MICA (NATURAL), SHEET1

(Data in metric tons unless otherwise noted)

<u>Domestic Production and Use</u>: In 2007, a minor amount of sheet mica was produced, 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 2007, an estimated 141 tons of imported unworked mica split block and mica splittings valued at \$171,000 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 1,760 tons of imported worked mica valued at \$14 million also was consumed.

Salient Statistics—United States:	<u>2003</u>	<u>2004</u>	<u> 2005</u>	<u> 2006</u>	2007 ^e
Production, mine ^e	(²)				
Imports, plates, sheets, strips; worked mica;					
split block; splittings; other > \$1.00/kg	1,130	1,400	1,390	1,770	1,900
Exports, plates, sheets, strips; worked mica;					
crude and rifted into sheet or splittings > \$1.00/kg	917	1,090	1,430	1,400	1,430
Shipments from Government stockpile excesses	1,280	1,170	38	6	. 4
Consumption, apparent	1,390	1,760	³ 3	³ 380	³ 478
Price, average value, dollars per kilogram,					
muscovite and phlogopite mica, reported:					
Block	67	67	125	130	135
Splittings	1.74	1.73	1.56	1.53	1.60
Stocks, fabricator and trader, yearend	NA	NA	NA	NA	NA
Net import reliance ⁴ as a percentage of					
apparent consumption	100	100	100	100	100

Recycling: None.

Import Sources (2003-06): India, 24%; Belgium, 21%; China, 15%; Brazil, 13%; and other, 27%.

Tariff: Item	Number	Normal Trade Relations 12-31-07
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—9-30-07⁵

Material	Uncommitted inventory	Committed inventory	Authorized for disposal	Disposal plan FY 2007	Disposals FY 2007
Block:	-	-	·		
Muscovite			0	0	
(stained and bette	er) 0.68	0.077	(°)	(°)	3.9
Film, muscovite	_	_	_	_	_
Splittings:			6	G	
Muscovite	6.81	_	(⁶)	(°)	_
Phlogopite	_	_	_	_	

MICA (NATURAL), SHEET

Events, Trends, and Issues: Demand for sheet mica in 2007 increased for the second year in a row, following a 27% increase in imports in 2006. 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 to zero in 2007 (based on data through September), and imports of mica splittings declined as unworked sheet declined an estimated 60%. Shipments from the National Defense Stockpile (NDS) declined in 2007 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, and remaining uncommitted stocks of muscovite block and muscovite splittings are 684 kilograms and 6.815 kilograms, respectively. Imports were the principal source of the domestic supply of sheet mica in 2007. 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 a small apparent consumption in 2005 and possibly resulting in understating apparent consumption in 2006 and 2007. Overall, stocks of mica remaining in the NDS declined in 2007, however, muscovite block stocks increased, as material that was previously committed was returned to the stockpile. Future supplies were expected to come increasingly from imports. primarily from China, India, and Russia, Prices for imported sheet mica also were expected to increase, and 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:

	1	Mine production ^e		Reserve base ⁷
	<u>2006</u>	<u>2007</u>		
United States	${}$ $(^2)$	(²)	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

<u>World Resources</u>: 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.

<u>Substitutes</u>: 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.

^eEstimated. NA Not available. — Zero.

¹See also Mica (Natural), Scrap and Flake.

²Less than ½ unit.

³See explanation in the Events, Trends, and Issues section.

⁴Defined as imports – exports + adjustments for Government and industry stock changes.

⁵See Appendix B for definitions.

⁶The total disposal plan for all categories of mica in the National Defense Stockpile is all remaining stocks.

⁷See Appendix C for definitions.