
- Oxidation
- Ozone generation
- Plasma cleaning
- Pulp bleaching (paper)
- Respiratory therapy (medical grade)
- Rocket propulsion
- Thermal spray
- Wastewater treatment

### Xenon/Krypton/Neon

(used in various industries)

- Aerospace
- Electronics
- Glass
- Lasers
- Lighting
- Medical

### Industries Served

- Aerospace
- Agriculture/aquaculture
- Automotive/transportation
- Cement and lime
- Chemical processing
- Construction equipment
- Electronics assembly/packaging
- Electronics/semiconductors
- Energy/bioenergy
- Food/beverage
- Glass
- Healthcare
- Iron/steel production
- \*Lithium-ion battery production/recycling
- Metals fabrication
- Metals processing
- Mining/refining
- Non-ferrous metals production/recycling
- Oil/gas production
- Petrochemicals
- Petroleum refining
- Pharmaceuticals/biotechnology
- Pipelines
- Power generation/utilities
- Pulp/paper
- Recycling/reclamation
- Research/analytical
- Rubber/plastics
- Water/wastewater

For more information,  
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