

Asbestos of all fibre-types: decades of science, influence, deceit and harm

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The **MISSION** of those working in Public Health

- **To ...**

maintain, enhance, and promote health in communities worldwide ... work to protect the public health interest above any other interest ...

But,

*What to do when there is a collision
between evidence and politics?*

The evidence ...

Asbestos: What it is ...

Asbestos: What it's used for ...

**Asbestos: Its types and associated
fibres**

Asbestos: What is asbestos?

- *Asbestos is a natural mineral with unusual qualities. It is strong enough to resist high temperatures, chemical attack and wear. A poor conductor, it insulates well against heat and electricity*
- *Asbestos crystals become long, flexible, silky fibres, so it can be made into a wide variety of forms. It can be spun into yarn, woven into cloth or braided into rope. Asbestos can also be added to materials as diverse as cotton and cement*
 - *This combination of properties gives asbestos performance capabilities that are difficult to match*

What has asbestos been used for?

- **Asbestos has been used over the past 4,500 years. The ancient Greeks wove it into oil lamp wicks, funeral shrouds and ceremonial tablecloths. During the 1800s, it insulated the hot engines, boilers and piping that powered the Industrial Revolution.**
- **For half a century, until the 1980s, asbestos was used in office buildings, public buildings and schools. It insulated hot water heating systems, and was put into walls and ceilings as insulation against fire and sound.**
- **Asbestos has also been widely used in transportation and electrical appliances, frequently mixed with, and encased in, other materials.**
- **Asbestos is also found around the house, used in clapboard; shingles and felt roofing; exterior siding; pipe and boiler coverings; compounds and cement including caulk, putty, roof patching, furnace cement and driveway coating; wallboard; textured/ latex paints; acoustical ceiling tiles and plaster; vinyl floors; appliance wiring; hair dryers; irons/ironing board pads; flame-resistant aprons and electric blankets; and clay pottery.**

Asbestos Types and Associated Fibres

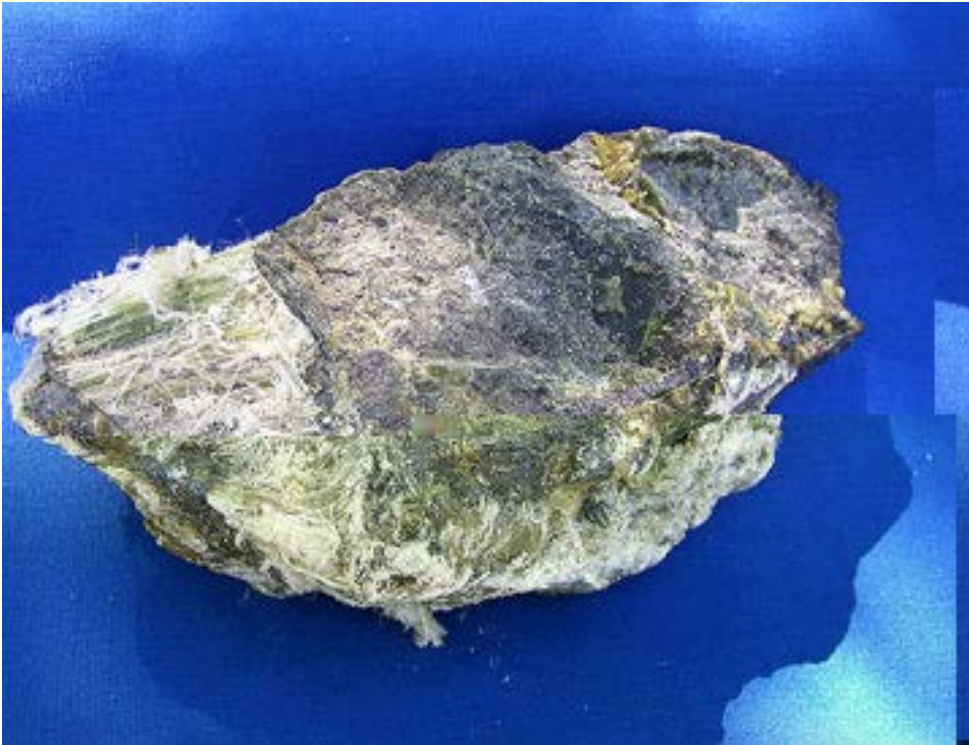
- Serpentine

- White (Chrysotile asbestos accounts for approximately 95% of asbestos found in buildings in the USA)

- Amphibole

- Brown
- Blue
- Other materials

Asbestos: Deadly Mineral



Chrysotile or **white asbestos** is the most commonly encountered form of asbestos.

(from Wikipedia)

Asbestos: Deadly Mineral



Blue asbestos showing the fibrous nature of the mineral. The ruler is 1 cm.

(from Wikipedia)



A small lake is seen at the bottom of the 2.5 kilometre-wide asbestos mining pit at Mine Jeffrey Inc. located in the town of Asbestos, Quebec, 170 kilometres east of Montreal on Thursday, April 22, 2010.

Today ...

- **Approximately 90 percent of asbestos produced today is used in asbestos-cement materials, such as roofing, pipes and water storage tanks, in developing countries.** The remainder is used mainly in brake pads, gaskets, and industrial textiles.

Producing Nations

- *In 2006, 2.3 million tonnes of Chrysotile asbestos were mined worldwide, with Russia, China, Kazakhstan, Canada, and Brazil producing 93% of this.*

The UN Rotterdam Convention

- Adopted in 1998, and effective in 2004, a process that requires of all current 143+ (152) member countries:
 - A scientific review panel, democratically appointed, to assess whether chemical substances should be listed under the Convention
 - At a two-yearly Conference of the Parties (COP) to the Convention, consensus political agreement is needed on recommendations from the scientific panel (the Chemical Review Committee)
 - If LISTED, the only requirement is for member countries that export listed chemicals to secure *prior informed consent* from importing countries, and to provide instructions on “safe use”

Why CHRYSOTILE asbestos must be added to the RC list

95% of all asbestos produced was CHRYSOTILE asbestos and, for more than 25 years, CHRYSOTILE asbestos represents the ONLY FORM OF ASBESTOS traded in the world

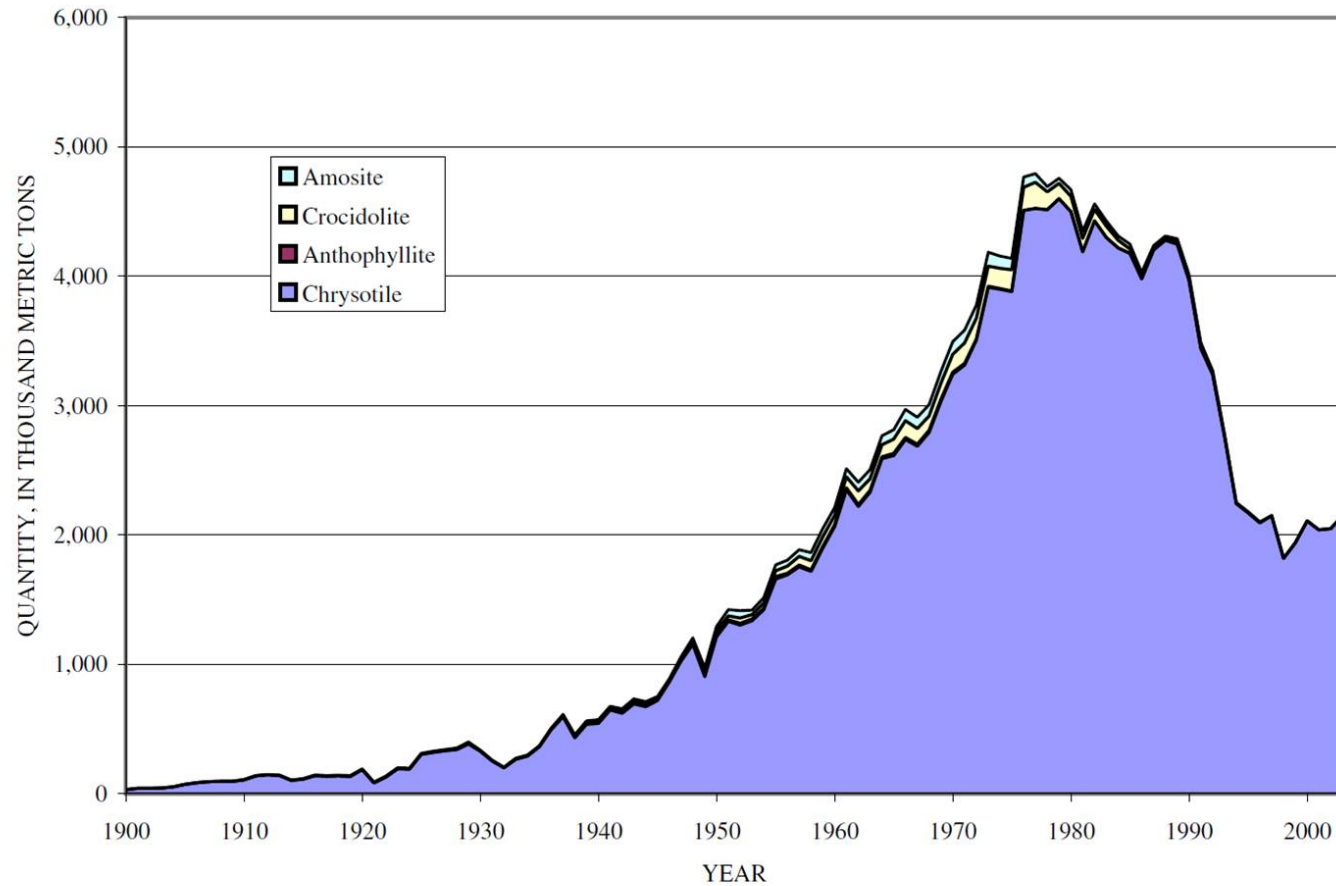


Figure 4. World production of asbestos, by type, from 1900 to 2003. About 2.81 million metric tons (Mt) of amosite, 460,000 metric tons of anthophyllite, 173 Mt of chrysotile, and 3.92 Mt of crocidolite were produced from 1900 to 2003. Sources: U.S. Geological Survey, 1901-1921, 1924-1932, 1997-2005; U.S. Bureau of Mines, 1934-1996.

History of health concerns and actions

- *Over the past 100 years, evidence has accumulated to implicate all types of asbestos in the causation of asbestosis, lung cancer and mesothelioma, among other health conditions.*
- *The IARC, WHO, ILO, Cancer, Public Health and Labour bodies – including the Collegium Ramazzini's two position statements – decry the use of all forms of asbestos internationally. Canada virtually does not use it, but saw fit to mine and export it until September, 2012; now, begrudgingly, it has promised to not obstruct its being listed as a hazardous substance.*

On ethics ...

The Ethical Public Health Practitioner

- Brings ethics to the grass roots ...
- “Do unto others as you would have them do unto yourself or your loved ones” (Golden Rule)
 - *Do your level best in the public interest*
 - *Call people on it when you find them not performing in the public interest*
- In accordance with **norms** of the field
- **Transparency** of collective values
- **Solidarity** on global health threats
- **Accountability** for actions taken

The **FUNDAMENTAL PRINCIPLES** of **BIOETHICS** include:

RESPECT FOR AUTONOMY

- **Requires respect for individual rights and freedoms**
(*voluntary vs. involuntary exposures*)

BENEFICENCE

- **Requires doing good**

NON-MALEFICENCE

- **Requires doing no harm**

JUSTICE (Social/Distributive)

- **Requires the fair and equitable allocation of resources to all without discrimination**

Other public health principles

- Protect the most vulnerable in society
 - *Beneficence*
- Involve communities in our research
 - *Respect for autonomy*
- Serve the public health interest above any other interest
 - *Beneficence and non-maleficence*

The principle of **SOLIDARITY**

- **This requires concerted action, especially on matters of a global nature**

VIRTUES OF PROFESSIONALS

- **Humility** – **Respect the input and opinions of others/Self-effacement**
- **Fidelity** – **Honour one's commitments/Promote trust**
- **Justice** – **Act fairly**
- **Patience** – **Take time to hear others' viewpoints**
- **Industry** – **Do your level best/Excel**
- **Veracity** – **Tell the truth/Be honest**
- **Compassion** – **Empathize**
- **Integrity** – **Demonstrate good moral character**
- **Serve** – **Protect the most vulnerable/Serve the public interest**
- **Prudence** – **Err on the side of caution/Demonstrate good judgment**

Hill concludes ... on causal inference

“All Scientific work is incomplete – whether it be observational or experimental. All scientific work is liable to be upset or modified by advancing knowledge. *That does not confer upon us a freedom to ignore the knowledge we already have, or to postpone the action that it appears to demand at a given time.*”

The politics ...

Canada's double standard on asbestos

Government says known carcinogen is too risky for use in Canada, but that doesn't prevent it from pushing chrysotile sales abroad

COLIN L. SOSKOLNE
AND DAVID V. BATES

Many of us are aware of asbestos remediation programs in schools, offices and public buildings. These programs are designed to safely remove asbestos, formerly used in the construction of buildings, because of its proven link to cancer and lung disease.

The inconvenience associated with remediation efforts is regarded as necessary to protect people's health, especially the health of younger people. Exposure today can result in cancers and lung diseases several decades later.

This inconvenience to Canadians pales, however, in contrast to the hardship experienced by people who buy chrysotile asbestos from us and thereby continue to risk illness and premature death.

As a beacon of civilization, should Canada be concerned with such matters?

How immoral it is that Canadians are involved in pushing a product, no longer considered safe in Canada, to countries less advanced in protecting public health.

Clearly, we should be disgusted that our federal government is complicit in concealing the harm from asbestos in exporting it. Given that the asbestos fibre type from Quebec — known as chrysotile — poses a cancer risk to humans, we certainly should not be permitting its extraction and worldwide distribution.

Yet, our government is directly engaged in mining, marketing and exporting chrysotile asbestos products abroad, to countries without our institutionalized awareness of the harms caused by asbestos.

Big business in Quebec

The province of Quebec, rich in asbestos reserves, remains the world's

“We need to acknowledge that, by selling chrysotile asbestos, Canada is engaged in a duplicitous act based on a double standard: chrysotile asbestos is not safe enough for Canadian use, yet it is safe enough for Indonesians and others outside of our borders!”

fourth largest producer of chrysotile asbestos. Quebec's political influence with the federal government is exploited by chrysotile stakeholders for economic advantage. Stakeholders promote the product through deception, aided and abetted by academics, paid handsomely to downplay the health hazards, both locally and abroad. Spurred on by the interests of asbestos shareholders, the pro-asbestos propaganda ignores both the social and health consequences of chrysotile asbestos.

Last month, a chrysotile asbestos marketing and promotion exercise took place in Indonesia. There, the asbestos lobby, supported by its pet scientists, argued ad nauseum at an “international scientific symposium” that the new and improved, name-sanitized “chrysotile” is safe for use in Indonesia. This exercise was sanctioned by the Canadian government. Canada provided its logo, embassy, and our tax dollars to perpetuate a lie about a toxic product we will not use here, but that we export, harming the health and well-being of people abroad.

The government of Canada produced

a colourful program announcement.

Speakers included Clement Godbout, chairman of the International Chrysotile Institute (the new asbestos-free name of the Quebec-based Asbestos Institute); some Canadian government mines official (from Quebec); a representative of the Russian asbestos industry, Dr. Ericson Bagatin, who works closely with the Brazilian asbestos lobby; an Indonesian asbestos industry person, and perennial asbestos industry-paid consultants, Drs. David Bernstein and John Hoskins. The program was rounded off by selected Indonesian bureaucrats.

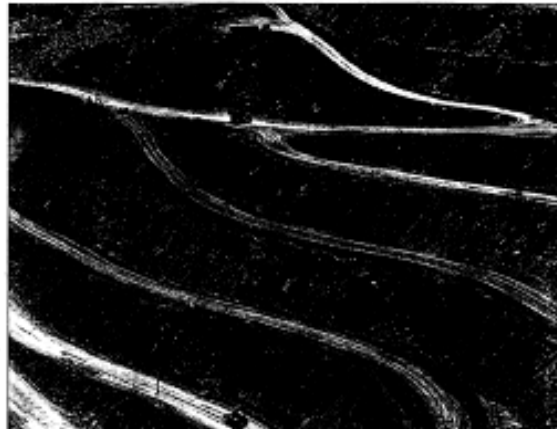
In an impressive-looking invitation, issued under the auspices of the Canadian embassy, anyone who had any questions or conscience at the end of this affair was welcomed to a networking cocktail party.

A one-sided gathering

Notably absent was Dr. Zulmiar Yanri, head of the occupational safety and health centre for Indonesia. Also missing was Dr. Douglas Henderson, an Australian pathologist whose appointment and expertise were instrumental in the decision to dismiss Canada's case against the French asbestos ban at the World Trade Organization a few years ago. The reason for Yanri's absence was that she had wanted to bring Henderson's objectivity to this otherwise biased event. And, when her suggestion was rejected by the sponsors, she expressed her solidarity to the cause of public health by not attending.

This is but one example of pro-asbestos bias operating at the highest levels of our government. There are many more examples from India and Brazil, Mexico and Chile.

Since the French government maintained its national ban on asbestos, the scientific evidence of the danger from low-intensity exposure to asbestos has



The Johns-Manville open asbestos pit mining operation in Asbestos, Que.

been reinforced. Indeed, there is every reason to link chrysotile asbestos exposure to a variety of lung cancers and other lung disease risks. With increasing global concern regarding asbestos, the government of Canada has become a pariah for its active support of this hazardous industry.

Government of Canada support for the Quebec asbestos industry has deep roots. The simple reality is that the federal government supports the Quebec asbestos mining industry presumably for political gains.

Concerned scientists and citizens need to unify to shut down an industry that has caused death and destruction at home and abroad. We need to acknowledge that, by selling chrysotile asbestos, Canada is engaged in a duplicitous act based on a double standard: chrysotile asbestos is not safe enough for Canadian use, yet it is safe enough for Indonesians and others outside of our borders!

By not condemning our government's support of the chrysotile asbestos industry, Canadians become complicit in both harming and killing innocent victims abroad. Canada must join the dozens of countries in Europe, Latin America, Asia and Africa that have banned asbestos.

In May, our government is supporting yet another feel-good international conference on chrysotile asbestos, this time in Montreal. When will its collaboration with the asbestos industry cease?

Colin L. Soskolne is an occupational and environmental epidemiologist and professor of public health sciences at the University of Alberta.

David V. Bates is professor emeritus of medicine at the University of British Columbia.

Judge Miles W. Lord, 1982

On *“Corporate Ethics and Environmental Pollution”*:

- *“Corporations create 80% of our GNP. They, of all entities working, have the most potential for good or evil in our society.”*

“Industry’s offensive against the regulation of health and safety hazards uses academics to downplay or deny the seriousness of the hazards...”

**Clayson and Halpern
J. of Public Health Policy
September, 1983**

Manufacture of doubt

- **David Michaels' work** (2005, 2008)
- **Devra Davis' work** (2007)
- **Lorraine Mallinder, *Deadly Secret***
In: Canada's History (Apr – May, 2011)
 - **They demonstrate the fomenting of uncertainty ... and of malfeasance**
→ *The policy-maker's conundrum*

*The **Four D's** applied to scientists whose research does not support the status quo*

- **DENY** – reject the proposition of a connection
 - **DELAY** – more research; commission studies
 - **DIVIDE** – junk science vs. best practice
 - **DISCREDIT** – malign author & the work
-
- ***DISMISS***

Yet ...

Canada's Behaviour through the COP-5

- *Because those who hold positions of power are accountable for the decisions they take, the more serious the consequences of the decision, the higher the level of accountability and transparency required. This is the foundation of human rights and democratic freedoms.*
- *So, when those who hold high positions of public trust take decisions that will cause a loss of life and refuse to provide any reason for their action, this is a serious violation of human rights and democratic accountability.*

In fact, ...

- *The government of Canada not only refused to allow Chrysotile asbestos to be put onto the RC's list of hazardous substances, it refused to give any reason either to the Canadian public in whose name it acts, or to the delegates taking part in the COP.*
- *Dictators feel no necessity to give reasons for how they wield power over others. The conduct by the Canadian government at the RC COP is a disturbing example of how a country that claims to be democratic showed total disregard for human rights and democratic accountability.*

Indeed, ...

- *The right to prior informed consent with regard to hazardous substances, as provided by the Convention, is a critical public health tool.*
- *It is a right that Canadians enjoy.*
- *The refusal of the government of Canada to allow developing countries to have that right is a disturbing example of a double standard, where those who are the most vulnerable, instead of being afforded the greatest protection from harm, are given the least protection.*

And, hot off the press

- **Canada's role in blocking the banning of asbestos in the USA ~20 years ago**
- **Canada at heart of global asbestos lobby**
- **The Canadian Government's mantra:**
“For 30 years, Canada has promoted the safe, controlled use of asbestos at home and overseas”
- **The role of APCO Worldwide, a PR Company, to lobby globally**

**In industry parlance,
this is so-called “Safe Handling”**



India: Not Everybody buys it!





- Bolts are to be fixed only on the crown of corrugation and not in the valley.
- Bolts are to pass through the second and the last corrugation of every sheet as shown in the figure.
- Do not fix bolts on the sheet at any point other than the one suggested.
- Do not exceed free overhang of 300 mm at the curves.
- Cot ladders must be used while working on the roof.
- Safety precautions as recommended must be followed.

**CAUTION:
DISINFORMATION!**



CAUTION

Asbestos cement products present no known risk on health as they contain only a small percentage of asbestos firmly 'locked in' with cement during manufacture. Follow recommended work practices during installation to avoid emission of dust. Inhaling of asbestos dust in excessive amounts over a prolonged period can be injurious to health.

RECOMMENDED WORK PRACTICES DURING INSTALLATION

- 1) To keep dust levels down, cutting and drilling operations must be carried out in the open or in well-ventilated areas.
- 2) Use hand-operated tools such as drills, hand-saws etc.
- 3) Use of pneumatic/ electric power tools and abrasive is not recommended.
- 4) Any waste created during working operations should be collected, after damping in impervious bags and buried underground.

For more information and assistance, please contact:



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Jon Stewart takes comical aim at Asbestos on *The Daily Show* from NYC



Click once to view the video
(From The Globe & Mail website,
Published on May 13, 2011)

ASBESTOS PRODUCERS & EXPORTERS

THANKS TO THE EFFORTS OF THE FEDERAL GOVERNMENT...

WE WILL CONTINUE TO MAKE A KILLING.

CANADA BLOCKS TREATY TO LABEL ASBESTOS AS 'HAZARDOUS'

GREG PERLEY

The principle of **SOLIDARITY**

- **Non-compliance with this principle is arrogant and disrespectful; its presents a double-standard in breach of international norms that are foundational to applied ethical conduct.**
- **Hence the label “rogue nation” is what I have applied to Canada ...**

Stop Canadian Death Export of Asbestos

PETER LEUPRECHT

- EDITORIAL, International Journal of Occupational & Environmental Health
<http://www.ijoeh.com/index.php/ijoeh/>
- Université du Québec à Montréal, Montreal, Quebec, Canada
- Dr. Leuprecht is Professor of Public International Law, former Director of the Montreal Institute of International Studies, former Dean of the Law Faculty of McGill University, and former Director of Human Rights and Deputy Secretary-General of the Council of Europe

And, he makes the point that ...

- From an ethical point of view, exporting a dangerous substance that is no longer accepted at home to other, mostly poor countries where it will sow death, cannot possibly be justified.
- **This is also a serious human rights issue. The export of asbestos threatens the human rights of people in the receiving countries, particularly the most fundamental human right: the right to life and the right to health.**
- **Human rights can be—and are being—violated not only by states, but also by non-state actors such as individuals, groups, and corporations.**
- **Corporate social responsibility and the responsibility of corporations with regard to human rights are high on the agenda of international institutions— and rightly so—especially the United Nations. As with other non-state actors, corporations and their leaders are accountable for human rights violations.**

In particular, he notes that ...

- *The producers of asbestos, asbestos product-manufacturing companies, and the scientists, lobbyists, and financial interests supporting them do not accept the scientific evidence. They are operating a massive, Orwellian “denial machine” ... The CBC program documented how powerful interests are trying to deny global warming, supported by scientists—or rather pseudo-scientists—some of whom had previously worked for “Big Tobacco” and received donations from coal and oil companies. The parallel is striking: In the same way that some have attempted to deny the human health dangers of tobacco and the dramatic consequences of global warming, the producers and supporters of asbestos are trying to make us believe that it is not dangerous or that there are possibilities of its “controlled” and “safe” use ...*
- *Once again, we see science pitted against spin.*

Russia and IARC (1 of 2)

Over the past four months, the head of IARC (C. Wild) has refused our request that he end IARC's collaboration with a scientist and institute that:

Deny all independent, reputable scientific evidence on chrysotile asbestos

For the past 15 years have misrepresented their own scientific findings in the Uralasbest project in order to promote the use of chrysotile asbestos

Act as lobbyists for the asbestos industry, carrying out political action, on behalf of the asbestos industry, to defeat proposed bans on asbestos overseas and to defeat the recommendation of the Rotterdam Convention's scientific committee to list chrysotile asbestos

Russia and IARC (2 of 2)

Persistent and long-term misrepresentation of scientific evidence in order to serve the financial interests of the asbestos industry and persistent and long-term lobbying to promote use of chrysotile asbestos do not meet IARC's scientific and ethical standards. Or has IARC abandoned those standards?

What we have seen from IARC's collaboration with the Russian scientists and institute to date is that IARC has lowered itself to their standards and not vice versa. IARC's presentation at the Kiev chrysotile promotion conference gave outdated and inaccurate information which minimized the harm of chrysotile asbestos so as to be very compatible with the asbestos industry's position. According to IARC's presentation, amphibole asbestos is 100 times less harmful than amosite asbestos and 500 times less harmful than crocidolite, and ratios presented demonstrate that the mesothelioma-producing potential of chrysotile is so low that it is not possible to estimate the lung cancers caused by it. And former workers should be encouraged to stop smoking.

Discussion