POTASH

[Data in thousand metric tons, potassium oxide (K_2O) equivalent, unless otherwise specified]

Domestic Production and Use: In 2024, the estimated sales value of marketable potash, free on board (f.o.b.) mine, was $530 million, which was 6% higher than that in 2023. The majority of U.S. production was from southeastern New Mexico, where two companies operated two underground mines and one deep-well solution mine. Sylvinite and langbeinite ores in New Mexico were beneficiated by flotation, dissolution-recrystallization, heavy-media separation, solar evaporation, and (or) combinations of these processes. In Utah, two companies operated three facilities. One company extracted underground sylvinite ore by deep-well solution mining. Solar evaporation crystallized the sylvinite ore from the brine solution, and a flotation process separated the muriate of potash (MOP) from byproduct sodium chloride. The firm also processed subsurface brines by solar evaporation and flotation to produce MOP at its other facility. Another company processed brine from the Great Salt Lake by solar evaporation to produce potassium sulfate or sulfate of potash (SOP) and other byproducts.

Potash denotes a variety of mined and manufactured salts that contain the element potassium in water-soluble form. In agriculture, the term potash refers to potassic fertilizers, which are potassium chloride (KCl), SOP, and potassium magnesium sulfate (SOPM) or langbeinite. MOP is an agriculturally acceptable mix of KCl (95% pure or greater) and sodium chloride for fertilizer use. The fertilizer industry used about 85% of U.S. potash sales, and the remainder was used for chemical and industrial applications. About 70% of the potash produced was SOPM and SOP, which are required to fertilize certain chloride-sensitive crops. The remainder of production was MOP and was used for agricultural and chemical applications.

Salient Statistics—United States:	**2020**	**2021**	**2022**	**2023**	**2024[e]**
Production, marketable[1]	460	480	430	390	420
Sales by producers, marketable[1]	500	490	400	400	440
Imports for consumption	5,370	6,480	4,940	5,680	6,100
Exports	147	112	267	165	100
Consumption, apparent[1, 2]	5,700	6,900	5,100	5,900	6,400
Price, average, f.o.b. mine, dollars per metric ton of K_2O equivalent:					
All products[3]	850	1,120	1,790	1,250	1,220
MOP	450	650	980	620	630
Employment, mine and mill, number[e]	900	900	900	900	900
Net import reliance[4] as a percentage of apparent consumption	92	93	92	93	93

Recycling: None.

Import Sources (2020–23): Canada, 79%; Russia, 11%; Belarus, 4%; Israel, 3%; and other, 3%.

Tariff: Item	**Number**	**Normal Trade Relations 12–31–24**
Potassium nitrate	2834.21.0000	Free.
Potassium chloride	3104.20.0000	Free.
Potassium chloride, less than or equal to 62% K_2O	3104.20.0010	Free.
Potassium chloride, greater than 62% K_2O	3104.20.0050	Free.
Potassium sulfate	3104.30.0000	Free.
Potassic fertilizers, other	3104.90.0100	Free.

Depletion Allowance: 14% (domestic and foreign).

Government Stockpile: None.

Events, Trends, and Issues: Domestic consumption, production, and sales of potash all were estimated to have increased in 2024. Good weather during the planting seasons and steady potash prices for farmers contributed to the increase in consumption. World potash consumption was estimated to have been 38.8 million tons in 2024, an increase from 37.5 million tons in 2023. World consumption was projected to increase to 40.9 million tons in 2025. Asia and South America were the regions with the highest growth in consumption.

World potash production was estimated to have increased in 2024, with Belarus and Canada having the largest increases in production from that in 2023. Canada was the leading exporter of potash in the world in 2024, as it increased sales to meet growth in world consumption. Belarus production almost returned to levels prior to 2022, when the European Union and the United States placed sanctions on the State-run Belarusian potash-exporting company.

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Exports from Belarus, however, where still much lower than those prior to 2022, when Lithuania terminated the contract that allowed Belarus to export potash from the port of Klaipeda. In 2024, Belarus exported potash via several Russian ports. It also sent shipments by rail, primarily to China.

World annual potash production capacity was 65.2 million tons in 2024 and projected to increase to about 76.0 million tons of K_2O by 2028. Most of the increase would be MOP from new mines and expansion projects in Laos and Russia. New MOP mines in Belarus, Brazil, Canada, Ethiopia, Morocco, and Spain were planned to begin operation past 2028.

World Mine Production and Reserves: Reserves for Laos, Russia, and Spain were revised based on Government reports.

	Mine production		Reserves[5]	
	2023	2024[e]	Recoverable ore	K_2O equivalent
United States[1]	390	420	970,000	220,000
Belarus	[e]4,500	7,000	3,300,000	750,000
Brazil	[e]300	360	10,000	2,300
Canada	13,500	15,000	4,500,000	1,100,000
Chile	[e]600	750	NA	100,000
China	[e]6,000	6,300	NA	180,000
Germany	[e]2,700	3,000	NA	150,000
Israel	2,330	2,400	NA	[6]Large
Jordan	1,700	1,800	NA	[6]Large
Laos	[e]1,500	1,500	NA	1,000,000
Russia	[e]9,000	9,000	NA	920,000
Spain	367	400	NA	100,000
Other countries	435	440	1,500,000	300,000
World total (rounded)	43,300	48,000	>10,000,000	>4,800,000

World Resources:[5] Estimated domestic potash resources total about 7 billion tons. Most of these lie at depths between 1,800 and 3,100 meters in a 3,110-square-kilometer area of Montana and North Dakota as an extension of the Williston Basin deposits in Manitoba and Saskatchewan, Canada. The Paradox Basin in Utah contains resources of about 2 billion tons, mostly at depths of more than 1,200 meters. The Holbrook Basin of Arizona contains resources of about 0.7 billion to 2.5 billion tons. A large potash resource lies about 2,100 meters under central Michigan and contains more than 75 million tons. Estimated world resources total about 250 billion tons.

Substitutes: No substitutes exist for potassium as an essential plant nutrient and as an essential nutritional requirement for animals and humans. Manure and glauconite (greensand) are low-potassium-content materials that can be profitably transported only short distances to crop fields. Glauconite is used as a potassium source for organic farming.

[e]Estimated. NA Not available.

[1]Data are rounded to no more than two significant digits to avoid disclosing company proprietary data.

[2]Defined as sales + imports – exports.

[3]Includes MOP, SOP, and SOPM. Does not include other chemical compounds that contain potassium.

[4]Defined as imports – exports.

[5]See Appendix C for resource and reserve definitions and information concerning data sources.

[6]Israel and Jordan recover potash from the Dead Sea, which contains nearly 2 billion tons of potassium chloride.