

**MICA (NATURAL), SHEET<sup>1</sup>**

(Data in metric tons unless otherwise noted)

**Domestic Production and Use:** A minor amount of sheet mica was produced in 2006, incidental to scrap and flake mica production and the mining of a gemstone-bearing pegmatite in Virginia. The domestic consuming industry was dependent upon imports and shipments of U.S. Government stockpile excesses to meet demand for sheet mica. During 2006, an estimated 448 tons of imported unworked mica split block and mica splittings valued at \$700,000 was consumed by five companies in four States, mainly in the East and the Midwest. Most was fabricated into parts for electronic and electrical equipment. An additional estimated 1,390 tons of imported worked mica valued at \$20.5 million also was consumed.

<b>Salient Statistics—United States:</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006<sup>e</sup></b>
Production, mine <sup>e</sup>	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Imports, plates, sheets, strips; worked mica; split block; splittings; other > \$1.00/kg	1,580	1,130	1,400	1,390	1,840
Exports, plates, sheets, strips; worked mica; crude and rifted into sheet or splittings > \$1.00/kg	723	1,030	979	1,430	1,380
Shipments from Government stockpile excesses	894	1,280	1,170	38	6
Consumption, apparent	1,750	1,390	1,760	<sup>3</sup>	<sup>3</sup> 465
Price, average value, dollars per kilogram, muscovite and phlogopite mica, reported:					
Block	67	67	67	72	70
Splittings	1.82	1.74	1.80	1.73	1.77
Stocks, fabricator and trader, yearend	NA	NA	NA	NA	NA
Net import reliance <sup>4</sup> as a percentage of apparent consumption	100	100	100	100	100

**Recycling:** None.**Import Sources (2002-05):** India, 27%; Belgium, 22%; China, 13%; Brazil, 9%; and other, 29%.

<b>Tariff: Item</b>	<b>Number</b>	<b>Normal Trade Relations 12-31-06</b>
Split block mica	2525.10.0010	Free.
Mica splittings	2525.10.0020	Free.
Unworked—other	2525.10.0050	Free.
Plates, sheets, and strips of agglomerated or reconstructed mica	6814.10.0000	2.7% ad val.
Worked mica and articles of mica—other	6814.90.0000	2.6% ad val.

**Depletion Allowance:** 22% (Domestic), 14% (Foreign).**Government Stockpile:****Stockpile Status—9-30-06<sup>5</sup>**

<b>Material</b>	<b>Uncommitted inventory</b>	<b>Committed inventory</b>	<b>Authorized for disposal</b>	<b>Disposal plan FY 2006</b>	<b>Disposals FY 2006</b>
Block:					
Muscovite (stained and better)	( <sup>2</sup> )	4.44	( <sup>2</sup> )	( <sup>6</sup> )	( <sup>2</sup> )
Film, muscovite	—	—	—	—	—
Splittings:					
Muscovite	6.82	—	6.82	( <sup>6</sup> )	—
Phlogopite	—	—	—	—	10.7

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**Events, Trends, and Issues:** Demand for sheet mica increased in 2006, following a slight decline in 2005. Imports of worked sheet increased for “plates, sheets, and strips of agglomerated or reconstituted mica,” and declined for “mica, worked, and articles of mica not classified elsewhere.” U.S. imports of split block declined as imports of mica splittings increased. Shipments from the National Defense Stockpile (NDS) declined in 2006 as remaining stocks decreased. Stocks of muscovite film in the NDS were depleted by fiscal year 2004. Stocks of phlogopite splittings were sold out in fiscal year 2005. Imports were the principal source of the domestic supply of sheet mica in 2006. Significant stocks of mica previously sold from the NDS to various mica traders and brokers were exported, however, causing the United States to appear to have minor apparent consumption in 2005 and possibly resulting in undersating apparent consumption in 2006. Stocks of mica remaining in the NDS declined in 2006, and future supplies are expected to come increasingly from imports, primarily from China, India, and Russia. Prices for imported sheet mica also are expected to increase. Good quality sheet mica remained in short supply. There were no environmental concerns associated with the manufacture and use of mica products.

### **World Mine Production, Reserves, and Reserve Base:**

	Mine production <sup>e</sup>		Reserves <sup>7</sup>	Reserve base <sup>7</sup>
	2005	2006		
United States	( <sup>2</sup> )	( <sup>2</sup> )	Very small	Small
India	3,500	3,500	Very large	Very large
Russia	1,500	1,500	Moderate	Large
Other countries	200	200	Moderate	Large
World total	5,200	5,200	Very large	Very large

**World Resources:** There has been no formal evaluation of world resources of sheet mica because of the sporadic occurrence of this material. Large deposits of mica-bearing rock are known to exist in countries such as Brazil, India, and Madagascar. Limited resources of sheet mica are available in the United States. These domestic resources are uneconomic because of the high cost of hand labor required to mine and process sheet mica from pegmatites.

**Substitutes:** Many materials can be substituted for mica in numerous electrical, electronic, and insulation uses. Substitutes include acrylic, Benelex®, cellulose acetate, Delrin®, Duranel® N, fiberglass, fishpaper, Kapton®, Kel F®, Kydex®, Lexan®, Lucite®, Mylar®, nylon, nylatron, Nomex®, Noryl®, phenolics, Plexiglass®, polycarbonate, polyester, styrene, Teflon®, vinyl-PVC, and vulcanized fiber. Mica paper made from scrap mica can be substituted for sheet mica in electrical and insulation applications.

<sup>e</sup>Estimated. E Net exporter. NA Not available. — Zero.

<sup>1</sup>See also Mica (Natural), Scrap and Flake.

<sup>2</sup>Less than ½ unit.

<sup>3</sup>See explanation in the Events, Trends, and Issues section.

<sup>4</sup>Defined as imports – exports + adjustments for Government and industry stock changes.

<sup>5</sup>[See Appendix B for definitions.](#)

<sup>6</sup>The total disposal plan for all categories of mica in the National Defense Stockpile is limited to remaining inventory.

<sup>7</sup>[See Appendix C for definitions.](#)