

## Worksheet for world asbestos consumption calculations

Apparent consumption calculation made using production data available on 6-8-2015 from the USGS and trade data available on 6-5-2015 from the United Nations Commodity Trade Statistics Database (Comtrade)

Exports are reported as negative numbers.

"0" represent quantities less than 1 metric ton and are the result of rounding. Actual quantities are entered into individual spreadsheet cells and are included in totals.

### ASBESTOS PRODUCTION, TRADE, AND CONSUMPTION IN 2014 (Metric tons)

Region	Production	Imports	Exports	Apparent consumption <sup>1</sup>
<b>Europe</b>				
Andorra			-14	-14
Austria	--	6	--	6
Azerbaijan	--	319	--	319
Belarus	--	7,832	--	7,832
Belgium	--	0	-292	-292
Cyprus	--	0	-416	-416
Czech Republic	--	10	--	10
France	--	--	0	0
Germany	--	0	-1	-1
Gibraltar	--	--	-453	-453
Greece	--	--	-103	-103
Italy	--	--	-6	-6
Moldova	--	40	--	40
Netherlands	--	--	-10	-10
Norway	--	6	--	
Poland	--	--	-6	-6
Portugal	--	--	-1	-1
Romania	--	103	--	103
Serbia	--	0	--	0
Slovakia	--	77	-3	75
Spain	--	542	--	542
Switzerland	--	0	-61	-60
Ukraine	--	24,743	0	24,743
United Kingdom	--	323	-3	320
Other areas (nonspecified)	--	--	-76	-76
<b>Total (Europe)</b>	<b>0</b>	<b>34,003</b>	<b>-1,431</b>	<b>32,566</b>
<b>Africa</b>				
Algeria	--	0	--	0
Angola	--	409	--	409
Botswana	--	--	-19	-19
Egypt	--	0	-3	-3
Ghana	--	1	--	1

### Method for calculating apparent consumption of asbestos , by country

#### Method:

USGS estimates of asbestos production for individual countries and trade data reported in the United Nations (UN) Commodity Trade Statistics Database ([URLhttp://comtrade.un.org/db/](http://comtrade.un.org/db/)) are used to calculate apparent consumption, by country. Apparent consumption is calculated as "production + imports - exports." The calculation does not take into account stocks because those data generally are not available.

#### Caveats:

The UN receives the trade data from various governmental organizations around the world. I do not know how the UN processes the data or whether the UN attempts to verify the accuracy of the data. Given the vast amount of trade data received by the UN for all globally traded goods, it is unlikely that any form of data verification is used. In working with the UN trade data, discrepancies between data reported by countries exporting asbestos and countries importing asbestos are noted. For example, country A may report exports of X tons of asbestos to country B, but country B may report imports of 3X tons of asbestos from country A. Although much rarer, some data in the UN database appear to be erroneous entries based on historical trends in trade for some countries; estimates are made in these cases.

There probably are errors in data reported by some European Union (EU) and other countries to the UN similar to those found in U.S. trade data, namely that some nonasbestos products appear to be shipped under trade codes for asbestos and asbestos-containing products. This type of error could contribute to the confusion as to whether or not some EU countries and other countries still use asbestos, despite national or regional bans on its use. EU countries are included in the apparent consumption table as long as the UN indicated there was asbestos trade because the USGS does not edit the UN trade data set. That would require access to the individual shipping manifests, which probably are not available, and it would be a monumental task. Finally, it is not known how transshipments are reported by the UN. Some asbestos may be reported as being imported into a particular country, but if the shipment is a transshipment, it will then be moved on to another country. If the UN database does not account for this, then it could incorrectly appear that some EU countries were still using asbestos.

Because of these caveats, the apparent consumption estimates presented here are best used for determining trends in asbestos consumption over time rather than absolute asbestos consumption in a particular year for a particular country.

Lesotho	--	0	-8	-8
Madagascar	--	0	--	0
Mauritania	--	0	--	0
Mozambique	--	3	--	3
Namibia	--	32	--	32
Saint Helena	--	1	--	1
Sierra Leone	--	0	--	0
South Africa	--	40	-36	4
Swaziland	--	0	--	0
Tanzania	--	14	--	14
Togo	--	107	--	107
Zambia	--	71	--	71
Zimbabwe	--	5,977	--	5,977
Total (Africa)	--	6,655	-65	6,590
Central and North America				
Aruba	--	--	--	0
Barbados	--	--	0	0
Belize	--	--	--	0
Canada	--	378	--	378
El Salvador	--	730	--	730
Guatemala	--	--	-3	-3
Honduras	--	--	--	0
Jamaica	--	0	--	0
Mexico	--	12,179	0	12,179
Saint Vincent and the Grenadines	--	0	--	0
U.S.	--	423	-279	144
Total (North America)	--	13,710	-283	13,427
South America				
Argentina	100	--	--	100
Bolivia	--	6,276	--	6,276
Brazil	284,000	--	-129,767	154,233
Colombia	--	7,357	-294	7,063
Ecuador	--	4,474	0	4,474
Peru	--	60	--	60
Venezuela	--	4	--	4
Total (South America)	284,100	18,171	-130,062	172,209
Asia and the Middle East				
Bahrain	--	3	--	3
Bangladesh	--	124	--	124
China	400,000	147,527	-40,511	507,016
India <sup>a</sup>	270	379,043	-302	379,011
Indonesia	--	53,901	--	53,901
Iraq	--	142	--	142
Japan	--	--	0	0
Kazakhstan	240,000	128	-172,621	67,508
Korea, Republic of	--	27	--	27

Kyrgyzstan	--	5,566	0	5,566
Laos	--	540	--	540
Lebanon	--	15	--	15
Malaysia	--	2,742	--	2,742
Mongolia	--	89	--	89
Myanmar	--	45	--	45
Nepal	--	53	--	53
New Caledonia	--	--	-3	-3
North Korea	--	528	--	528
Pakistan	--	3,838	-216	3,622
Philippines	--	2,805	--	2,805
Russia	1,100,000	216	-492,389	607,827
Saudi Arabia	--	0	--	0
Singapore	--	1	-361	-360
Sri Lanka	--	52,214	--	52,214
Tajikistan	--	60	--	60
Thailand	--	42,625	-7	42,618
Turkey	--	--	0	0
Turkmenistan	--	64	--	64
Uzbekistan	--	57	--	57
Vietnam	--	9,194	--	9,194
Other areas (nonspecified)	--	399	0	399
<b>Total (Asia)</b>	<b>1,740,270</b>	<b>701,945</b>	<b>-706,411</b>	<b>1,735,804</b>
<b>Oceania</b>				
Australia	--	--	-8	-8
Fiji	--	0	--	0
Marshall Islands	--	--	0	0
New Zealand	--	3	-1	3
Papua New Guinea	--	0	--	0
Samoa	--	23	--	23
<b>Total (Oceania)</b>	<b>--</b>	<b>3</b>	<b>-8 0</b>	<b>-5</b>
Other areas (nonspecified)	--	854	-429	854
<b>Grand total (World)</b>	<b>2,024,370</b>	<b>775,340</b>	<b>-838,260</b>	<b>1,961,445</b>

Russian trade data was not reported in 2014 as of 6/5/2015. Russian exports of asbestos were based on reported imports of asbestos into other countries from Russia.

-- Zero.

<sup>1</sup>Apparent consumption calculated as production plus imports minus exports, not adjusted to account for changes in Government and industry stocks. A negative number indicates net exports during the year.

Source for production data was the 2014 U.S. Geological Survey Minerals Yearbook chapter on asbestos. Sources for import and export data was the United Nations Statistical Division at <http://unstats.un.org/unsd/default.htm>. Note that in some cases, imports reported by one country do not equal the sum of the exports reported by other countries and vice-versa. In these cases, the number included in the table was selected based on industry trends. Trade data is frequently revised so apparent consumption calculation is a snapshot as of June 2015, and may change in the future as new data is obtained.