IRON OXIDE PIGMENTS

(Data in metric tons unless otherwise specified)

Domestic Production and Use: Iron oxide pigments (IOPs) were mined domestically by two companies in Alabama and Georgia. Mine production, which was withheld to avoid disclosing company proprietary data, decreased in 2025 from that in 2024. Five companies with eight processing operations processed and sold about 32,000 tons of finished natural and synthetic IOPs with an estimated value of $60 million. End uses for IOPs include, but are not limited to, concrete and other construction products, paint and coatings, ferrites, plastics, and rubber.

Salient Statistics—United States:	2021	2022	2023	2024	2025[e]
Mine production, crude	W	W	W	W	W
Sold or used, finished natural and synthetic IOPs	26,900	38,200	25,100	34,400	32,000
Imports for consumption	189,000	225,000	114,000	162,000	180,000
Exports, pigment grade	12,300	13,800	13,000	8,150	10,000
Consumption, apparent[1]	203,000	249,000	126,000	189,000	200,000
Price, average unit value, dollars per kilogram[2]	1.03	1.92	2.03	1.85	1.90
Employment, mine and mill, number	43	45	44	37	38
Net import reliance[3] as a percentage of apparent consumption	87	85	80	82	84

Recycling: None.

Import Sources (2021–24): Natural: Cyprus, 51%; France, 23%; Austria, 18%; Belgium, 3%; and other, 5%. Synthetic: China,[4] 44%; Germany, 30%; Brazil, 8%; Canada, 6%; and other, 12%. Total: China,[4] 44%; Germany, 30%; Brazil, 7%; Canada, 6%; and other, 13%.

Tariff: Item	Number	Normal Trade Relations 12–31–25
Natural:		
Micaceous iron oxides	2530.90.2000	2.9% ad valorem.
Earth colors	2530.90.8015	Free.
Iron oxides and hydroxides containing 70% or more by weight Fe_2O_3:		
Synthetic:		
Black	2821.10.0010	3.7% ad valorem.
Red	2821.10.0020	3.7% ad valorem.
Yellow	2821.10.0030	3.7% ad valorem.
Other	2821.10.0040	3.7% ad valorem.
Earth colors	2821.20.0000	5.5% ad valorem.

Depletion Allowance: 14% (domestic and foreign).

Government Stockpile: None.

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Events, Trends, and Issues: IOPs are a primary choice for colorant for coatings and construction materials because of their chemical and thermal stability, color strength, low cost, and weather resistance. In the United States, automobile production, which uses IOPs for paints and coatings, decreased by 11% during the first 7 months of 2025 compared with the same period in 2024. New privately owned housing starts (not seasonally adjusted), which use IOPs to color concrete block and brick, ready-mixed concrete, and roofing tiles, increased by 1% during the first 8 months of 2025 compared with those in the same period in 2024. IOPs also are used in paints and coatings for the aerospace and marine industries.

Less than 2% of IOP imports were natural pigments, similar to that in all other years in the past decade. Imports of natural and synthetic pigments were estimated to have increased by 11% in 2025 compared with those in 2024. Exports of pigment-grade IOPs were estimated to have increased by 23% in 2025 compared with those in 2024, primarily owing to increase in exports of synthetic pigments. Approximately 37% of pigment-grade IOPs exports went to Mexico; the other leading destination countries for exports were China (23%), Belgium (12%), and Chile (8%).

World Mine Production and Reserves: Significant revisions were made to the 2024 production for France and Pakistan based on Government reports.

	Mine production[e]		Reserves[5]
	2024	2025	
United States	W	W	Moderate
Cyprus	21,000	22,000	Moderate
France	12,000	13,000	NA
Germany[6]	[7]276,000	280,000	Moderate
India (ocher)	3,300,000	3,400,000	37,000,000
Italy	31,000	32,000	NA
Pakistan (ocher)	79,000	80,000	Large
Spain (ocher and red iron oxide)	18,000	19,000	Large
World total (rounded)	[8]NA	[8]NA	Large

World Resources:[5] Domestic and world resources for production of IOPs are adequate. Adequate resources are available worldwide for the manufacture of synthetic IOPs.

Substitutes: Milled IOPs are estimated to be the most commonly used natural minerals for pigments. Because IOPs are color stable, low cost, and nontoxic, they can be economically used for imparting black, brown, red, and yellow coloring in large and relatively low-value applications. Other minerals may be used as colorants, but they generally cannot compete with IOPs because of their higher costs and more limited availability. Synthetic IOPs are widely used as colorants and compete with natural IOPs in many color applications. Organic colorants are used for some colorant applications, but many of the organic compounds fade over time from exposure to sunlight.

[e]Estimated. NA Not available. W Withheld to avoid disclosing company proprietary data.

[1]Defined as sold or used, finished natural and synthetic iron oxide pigments + imports – exports.

[2]Average unit value for finished iron oxide pigments sold or used by U.S. producers.

[3]Defined as imports – exports.

[4]Includes Hong Kong.

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

[6]Includes natural and synthetic iron oxide pigments.

[7]Reported.

[8]Several other countries, including Austria, Azerbaijan, Brazil, China, Honduras, Iran, Kazakhstan, Lithuania, Paraguay, Russia, South Africa, Turkey, Ukraine, and the United Kingdom, may have produced iron oxide pigments, but available information was inadequate to make reliable estimates of output.