

Modified Atmosphere Packaging



A complete range of pure & mixed gases to address the shelf life requirements of your food products

- Preserve the freshness, colour, flavour and nutritional attributes of your food products with an all-natural solution
- Extend product shelf life by slowing down microbial, enzymatic and physical deterioration that would otherwise occur under air
- Optimize inventory levels and expand your distribution networks

ALIGAL™

Quality you can depend on...

- Food grade gases compliant with local regulations & HACCP* methodology
- Specific filling and quality control procedures are followed
- Traceability and product recall systems are in place

* Hazard Analysis and Critical Control Points

Reliability when you need it...

- The same quality & consistency anywhere in the world
- Local availability supported by an extensive production and distribution network
- Different supply modes to adapt to your changing gas requirements
- On-site mixing capabilities for greater flexibility

Food safety in every cylinder...

- Dedicated cylinders, with specific labeling, for use only in the food industry
- Special valves to avoid cross-contamination
- Tamper-evident seals to guarantee gas integrity

ALIGAL™ products are specially formulated for Modified Atmosphere Packaging by leveraging the properties of each gas molecule:

Nitrogen	Carbon Dioxide	Oxygen	Argon
<ul style="list-style-type: none"> • Prevents oxidation • Limits the growth of aerobic bacteria • Protects against package collapse 	<ul style="list-style-type: none"> • Limits the growth of bacteria • Slows down the development of mold • Contributes to package collapse 	<ul style="list-style-type: none"> • Maintains the bright colour of red meat • Prevents anaerobic conditions • Essential for respiration of fresh fruits and vegetables 	<ul style="list-style-type: none"> • Similar benefits to nitrogen • Inhibiting effect on the respiration of fresh fruits and vegetables

There is always an ALIGAL™ product for you:

Products	ALIGAL™ 1	ALIGAL™ 2	ALIGAL™ 3	ALIGAL™ 6	ALIGAL™ 13	ALIGAL™ 15	ALIGAL™ 27	ALIGAL™ 62
Bakery Products	●	●			●	●		
Cheese	●	●			●			
Dry Food (coffee, snacks)	●				●			
Fish, Seafood & Surimi-Processed					●	●		
Fish-Dried /Smoked	●				●			
Fresh Mussels & Oysters			○				●	
Meat Cuts-Raw			○				●	
Meat & Poultry-Processed					●	●		
Poultry Parts-Raw		●				●		
Prepared Meals & Pasta					●	●		
Milk Powder	●				●			
Sandwiches		●			●			●
Vegetables & Fruits (incl. salad, tomatoes)	●			●				●
Vegetables-Fresh-cut (incl. carrots, squash)					●	●		

○ ALIGAL™ 3 is available for on-site mixing of ALIGAL™ 27

Let Air Liquide's food specialists recommend the best ALIGAL™ solution for your process requirements.

The purity of ALIGAL™ gases protects the quality of your food products:

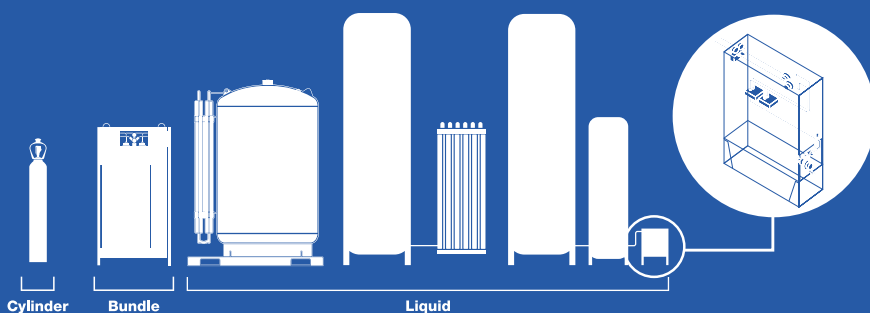
Products Specifications	ALIGAL™ 1	ALIGAL™ 2	ALIGAL™ 3	ALIGAL™ 6	ALIGAL™ 13	ALIGAL™ 15	ALIGAL™ 27	ALIGAL™ 62
Gas purity - Gas composition	N ₂ ≥ 99.995%	CO ₂ ≥ 99.9%	O ₂ ≥ 99.5%	Ar ≥ 99.99%	N ₂ 70% CO ₂ 30%	N ₂ 50% CO ₂ 50%	O ₂ 70% CO ₂ 30%	Ar 80% CO ₂ 20%
H ₂ O (ppm v/v)	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50
O ₂ (ppm v/v)	≤ 20	≤ 30		≤ 20	≤ 20	≤ 20		≤ 20
CO (ppm v/v)	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
NO/NO ₂ (ppm v/v)	≤ 10	≤ 10			≤ 10	≤ 10	≤ 10	≤ 10 ⁽³⁾
C _n H _m (ppm v/v)	≤ 30	≤ 30	≤ 100	≤ 100	≤ 30	≤ 30	≤ 100	≤ 30
CO ₂ (ppm v/v)			≤ 300					
Total Sulphur (ppm v/v)		≤ 0,5 ⁽³⁾			≤ 0,5 ⁽³⁾	≤ 0,5 ⁽³⁾	≤ 0,5 ⁽³⁾	≤ 0,5 ⁽³⁾
NVOR ⁽¹⁾ (ppm w/w)		≤ 5 ⁽³⁾			≤ 5 ⁽³⁾	≤ 5 ⁽³⁾	≤ 5 ⁽³⁾	≤ 5 ⁽³⁾
Odour			odour free	odour free				
Tests ⁽²⁾		tests passed						

(1) NVOR = Non Volatile Organic Residue (oil, grease)

(2) "Acidity" test and "Reducing substances + hydrogen phosphide & sulfide" test

(3) Guaranteed in the liquid CO₂ raw product

ALIGAL™ is available with the best choice of supply modes to ensure quality, consistency, reliability and cost competitiveness.



www.airliquide.com

The world leader in gases, technologies and services for Industry and Health, Air Liquide is present in 80 countries with approximately 67,000 employees and serves more than 3 million customers and patients.