

## MICA (NATURAL)

(Data in metric tons unless otherwise noted)

**Domestic Production and Use:** Scrap and flake mica production, excluding low-quality sericite, was estimated to be 38,000 tons valued at \$4.6 million. Mica was mined in Georgia, North Carolina, and South Dakota. Scrap mica was recovered principally from mica and sericite schist and as a byproduct from feldspar, industrial sand beneficiation, and kaolin. Eight companies produced an estimated 63,000 tons of ground mica valued at about \$22 million from domestic and imported scrap and flake mica. The majority of domestic production was processed into small-particle-size mica by either wet or dry grinding. Primary uses were joint compound, oil-well-drilling additives, paint, roofing, and rubber products.

A minor amount of sheet mica was produced as incidental production from feldspar mining in North Carolina. Data was withheld to avoid disclosing company proprietary data. The domestic consuming industry was dependent on imports to meet demand for sheet mica. Most sheet mica was fabricated into parts for electrical and electronic equipment.

<b>Salient Statistics—United States:</b>	<b><u>2015</u></b>	<b><u>2016</u></b>	<b><u>2017</u></b>	<b><u>2018</u></b>	<b><u>2019<sup>e</sup></u></b>
Scrap and flake:					
Production: <sup>1</sup>					
Sold and used	32,600	28,000	40,000	44,000	38,000
Ground	65,800	59,500	69,700	65,300	63,000
Imports <sup>2</sup>	33,200	31,500	29,700	28,100	29,000
Exports <sup>3</sup>	7,440	6,340	6,790	6,000	5,900
Consumption, apparent <sup>4</sup>	58,400	53,200	62,900	66,100	61,000
Price, average, dollars per metric ton, reported:					
Scrap and flake	142	152	165	122	120
Ground:					
Dry	305	320	292	308	310
Wet	423	435	424	454	480
Employment, mine, number	NA	NA	NA	NA	NA
Net import reliance <sup>5</sup> as a percentage of apparent consumption	44	47	36	33	37
Sheet:					
Sold and used	W	W	W	W	W
Imports <sup>6</sup>	2,390	2,120	1,850	1,860	2,500
Exports <sup>7</sup>	911	689	704	686	950
Consumption, apparent <sup>5</sup>	1,480	1,430	1,150	1,170	1,600
Price, average value, dollars per kilogram, muscovite and phlogopite mica, reported:					
Block	W	W	W	W	W
Splittings	1.61	1.61	1.66	1.65	1.65
Net import reliance <sup>5</sup> as a percentage of apparent consumption	100	100	100	100	100

**Recycling:** None.

**Import Sources (2015–18):** Scrap and flake: Canada, 45%; China, 31%; India, 10%; Finland, 4%; and other, 10%. Sheet: China, 48%; Brazil, 22%; Belgium, 8%; Austria, 5%; and other, 17%.

<b>Tariff: Item</b>	<b>Number</b>	<b>Normal Trade Relations <u>12–31–19</u></b>
Split block mica	2525.10.0010	Free.
Mica splittings	2525.10.0020	Free.
Unworked, other	2525.10.0050	Free.
Mica powder	2525.20.0000	Free.
Mica waste	2525.30.0000	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.

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

**Government Stockpile:** None.

**Events, Trends, and Issues:** Domestic production of scrap and flake mica was estimated to have decreased by 14% in 2019. Apparent consumption of scrap and flake mica decreased by 8%. Apparent consumption of sheet mica was estimated to have increased by 32% in 2019 as a result of increased imports of sheet mica from China. No environmental concerns are associated with the manufacture and use of mica products. Future supplies of sheet mica for United States consumption were expected to come increasingly from imports, primarily from Brazil, China, and India.

**World Mine Production and Reserves:** World production of sheet mica is shown to have remained steady; however, reliable production numbers for some countries that may influence that world total were unavailable.

	Scrap and flake			Sheet		Reserves <sup>8</sup>
	Mine production		Reserves <sup>8</sup>	Mine production <sup>e</sup>		
	2018	2019 <sup>e</sup>		2018	2019	
United States	44,000	38,000	Large	W	W	Very small
Canada	23,000	23,000	Large	NA	NA	NA
China	100,000	100,000	Large	NA	NA	NA
Finland	62,600	64,000	Large	NA	NA	NA
France	20,000	22,000	Large	NA	NA	NA
India	15,000	16,000	Large	1,000	1,000	110,000
Korea, Republic of	16,600	17,000	12,000,000	—	—	NA
Madagascar	35,000	36,000	Large	—	—	NA
Turkey	6,500	7,000	620,000	—	—	NA
Other countries	52,800	53,000	Large	200	200	Moderate
World total (rounded)	375,000	380,000	Large	NA	NA	Very large

**World Resources:** Resources of scrap and flake mica are available in clay deposits, granite, pegmatite, and schist, and are considered more than adequate to meet anticipated world demand in the foreseeable future. World resources of sheet mica have not been formally evaluated 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. Domestic resources are uneconomic because of the high cost of the hand labor required to mine and process sheet mica from pegmatites.

**Substitutes:** Some lightweight aggregates, such as diatomite, perlite, and vermiculite, may be substituted for ground mica when used as filler. Ground synthetic fluorophlogopite, a fluorine-rich mica, may replace natural ground mica for uses that require thermal and electrical properties of mica. Many materials can be substituted for mica in numerous electrical, electronic, and insulation uses. Substitutes include acrylic, cellulose acetate, fiberglass, fishpaper, nylatron, nylon, phenolics, polycarbonate, polyester, styrene, polyvinyl chloride, 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. — Zero.

<sup>1</sup>Excludes low-quality sericite used primarily for brick manufacturing.

<sup>2</sup>Includes Harmonized Tariff Schedule of the United States codes: 2525.10.0050, <\$6.00/kg; 2525.20.0000; and 2525.30.0000.

<sup>3</sup>Includes Schedule B numbers: 2525.10.0000, <\$6.00/kg; 2525.20.0000; and 2525.30.0000.

<sup>4</sup>Defined as sold or used by producing companies + imports – exports.

<sup>5</sup>Defined as imports – exports.

<sup>6</sup>Includes Harmonized Tariff Schedule of the United States codes: 2525.10.0010; 2525.10.0020; 2525.10.0050, >\$6.00/kg; 6814.10.0000; and 6814.90.0000.

<sup>7</sup>Includes Schedule B numbers: 2525.10.0000, >\$6.00/kg; 6814.10.0000; and 6814.90.0000.

<sup>8</sup>See Appendix C for resource and reserve definitions and information concerning data sources.