KYANITE AND RELATED MINERALS

(Data in thousand metric tons, unless noted)

Domestic Production and Use: One firm in Virginia, with integrated mining and processing operations, produced kyanite from hard-rock open pit mines. Synthetic mullite was produced by three companies in Georgia, Kentucky, and New York. It was estimated that 90% of the kyanite/mullite output was used in refractories: 55% for smelting and processing ferrous metals, 20% for nonferrous metals, and 15% for glassmaking and ceramics. Nonrefractory uses accounted for the remainder.

Salient Statistics—United States:	1991	1992	1993	1994	1995[e]
Production: Mine	W	W	W	W	W
Synthetic mullite	W	W	W	W	W
Imports for consumption (andalusite)	5	6	12	8	7
Exports[e]	33	35	33	35	35
Shipments from Government stockpile excesses	—	—	—	—	—
Consumption, apparent	W	W	W	W	W
Stocks, producer	NA	NA	NA	NA	NA
Employment, kyanite mine and plant[e]	150	150	150	150	150
Net import reliance[1] as a percent of apparent consumption	W	W	W	W	W

Price: U.S. kyanite, 54%-60% Al_2O_3, 35-325 Tyler mesh, 18-ton lots, explant, raw, $116 to $146 per ton; calcined, $210 to $240 per ton. Andalusite, Transvaal, South Africa, 57.5% Al_2O_3, 2,000 ton bulk, f.o.b., $180 to $200; 59.5% Al_2O_3, 2,000 ton bulk, f.o.b., $200 to $220.

Recycling: Insignificant.

Import Sources (1991-94): South Africa, 97%; and France, 3%.

Tariff: Item	Number	Most favored nation (MFN) 12/31/95	Non-MFN[2] 12/31/95
Andalusite, kyanite, and sillimanite	2508.50.0000	Free	Free.
Mullite	2508.60.0000	3.9% ad val.	30% ad val.

Depletion Allowance: 22% (Domestic), 14% (Foreign).

Government Stockpile:

Stockpile Status—9-30-95

Material	Uncommitted inventory	Committed inventory	Authorized for disposal	Disposals Jan.-Sept. 95
Kyanite, lump	1.1	—	1.1	—

Prepared by **Michael J. Potter, (703) 648-7723.**

KYANITE AND RELATED MATERIALS

Events, Trends, and Issues: Iron and steel making, the largest end user of refractories, was projected to show an increase in output of about 3% compared with that of the previous year, according to a nongovernment source. Of two large end markets for raw steel, auto production was down somewhat, but nonresidential construction was active.

In September and October, bids were solicited for 1,077 tons of kyanite by the Defense National Stockpile Center; however, no offers were made.

World Mine Production, Reserves, and Reserve Base:

	Mine production[e]		Reserves and reserve base[3]
	1994	1995	
United States	W	W	Large in the United States and
France	50	50	South Africa; assumed to be
India	27	30	large in other countries.
South Africa	191	190	
Other countries	9	10	
World total[4]	277	280	

World Resources: Immense resources of kyanite and related minerals are known to exist in the United States. The chief resources are in deposits of micaceous schist and gneiss mostly in the Appalachian area and in Idaho. Other resources are in aluminous gneiss in southern California. These resources are not economical at present, but some may be eventually. The characteristics of kyanite resources in the rest of the world are believed to be similar to those in the United States.

Substitutes: Two types of synthetic mullite (fused and sintered), superduty fire clays, and high-alumina materials are substitutes for kyanite in refractories. Principal raw materials for synthetic mullite are bauxite, kaolin and other clays, and silica sand.

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

[1]Defined as imports - exports + adjustments for Government and industry stock changes.

[2]See Appendix B.

[3]See Appendix C for definitions.

[4]Excludes the United States and countries for which information is not available.