MICA (NATURAL), SHEET1

(Data in metric tons unless otherwise noted)

<u>Domestic Production and Use:</u> A minor amount of sheet mica was produced in 2008 at a gemstone-bearing pegmatite in Amelia, Virginia. The domestic consuming industry was dependent upon imports and shipments of U.S. Government stockpile excesses to meet demand for sheet mica. During 2008, an estimated 397 tons of imported, unworked mica split block and mica splittings valued at \$357,000 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 1,680 tons of imported worked mica valued at \$17.9 million also was consumed.

Salient Statistics—United States:	<u>2004</u>	<u> 2005</u>	<u> 2006</u>	<u> 2007</u>	2008 ^e
Production, mine ^e	(²)	(²)	(²)	(²)	(²)
Imports, plates, sheets, strips; worked mica;					
split block; splittings; other >\$1.00/kg	1,400	1,390	1,770	1,950	2,070
Exports, plates, sheets, strips; worked mica;					
crude and rifted into sheet or splittings >\$1.00/kg	1,090	1,430	1,400	1,300	2,070
Shipments from Government stockpile excesses	18	38 ³ 3	ຸ 6	ູ 7	(²)
Consumption, apparent	328	33	³ 380	³ 683	3
Price, average value, dollars per kilogram,					
muscovite and phlogopite mica, reported:					
Block	67	125	130	135	132
Splittings	1.73	1.56	1.53	1.60	1.53
Stocks, fabricator and trader, yearend	NA	NA	NA	NA	NA
Net import reliance⁴ as a percentage of					
apparent consumption	100	100	100	100	86

Recycling: None.

Import Sources (2004-07): China, 21%; India, 20%; Belgium, 20%; Brazil, 18%; and other, 21%.

Tariff: Item	Number	Normal Trade Relations 12-31-08
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—9-30-08⁵

Material	Uncommitted inventory	Authorized for disposal	Disposal plan FY 2008	Disposals FY 2008
Block: Muscovite (stained and b	petter) —	(⁶)	(⁶)	0.315
Splittings: Muscovite	_	(⁶)	(⁶)	

MICA (NATURAL), SHEET

Events, Trends, and Issues: Demand for sheet mica in 2008 decreased; however, imports increased for the third year in a row, following a 10% increase in imports in 2007. Changes in imports in different categories were mixed in 2008 compared with those of 2007. Imports of worked sheet decreased 9% for "plates, sheets, and strips of agglomerated or reconstituted mica," and "mica, worked, and articles of mica not classified elsewhere." U.S. imports of unworked sheet mica (based on data through August) increased 250%, primarily the result of large increases in the categories "mica, worked, and articles of mica not classified elsewhere" and "split block mica." Imports of "mica splittings" declined.

Shipments from the National Defense Stockpile (NDS) declined in 2008 to 315 kilograms, and all remaining uncommitted stocks of mica (239 kilograms of muscovite block) were sold on April 29, 2008. Stocks of muscovite film in the NDS were depleted by the end of fiscal year (FY) 2004. Stocks of phlogopite splittings were sold out in FY 2005. The remaining stocks of muscovite splittings were sold out in FY 2007. The remaining stocks of mica in the NDS (muscovite block) were sold and shipped in FY 2008.

Imports were the principal source of the domestic supply of sheet mica in 2008. 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. 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:

	Mine pro	Mine production ^e		Reserve base ⁷
	<u>2007</u>	2008		
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	<u>200</u>	200	<u>Moderate</u>	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®, Nomex®, Noryl®, nylon, nylatron, 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 disposal plan for all categories of mica in the National Defense Stockpile is all remaining stocks. No stocks of mica remained in the NDS at the end of fiscal year 2008.

⁷See Appendix C for definitions.