

**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 2001, 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 2001, an estimated 3,440 tons of unworked mica split block and mica splittings valued at \$2.0 million was consumed by 14 companies in 7 States, mainly in the East and Midwest. Most was fabricated into parts for electronic and electrical equipment. An additional estimated 1,100 tons of imported worked mica valued at \$12.5 million was also consumed.

<b>Salient Statistics—United States:</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001<sup>o</sup></b>
Production, mine <sup>e</sup>	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	W	W
Imports, plates, sheets, and strips; worked mica; split block; splittings; other > \$1.00/kg	5,760	4,380	4,550	5,430	4,580
Exports, plates, sheets, and strips; worked mica; crude and rifted into sheet or splittings > \$1.00/kg	1,060	1,280	1,290	1,150	244
Shipments from Government stockpile excesses	326	557	708	1,230	1,810
Consumption, apparent	5,030	3,660	3,980	5,500	6,160
Price, average value, dollars per kilogram, muscovite and phlogopite mica, reported:					
Block	28	26	20	23	21
Splittings	1.69	1.67	1.67	1.81	1.74
Stocks, fabricator and trader, yearend	NA	NA	NA	NA	NA
Net import reliance <sup>3</sup> as a percentage of apparent consumption	100	100	100	100	100

**Recycling:** None.

**Import Sources (1997-2000):** India, 63%; Belgium, 14%; Germany, 9%; China, 4%; and other, 10%.

<b>Tariff: Item</b>	<b>Number</b>	<b>Normal Trade Relations 12/31/01</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:**

<b>Material</b>	<b>Stockpile Status—9-30-01<sup>4</sup></b>			<b>Disposal plan FY 2001</b>	<b>Disposals FY 2001</b>
	<b>Uncommitted inventory</b>	<b>Committed inventory</b>	<b>Authorized for disposal</b>		
Block:					
Muscovite (stained and better)	8	57	8	( <sup>5</sup> )	62
Phlogopite	( <sup>2</sup> )	11	( <sup>2</sup> )	—	—
Film, muscovite	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>5</sup> )	( <sup>2</sup> )
Splittings:					
Muscovite	3,555	735	3,555	( <sup>5</sup> )	1,750
Phlogopite	230	1	230	( <sup>5</sup> )	2

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**Events, Trends, and Issues:** Demand for sheet mica increased in 2001. Imports of splittings from India increased as demand for electrical equipment rebounded, especially for transformers. Imports remained the principal source of sheet mica, and shipments from U.S. Government stockpile excesses continued to be a significant source of supply. The availability of good quality mica remained in short supply. There were no environmental problems associated with the manufacture of mica products.

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

	Mine production		Reserves <sup>6</sup>	Reserve base <sup>6</sup>
	2000 <sup>e</sup>	2001 <sup>e</sup>		
United States	W	W	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	<u>75,200</u>	<u>75,200</u>	Large	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 the sheet mica.

**Substitutes:** Many materials can be substituted for mica in numerous electrical and electronic uses. Substitutes include acrylic, Benelex®, cellulose acetate, Delrin®, Durane® 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. NA Not available. W Withheld to avoid disclosing company proprietary data.

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

<sup>2</sup>Less than ½ unit.

<sup>3</sup>Defined as imports - exports + adjustments for Government and industry stock changes.

<sup>4</sup>See Appendix B for definitions.

<sup>5</sup>The total disposal plan for all categories of mica in the National Defense Stockpile is undifferentiated at 1,814 metric tons (4,000,000 pounds).

<sup>6</sup>See Appendix C for definitions.

<sup>7</sup>Excludes U.S. production.