

# Situation with asbestos in Bulgaria pre and after accession to EU

Denitsa Stoyanova-Smilyanova  
senior expert

Ministry of Environment and Water  
Bulgaria

[www.moew.government.bg](http://www.moew.government.bg)



# The Problem

- The substantial production and use of asbestos products in the period 1960-1990 realized at poor technical and technological level of dust prevention outlined the hygienic aspect of **the asbestos problem**.
- The annual asbestos consumption in Bulgaria by 1980 is shown in **Table 1**. Chrysotile was input in asbestos-cement products (pipes, plates, panels), in asbestos-perlite insulation shells, blocks, segments, in asbestos textile articles (ropes, cords, fillings, tissues), in squirted insulations of industrial equipment, in friction products, pressed materials for electronics, in diaphragms for electrolysis in chemical industry.
- Another major problem were the existing not re-cultivated areas, where significant quantities of asbestos containing waste was piled up.
- To a certain extend, the asbestos-related problem in the country is determined by the presence of naturally occurring asbestos admixture (anthophyllite, tremolite) in the tilled soils in some regions of the country (the eastern part of the Rodopi mountain).




## TABLE 1. ANNUAL ASBESTOS CONSUMPTION IN BULGARIA (1980)

<b>Asbestos type</b>	<b>Annual usage (tons)</b>
<b>chrysotile</b>	<b>38000 (imported mainly from Russia and Canada)</b>
<b>crocidolite</b>	<b>2000 (imported from South Africa)</b>
<b>anthophyllite, tremolite</b>	<b>7000 (Bulgarian production)</b>

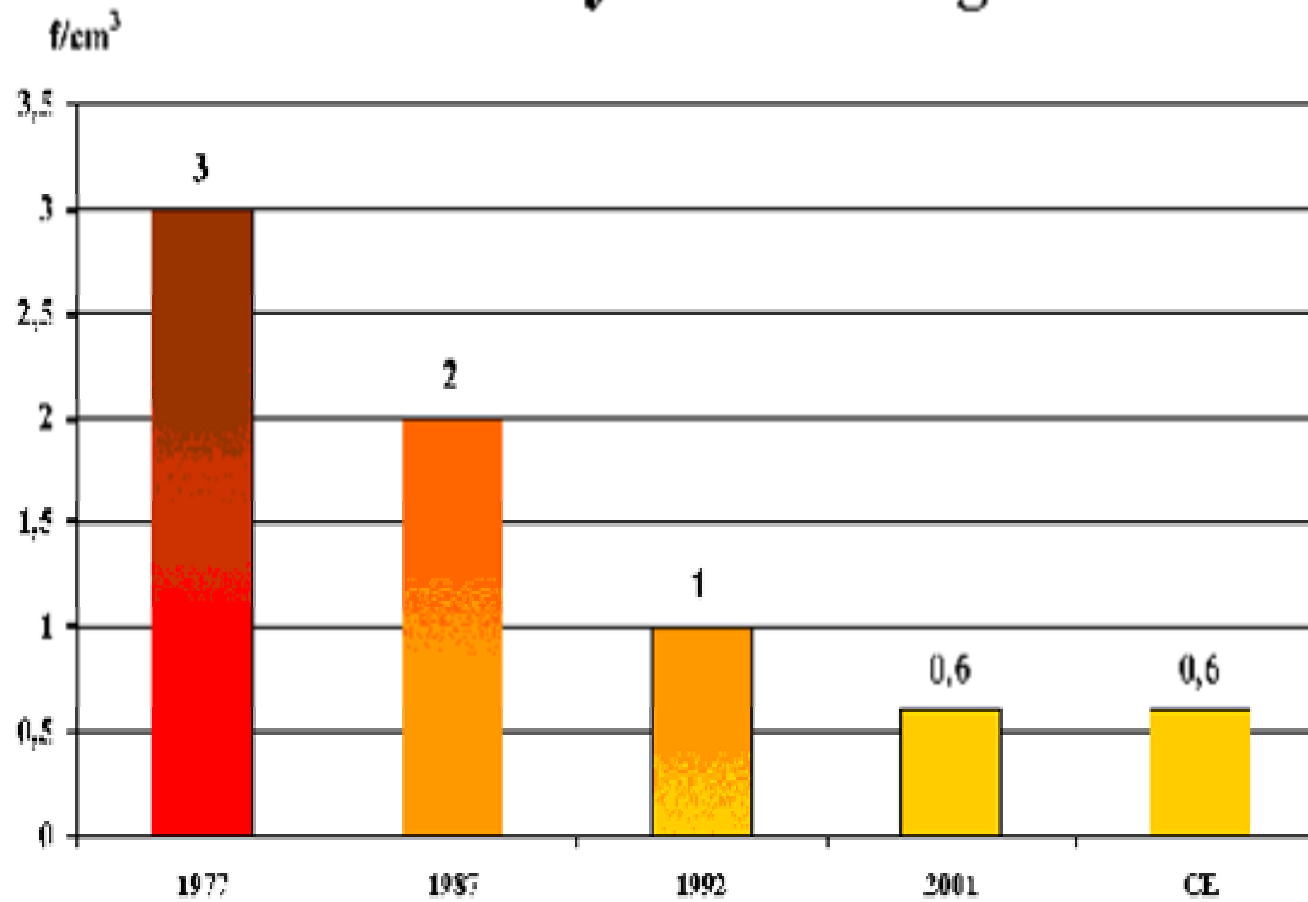



## Hygienic control on asbestos dust

- Performed since 1977. The measurement and assessment of asbestos concentration in working environment was initially made by stationary two-stage sampling and determination of asbestos contents in total dust and its respirable fraction by mass. For this purpose a method was developed and corresponding threshold limit values (TLV) by mass conforming with those of the former USSR were implemented.

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- A microscopic method in phase contrast for determination of the count concentration of respirable asbestos fibers ( $l > 5 \text{ mm}$ ,  $d < 3 \text{ mm}$ ,  $l/d = 3$ ) was studied, approbated and implemented. It was further improved to conform with WHO referent method. On this basis maximal threshold limit values (TLV) for concentrations were introduced, borrowed from the UK, which became the leading ones for Bulgaria. Following the development of scientific knowledge, the TLV for count concentration of chrysotile has been diminished several times intending to reach that of the EU in 2001.

## TLV for chrysotile in Bulgaria



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- The control of air dust pollution at workplace up to 1998 has been executed by the bodies of the State Sanitary Control at the Ministry of Health and after that – by the Regional Inspectorates on Protection and Control of Human Health.
  - The number of exposed workers by the year 2000 is about 25 thousand individuals.
  - The incidence of asbestos related disease, which has been reported for the period 1980 – 2000, totals 887 cases, incl. 45 of malignant pleural mesotheliomas. Many cases remain uncounted due to ineffective data collection procedures.



## First measures for limitation of the asbestos problem


- At considering the proven pathogenic effect of asbestos dust, the issue of prevention of human asbestos exposure and environmental pollution is a national priority.
- The first measures for limitation of the asbestos problem were being implemented through **Ordinance N 12/93 of the Ministry of Health**, developed according the basics of International Labour Organization Convention No. 162, regulating sanitary rules at import, manufacture and use of asbestos and asbestos-containing materials and products.






■ This Ordinance **bans**:

- ✓ import and use of crocidolite and amosite;
- ✓ production and use of asbestos materials and products which have safe and accessible substitutes;
- ✓ use of asbestos-cement materials for construction of living buildings, health and education facilities, kindergartens, sport and leisure facilities;
- ✓ construction of squirted asbestos insulations and covers;
- ✓ transport and storage of asbestos in the open and re-use of asbestos product packages.

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- **Permit regime** is being introduced for import, manufacture, use and demolition of asbestos materials. There are requirements for the employers to control asbestos dust in the working environment and organized emission sources; to provide protective garments and respiratory masks to the workers; to certify and label the production. In this sense **Ordinance 12/93 of the Ministry of Health** stipulates measures for protection of workplace and ambient environment from asbestos pollution, transposing to a great degree the major provisions of Directives **83/477/EC and 87/217/EC**.

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- The implemented measures lead to:
    - canceling the output and manufacture of Bulgarian asbestos material as well as asbestos-cement and asbestos-textile production.
    - restriction of the variety of imported asbestos materials to fitting boards, insulations, special paddings for petrochemical, chemical industry, energetics and friction products, mainly for heavy duty trucks;




- decreased volume of existing productions and respective decrease of the number of exposed workers;
- mitigation of asbestos exposure of major occupations to values below national TLV.
- wide introduction of less dangerous materials - alternatives to asbestos.




## Further measures for limitation of the asbestos problem

The preparation of the country for EU accession imposed the adoption of a number of ordinances in the field of human health protection at work with dangerous substances, including asbestos and prevention and reduction of environmental pollution by asbestos:

- Health Act (State Gazette No.70, **2004**);
- Law for healthy and safe labour conditions (SG No.108, **2008**);
- Environmental Protection Act (SG No.91, **2002**);
- Waste Management Act (SG, No.86, **2003**);

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- Ordinance No 9/ 04.08.2006 of the Ministry of Labour and Social Policy and the Ministry of Health on the protection of workers from risks related to exposure to asbestos at work (SG No.71, **2006**);
  - Ordinance No 5/ 15.04.2003 of the Ministry of Environment and Water on the prevention and reduction of environmental pollution by asbestos (SG No.39, **2003**);
  - Ordinance on the hazardous chemical substances and preparations subject to prohibition or restrictions on the marketing and use (SG No.69, **2002**);
  - Ordinance No 3/ 23.02.2010 on the format, content, order and way to present and preserve the declaration in accordance with article 15 (1) of the Law for healthy and safe labour conditions (SG No.19, **2010**);

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- Ordinance No 3/01.04.2004 on waste classification (SG No.44, **2004**);
  - Ordinance No 8/24.08.2004 on the conditions and requirements for construction and operation of landfills and other facilities and installations for waste disposal and recovery (SG No 83, **2004**).



## Main results


- **Bulgaria banned the import, production and use of all asbestos fibers and types of asbestos-containing products as of 1<sup>st</sup> of January, 2005.**
- **Permit regime** for the demolition/ removal of asbestos materials is introduced.
- **Control** of the asbestos concentrations at work **by regular measurements** of asbestos fibres in the air at the workplace is provided.
- **Medical surveillance** of the exposed workers is performed and every worker has a health dossier.





## Current highlights for further actions in the direction of solving the problem

- At present furnaces' repairing and disassembling of asbestos insulations from industrial equipment as well as destroying of old buildings containing asbestos materials constitute a problem - these activities shall be performed with special preparation and dust prevention equipment.
- Overall coverage of workers previously exposed to asbestos and subjects with asbestos-related diseases is still a challenge.

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- National campaigns on training of employers and workers dealing with asbestos and asbestos-containing materials and the public about the health risk from inhaling asbestos dust and preventive strategies shall continue to be carried out.
  - Participation of Republic of Bulgaria in **funded international projects on quality assurance at measurement and assessment of asbestos exposure**, as well as prevention and early diagnostics of asbestosis and asbestos-induced lung and other diseases.