Gas Mixtures Market by Type (O2, N2, CO2, AR, H2, and Specialty Gas), End-Use Industry (Metal Manufacturing & Fabrication, Healthcare, Food & Beverages, Electronics), Storage & Distribution, Manufacturing Process, and Region - Global Forecast to 2030

Market Report | 2026-03-10 | 355 pages | MarketsandMarkets

AVAILABLE LICENSES:

- Single User $4950.00
- Multi User $6650.00
- Corporate License $8150.00
- Enterprise Site License $10000.00

Report description:

The gas mixtures market is projected to grow from USD 28.70 billion in 2025 to USD 35.04 billion by 2030, at a CAGR of 4.1% during the forecast period. Expanding semiconductor production, stricter emission monitoring standards, and growing demand for high-precision industrial processes are accelerating the need for gas mixtures as reliable, application-specific solutions for controlled atmospheres and analytical accuracy.

https://mnmimg.marketsandmarkets.com/Images/gas-mixtures-market-img-overview.webp

"By type, the argon mixtures segment is expected to be the second-largest segment during the forecast period."
The argon mixtures segment is expected to be the second-largest market during the forecast period, as they are used extensively in metalworking and high-temperature industrial operations. Argon is an inert gas that makes for the ideal shielding gas for welding and cutting applications. It prevents oxidation and provides a stable arc to the welder. Mixtures such as argon-carbon dioxide and argon-oxygen are also commonly used within various industrial sectors, such as automotive manufacturing, construction, shipbuilding, and heavy equipment manufacturing, as they contribute to improved weld quality and assist in creating stronger structures. In addition to being used in fabrication, argon-based mixtures are also used in the production of electronics and in specialized applications that require a controlled, non-reactive environment. As a result, they can provide an optimum solution when mixed with other gases to provide a customized gas mixture with respect to penetration, spatter control, and surface finish. The continued growth of infrastructure development and industrial expansion supports argon-based mixtures'

position as the second-largest segment of the total gas mixtures market.

"By end-use industry, the food & beverages segment is expected to be the second-largest market during the forecast period."

The food & beverages segment is expected to grow significantly during the forecast period. This is due to increased use of gas mixtures in the food & beverage sector, which utilizes controlled atmosphere technologies to preserve and maintain the quality of food produced. The industry uses nitrogen/carbon dioxide mixtures as a modified atmosphere for food packaging to extend shelf life, inhibit microbial growth, and maintain the freshness of products. These gases are also commonly used to prevent oxidation and spoilage of packaged meats, dairy products, baked goods, snack foods, and ready-to-eat meals during storage and shipping. When manufacturing carbonated beverages, beverage manufacturers need to accurately measure and blend gases in order to ensure that beverages have consistent flavors and remain stable during production. As globally packaged and convenience food consumption continues to increase, the demand for food-grade certifiable gas mixtures will remain strong. Further, as food safety and quality assurance standards continue to be updated and made more stringent, manufacturers will be encouraged to use certifiable gas blends that can be traced back to their original composition.

"By storage, distribution, and transportation, the tonnage segment is expected to be the second-largest segment during the forecast period."

The tonnage segment represents the second-largest share in the gas mixtures market, catering primarily to very large industrial customers who have a need for large quantities and single sources of continual gas delivery. Tonnage supplies are generally manufactured on-site and delivered by dedicated piping systems; these systems typically supply multiple blended gases to end-users, such as steel mills, refineries, petrochemical plants, and large manufacturers. The tonnage supply model is designed to provide reliable sources of gaseous supplies with minimal risk of transportation, while maximizing process efficiency since these processes cannot tolerate interruptions. In addition, tonnage supplies are seen as essential in those applications that operate under long production runs, whereby there is a requirement for constant flow rates and stable mixtures. With merchant liquid and bulk distribution services, there are opportunities for flexibility in serving multiple customers. Tonnage supply typically provides a fixed supply over longer periods of time to larger end-users under long-term contracts. The level of capital investment in creating the infrastructure for tonnage systems also helps create and maintain supplier/customer relationships, thereby generating recurring revenue for gases supplied under a tonnage supply agreement.

"By manufacturing process, the hydrogen production technologies segment is expected to be the second-largest segment during the forecast period."

The hydrogen production technologies segment represents the second-largest segment in the gas mixtures market, following hydrogen's common use as a key blending element in many different types of manufacturing processes. Hydrogen is frequently blended with nitrogen and argon in gas mixtures used for applications like heat treatment, annealing, sintering, and semiconductor manufacturing. Because hydrogen has reducing properties, it helps to prevent oxidation and improve the quality of surfaces for parts being manufactured by these processes. Steam methane reforming, electrolysis, and other methods to generate hydrogen provide the high purity level needed to mix hydrogen into precise formulations of gas mixtures. The industrial use of hydrogen-containing gas mixtures continues to expand, particularly in metal processing, electronics manufacturing processes, and clean energy initiatives. Semiconductor manufacturing, for example, demands ultra-high purity levels of hydrogen gas for deposition and etching processes. The overall movement toward using hydrogen as an energy carrier is driving investment in new hydrogen production infrastructure, thereby increasing overall feedstock supply for gas mixture manufacturers.

"Asia Pacific is expected to be the second-largest segment in terms of value during the forecast period."
As the second-largest market, by value, in the gas mixtures realm, Asia Pacific continues to be supported by a strong industrial base and growth in high-tech manufacturing capabilities. The growth of the metal fabrication, chemicals, food processing,

healthcare, and electronics assembly sectors is driving the demand for gas mixtures in the region, as these gases help with process control and quality assurance.
The demand for gas mixtures in the region is growing significantly in countries such as China, Japan, South Korea, India, and Taiwan. Many primary manufacturers of semiconductor fabrication, and large volume export-oriented manufacturing clusters in the region, create a steady stream of demand for specialty and electronic-grade gas mixtures. Additionally, the increasing food safety requirements and environmental monitoring regulations are driving a heightened demand for certified calibration and preserved gas blends. While North America has the largest overall market value for gas mixtures because of established infrastructure and top-tier pricing structures, Asia Pacific is a close competitor with strong volume demand and has experienced rapid growth in industrial capabilities; therefore, Asia Pacific is considered the second-largest regional market for gas mixtures by value.

By Company Type: Tier 1 - 25%, Tier 2 - 42%, and Tier 3 - 33%
By Designation: C-level Executives - 20%, Directors - 30%, and Others - 50%
By Region: North America - 20%, Europe - 10%, Asia Pacific - 40%, South America - 10%, and Middle East & Africa - 20%

The gas mixtures market include key players such as Linde PLC (Ireland), Air Liquide (France), Air Products and Chemicals, Inc. (US), Messer SE & Co. KGaA (Germany), Iwatani Corporation (Japan), TAIYO NIPPON SANSO CORPORATION (Japan), Westfalen AG (Germany), Gulf Cryo (UAE), The SIAD Group (Italy), and Holston Gases (US)among others are covered in the report.
The study includes an in-depth competitive analysis of these key players in the gas mixture market. It also studies their company profiles, recent developments, and key market strategies.

Research Coverage
This research report categorizes the gas mixture market based on type (oxygen mixtures, carbon dioxide mixtures, argon mixtures, hydrogen mixtures, speciality gas mixtures, other mixtures), end-use industry (metal manufacturing & fabrication, food & beverages, healthcare, chemicals, electronics, other end-use industries), storage, distribution, and transportation (merchant liquid/bulk, cylinders & packaged gas, tonnage), manufacturing process (air separation technologies, hydrogen production technologies, other manufacturing process), and region (Asia Pacific, North America, Europe, South America, and Middle East & Africa).
The report's scope covers detailed information regarding the drivers, restraints, challenges, and opportunities influencing the growth of the gas mixtures market. A detailed analysis of the key industry players has been done to provide insights into their business overview, products offered, and key strategies, such as partnerships, collaborations, product launches, expansions, and acquisitions, associated with the gas mixtures market. This report covers a competitive analysis of upcoming startups in the gas mixtures market ecosystem.
Reasons to Buy the Report
The report will offer the market leaders/new entrants with information on the closest approximations of the revenue numbers for the overall gas mixtures market and the subsegments. It will help stakeholders understand the competitive landscape, gain more insights into positioning their businesses better, and plan suitable go-to-market strategies. The report will help stakeholders understand the pulse of the market and provide them with information on key market drivers, restraints, challenges, and opportunities.

The report provides insights into the following points:
Analysis of key drivers (increased demand from semiconductor & electronics manufacturing, retail shift toward extended food & beverage shelf-life product, increased demand from stainless and duplex steel manufacturing using nitrogen-bearing n?/ar blends), restraints (raw gas feedstock volatility in rare and specialty component, high cost of gravimetric precision blending infrastructure), opportunities (on-site micro-blending units for high consumption industrial cluster, high-margin low-volume specialty blend portfolio, specialty gas recovery and re-blending programs), and challenges (maintaining composition stability at ppb and ppm levels, scaling customization without sacrificing throughput)

? Product Development/Innovation: Detailed insights into upcoming technologies, research & development activities, and product & service launches in the gas mixtures market
? Market Development: Comprehensive information about profitable markets across varied regions
? Market Diversification: Exhaustive information about products & services, untapped geographies, recent developments, and investments in the gas mixtures market
? Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players, such as Linde PLC (Ireland), Air Liquide (France), Air Products and Chemicals, Inc. (US), Messer SE & Co. KGaA (Germany), Iwatani Corporation (Japan), TAIYO NIPPON SANSO CORPORATION (Japan), Westfalen AG (Germany), Gulf Cryo (UAE), The SIAD Group (Italy), Holston Gases (US).

Table of Contents:

Gas Mixtures Market by Type (O2, N2, CO2, AR, H2, and Specialty Gas), End-Use Industry (Metal Manufacturing & Fabrication, Healthcare, Food & Beverages, Electronics), Storage & Distribution, Manufacturing Process, and Region - Global Forecast to 2030

Market Report | 2026-03-10 | 355 pages | MarketsandMarkets

To place an Order with Scotts International:

- - Print this form
- - Complete the relevant blank fields and sign
- - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User	$4950.00
	Multi User	$6650.00
	Corporate License	$8150.00
	Enterprise Site License	$10000.00
	VAT	
	Total	

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*		Phone*	
First Name*		Last Name*	
Job title*			
Company Name*		EU Vat / Tax ID / NIP number*	
Address*		City*	

Zip Code*		Country*	
		Date	2026-03-30
		Signature	