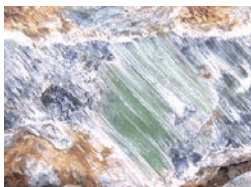


ASBESTOS IN KYRGYZSTAN

Asbestos - the common name of group of natural minerals from a class of silicates that consists thinnest flexible fibers. Asbestos containing breeds are widespread.



*Serpentine mineral
made of chrysotile asbestos*

Two main groups of asbestos minerals – serpentines and amphibioleds are of special interest. Chrysotile asbestos, called also “white asbestos”, is a fibrous version of serpentine - a mineral of a subclass of layered silicates.

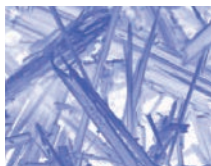


*Crocidolite mineral made
of amphibiole asbestos*

The five minerals belong to group amphibioles. Serpentines form the combined, braided or bent fibers. Amphibola have straight needle shape fibers.

Fibers of asbestos under microscope

*Amphibole
asbestos*



*Chrysotile
asbestos*



Features of asbestos



High thermal stability,
fusion temperature 1500°C



Breaking strength,
elasticity, spinning features



Firmness to acids
and alkalis



High soundproof and
electric proof features

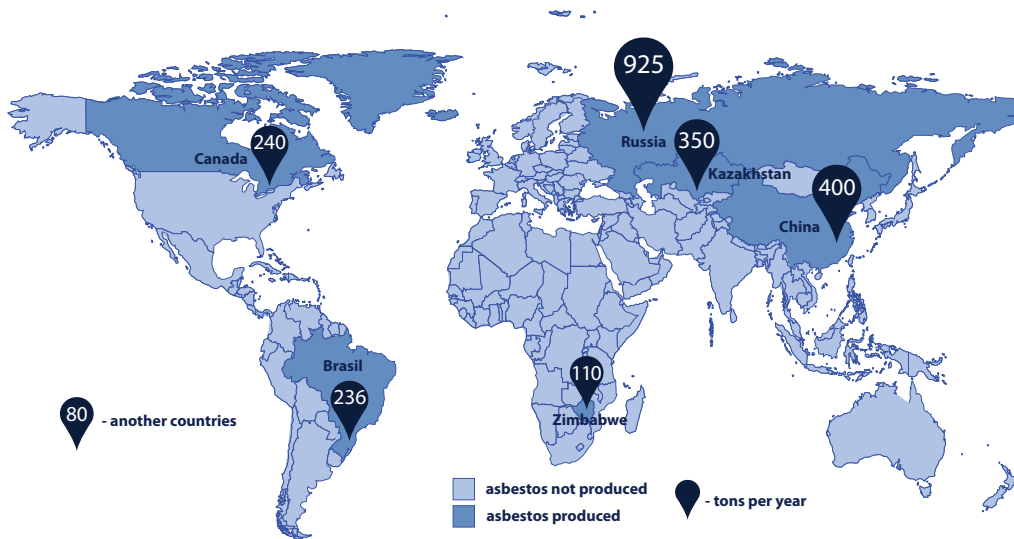
ALL TYPES OF ASBESTOS ARE HAZARDOUS!

Formula of Chrysotile Asbestos
 $3\text{MgO}\cdot 2\text{SiO}_2\cdot 2\text{H}_2\text{O}$

THE WORLD USE OF ASBESTOS

USE OF CHRYSOTILE ASBESTOS

Production of Asbestos in 2006



Source: www.mesothelioma.us - U.S. Geological Survey, Mineral Commodity Summaries, January 2004

LLC "Kant TShP"

The enterprise for production of products with use of asbestos in the Kyrgyz Republic is located in Chui Province. LLC "Kant TShP" was earlier a part of the Kant Concrete and Slate Industrial Complex which was established in 1964.

LLC is specialized on production of big size sheets of slate of the unified and average profile as well as pipes made with use of asbestos and concrete with diameter 150, 200, 300, 400 mm.

The plant is surrounded by a sanitary and protective zone which makes not less than 1000 m.

LLC TShP in Kyrgyzstan, in production of slate and pipes made with use of asbestos and concrete use chrysotile asbestos which is imported from Russian and Kazakhstan.

Production from asbestos

Asbestos is used in space equipment, machine-building area, production of construction and heat isolating materials.

In combination with other materials it is used for manufacturing of fire-resistant materials, isolation for electric equipment, special uniform with protective functions.

The following materials are produced in Kyrgyzstan:



Asbestos and concrete containing sheets – slate



Asbestos and concrete containing pipes pressure free and high pressure

The trade of asbestos production in the markets of Kyrgyzstan





The ways of intake of asbestos by an organism

Mineral fibers are rather steady and can be found in an environment being there for a long time. They can be transferred with air masses and water streams on big distances.

The most negative cause on health of the person is rendered by concentration of fibers of asbestos in the air. These fibers make small fraction of a fibrous aerosol in the atmosphere but they are practically everywhere.

According to V.V. Hudoley, professor of Chemistry Research Institute in St. Petersburg State University, "Proofs of carcinogenicity of asbestos for people are recognized as convincing. By the ICRA classification (International Cancer Research Association) asbestos is referred to group 1 cancerogenic risk, i.e. is unconditional carcinogen for a person».

Hudoley V. V., Mizgirev I.V. Ecologically dangerous factors. - Publishing house PUBLISHING HOUSE, SPb.: CJSC UPFF, 1996. - 186 pages



People who are constantly working or interacting with asbestos, in the course of its production, processing, at work with asbestos containing materials and not undertaking adequate measures of protection from a dust, asbestos can be developed - slowly progressing fibers of lungs. Asbestos is among pulmonary diseases

and develops within 10-20 years though its emergence in 1-2 years constant with asbestos was observed.

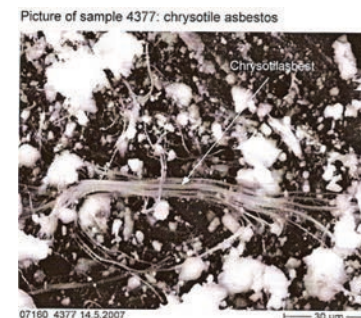
As a result of inhalation of fibers of asbestos cancer diseases may develop. According to WHO asbestos may cause such diseases, as a bronchial carcinoma (lung cancer) and a mesothelioma (a malignant tumor of a pleura or a peritoneum). Such diseases were observed even among people who were exposed to influence of asbestos for a short period of time. Usually cases of a malignant mesothelioma may cause a sudden death.

**THERE IS NO KNOWN THRESHOLD FOR SAFETY -
EVEN ONE FIBRE CAN KILL**

It had been proved that smoking increases the death rate from asbestos and lung cancer among those who were exposed to influence of asbestos. In the early 70-ies of the XX century large-scale fundamental researches of scientists-physicians have proven that working with asbestos for a long period of time may cause oncological diseases. ICRA included asbestos in group of substances with authentically proved cancer genic features.

WECF tested chrysotile asbestos

Asbestos samples were bought in Almaty, Stepanovka and Garla Mare. The test had taken place in the accredited laboratory in Germany. The results of the test have proven that chrysotile asbestos in our countries (CIS) belongs to the type causing cancer.



Sample of fibers of asbestos

The position of the international and non-governmental organizations

WHO, ILO, the International program on chemical safety, European Union, International association of social safety, WTO, International commission on labor hygiene, International federation of workers of metallurgical industry and the Governments of over 40 countries call for a ban of chrysotile asbestos. Referring to the results of numerous researches, they urge all countries to refuse production and use of asbestos containing production.

The same position is supported by ROCA (Alliance of the Rotterdam convention) is the international coalition of the organizations prosecuting subjects of environmental protection, work and health of the person which works over promotion of full-scale and effective implementation of the Rotterdam convention. Vision of ROCA is the world in which people are protected from dangerous chemicals and have access to solid scientific data, the world in which trade of dangerous chemicals is carried out only on the basis of an agreement.

www.rocalliance.org

The goal of the Rotterdam convention - protection of human health and the environment by control of international trade by dangerous chemicals and pesticides.

The convention was adopted on September 11, 1998 in the city of Rotterdam (Netherlands) and came into force on February 24, 2004. 100 countries ratified the Convention. Kyrgyzstan signed the Convention in 1999 and ratified in May, 2000.

The Rotterdam convention regulates mutual information at international trade in separate dangerous chemicals. The list of substances also includes amphibole asbestos (actinolite, antophyllite, amosit, crocidolite, tremolit). The chemicals which are included in the Convention cannot be imported into the country without prior reasonable mutual consent was reached.

The convention gives an opportunity for each country to decide independently what substances potentially hazardous to health to import to its territory and what - to forbid in view of impossibility to provide their safe application.

Implementation of the Convention will promote distribution of bigger volume of information on the medical and environmental problems connected with use of dangerous substances which are included into the Annex of the Convention: prevention of an undesirable import, improvement of their regulation and encouragement of search of safer alternatives.

At the fifth Conference of the Parties (CP5) of the Rotterdam convention in June 2011 in Geneva the question of inclusion of chrysotile asbestos in the convention list was actively discussed. Two chemicals which were on the agenda by CP 5 - an alaxhlor and aldikabr are already approved for inclusion in the convention Appendix III. However the question of rather chrysotile asbestos should be included still had not been decided. The Ukraine, Kazakhstan, Kyrgyzstan, Vietnam, Sudan are among those countries which are against of its inclusion. Inclusion of chrysotile asbestos in the Appendix III, and respectively its formal approval by the convention will help the countries to protect the citizens from one of the very hazardous substances.

*Additional information can be obtained on a site of the Convention of
www.pic.int*

POSSIBLE WAYS OF CONTACT WITH ASBESTOS



"primary" - production, sorting, crushing;



"production" - production of the asbestos and products from it;



"construction" - any construction and installation works, for example, installation of the boiler equipment, laying of pipelines;



"environmental" - the industrial emissions of asbestos productions representing danger to people, living in the neighborhood;



destruction of the buildings constructed with application of asbestos and asbestos containing materials, without observance of the relevant standards;



and uncontrollable export, emission of an asbestos waste and a dust in environment;



"household" - use of asbestos and asbestos containing materials in a life, for example, asbestos was widely used during a certain period of time when manufacturing ironing tables.

Today use of chrysotile asbestos in inhabited and production construction is forbidden by World Health Organization. However the fragile materials containing chrysotile or one of amphybolite still are in buildings and remain to be a sources of impact on the person during operation, reorganization or demolition.

PRECAUTION MEASURES

It is recommended that the states in their estimates and actions consistently referred to the principles which will allow making reasonable decisions in the hygiene and ecology sphere as well as asbestos.

Such principles are as follows:

Precaution principle: even if the data on danger of asbestos are insufficient, it is necessary to observe a principle of precaution and WHO recommendation for taking measures to decrease the risk of influence of asbestos on health.

Principle «right to know»: the public, workers, the inhabitants of territories experiencing the influence of the asbestos industry, should know about danger of asbestos and diseases which can cause, about volumes of emissions of asbestos by enterprises, about concentration of asbestos in the air around the asbestos enterprises and at the work place. Such information should be available for free, actively spread by the enterprises, medical institutions, the state supervisory authorities.

Replacement principle: if possible to reorient production of other materials replacing with other substances rather than asbestos which are safer than asbestos.

The attention should be given to all life cycle of asbestos from production to waste management. It is necessary to provide also activities for restoration of buildings and the territories containing asbestos. If possible to update the relevant legislation and legislative standards.

The government should make a contribution to granting the public of scientifically reasonable truthful information. It is necessary to advance scientific researches of safe and available alternatives.

RECOMMENDATIONS

- If you use slate and other products with asbestos application, observe precaution measures: when cutting or sawing of products use protective equipment, cover with paint or other connecting structures slate and other asbestos containing products;
- When choosing construction materials, study the market and use whenever possible materials substitutes asbestos containing (if the safety is guaranteed);
- Do not throw out asbestos containing garbage on streets, don't store in houses, throw out on special places for construction materials;
- For collecting asbestos containing waste it is necessary to use the closed capacities - containers, bags or other container to exclude spread of asbestos dust in environment;
- If there is already asbestos in your house, do not try to remove it by your own. Pollution by fibers at its removal is much more hazardous;
- It is possible to significantly reduce the risk of hazard of asbestos by isolating it with other materials. For example, in a case with an isolating cover of pipes use special tape, varnishes, paints, etc. for covering surface.

If you work at the plant where the asbestos is used:

Asbestos containing materials are hazardous when the dust which is formed from the fibers of asbestos spread in the air.

- Familiarize with the legislation requirements concerning the work safety norms on hazardous productions;
- Demand implementation of these requirements by the employer;
- At failure to meet requirements of safety and protection of employees report to the trade unions, the Ministry of Health of the Kyrgyz Republic, the Ministry of Youth, Labor and Employment of the Kyrgyz Republic, the State Agency for Environment Protection and Forestry under the Government of the Kyrgyz Republic;
- Regularly pass medical check ups and follow up on your health state.

ALTERNATIVES TO THE ASBESTOS

Asbestos can be replaced by:

- materials on the basis of polymeric heat-resistant fibers, carbon and inorganic fibers;
- nonwoven materials on the basis of ultrathin chemical fibers;
- glass and carbon fiber – reinforced plastic

The main substitutes of chrysotile offered by the modern industry are cellulose, aramid, polyvinilalcohol (PVA), polypropylene, polyethylene, fiber glass, ceramic fiber.

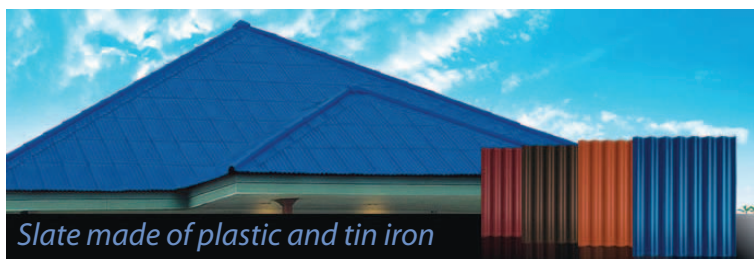


Ceramic plates



Natural stones

Materials for a covering of the roofs not containing asbestos



Slate made of plastic and tin iron

For more details about the substitutes please visit: www.siamcement.com/en, www.diamondtile.com, <http://www.atermit.com>, <http://www.kccworld.co.kr>

The following references had been used in the booklet: The foundation document of Alliance of the Rotterdam convention (ROCA) on preparation to KS-5 the Rotterdam convention. - 2011; Asbestos in Kyrgyzstan: usage, problems and recommendations. - Bishkek, 2011; Hrizotilovy asbestos: myths and reality. - Astana - Moscow - Kiev, 2008; Asbestos: reality, problems, recommendations. - Astana-Moscow-Kiev, 2008; Asbestos: attack to health. - Moscow, 2010; Inextinguishable mineral. - Moscow, 2010. www.wecf.eu, www.ecoaccord.org, www.pic.int, www.rocalliance.org, www.lhc.org.uk/

For more information please contact Tel: + (996-312) 614501, www.biom.kg

The Booklet was prepared by www.wecf.eu: Korotenko V.A., Krivykh A.V.



Federal Ministry for the
Environment, Nature Conservation
and Nuclear Safety

