HELIUM AND RARE GASES

(Helium, neon, argon, krypton, and xenon)
(Data in million cubic meters unless otherwise specified)

Domestic Production and Use: In 2025, sales of Grade-A helium[1] (99.997% helium or greater) and gaseous helium (greater than 98% helium) were an estimated 81 million cubic meters (2.9 billion cubic feet) valued at an estimated $970 million. Nine plants produced crude helium (60% to 80% helium), 11 plants produced gaseous helium, 5 plants produced Grade-A helium, and 4 plants purified helium to Grade-A helium from other crude helium sources. Three locations in Texas stored helium in underground caverns. Helium was used for, in decreasing quantity of use, analytical, engineering, lab, science, and specialty gases (22%); controlled atmospheres, fiber optics, and semiconductors (17%); lifting gas (17%); magnetic resonance imaging (15%); aerospace (9%); welding (8%); diving (5%); leak detection (5%); and other applications (2%). Helium-3, which is a rare isotope of helium, was produced at one location in South Carolina via tritium decay. Production data were withheld to avoid disclosing proprietary data. Helium-3 was mainly used for neutron detectors, research, and quantum computing.

Rare gases are produced through fractional distillation in air separation units. In 2025, argon was produced from 274 operations in many States. Other rare gases were produced from a small number of operations in seven States. In 2025, estimated sales were 110 million liters for neon, 1.1 billion cubic meters for argon,[2] 1.5 million liters for krypton, and 100,000 liters for xenon. Neon was used for, in decreasing quantity of use, lamps (53%), semiconductors (32%), plasma displays (12%), and other (3%). Argon was used for welding (66%), steelmaking (20%), electronics (10%), and other (4%). Krypton was used for semiconductors (67%), lamps (20%), insulated glass (10%), and other (3%). Xenon was used for lamps (37%), semiconductors (36%), lasers (13%), medical (6%), and other (8%).

Salient Statistics—United States:	**2021**	**2022**	**2023**	**2024**	**2025[e]**
Sold or Used:					
Grade-A and gaseous helium[3]	76	77	81	80	81
Neon, million liters	[e]120	[e]120	[e]120	[4]112	110
Argon	[e]1,000	[e]1,000	[e]1,000	[4]1,040	1,100
Krypton, million liters	[e]1.6	[e]1.5	[e]1.5	[4]1.5	1.5
Xenon, million liters	[e]0.1	[e]0.1	[e]0.1	[4]0.1	0.1
Imports for consumption:					
Helium	8	6	8	12	8
Neon, million liters[e]	60	75	95	[4]113	120
Argon	32	29	36	40	35
Krypton, million liters[e]	17	18	19	[4]19	19
Xenon, million liters[e]	3.8	3.8	3.9	[4]4	4
Exports:					
Helium	33	34	34	41	38
Neon, krypton, and xenon, million liters[e]	—	—	—	—	—
Argon	23	22	38	41	60
Consumption, apparent:[5]					
Grade-A and gaseous helium	51	50	56	51	51
Neon, million liters	180	190	210	[4]225	230
Argon	1,000	1,000	1,000	[4]1,040	1,100
Krypton, million liters	19	20	21	[4]21	21
Xenon, million liters	3.9	3.9	4.0	[4]4.1	4.1
Net import reliance[6] as a percentage of apparent consumption:					
Helium	E	E	E	E	E
Neon	33	39	45	50	52
Argon	1	1	E	E	E
Krypton	91	92	93	93	93
Xenon	97	97	98	98	98

The estimated base price[7] for Grade-A helium was about $12 per cubic meter ($330 per thousand cubic feet) in 2025, with producers posting surcharges to this price. Price data for rare gases were unavailable.

Recycling: In the United States, helium and rare gases used in large-volume applications were seldom recycled. Some low-volume or liquid boil-off recovery systems were used. Closed-loop recycling systems were becoming more common. Some air separation units processed industrial gas streams to increase rare gas recovery.

Import Sources (2021–24): Helium: Canada, 47%; Qatar, 28%; Algeria, 10%; China, 5%; and other, 10%. Argon: Canada, 90%; Hungary, 6%; Austria, 3%; and other, 1%. Import sources data for other rare gases were not available.

Prepared by **Robert C. Goodin [(703) 648–7710, rgoodin@usgs.gov]**

HELIUM AND RARE GASES

Tariff: Item	Number	Normal Trade Relations 12–31–25
Argon	2804.21.0000	3.7% ad valorem.
Rare gases, other than argon (including helium)	2804.29.0000	3.7% ad valorem.

Depletion Allowance: Allowances are applicable to natural gas from which helium is extracted, but no allowance is granted directly to helium. No depletion allowances for rare gases as they are extracted from the air.

Government Stockpile: None.

Events, Trends, and Issues: In 2025, six new helium operations (three in New Mexico and one each in Colorado, Kansas, and Montana) began producing helium in the United States. A helium storage cavern was brought online in Beaumont, TX, which was able to store excess helium production. A new helium facility began operations in Canada, and another began operations in South Africa. Multiple companies explored for and developed helium deposits throughout the world. Some of these helium deposits are nonhydrocarbon sourced. The European Union and the United States sanctions that imposed an import ban on helium from Russia continued into 2025.

In 2025, four air separation units (one each in Louisiana, Ohio, Tennessee, and Texas) capable of producing argon began operations. Several new air separation units capable of producing rare gases began operations or entered development globally, with most of these projects concentrated in Asia. Rare gas supply from Russia and Ukraine continued to be limited owing to the conflict between Russia and Ukraine.

World Production and Reserves: Helium reserves for South Africa were revised based on company reports. World production of helium-3 was estimated to be 40,000 liters in 2024 and 2025 with most of the production coming from Canada, Russia, and the United States. World production of argon was large.

	Helium		
	Production		Reserves[8]
	2024	2025[e]	
United States	[3]80	[3]81	8,500
Algeria	[e]11	11	[e]1,800
Canada	6	6	NA
China	3	3	NA
Poland	3	3	24
Qatar	[e]64	63	[e]Large
Russia	[e]17	18	[e]1,700
South Africa	—	([9])	400
World total (rounded)	[e]183	190	NA

	Rare gases production[e, 4] (million liters)					
	Neon		Krypton		Xenon	
	2024	2025	2024	2025	2024	2025
United States	112	110	1.5	1.5	0.1	0.1
Other countries	688	700	110	110	12	12
World total (rounded)	800	800	112	110	12	12

Quantity values are in millions of cubic meters - see top of page.

World Resources:[8] The mean volume of recoverable helium within the identified geologic natural gas reservoirs in the United States was estimated to be 8.49 billion cubic meters (306 billion cubic feet) not including helium in storage facilities. Identified helium resources of the world, exclusive of the United States, were estimated to be 31.3 billion cubic meters (1.13 trillion cubic feet). The locations and volumes of major deposits, in billion cubic meters, are Qatar, 10.1; Algeria, 8.2; Russia, 6.8; Canada, 2.0; and China, 1.1. Rare gases are extracted from the atmospheric air.

Substitutes: Nothing substitutes for helium in cryogenic applications if temperatures below −429 degrees Fahrenheit are required. Superconductors, including those in magnetic resonance imaging, are being developed to operate at higher temperatures using nitrogen instead of helium as a coolant. Hydrogen can be substituted for helium in some lighter-than-air applications. Argon and hydrogen can be used as a substitute for helium in diving applications. Argon, helium, and nitrogen can be substituted for each other in welding applications. Helium and rare gases can be substituted for each other in inert-atmosphere uses. Rare gases can be substituted for each other in lighting uses.

[e]Estimated. E Net exporter. NA Not available. — Zero.
[1]Measured at 101.325 kilopascals, 27.737 cubic meters of helium at 15 degrees Celsius (°C) = 1,000 cubic feet at 21.1 °C = 0.0047 metric tons.
[2]Measured at 101.325 kilopascals, 1 cubic meter of argon at 0 °C = 38.04 cubic feet at 21.1 °C = 0.0018 metric tons.
[3]Includes helium extracted from Canada and purified to Grade-A helium in the United States.
[4]Source: Intelligas Consulting LLC and TECHCET CA LLC.
[5]Defined as sales + imports – exports.
[6]Defined as imports – exports.
[7]Not including free on board (f.o.b.) or other costs associated with transporting helium from the producer to the buyer.
[8]See Appendix C for resource and reserve definitions and information concerning data sources.
[9]Less than ½ unit.

Ref: https://pubs.usgs.gov/periodicals/mcs2026/mcs2026-helium.pdf