

# Chrysotile

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## **SUMMARY**

Canadian chrysotile production is concentrated in the Eastern Townships area of the province of Quebec and is derived from three mining operations: the underground Bell mine at Thetford Mines and the open-pit Lac d'Amiante du Québec, Ltée (LAQ) properties of LAB Chrysotile, Inc., and the Jeffrey mining operations from Mine Jeffrey Inc., which are located in the town of Asbestos. In June 2005, the workers from the Bell operations ratified a 6.5-year collective agreement with the company. This agreement makes official the "alternation principle" and will allow for the continuation of both LAB Chrysotile's underground and open-pit operations in alternation. The agreement will end in February 2012 and become the foundation for a new social covenant. The underground operations at the Bell division are scheduled to resume in November 2005. Jeffrey Mine Inc. is mining residual ore reserves from the open pit at a reduced rate until the new underground mine is ready to produce. To date, \$140 million has been invested for the development of approximately 85% of the underground mine. An incremental \$20 million is required for it to become a fully operational underground operation, projected for completion in 2006-07. The underground mine is designed to produce 250 000 t/y of chrysotile fibres for at least 25 years. Mine Jeffrey Inc. provides 285 direct jobs to the Asbestos community.

Following downsizing of the mining operations in previous years and the impact on suppliers and service providers to the chrysotile industry, it is estimated that, at the present time, the chrysotile industry provides approximately 800 direct jobs and a minimum of 1000 indirect jobs in the industrial and service sectors in the regions of Thetford Mines (Amiante) and Chaudière-Appalaches.

Notwithstanding that world production and consumption of chrysotile increased by about 4% during the last year, Canadian production remained at the same level. The strength of the Canadian dollar, energy costs, and pressures on transportation costs towards destinations such as China are having a serious impact on the capability of the Canadian chrysotile industry to compete internationally with other producers, such as countries of the Commonwealth of Independent States (C.I.S.), including Kazakhstan and the Russian Federation. Asian countries, India in particular, and in the longer term, Latin American and African countries, are promising markets for the Canadian chrysotile industry, but a fair amount of market development activity is still required to ensure a privileged position for the Canadian industry in those three emerging continents.

## **POSITIONING OF CHRYSOTILE VIS-À-VIS AMPHIBOLE ASBESTOS AND SUBSTITUTE FIBRES**

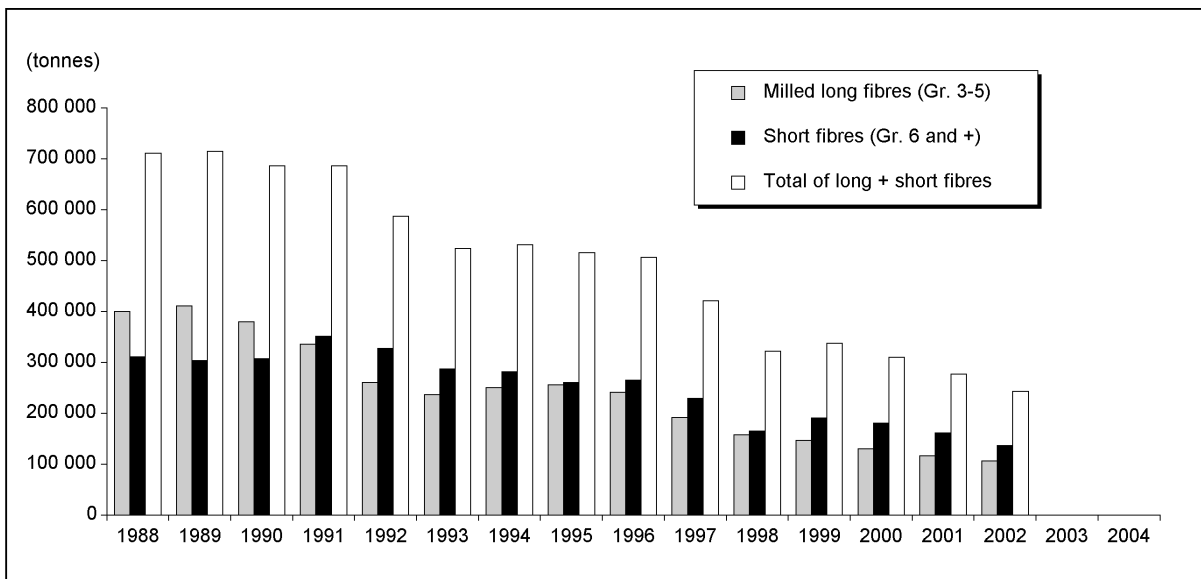
Chrysotile represents nearly 100% of the "asbestos" produced and used worldwide.

It has different physical and chemical properties compared to amphibole asbestos. This latter mineralogical category of a group of silicate minerals commercially identified as "asbestos" is recognized by the international scientific community as being orders of magnitude more potent at causing illnesses than chrysotile and, as a result of those findings, is no longer or marginally used. According to the most recent and most thorough meta-analysis (Hodgson et al., 2000), the danger of cancer from chrysotile is 10 to 500 times less than that from amphiboles.

The recent risk analysis protocol drawn up by the U.S. Environmental Protection Agency, accepted by a group of experts in 2003, will use a model that assesses risks for cancer by mineral type of asbestos and by fibre size.

While there are substantial efforts made to identify and use acceptable substitutes for chrysotile, at this moment there is still no certainty that these synthetic or natural substitute

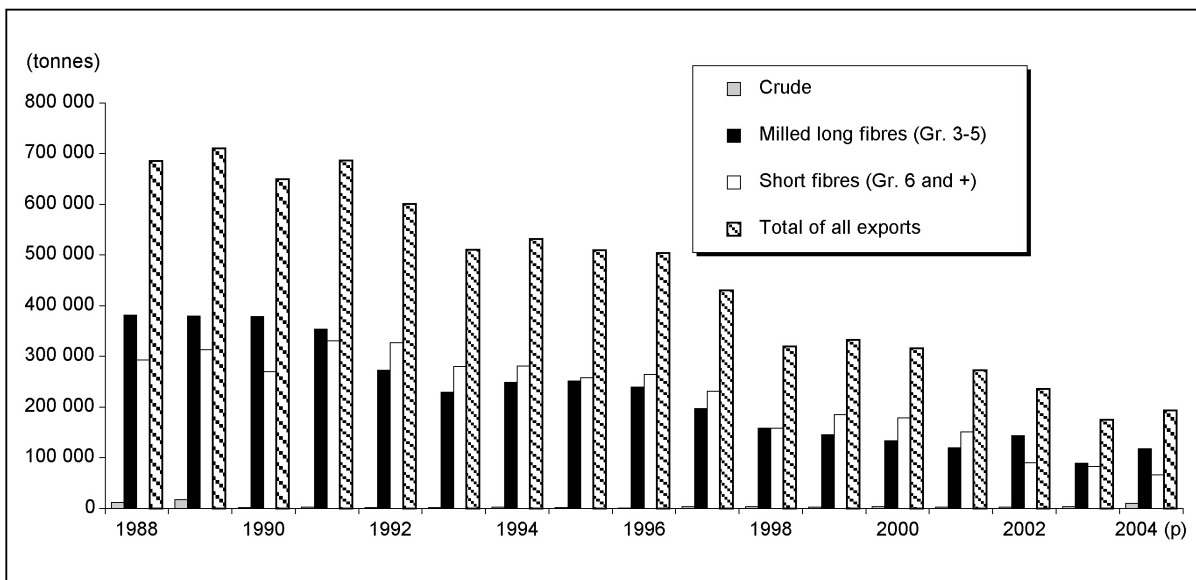
**Figure 1**  
**Canada, Chrysotile Production, 1988-2004**



Sources: Natural Resources Canada; Statistics Canada.

Note: Production for 2003 and 2004 is shown as zero since the real figures are confidential and are not reported. These production figures can, however, be seen in Table 1 as estimated values.

**Figure 2**  
**Canada, Chrysotile Exports by Category, 1988-2004**



Sources: Natural Resources Canada; Statistics Canada.

(p) Preliminary.

fibres would be any safer than chrysotile. Substitutes that tend to be technically equivalent to chrysotile also tend to have similar properties. This means that they are, generally speaking, also fibrous and may pose similar threats to health as chrysotile, and even amphibole asbestos, for several of them. Experiments on chrysotile substitutes have long taken amphiboles as “positive controls” because it is uncertain whether chrysotile produces toxic effects under the experimental conditions for substitute products today. One can draw the conclusion that the absence of comparison between the risks of substitutes and the risks of chrysotile fibres poses an ever-increasing danger.

The International Agency for Research on Cancer (IARC) classifies certain substitutes as “possible carcinogens.” In 1998, the Institut national de la santé et de la recherche médicale (INSERM) assessed the toxicity of “asbestos” substitute fibres and concluded that glass and ceramic fibres, as well as rock wool, seemed to increase the risk of tumors. INSERM also stated that the number of substitute fibres used in recent tests “was far below the number used in experimental exposures to ‘asbestos.’ In all likelihood, similar concentrations of ‘asbestos’ fibres would have yielded results of little or no significance in the carcinogenicity studies.”

International experts and decision makers have to take ownership of the issue and give a scientifically sound answer to such above-mentioned legitimate concerns. As a tentative initial response, the World Health Organization (WHO) has mandated the IARC to undertake a workshop on Mechanisms of Fibre Carcinogenesis and Assessment of Chrysotile Asbestos Substitutes. This workshop was taking place in Lyon, France, at the time of writing this review. It is not foreseen that all the answers will be provided as a result of this event; however, it will probably confirm the lack of proper scientific data and the need to further investigate the matter. It is believed that epidemiological data are just not available for substitutes to chrysotile and these are key to any validity process.

## CHRYBOTILE-BASED ENCAPSULATED PRODUCTS AND SAFETY IN THEIR USE

“Asbestos” has been the focus of extensive scientific and medical scrutiny. Findings have resulted in the elimination of substances harmful for human health, such as amphibole asbestos, as well as methods and products that could allow the fibres to be readily released into the air, such as spray insulation. Today’s chrysotile-based manufactured products, such as building materials, brake linings, water and sewer pipes, and other specialty products, can be used safely since the fibres are encapsulated in a matrix such as cement or resin and cannot, under normal conditions, disperse into the environment. In the major

chrysotile-based product manufacturing and using countries, more than 93% of chrysotile is being used by the chryso-cement industry; the remaining 7% is split roughly one-third into specialty products and two-thirds into friction products. Some chrysotile-based composite products and application techniques are also now available to consumers. These are more appealing in terms of architectural requirements as they are structurally stronger, non-friable, and respond to the highest construction standards.

## CONTROLLED AND SAFE-USE APPROACH TO CHRYBOTILE

Because of the ongoing inflated controversy about the risks associated with the use of chrysotile, it is imperative to write a few words in this review about the controlled and safe-use approach promoted by numerous producing and user countries.

The controlled and safe-use approach aims to reduce the risks associated with chrysotile mining, milling, product manufacturing, transportation, and handling and disposal activities to safe levels. This means reducing risks to below the levels possible to detect the incidence of chrysotile-related diseases.

The controlled and safe-use approach is implemented through the enforcement of appropriate regulations to rigorously control exposure at low levels, compliance with Convention 162 *Concerning Safety in the Use of Asbestos* of the International Labour Organization, the implementation of ILO Recommendation 172 (1986), and the voluntary actions of all major exporters and importers.

## WORLD PRODUCTION

### Global Trend

World production of chrysotile increased by about 4% in 2004 compared to 2003. This increase is mostly due to the production in Brazil, China and Russia, which increased by an estimated 25.0%, 14.3% and 3.9%, respectively, compared to 2003. Production from all other major producing countries, except Zimbabwe, has remained unchanged or seen only minor changes. Table 1 provides production data for the last three years for which data are available.

### Brazil

In 2004, Brazil’s total production increased compared to the previous two years. Brazil has now become the third largest producer after Russia and China; it ranked fifth in 2003. Brazil’s exports totaled 151 000 t, representing 62% of the country’s total production, in 2004.

## Canada

Canada's production is estimated since there are only two producers and data are kept confidential. Production for 2004 is estimated at 220 000 t, similar to that of 2003.

Total chrysotile fibre exports were 204 000 t while manufactured goods exports were valued at \$62 million, of which \$59.5 million, or 96%, went to the United States.

Canadian production is concentrated in the Eastern Townships area of the province of Quebec and is derived from three mining operations: the underground Bell mine at Thetford Mines and the open-pit Lac d'Amiante du Québec, Ltée (LAQ) properties of LAB Chrysotile, Inc., and the Jeffrey mining operations from Mine Jeffrey Inc. LAB Chrysotile has now secured a 6.5-year collective agreement with workers at its Bell operations and will continue to operate both the underground and the open-pit operations. Canada ranked as the world's fourth largest producer of chrysotile, based on estimated 2004 output.

## China

Production of chrysotile in China comes from about 50 areas that are mainly located in the western part of China. The most important chrysotile-producing areas include QingHai (57 800 t), SiChuan (15 700 t), Shanxi (10 300 t) and Xinjiang (8200 t). While China can produce enough short fibres for its domestic market, it cannot produce enough long chrysotile fibres to respond to its internal demand; these fibres must then be imported. Imports are predominantly from C.I.S. countries.

## Commonwealth of Independent States

Total production in the Commonwealth of Independent States (C.I.S.) was 1 114 000 t for 2004, of which 912 000 t were from the Russian Federation and 202 000 t were from Kazakhstan. Production in the Russian Federation comes from Uralasbest and Orenburgasbest for a total of 504 000 t and 408 000 t, respectively. C.I.S. domestic sales amounted to 563 000 t in 2004 while exports were at 551 000 t for the same year. Exports represent an increase of about 5.4% over 2003.

## Zimbabwe

Mining operation problems in Zimbabwe have resulted in a reduction of 29% in planned production to 107 000 t for 2004. Zimbabwe had averaged 157 500 t for the years 2002 and 2003. Domestic use was at 19 000 t while exports totalled 84 000 t for the year. The chrysotile industry in Zimbabwe was expecting support from the government to get back to normal production.

## CHRYSOTILE, WORLD PRODUCTION BY COUNTRY, 2002-04

Country (1)	2002	2003	2004
	(tonnes)		
Brazil	194 750	(r) 194 350	243 000
Canada	240 500	(r) 200 500	220 000
China	270 000	(r) 350 000	400 000
Colombia (2)	..	..	(r) 5 000
India	18 000	19 000	(r) 5 000
Kazakhstan	291 100	(r) 354 500	202 000
Russia	775 000	878 000	(r) 912 000
South Africa	..	(r) 6 218	6 000
Zimbabwe	168 000	(r) 147 000	(e,3) 107 000
Total	1 957 350	2 002 715	2 100 000

Sources: Natural Resources Canada; U.S. Geological Survey, Minerals Information, *Industrial Minerals*, June 2005.

.. Zero or not available; (e) Estimated; (r) Revised.

(1) In addition to countries listed, Egypt, Iran, Bulgaria, Afghanistan, North Korea, Romania, the Slovak Republic, and the Czech Republic also produce chrysotile but output is either not reported or tonnage is below 5000 t.

(2) Previous data reported in terms of crude ore. For 2004, reported in tonnes of fibres. (3) Production problems have reduced the planned output of 150 000 t by about 29%.

## WORLD CONSUMPTION

More than 80 countries in the world were using either chrysotile fibres and/or manufactured products in 2004. This represents about 44% of countries recognized by the United Nations. Even countries that have heavily legislated the use of chrysotile-based products and fibres still used specialty products for which no suitable substitutes exist. The three largest chrysotile-producing countries consume a relatively important percentage of their production domestically.

In 2004, the C.I.S. consumed slightly more than 50% of its production.

In China, total demand for chrysotile fibres is estimated at 500 000 t annually. Chrysotile-based manufactured products account for 35% of China's consumption of chrysotile fibres while chryso-cement products account for 50% and the remaining 15% goes to other products. As mentioned above, China still has to import between 100 000 and 200 000 t of long chrysotile fibres to respond to its domestic needs. The demand for chrysotile is expected to increase at a rate of 5% annually for the foreseeable future. However, this increase seems to be dependent on the safe use of the substance and the understanding of the population that chrysotile can and has to be used safely.

The Brazilian domestic market consumed 92 000 t, while imports totaled 25 000 t, mainly from Zimbabwe, for a total of 117 000 t for internal use. Consumption of chrysotile-based products in Brazil increases at a rate of 7%/y, a comparable rate with other emerging countries.

In the case of Canada, more than 95% of its total production of fibres is exported. Canada does not need new water, sewage and construction infrastructure, unlike emerging countries, and this explains why the majority of Canadian production is exported, mostly to emerging countries. In 2004, Canada exported chrysotile fibres and chrysotile-based manufactured goods to some 85 countries. During the same year, chrysotile fibres were specifically exported to 40 countries. Canada's major sales are to Asian countries, representing 68% of its total exports. Notwithstanding the importance of the Asian market for Canada, the tonnage of Canadian chrysotile fibres exported to this market represents only 10% of the total consumption of these user countries.

Canada is a net exporter of chrysotile fibres, but is a net importer of manufactured products. Canada imported more than 50 000 t of manufactured products valued at \$114 million during the year. These manufactured products were imported from more than 40 countries around the world. Besides compressed chrysotile fibres, Canada imports mainly friction materials, tubes and pipes, corrugated sheets and panels, paper, millboard, clothing, and other chrysotile-based materials.

Emerging countries are the main consumers of chrysotile fibres. These countries require new and extended infrastructure, and chryso-cement products are the most efficient products. While 93% of the consumption of chrysotile in the world is used for chrysotile-reinforced cement products, chrysotile fibres represent only a small percentage of the total content of the final product (between 8 and 10%). For that reason, it is more cost-effective to have these products manufactured near the final users' markets. In addition to cost-effectiveness, manufacturing within the country of use provides essential employment to that country's population.

## REGULATORY ENVIRONMENT

In India, a major user of chrysotile fibres, the chrysotile-cement industry is gearing up for better days since the Ministry of Environment and Forests finalized a policy on the manufacture of chrysotile-based products in March 2003. Under such a better-defined policy and framework, the Indian chrysotile-based sheet and pipe industry can proceed with an expansion of its capacity, although it is still modest at this point. Crocidolite an amphibole asbestos variety, is already banned in India, while it is considered that chrysotile has no harmful effect under controlled use. Under the new policy, the chrysotile-cement industry, in collaboration with the regulator, is working towards further enhancing the occupational environment for workers by eliminating manual handling and opening of chrysotile fibre bags; fully automatic debagging systems are being implemented throughout the manufacturing process. In terms of exposure limits to respirable

fibres, the government has also promulgated the norm of 0.5 fibres per cubic centimetre of air within the plant, while atmospheric fibre dust emissions are limited to 0.2 fibres per cubic centimetre.

China ranks among the first three countries in the world in terms of chrysotile reserves. In 2003, these reserves were estimated at 96 Mt spread over 50 production areas. China is presently putting more emphasis on improving mine production conditions by undertaking effective dust control measures and utilizing its chrysotile resources safely and rationally.

A second consideration is being given to adding chrysotile to the list of substances subject to the Rotterdam Convention on the Prior Informed Consent (PIC) Procedures. The first proposal for the addition of chrysotile to the PIC procedure did not receive the required consensus at the Convention's September 18, 2004, meeting. Thirteen producing and consuming countries voiced their opposition to the listing proposal. The main issue with the proposed listing of chrysotile is that the Rotterdam Convention does not differentiate between substances that lend themselves to controlled use and those that do not. From that situation, there exists a relatively high risk of creating a trade barrier to a substance that can be used safely under controlled conditions and that can provide cost-effective products to emerging countries. In fact, the listing of chrysotile alongside the world's most toxic substances will be perceived as encouraging a ban of the substance.

The proposed U.S. Asbestos Bill S. 852 is aimed at providing meaningful support for the victims of "asbestos" exposure and finality to the businesses affected by litigation. However, it is now seen by both the general American public and certain Senators as the wrong instrument to achieve the goals of "asbestos" litigation reform. The trust fund approach has raised a lot of controversy and a proposal for a medical criteria bill is gaining more support from the business community, the public, and several Senators.

During 2002, the U.S. Environmental Protection Agency (EPA) oversaw the development of a revised methodology for conducting risk assessments of "asbestos" to take into account the substantial improvements that have occurred since 1986 in "asbestos" measurement techniques and in the understanding of how "asbestos" exposure contributes to disease. The proposed risk assessment methodology distinguishes between fibre sizes and fibre types, and amphibole asbestos and chrysotile, in estimating the potential health risks related to "asbestos" exposure in general and to chrysotile in particular. This is significantly different from the EPA's current assessment of "asbestos" toxicity, based primarily on an assessment completed in 1986 that considers all mineral forms of "asbestos" and all "asbestos" fibre sizes to be of equal carcinogenic potency. The proposed EPA revision incorporates the knowledge gained over the last 20 years into the

agency's toxicity assessment for "asbestos." Results of the revision should be available sometime in 2006.

## OUTLOOK

Global unions and governments of some industrialized countries are increasing pressure on the chrysotile industry. They have declared 2005-06 as the year for a global ban of all types of "asbestos." Global unions have formally delivered a letter to every government asking them to become involved in nationally banning "asbestos" or in supporting a world ban on the commercialization and use of the product. It is unfortunate that the "ban-asbestos" movements, which include global unions, have decided to ignore chrysotile's reality and have refused to recognize the differences, both physical and chemical, between amphibole asbestos and chrysotile, as well as the problems of the past versus the reality of today.

Such a campaign could probably have some impact on the global use of chrysotile, but will most probably not change the present trend towards an increase in the production and use of chrysotile fibres and chrysotile-based products. The total increase in production for Brazil, China and Russia averaged 14.5% in 2004, compared to 2003.

Using a different point of view, and on the strength of more than 100 years of experience in dealing with the substance and following many struggles, including the major strikes of 1949 and 1975, Canadian chrysotile workers are enjoying working conditions that do not endanger their lives.

At its 27<sup>th</sup> congress held on December 2, 2004, in Montréal, the Fédération des travailleurs et travailleuses du Québec (FTQ) adopted a resolution for the unconditional support of the safe and responsible use of chrysotile and for its opposition to the proposed ban, which is considered to be unnecessary with today's prevailing working and use conditions related to chrysotile.

The FTQ recognizes that extensive studies and expert international assessment have led to the conclusion that if regulations limiting chrysotile exposures to low levels are properly enforced, there are no undue risks to workers or the public. In fact, this is the basis for Canada's position on chrysotile.

The possible listing of chrysotile on the PIC procedure of the Rotterdam Convention could also modify the future for chrysotile and its derived products. Several countries consider that such a listing would send a global signal that chrysotile must be severely restricted or banned since it made its way onto the list along with substances for which there is little scope for safe use, whereas chrysotile can be used safely under controlled conditions.

Emerging countries that need to develop their infrastructure for housing, water supply and sewage rely on chrysotile-cement products since these are the most cost-effective and durable products available. These products cannot be displaced by any substitutes at the same quality-price standards while responding to particular physical ground conditions such as for water supply and water sewage piping.

The main chrysotile producers will remain the same, with probably the exception of Zimbabwe and Brazil. Zimbabwe is an unknown at this time given that the drop in its production in 2004, compared to 2003, was so drastic. In the case of Brazil, a lot of pressure is being put on the government to seriously reconsider its commitment to chrysotile production and export. While not a chrysotile-producing country, a similar type of uncertainty is being seen in Peru where pressure, predominantly from non-governmental organizations, is presently being put on the government to change its position and eventually declare a phasing-out of all "asbestos" manufacturing and use in the country. Confident in the value and the capability of safely using chrysotile and chrysotile-based products, Peruvian construction unions are making efforts to enhance working conditions and to provide workers with training for increased safe handling of the substance in collaboration with the Canadian Chrysotile Institute.

Canada, now the fourth largest world producer, is being confronted with relatively high production and transportation costs, as well as fierce competition that keeps global prices down. However, it is envisaged that Canada will remain a key player since the price structure of chrysotile and chrysotile products is progressively adjusting itself to the demand and to the reality of production costs.

Asian countries, particularly India and China, will continue to increase their consumption in order to respond to pressing needs in terms of infrastructure and growing industrial development.

*Notes: (1) For definitions and valuation of mineral production, shipments and trade, please refer to Chapter 64. (2) Information in this review was current as of April 29, 2005. (3) This and other reviews, including previous editions, are available on the Internet at [www.nrcan.gc.ca/mms/cmy/com\\_e.html](http://www.nrcan.gc.ca/mms/cmy/com_e.html).*

## NOTE TO READERS

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## TARIFFS

Item No.	Description	Canada			United States	EU	Japan
		MFN	GPT	USA	Canada	Conventional Rate (1)	WTO (2)
2524.00.10	Crude asbestos	Free	Free	Free	Free	Free	Free
2524.00.90	Other asbestos	Free	Free	Free	Free	Free	Free
6811.10	Corrugated sheets of asbestos-cement, of cellulose fibre-cement or the like	5%	Free	Free	Free	1.7%	2.6%
6811.20	Other sheets, panels, tiles, and similar articles of asbestos-cement, cellulose fibre-cement, or the like	5%	Free	Free	Free	1.7%	1.7%
6811.30	Tubes, pipes, and tube or pipe fittings of asbestos-cement, of cellulose fibre-cement, or the like	5%	Free	Free	Free	1.7%	1.7%
6811.90	Other articles of asbestos-cement, of cellulose fibre-cement, or the like	5%	Free	Free	Free	1.7%	1.7%
68.12	Fabricated asbestos fibres; mixtures with a basis of asbestos or with a basis of asbestos and magnesium carbonate						
6812.50	Asbestos clothing, clothing accessories, footwear and headgear	15.5%	Free	Free	Free	3.7%	2.6%
6812.60	Asbestos paper, millboard and felt	Free	Free	Free	Free	3.7%	2.6%
6812.70	Compressed asbestos fibre jointing, in sheets or rolls	Free	Free	Free	Free	3.7%	2.6%
6812.90	Other						
6812.90.10	Gaskets	Free	Free	Free	Free	Free-3.7%	2.6%
6812.90.20	Fabricated asbestos fibres; mixtures with a basis of asbestos or with a basis of asbestos and magnesium carbonate	Free	Free	Free	Free	1.7%	2.6%
6812.90.30	Yarn and thread	Free	Free	Free	Free	Free-3.7%	2.6%
6812.90.40	Cords and string, whether or not plaited	Free	Free	Free	Free	Free-3.7%	2.6%
6812.90.50	Woven or knitted fabric	Free	Free	Free	Free	Free-3.7%	2.6%
6812.90.90	Other	Free	Free	Free	Free	Free-3.7%	2.6%
6813.10	Asbestos brake linings and pads						
6813.10.10	For motor vehicles of heading nos. 87.02, 87.03, 87.04 or 87.05	7%	Free	Free	Free	2.7%	Free
6813.10.90	Other asbestos brake linings and pads	5%	5%	Free	Free	Free-2.7%	2.3%
6813.90.10	Clutch facings for motor vehicles of headings nos. 87.02, 87.03, 87.04 or 87.05	Free	Free	Free	Free	2.7%	Free
6813.90.90	Other asbestos friction material and articles thereof	Free	Free	Free	Free	Free-2.7%	2.3%

Sources: Canadian *Customs Tariff*, effective January 2005; Canada Border Services Agency; *Harmonized Tariff Schedule of the United States*, 2005; *Official Journal of the European Union* (October 30, 2004 Edition); *Customs Tariff Schedules of Japan, 2004*.

(1) The customs duties applicable to imported goods originating in countries that are Contracting Parties to the General Agreement on Tariffs and Trade or with which the European Community has concluded agreements containing the most-favoured-nation tariff clause shall be the conventional duties shown in column 3 of the Schedule of Duties.

(2) WTO rate is shown; lower tariff rates may apply circumstantially.

TABLE 1. CANADA, CHRYSOTILE (ASBESTOS) PRODUCTION AND TRADE, 2002-04

		2002		2003		2004 (p)	
		(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
<b>PRODUCTION (Shipments)</b>							
By type							
	Group 3, spinning	3 814	3 791	x	x	x	x
	Group 4, shingle	41 203	29 579	x	x	x	x
	Group 5, paper	61 268	27 454	x	x	x	x
	Group 6, stucco	84 969	25 609	x	x	x	x
	Group 7, refuse	50 987	11 737	x	x	x	x
	<b>Total</b>	<b>242 241</b>	<b>98 170</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
By province							
	Quebec	242 241	98 170	x	x	x	x
<b>EXPORTS</b>							
2524.00.10	Crude asbestos						
	India	393	175	3 054	1 428	9 041	3 200
	United States	1 554	317	302	74	254	64
	China	–	–	15	7	–	–
	<b>Total</b>	<b>1 947</b>	<b>492</b>	<b>3 371</b>	<b>1 509</b>	<b>9 295</b>	<b>3 264</b>
2524.00.21	Asbestos milled fibres, group 3 grades						
	India	650	853	525	687	3 435	2 834
	United Arab Emirates	840	1 092	1 116	1 451	1 743	2 265
	Pakistan	–	–	–	–	2 424	1 550
	Mexico	1 196	1 551	1 647	2 142	1 102	1 431
	Peru	18	23	54	70	288	374
	China	150	202	114	154	810	262
	Turkey	45	59	153	199	82	108
	Brazil	112	153	135	183	70	95
	Macedonia	75	101	50	67	25	34
	Indonesia	105	137	150	195	25	32
	Colombia	–	–	–	–	10	13
	United States	63	48	20	4	20	4
	Taiwan	–	–	–	–	1	1
	Algeria	250	325	300	390	–	–
	Argentina	2	3	–	–	–	–
	Bolivia	28	38	14	19	–	–
	Cuba	18	23	–	–	–	–
	Hungary	138	181	90	117	–	–
	South Korea	70	90	42	55	–	–
	Germany	–	–	12	16	–	–
	<b>Total</b>	<b>3 760</b>	<b>4 879</b>	<b>4 422</b>	<b>5 749</b>	<b>10 035</b>	<b>9 003</b>
2524.00.22	Asbestos milled fibres, groups 4 and 5 grade						
	India	30 951	20 038	17 768	13 935	36 470	24 908
	Thailand	33 001	21 037	24 116	15 930	20 573	9 232
	Indonesia	15 959	10 270	9 555	5 638	12 803	5 630
	Sri Lanka	3 032	2 632	2 270	1 957	5 142	4 459
	Pakistan	1 316	941	2 539	1 613	4 360	3 246
	United Arab Emirates	2 226	1 672	880	823	2 200	2 176
	Malaysia	4 193	3 431	2 474	1 734	3 326	2 152
	Brazil	30	32	160	109	2 880	2 057
	Japan	12 452	10 210	2 487	2 249	1 932	1 644
	Philippines	1 529	1 168	1 150	711	2 558	1 393
	Iran	500	131	400	146	1 960	1 317
	Algeria	8 130	7 404	6 260	5 470	1 410	1 315
	Mexico	2 607	1 900	2 309	1 629	1 768	1 120
	Colombia	1 267	1 044	734	605	995	841
	Bangladesh	1 414	900	1 402	768	1 600	774
	Ecuador	1 760	1 595	380	374	760	756
	El Salvador	1 814	1 542	1 986	1 640	720	601
	Egypt	–	–	–	–	600	576
	Senegal	530	507	658	631	467	448
	China	220	248	16	20	524	426
	Angola	420	262	800	640	502	413
	Turkey	1 492	1 000	1 023	832	575	403
	Taiwan	976	506	440	235	715	396
	South Korea	2 858	2 006	3 369	2 305	288	321
	Vietnam	80	87	80	87	272	295
	Morocco	452	341	364	263	346	242
	Peru	400	255	218	130	380	219
	Panama	230	134	300	97	720	210
	Portugal	3 664	3 412	358	364	180	190



TABLE 1 (cont'd)

	2002		2003		2004 (p)	
	(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
<b>EXPORTS (cont'd)</b>						
Venezuela	40	31	204	84	428	188
Jamaica	-	-	-	-	300	188
France	-	-	-	-	30	21
Germany	120	117	7	5	14	10
United States	21	4	-	-	20	4
Hong Kong	580	252	-	-	-	-
Mali	40	32	-	-	-	-
Dominican Republic	50	42	-	-	-	-
Cuba	2 540	2 023	-	-	-	-
Myanmar	600	538	-	-	-	-
Australia	370	297	-	-	-	-
Spain	1 437	829	-	-	-	-
Argentina	132	123	-	-	-	-
Tunisia	300	368	100	123	-	-
United Kingdom	24	20	-	-	-	-
Nigeria	-	-	100	82	-	-
Total	139 757	99 381	84 907	61 229	107 818	68 171
2524.00.29	Asbestos shorts, groups 6, 7, 8 and 9 grades					
India	19 824	8 466	15 614	6 168	15 125	6 043
South Korea	12 426	4 654	18 554	6 777	12 197	4 646
Thailand	7 931	3 386	5 040	2 247	5 152	2 184
Colombia	4 702	1 665	3 824	1 308	4 064	1 460
Indonesia	3 802	1 420	3 657	1 250	4 544	1 429
Japan	11 774	5 634	9 347	4 287	2 683	1 225
Malaysia	3 051	1 213	3 542	1 315	2 970	975
Sri Lanka	1 780	923	1 936	988	1 860	930
Taiwan	1 309	567	2 272	841	2 179	793
Venezuela	1 206	434	1 200	424	2 012	667
Mexico	3 497	919	3 517	898	2 399	648
United States	4 988	1 792	4 190	8 429	1 968	594
China	3 758	610	1 231	285	2 774	469
Pakistan	214	65	200	59	625	300
Senegal	852	345	970	393	740	300
United Arab Emirates	172	60	416	169	508	218
Philippines	1 089	616	852	498	452	194
Algeria	930	427	940	442	410	193
Portugal	932	367	534	252	380	154
Turkey	385	139	1 356	341	510	131
El Salvador	658	343	614	320	240	125
Iran	1 154	166	320	50	800	120
Angola	342	146	564	240	252	107
Brazil	36	12	46	17	283	104
Vietnam	440	125	370	105	320	97
Ecuador	418	209	98	44	140	61
Peru	40	24	100	38	120	50
Morocco	224	78	136	41	108	40
Bolivia	60	14	120	21	200	35
Cuba	120	87	200	101	60	30
Czech Republic	100	23	100	24	100	23
Germany	-	-	29	5	58	10
Kenya	-	-	-	-	20	5
Dominican Republic	75	12	75	12	25	4
France	-	-	-	-	10	4
Panama	80	42	-	-	-	-
Nigeria	120	35	-	-	-	-
Hong Kong	380	179	-	-	-	-
United Kingdom	17	5	-	-	-	-
Egypt	110	55	110	47	-	-
Australia	90	46	-	-	-	-
Argentina	377	86	-	-	-	-
Spain	211	60	-	-	-	-
Total	89 674	35 449	82 074	38 436	66 288	24 368

TABLE 1 (cont'd)

		2002		2003		2004 (p)	
		(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
<b>EXPORTS (cont'd)</b>							
6811.10	Corrugated sheets of asbestos-cement, of cellulose fibre-cement, or the like						
	United States	..	8	..	10	..	10
	Saint Pierre and Miquelon	-	-	-	-	..	3
	Cuba	-	-	..	8	-	-
	Total	..	8	..	18	..	13
6811.20	Sheets n.e.s., panels/tiles, etc., of asbestos-cement, cellulose fibre-cement, etc.						
	United States	..	15 403	..	12 859	..	10 483
	Singapore	-	-	-	-	..	83
	Cuba	-	-	..	22	..	62
	Saint Pierre and Miquelon	-	-	-	-	..	11
	Aruba	-	-	-	-	..	8
	Hungary	-	-	-	-	..	...
	South Africa	-	-	-	-	..	...
	South Korea	..	840	..	666	-	-
	Portugal	..	46	-	-	-	-
	Bermuda	-	-	..	14	-	-
	France	-	-	..	8	-	-
	Jamaica	-	-	..	20	-	-
	Japan	-	-	..	15	-	-
	Saint Kitts and Nevis	-	-	..	7	-	-
	Saudi Arabia	-	-	..	14	-	-
	Total	..	16 289	..	13 625	..	10 647
6811.30	Tubes, pipes, and tube or pipe fittings of asbestos-cement, of cellulose fibre-cement, etc.						
	Bermuda	-	-	-	-	..	...
	Portugal	-	-	-	-	..	...
	United States	..	17	-	-	-	-
	Cuba	-	-	..	249	-	-
	Total	..	17	..	249	..	...
6811.90	Articles n.e.s. of asbestos-cement, of cellulose fibre-cement, or the like						
	United States	..	91	..	113	..	91
	Turkmenistan	-	-	-	-	..	28
	China	..	12	-	-	-	-
	Jamaica	..	19	-	-	-	-
	Poland	-	-	..	...	-	-
	Total	..	122	..	113	..	119
6812.50	Asbestos clothing, clothing accessories, footwear and headgear						
	Saudi Arabia	..	110	..	254	..	101
	United Kingdom	-	-	..	1	..	8
	Russia	-	-	-	-	..	3
	Greenland	-	-	-	-	..	1
	Cuba	..	5	-	-	-	-
	Guyana	..	...	-	-	-	-
	Taiwan	..	50	-	-	-	-
	United States	..	8	-	-	-	-
	Barbados	-	-	..	1	-	-
	Guatemala	-	-	..	10	-	-
	Jordan	-	-	..	29	-	-
	South Korea	-	-	..	...	-	-
	United Arab Emirates	-	-	..	107	-	-
	Total	..	173	..	402	..	113
6812.60	Asbestos paper, millboard and felt						
	United States	-	-	-	-	..	8
	French Polynesia	-	-	-	-	..	4
	Fiji	..	1	-	-	..	1
	New Caledonia	-	-	-	-	..	1
	Chile	-	-	..	...	-	-
	Costa Rica	-	-	..	...	-	-
	Saint Pierre and Miquelon	-	-	..	...	-	-
	Total	..	1	..	...	..	14

TABLE 1 (cont'd)

		2002		2003		2004 (p)	
		(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
<b>EXPORTS (cont'd)</b>							
6812.70	Compressed asbestos fibre jointing, in sheets or rolls						
	United States	..	964	..	596	..	661
	Cuba	..	38	..	9	..	51
	Mexico	-	-	-	-	..	5
	Switzerland	-	-	-	-	..	5
	Poland	-	-	..	1	..	3
	Peru	-	-	-	-	..	2
	Germany	..	32	-	-	..	1
	Chile	..	16	-	-	..	...
	Israel	-	-	..	11	-	-
	Saint Kitts and Nevis	-	-	..	...	-	-
	Total	..	1 050	..	617	..	728
6812.90.10	Asbestos building material, n.e.s.						
	Hong Kong	..	355	..	82	..	207
	Cayman Islands	-	-	..	5	..	159
	South Korea	..	84	-	-	..	154
	Bermuda	-	-	-	-	..	101
	Poland	..	37	-	-	..	93
	Ukraine	-	-	..	62	..	59
	Cuba	..	168	-	-	..	55
	South Africa	..	3	-	-	..	41
	Russia	-	-	-	-	..	22
	Japan	..	497	..	1 024	..	16
	United States	-	-	-	-	..	12
	United Kingdom	..	94	-	-	..	12
	Chile	-	-	-	-	..	10
	Lithuania	-	-	-	-	..	10
	United Arab Emirates	-	-	-	-	..	10
	Antigua and Barbuda	..	40	-	-	..	5
	Serbia and Montenegro	-	-	-	-	..	5
	Jamaica	..	34	..	37	..	1
	Greenland	-	-	-	-	..	1
	Grenada	-	-	-	-	..	1
	Australia	..	1	-	-	..	...
	New Zealand	..	77	-	-	-	-
	Saint Kitts and Nevis	..	20	-	-	-	-
	Philippines	..	2	-	-	-	-
	Trinidad and Tobago	..	20	-	-	-	-
	Latvia	..	22	-	-	-	-
	Costa Rica	-	-	..	23	-	-
	Finland	-	-	..	20	-	-
	Guyana	-	-	..	4	-	-
	Saint Pierre and Miquelon	-	-	..	14	-	-
	Saudi Arabia	-	-	..	100	-	-
	Thailand	-	-	..	9	-	-
	Czech Republic	..	54	-	-	-	-
	Croatia	..	54	-	-	-	-
	Total	..	1 562	..	1 380	..	974
6812.90.90	Other asbestos fabricated products, n.e.s.						
	United States	..	311	..	123	..	117
	Cuba	..	25	..	7	..	98
	Russia	..	...	..	...	..	34
	India	-	-	-	-	..	10
	Trinidad and Tobago	-	-	-	-	..	2
	Norway	-	-	..	...	..	...
	United Kingdom	-	-	..	...	..	...
	Australia	-	-	-	-	..	...
	Germany	-	-	-	-	..	...
	Saudi Arabia	..	...	-	-	-	-
	Albania	-	-	..	...	-	-
	South Korea	-	-	..	14	-	-
	Total	..	336	..	144	..	261

TABLE 1 (cont'd)

		2002		2003		2004 (p)	
		(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
<b>EXPORTS (cont'd)</b>							
6813.10	Asbestos brake linings and pads						
	United States	..	87 145	..	64 436	..	48 244
	New Zealand	..	75	..	207	..	189
	Mexico	-	-	-	-	..	89
	Jamaica	-	-	..	16	..	55
	Trinidad and Tobago	-	-	..	15	..	49
	Switzerland	-	-	..	61	..	45
	China	..	2	..	37	..	30
	Lebanon	-	-	..	46	..	28
	Haiti	-	-	-	-	..	26
	Guyana	-	-	..	14	..	25
	Italy	-	-	..	35	..	25
	Australia	-	-	..	8	..	23
	Chile	..	17	-	-	..	19
	Honduras	-	-	-	-	..	18
	Bahamas	..	6	..	5	..	12
	United Kingdom	-	-	..	18	..	9
	South Africa	-	-	..	8	..	8
	Dominica	-	-	..	2	..	6
	Saint Vincent and the Grenadines	-	-	..	1	..	4
	Netherlands	-	-	..	...	..	4
	Sierra Leone	-	-	-	-	..	3
	Saint Pierre and Miquelon	-	-	..	1	..	3
	Saint Lucia	-	-	-	-	..	1
	Japan	-	-	-	-	..	1
	Hong Kong	-	-	-	-	..	1
	British Virgin Islands	-	-	-	-	..	1
	Antigua and Barbuda	-	-	..	...	..	1
	Brazil	..	12	-	-	..	1
	Netherlands Antilles	-	-	..	4	..	...
	Ukraine	-	-	-	-	..	...
	Afghanistan	-	-	-	-	..	...
	Aruba	-	-	..	...	..	...
	France	-	-	-	-	..	...
	Singapore	-	-	-	-	..	...
	Nigeria	-	-	..	6	-	-
	Norway	-	-	..	...	-	-
	Russia	-	-	..	4	-	-
	Malaysia	-	-	..	2	-	-
	Germany	-	-	..	39	-	-
	Spain	-	-	..	...	-	-
	Finland	-	-	..	...	-	-
	Congo	-	-	..	...	-	-
	Poland	..	...	-	-	-	-
	Kuwait	..	43	-	-	-	-
	Grenada	..	3	-	-	-	-
	Cuba	..	6	..	1	-	-
	Belgium	..	47	..	37	-	-
	Barbados	..	2	-	-	-	-
	Malta	-	-	..	...	-	-
	<b>Total</b>	..	87 358	..	65 003	..	48 920
6813.90	Asbestos friction material and articles, n.e.s.						
	China	..	7	-	-	..	45
	United States	..	21	..	8	..	28
	France	-	-	-	-	..	9
	Romania	-	-	-	-	..	5
	Chile	-	-	-	-	..	4
	Germany	..	66	..	...	-	-
	Italy	..	...	..	...	-	-
	Japan	..	...	..	...	-	-
	Poland	..	1	-	-	-	-
	United Kingdom	..	1	-	-	-	-
	<b>Total</b>	..	96	..	8	..	91
	<b>Total exports</b>	..	247 213	..	188 482	..	166 686

TABLE 1 (cont'd)

	2002		2003		2004 (p)	
	(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
<b>IMPORTS</b>						
2524.00.00.10	Crude asbestos					
	Colombia	...	...	-	-	-
	Zimbabwe	12	9	-	-	-
	Total	12	9	-	-	-
2524.00.00.90	Other asbestos					
	Zimbabwe	-	-	205	43	114
	United States	1	...	4	1	3
	Switzerland	-	-	-	-	...
	Austria	1	...	-	-	-
	United Kingdom	1	1	-	-	-
	Total	3	1	209	44	117
6811.10	Corrugated sheets of asbestos-cement, of cellulose fibre-cement, or the like					
	United States	65	81	1	3	1
	Belgium	5	6	-	-	-
	Denmark	10	16	-	-	-
	South Africa	11	13	-	-	-
	Japan	-	-	1	2	-
	Total	91	116	2	5	1
6811.20	Sheets n.e.s., panels/tiles, etc., of asbestos-cement, cellulose-fibre cement, etc.					
	United States	16 506	15 201	27 866	21 164	44 081
	United Kingdom	83	326	153	822	209
	Mexico	899	449	1 097	524	1 905
	Chile	-	-	341	411	805
	Malaysia	262	192	574	418	938
	Japan	...	2	382	762	142
	Switzerland	-	-	...	...	8
	Honduras	-	-	-	-	32
	Finland	...	1	2	6	15
	Zimbabwe	1	1	-	-	2
	South Africa	1	2	14	14	6
	China	-	-	...	...	...
	Pakistan	-	-	...	1	...
	Canada	-	-	-	-	...
	Israel	-	-	-	-	...
	Vietnam	-	-	-	-	...
	Belgium	16	30	3	8	-
	Denmark	14	15	15	17	-
	Germany	...	1	...	...	-
	Indonesia	...	...	...	...	-
	Sri Lanka	...	...	-	-	-
	Total	17 782	16 220	30 447	24 147	48 143
6811.30	Tubes, pipes, and tube or pipe fittings of asbestos-cement, cellulose fibre-cement, etc.					
	Pakistan	655	353	300	102	1 067
	Mexico	615	579	469	417	370
	China	-	-	2	4	2
	France	-	-	-	-	...
	United States	3	9	...	...	-
	Norway	-	-	...	1	-
	Total	1 273	941	771	524	1 439
6811.90	Articles n.e.s., of asbestos-cement, cellulose fibre-cement or the like					
	United States	124	572	155	531	177
	Denmark	111	132	163	243	115
	United Kingdom	...	...	4	43	8
	China	5	55	14	59	11
	Canada	1	4	4	31	4
	Finland	-	-	-	-	37
	Netherlands	-	-	4	14	...
	Germany	1	9	...	1	...
	Luxembourg	...	1	...	3	...

TABLE 1 (cont'd)

		2002		2003		2004 (p)	
		(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
<b>IMPORTS (cont'd)</b>							
	India	—	—	—	—	...	...
	Switzerland	—	—	—	—	...	...
	Italy	...	1	5	13	—	—
	Mexico	25	32	7	25	—	—
	Taiwan	...	...	—	—	—	—
	Vietnam	...	...	...	4	—	—
	Belgium	—	—	...	3	—	—
	Japan	—	—	20	41	—	—
	Malaysia	—	—	5	52	—	—
	<b>Total</b>	<b>267</b>	<b>806</b>	<b>381</b>	<b>1 063</b>	<b>352</b>	<b>954</b>
6812.50	Asbestos clothing, clothing accessories, footwear and headgear						
	United States	8	187	4	86	6	150
	Ireland	—	—	—	—	4	54
	China	...	3	...	1	...	6
	Taiwan	—	—	—	—	...	3
	United Kingdom	...	...	—	—	...	2
	Germany	...	1	...	6	—	—
	India	...	1	...	...	—	—
	Italy	1	17	...	...	—	—
	South Korea	...	1	—	—	—	—
	Mexico	...	...	...	...	—	—
	Russia	...	...	—	—	—	—
	Canada	—	—	...	3	—	—
	Japan	—	—	...	...	—	—
	Netherlands	—	—	...	...	—	—
	<b>Total</b>	<b>9</b>	<b>210</b>	<b>4</b>	<b>96</b>	<b>10</b>	<b>215</b>
6812.60	Asbestos paper, millboard and felt						
	United States	..	61	..	125	..	173
	Germany	..	...	..	9	..	28
	Japan	..	9	..	6	..	9
	United Kingdom	..	...	..	1	..	5
	Brazil	..	8	—	—	..	2
	Taiwan	..	...	—	—	..	1
	Italy	—	—	..	1	..	1
	France	..	...	—	—	..	...
	Czech Republic	—	—	..	26	..	...
	South Korea	—	—	—	—	..	...
	Sweden	—	—	—	—	..	...
	Hong Kong	..	...	—	—	—	—
	Mexico	..	...	—	—	—	—
	Netherlands	..	1	—	—	—	—
	Austria	—	—	..	...	—	—
	<b>Total</b>	<b>..</b>	<b>79</b>	<b>..</b>	<b>168</b>	<b>..</b>	<b>219</b>
6812.70	Compressed asbestos fibre jointing, in sheets or rolls						
	United States	29	586	25	491	21	454
	Brazil	17	301	19	291	13	244
	Austria	11	215	3	58	1	25
	South Korea	...	2	1	15	1	19
	South Africa	1	4	...	3	...	5
	Slovenia	—	—	...	2	...	5
	Switzerland	—	—	—	—	...	3
	China	...	...	...	1	...	2
	Turkey	—	—	—	—	...	2
	Canada	...	...	—	—	...	1
	Germany	...	1	...	1	...	1
	Japan	...	1	—	—	—	—
	Netherlands	...	1	1	3	—	—
	Taiwan	...	...	—	—	—	—
	United Kingdom	...	...	...	...	—	—
	Czech Republic	—	—	...	4	—	—
	<b>Total</b>	<b>58</b>	<b>1 111</b>	<b>49</b>	<b>869</b>	<b>36</b>	<b>761</b>

TABLE 1 (cont'd)

		2002		2003		2004 (p)	
		(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
<b>IMPORTS (cont'd)</b>							
6812.90.00.10	Asbestos belting						
	United States	211	1 122	372	1 549	531	1 433
	Japan	110	253	100	262	186	237
	Germany	10	148	9	137	32	117
	United Kingdom	1	12	1	13	8	46
	China	...	...	...	...	...	6
	Mexico	1	9	...	5	4	6
	Denmark	...	...	...	...	2	4
	Ireland	1	2	...	7	1	4
	Italy	...	3	...	3	...	3
	Brazil	...	1	...	2	...	2
	Taiwan	...	...	...	1	1	2
	Belgium	...	...	...	1	...	1
	Czech Republic	...	1	...	...	...	1
	Netherlands	...	...	...	1	...	1
	Canada	...	1	...	2	...	...
	Finland	...	1	...	...	...	...
	France	...	8	...	6	...	...
	South Korea	...	2	...	...	...	...
	Spain	...	1	...	...	...	...
	Sweden	...	1	...	3	...	...
	Turkey	...	...	...	...	...	...
	Slovenia	-	-	-	-	...	...
	Austria	...	2	...	...	...	...
	Slovak Republic	-	-	...	...	...	...
	Switzerland	-	-	...	...	...	...
	Hong Kong	-	-	-	-	...	...
	India	-	-	-	-	...	...
	Norway	-	-	...	...	-	-
	Kyrgyzstan	...	...	-	-	-	-
	Total	334	1 567	482	1 992	765	1 863
6812.90.00.90	Other asbestos fabricated products, n.e.s.						
	United States	..	622	..	460	..	39
	Austria	-	-	-	-	..	18
	Taiwan	..	4	..	17	..	14
	China	..	31	..	31	..	10
	Netherlands	-	-	-	-	..	3
	Brazil	-	-	-	-	..	2
	Germany	..	3	..	15	..	1
	Italy	..	...	..	12	..	...
	Japan	..	72	..	79	..	...
	Sweden	..	...	..	...	..	...
	United Kingdom	..	...	..	2	..	...
	Australia	..	...	-	-	-	-
	Canada	..	...	-	-	-	-
	Hong Kong	..	...	-	-	-	-
	Mexico	..	2	..	1	-	-
	Switzerland	..	2	-	-	-	-
	Singapore	-	-	..	...	-	-
	Total	..	736	..	617	..	87
6813.10	Asbestos brake linings and pads						
	United States	..	54 623	..	44 472	..	42 987
	Brazil	..	9 155	..	12 527	..	15 711
	China	..	2 975	..	3 614	..	3 841
	Japan	..	3 443	..	3 472	..	3 566
	Uruguay	..	1 902	..	2 015	..	1 398
	Germany	..	1 090	..	709	..	925
	Mexico	..	1 181	..	982	..	807
	United Kingdom	..	286	..	460	..	705
	Colombia	..	633	..	603	..	612
	South Korea	..	204	..	290	..	364
	Chile	..	271	..	247	..	331
	Canada	..	263	..	247	..	221
	India	..	191	..	344	..	212
	Hungary	..	418	..	122	..	179
	Sweden	..	115	..	89	..	104
	Taiwan	..	42	..	38	..	101

TABLE 1 (cont'd)

		2002		2003		2004 (p)	
		(tonnes)	(\$000)	(tonnes)	(\$000)	(tonnes)	(\$000)
<b>IMPORTS (cont'd)</b>							
	France	..	56	..	36	..	43
	Czech Republic	..	34	..	20	..	39
	Italy	..	111	..	44	..	38
	Austria	..	47	..	15	..	31
	Finland	..	...	..	7	..	14
	Spain	..	28	..	24	..	14
	Peru	..	2	..	3	..	13
	Poland	..	1	..	..	..	11
	Switzerland	..	...	..	3	..	6
	Belgium	..	...	..	...	..	3
	Norway	..	..	..	1	..	2
	Netherlands	..	1	..	1	..	1
	Denmark	..	...	..	2	..	1
	Australia	..	16	..	9	..	1
	Romania	..	4	..	..	..	...
	Turkey	..	...	..	...	..	...
	Hong Kong	..	1	..	105	..	...
	Philippines	..	9	..	..	..	..
	South Africa	..	13	..	..	..	..
	Belize	..	..	..	85	..	..
	Ireland	..	..	..	2	..	..
	United States Minor Outlying Islands	..	..	..	...	..	..
	<b>Total</b>	..	<b>77 115</b>	..	<b>70 588</b>	..	<b>72 281</b>
6813.90	Asbestos friction material and articles, n.e.s.						
	United States	..	5 005	..	3 686	..	4 296
	China	..	114	..	10	..	142
	United Kingdom	..	25	..	43	..	54
	Italy	..	56	..	42	..	50
	Germany	..	75	..	43	..	49
	Peru	..	42	..	84	..	36
	Japan	..	64	..	72	..	31
	Mexico	..	169	..	16	..	20
	Austria	..	62	..	58	..	15
	Taiwan	..	5	..	12	..	15
	Sweden	..	1 345	..	9	..	13
	India	..	5	..	..	..	10
	South Korea	..	..	..	...	..	8
	Denmark	..	2	..	4	..	6
	Colombia	..	80	..	25	..	6
	France	..	200	..	7	..	4
	Netherlands	..	...	..	3	..	4
	Argentina	..	..	..	3	..	3
	Turkey	..	..	..	3	..	3
	Chile	..	4	..	2	..	2
	Ireland	..	5	..	3	..	1
	Poland	..	2	..	...	..	1
	Canada	..	...	..	1	..	1
	Brazil	..	...	..	...	..	1
	Finland	..	4	..	2	..	...
	Australia	..	1	..	35	..	...
	Thailand	..	...	..	...	..	...
	Belgium	..	...	..	..	..	...
	South Africa	..	..	..	7	..	...
	Portugal	..	..	..	..	..	...
	Spain	..	..	..	..	..	...
	Norway	..	...	..	..	..	..
	Romania	..	11	..	..	..	..
	Switzerland	..	3	..	...	..	..
	Indonesia	..	..	..	15	..	..
	Sri Lanka	..	..	..	...	..	..
	<b>Total</b>	..	<b>7 279</b>	..	<b>4 185</b>	..	<b>4 771</b>
	<b>Total imports</b>	..	<b>106 190</b>	..	<b>104 298</b>	..	<b>116 468</b>

Sources: Natural Resources Canada; Statistics Canada.

- Nil; .. Not available; ... Amount too small to be expressed; (p) Preliminary; x Confidential.

Note: Numbers may not add to totals due to rounding.



**TABLE 2. CANADIAN CHRYSTILE PRODUCERS, 2004**

Producers	Mine Location	Normal Mill Capacity		Remarks
		Ore/Day	Fibre/Year	
(tonnes)				
<b>LAB Chrysotile, Inc. (1)</b>				Partnership owned 55% by LAQ and 45% by Mazarin Mining Corporation Inc.
Lac d'Amiante du Québec, Ltée (LAQ)	Black Lake, Que.	9 000	185 000	Open-pit. Since September 1989, LAQ has been owned by Jean Dupéré and successors, and Connell Bros. Company, Ltd. of the United States
Bell Asbestos Mines, Ltd.	Thetford Mines, Que.	2 700	100 000	Sold to Mazarin Mining Exploration Inc. on September 2, 1992
<b>Jeffrey Mine Inc.</b> Jeffrey mine	Asbestos, Que.	15 000	250 000	Open-pit (effective capacity reduced by one half since 1982)
Total of three producers at year-end			535 000	

Sources: Natural Resources Canada; The Chrysotile Institute; U.S. Geological Survey; South Africa Department of Minerals and Energy.

(1) A partnership involving two operating companies.

**TABLE 3. CANADA, CHRYSTILE PRODUCTION AND EXPORTS, 1988-2004**

	Crude Chrysotile	Milled Fibres	Short Fibres	Total
<b>PRODUCTION (1)</b>				
1988	14	399 551	310 793	710 358
1989	–	410 588	303 448	714 036
1990	–	379 047	306 580	685 627
1991	–	335 506	350 502	686 008
1992	–	259 819	327 175	586 994
1993	–	235 908	287 059	522 967
1994	–	249 862	280 995	530 857
1995	–	255 621	259 932	515 553
1996	–	241 188	265 088	506 276
1997	–	191 480	228 798	420 278
1998	–	156 997	164 333	321 330
1999	–	146 644	190 723	337 367
2000	–	129 513	180 206	309 719
2001	–	115 839	160 951	276 790
2002	–	106 285	135 956	242 241
2003	x	x	x	x
2004	x	x	x	x
<b>EXPORTS</b>				
1988	11 288	381 561	292 236	685 085
1989	17 198	379 601	312 915	709 714
1990	1 469	378 074	269 942	649 485
1991	2 302	353 391	330 360	686 053
1992	1 489	272 013	327 075	600 577
1993	1 739	229 000	279 695	510 434
1994	2 155	248 804	280 394	531 353
1995	968	251 251	257 356	509 575
1996	911	239 111	263 985	504 007
1997	2 793	196 967	230 482	430 242
1998	3 485	157 621	158 324	319 430
1999	2 503	145 471	184 432	332 406
2000	3 557	133 529	178 240	315 326
2001	2 298	119 362	150 656	272 316
2002	1 947	143 517	89 674	235 138
2003	3 371	89 329	82 074	174 774
2004	9 295	117 853	66 288	193 436

Sources: Natural Resources Canada; Statistics Canada.

– Nil; x Confidential.

(1) Producers' shipments.