Asbestos-related occupational diseases in Central and East European Countries

Summary

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Summary

This is the summary of a research report provided by Kooperationsstelle Hamburg IFE, as part of the project "Asbestos-related Occupational Diseases in Europe" commissioned and coordinated by the European Federation of Building and Woodworkers (EFBWW) with the financial support of the European Commission (VS/2012/0256). This report provides an overview on asbestos-related occupational diseases and the regulations and practices of monitoring and surveillance, recognition and compensation in 14 Central and East European (CEE) countries, namely: **Bulgaria**, **Croatia**, the **Czech Republic**, **Estonia**, **Hungary**, **Latvia**, **Lithuania**, **Poland**, **Romania**, **Serbia**, **Slovakia**, **Slovenia**, **Turkey** and **Cyprus**. A similar report covering 13 countries in Western and Central Europe was provided in 2006 (EUROGIP, 2006). The goal of the project was to encourage social dialogue in Central and Eastern European Member States and in candidate countries, to facilitate information and training of concerned workers as well as victims and to improve cooperation between trade union organisations and victims' organisations.

Asbestos properties

Asbestos is a descriptive term given to a group of minerals that occur naturally in the environment as bundles of fibres. Asbestos minerals are divided into two major groups: serpentine asbestos and amphibole asbestos. Serpentine asbestos includes the mineral chrysotile, which has long, curly fibres that can be woven. Chrysotile asbestos is the form that has been used most widely in commercial applications. Amphibole asbestos includes the minerals actinolite, tremolite, anthophyllite, crocidolite and amosite. Amphibole asbestos has straight, needle-like fibres that are more brittle than those of serpentine asbestos and are more limited in their ability to be fabricated (NCI, 2013). The WHO describes fibres critical to human health as fibres having an aspect ratio of 3:1 or greater, a diameter below 3 µm and a length greater than 5 µm (IARC, 2002)[1]. Asbestos types and CAS (Chemical Abstracts Service) Registry Numbers are shown in table 1.

Table 1: Asbestos types followed by CAS number

Asbestos type	CAS number	Other common names
Asbestos	1332-21-4	Unspecified
Asbestos serpentine		
Chrysotile	12001-29-5	White asbestos
Asbestos amphibole		
Asbestos amosite	12172-73-5	Brown asbestos
Asbestos anthophyllite	77536-67-5	Grey asbestos
Asbestos actinolite	77536-66-4	Unspecified
Crocidolite	12001-28-4	Blue asbestos
Asbestos tremolite	77536-68-6	Tremolite

CAS - Chemical Abstracts Service Registry Number

1. For details of asbestos such as chemical/ physical properties, human health effects, environmental fate and exposure or occupational exposure standards see the Toxicology Data Network (TOXNET)

Asbestos combines high qualities, in some applications still unmatched, with low price. Asbestos:

- is resistant to heat up to 1,000°C
- is resistant to many aggressive chemicals
- has good electrical and thermal insulating properties
- has high elasticity and tensile strength
- is easily incorporated into binding materials.

Picture 1: Asbestos (© sakura - Fotolia.com)

Commercial exploitation, with little thought for environmental controls, increased over the 20th century, particularly in the period of strong economic growth after 1945. The unique technical properties led to a boom in consumption; asbestos was used in huge quantities in buildings or ships, and also for many smaller applications, such as cigarette filters. In the first substitution projects of the 1980s, alternatives for more than 3,000 technical applications had to be found.

Asbestos use

World production of asbestos was estimated to be 1.98 million tons in 2012, according to the United States Geological Survey (USGS, 2012). Russia was the leading producer of asbestos, followed by China, Brazil and Kazakhstan. These four countries accounted for 99% of world production in 2012.

Despite the European ban, which came into force in 2005, asbestos production and import to the European market has not totally stopped.
According to USGS, there are four Eastern European countries which produced asbestos fibres between 1990 and 2010: **Serbia**, **Slovakia**, **Bulgaria** and **Romania**. Serbia was the leading manufacturer with an annual output of 314 to 4,500 tons between 1993 and 2006.

An overview of the production, export and import between 2000 and 2010 from the British Geological Survey (BGS: 2006, 2010, 2012) shows that **Slovakia** was the main producer of asbestos with 200 to 1,000 tons per year between 2006 and 2008, followed by **Bulgaria** with 66 tons in 2000. **Turkey** was the leading exporter of asbestos fibre with 42,000 tons in 2003, followed by **Lithuania** and **Bulgaria**.

Import data indicate large asbestos-related use in Eastern and Central European countries between 2000 and 2010. That means the health consequences of past asbestos use will be felt for many years. In 1992, **Hungary** became the first country in the region to ban the use of asbestos.

Turkey and **Romania** imported approx. 10,000 tons per year, followed by **Croatia**, the **Czech Republic**, **Hungary**, **Slovenia** and **Latvia**. **Bulgaria**, **Estonia** and **Poland** imported up to 500 tons per year. **Lithuania** imported 1,356 tons in 2006 only. No import data can be found from the BGS for Serbia.
According to the Hungarian Central Statistics Office, 3.7 tons of asbestos fibre and approx. 17,800 tons of asbestos products were imported into Hungary in 2010, and approx. 3,000 tons asbestos products were exported (NLO, 2013). It should be noted that the Directive 1999/77/EC of the European Union banned all types of asbestos use and processing as of 1st January 2005. In addition, the 2003/18/EC directive banned asbestos extraction and the manufacture and sale of asbestos products.

Production of insulation materials containing asbestos in **Croatia** ranged from 3.9 tons in 2008 to 52.3 tons in 2009 and 27 tons in 2010. Whereas, production of construction materials containing asbestos ranged from 510.5 tons in 2008 to 412 tons in 2009 and 610 tons in 2010 (NIPH, 2013).

Asbestos Exposure

Industrial sectors with significant asbestos use were: the asbestos textile industry, the asbestos cement industry (sheets, pipes), the construction industry (processing of asbestos cement products), the chemical industry (fillers for paints and sealant materials, synthetic resin materials, thermo-plastics, rubber products, filters), the insulation industry (heat, sound and fire insulation), the paper industry (asbestos paper, cord board), brake and clutch lining manufacture, shipbuilding and wagon construction. Exposure to asbestos fibres was also significant during demolition, renovation and maintenance work.

Exposure to asbestos fibres can occur when asbestos-containing materials are disturbed or removed. Compa-nies and workers specialised in removing asbestos should be aware of how to deal safely with these materials. Other workers such as plumbers, electricians etc. can uninten-tionally be exposed to asbestos-containing materials.

There is also non-occupational asbestos exposure. **Turkey**, for example, has widespread natural deposits of asbestos in its central and eastern regions. 1,320 cases of mesothelioma were recognised in Turkey between 2005 and 2009 (WHO, 2011). Some cases, however, may have been due to environmental asbestos exposure.

To protect workers from workplace hazards, the European Framework Directive (89/391/EC) on Safety and Health at work and some so-called daughter directives established basic rules for protecting the health and safety of workers. It sets out obligations for employers and workers, particularly with regard to limiting accidents at work and occupational diseases. The Directive also aims to improve workers' training, information and consultation. However, the existing directives are just a legal frame which has to be transposed into practical procedures.

Providing information about safer substitutes as well as developing economic and technological mechanisms to stimulate substitution, should be a major goal of the current asbestos policies in occupational and public health. For example the Substitution Portal SUBSPORT[2], presents numerous materials available to replace asbestos-cement construction materials and other asbestos products. Substitutes include synthetic and natural fibres such as polyvinyl alcohol, polypropylene, cellulose, soft-wood pulp, bamboo, sisal, coir, rattan shavings and tobacco stalks with optional silica fume, fly ash, or rice husk ash, etc. (SUBSPORT - 2013, WHO - 2005).

Medical consequences

The health hazards of asbestos had already been recognized in the early 20th century. In 1973, experts from the International Agency for Research on Cancer (IARC) Monograph Working Group concluded that there was sufficient evidence for carcinogenicity in humans and in cancer bioassays. All asbestos types have harmonised classification, according to CLP Regulation (No 1272/2008): H350 - May cause cancer, H372 - Causes damage to organs through prolonged or repeated exposure.

2. Useful information on substitution including relevant legislation, tools and practical examples is presented on the SUBSPORT website at www.subsport.eu

Asbestos is dangerous for human health when it is inhaled. Even low concentrations of asbestos fibres in the atmosphere can cause very serious diseases. Asbestos is dangerous because its fibres have a crystalline structure. When they are handled mechanically, the fibres split lengthwise into increasingly fine fibrils, which can be spread over a large area. If they are inhaled during handling, it is difficult for the body to break them down or get rid of them.

Asbestos fibres may stay in the lung tissue for many years and can cause various diseases. Therefore, exposure to airborne asbestos fibres must be prevented. All asbestos-related diseases have a long latency period (usually between 10 and 40 years from the start of exposure). The risk increases with both the length of exposure and the intensity of exposure. Table 2 shows an overview of asbestos-related diseases on the national lists of occupational diseases in CEE countries.

Table 2: Asbestos-related occupational diseases in CEE countries

Factors	Latency period	Diseases
• Fibre type • Fibre size • Fibre dose • Industrial process • Concentration • Length of exposure • Type of exposure (work, home, environment) • Smoking • Pre-existing lung disease	10 to 40 years	• Acute and chronic bronchitis • Asbestosis • Bronchial cancer • Gastrointestinal cancer • Laryngeal cancer • Mesothelioma (pleura, peritoneum, pericardium) • Pericardial thickening and plaques • Pleural plaques, thickening, effusion, hyalinosis, exudates and atelectasis

As the health consequences of exposure to asbestos became evident, public pressure rose to control its use. In some industrialised countries, such as Germany and France, the final decades of the last century saw decreases in exposure and also decreases in rates of asbestosis and pleural plaques. However, the number of lung cancers and mesotheliomas increased, and they are currently the most frequent diseases related to asbestos exposure in these countries. In less-industrialised countries, data on disease is sparse, and exposure remains high; rates of mortality may peak in the future. The following boxes provide information about asbestos-related diseases from the IBAS database[3].

Asbestos, which was for a long time a "miracle of geology", becomes a synonym for pain and death, and a problem of the industrialized world.

Savića and Fajković (2007)

Asbestosis This condition is a scarring of the lung tissue, which hinders lung elasticity. This, in turn, restricts expansion of the lungs and delays their ability to exchange gases, leading to inadequate oxygen in the blood. It results in victims experiencing very unpleasant shortness of breath, and, in severe cases, it can be fatal. This disease can take between 15-20 years between initial exposure to the onset of the disease.

Lung cancer Lung cancer is a disease of uncontrolled cell growth in the tissues of the lung which form a malignant tumour. The tumour then grows through the surrounding tissue, obstructing the air passage. Lung Cancer is also commonly caused by smoking. This disease can take 20 years from initial exposure to the onset of the disease; this delay is referred to as the latency period.

3. IBAS – International Ban Asbestos Secretariat, http://www.ibasecretariat.org/

Mesothelioma Considered the most severe asbestos related disease. This form of cancer affects mainly the pleura (lining of the lungs) and peritoneal (lining surrounding the lower digestive tract) but can arise in the pericardium or tunica vaginalis testis. It is almost exclusively connected with exposure to asbestos. It can take 30-40 years between initial exposure to the onset of the disease and fatality is almost certain within one to two years of diagnosis. There is no cure for this disease.

Other **cancer types** Other tumours to which asbestos has been linked include carcinoma of the larynx, bronchi and kidney and other locations such as gastrointestinal tract cancer.

Other respiratory diseases Pleural disease is the most commonly encountered mani-festation of asbestos-related disease. The pleurae are thought to be more sensitive to asbestos than the lung parenchyma. Pleural disease can occur as pleural effusion, plaques, hyalinosis, or thickening, as well as atelectasis. Pleural plaques tend to occur 20–30 years after exposure. The only medical reason for this disease is asbestos. Pleural thickening is a chronic condition with no cure, and normally takes ten years to develop from first exposure to asbestos.
Acute and chronic bronchitis can also result from occupational or environmental asbestos exposure. Bronchitis means that the tubes that carry air to the lungs are inflamed and irritated. Acute bronchitis usually comes on quickly and gets better after two to three weeks. It can be more serious in older adults and children and in people with other health problems. Chronic bronchitis keeps coming back and can last a long time. The patient has a cough with mucus most days of the month for three months of the year and for at least 2 years in a row.

Recognition of asbestos-related occupational diseases

Article 8 of the ILO Employment Injury Benefits Convention, 1964 (No. 121) indicates the various possibilities regarding the form of the identification and recognition of occupational diseases entitling workers to compensation benefits. Generally, there are three systems:

- Open system (every disease with sufficient proof that it is caused by occupational exposure is considered an occupational disease)

- Closed system (only diseases which are listed on the national list of occupational diseases can be recognized as such, e.g. in **Croatia**, **Cyprus**, **Lithuania**, **Poland** and **Serbia**

- Mixed system (a combination of open and closed systems), e.g. in **Bulgaria**, the **Czech Republic**, **Estonia**, **Hungary**, **Latvia**, **Romania, Slovakia**, **Slovenia** and **Turkey**.

The results of this research study show that all countries considered within the remit of this project have adopted the EU-list of occupational diseases in their own legal framework. All these countries recognise the main asbestos-related diseases: asbestosis, mesothelioma, and lung cancer. Other non-malignant pleural, pericardial and bronchial diseases are recognised only by some countries as occupational diseases, attributable to inhalation of asbestos fibres. Cancers in other locations such as laryngeal, bronchial and gastro-intestinal, are only recognised by some countries.

Other recognised asbestos-related diseases include acute and chronic obstructive bronchitis, and other pleural and pericardial diseases.

Laryngeal cancer was recognised as an occupational disease in **Lithuania**, **Latvia** and **Slovenia** in the 1990s and in **Cyprus**, **Czech Republic** and **Romania** in the 2000s.

Bronchial cancer was recognised as an occupational disease in **Poland** (1976), **Croatia** (1990), **Lithuania** (2006) and **Cyprus** (2007).

Acute bronchitis was included in the national list of occupational diseases in **Romania** (2005) and chronic obstructive bronchitis in **Poland** (1989).

Other pleural diseases are recognised in countries such as **Bulgaria**, **Croatia**, **the Czech Republic** and **Poland.** Other pericardial diseases are recognised in **Bulgaria**, **Croatia** and **Poland**.

In **Turkey**, rounded atelectasis and cancers of other locations can be also recognised. Anecdotal reports from Turkey indicate that few, if any, victims receive any compensation for these occupational diseases. However, official data on recognised asbestos-related diseases are not available.

Diseases such as acute and chronic obstructive bronchitis, pleural and pericardial diseases are not well-known and are only recognised by some countries as occupational diseases attributable to inhalation of asbestos fibres. They are non-malignant diseases, and hence, are approached less uniformly than the other diseases, as far as recognition is concerned.

The type of asbestos-related diseases in CEE countries and the date of entry into the national list of occupational diseases are shown in the following table.

Table 3: Recognition of asbestos-related diseases and year of entry onto national lists of occupational diseases

Country	Asbes-tosis	Lung cancer	Mesothe-lioma	Pleural plaques	Others
Bulgaria	+	+	+	+	+
Croatia[4]	1990	1990	1990	1990	1990
Cyprus	2007	2007	2007	2007	2007
Czech Republic	1947	1947	1996	1996	1996, 2011
Estonia	2005	2005	2005	2005	-
Hungary	1958	2007	2007	2007	2007
Latvia	2006	2006	2006	2006	2006
Lithuania	2006	2006	2006	2006	2006
Poland	1976	1976	1976	2002	1976, 1989, 2002
Romania	1985	1998	2005	2005	2005
Serbia	1975	+	+	-	-
Slovakia	1947	2003	2003	-	-
Slovenia	1997	1997	1997	1997	1997
Turkey	1972	1972	1972	1972	1972

+ Date unknown, - no recognition

Recognition criteria

The procedures for obtaining a diagnosis of an asbestos-related disease require medical examinations, work histories, and clinical examinations. There are many tools to aid the diagnosis of occupational diseases that are specific to each country. These are mostly handbooks, guidelines and protocols for assessment which are useful for experts when it comes to recognition of claims submitted by victims.

4. The list of occupational diseases exists voluntary from 1984

The most commonly used guidelines are the Helsinki criteria from 1997 for diagnosis and attribution of asbestosis and cancer, and the ILO practical guide ´National System for Recording and Notification of Occupational Diseases´. **Poland**, **Croatia** and **Slovakia**, for example, use the Helsinki criteria. **Bulgaria**, the **Czech Republic**, **Hungary**, **Serbia**, **Slovenia** and **Turkey** use the ILO International Classification of Radiographs of Pneumoconioses[5].

Latvia uses the 2009 Commission document "Information notices on occupational diseases: a guide to diagnosis".
Cyprus is currently working on the drafting of national guidelines on diagnostic criteria for occupational diseases. **Estonia**, however, has no established way to recognise occupational diseases. Nonetheless, it would be useful to have agreed criteria for diagnosing, recognising, and compensating occupational diseases, such as asbestos-related diseases.

In the **Czech Republic,** for example, an occupational disease cannot be reported without being supported by an appropriate hygienist's report. According to Czech legislation, asbestosis can be acknowledged according to ILO classification of chest radiographs. Pleural hyalinosis can be acknowledged, according to Lebedová et al. (2003), as can lung cancer which occurs in combination with pleural hyalinosis and/ or asbestosis. For mesothelioma, no additional criteria are required.

Under-reporting of asbestos-related occupational diseases

Almost all countries struggle with the problem of under-reporting of occupational diseases. The causes mentioned include: lack of knowledge, information, motivation and expertise among doctors, and the bureaucracy of the reporting system. Other factors are pressure from employers or compensation authorities, or insurance companies to occupational physicians. Additionally, workers may be afraid of the consequences if they report. The scale of undeclared work in countries has a major impact on the rate of asbestos disease recognition.

Consequently, large differences are observed from one country to another regarding the number of recognised asbestos-related cases. In **Slovenia**, for example, the annual asbestosis rate (cases of asbestosis/population) amounts to 14.9, in **Croatia** 5.3, and in **Poland** 2.1. Moreover, in **Estonia,** the incidence of asbestosis is unknown as there is no systematic collection of data . Explanations for these differences are:

- the size of the asbestos-exposed population varies due to economic activities (e.g. production or repair)
- time differences in implementing provisions protecting at-risk workers
- different policies for identifying workers formerly exposed to asbestos; **Poland** and **Slovenia** are very active in this area, and their initiatives are reflected in their statistics
- time lapses for the introduction of European law into national regulations; e.g. the **Czech Republic**, **Estonia**, **Hungary**, **Latvia**, **Lithuania**, **Poland**, **Slovakia**, **Slovenia and Cyprus** joined the EU in 2004

5. http://www.ilo.org/safework/info/WCMS_108548/lang--en/index.htm

- the different national systems for the recognition of occupational diseases: the late registration of non-malignant diseases on the occupational diseases list.

Table 4 presents rates of recognised cases of asbestos-related diseases in CEE countries in the last twenty years.

Table 4: Recognised asbestos-related diseases in CEE countries

Country	Asbestosis rate	Lung cancer rate	Mesothelioma rate	Pleural plaques rate
Bulgaria	N/A	N/A	N/A	N/A
Croatia	5.3	0.1	0.6	14.2
Cyprus	-	-	6.3	-
Czech Republic	0.5	0.2	0.2	1.3
Estonia	N/A	N/A	N/A	N/A
Hungary	1.0	0.1	0.3	-
Latvia	0.3	N/A	N/A	N/A
Lithuania	0.07	-	-	-
Poland	2.1	0.4	8.5	1.5
Romania	0.7	0.02	0.02	0.08
Serbia	0.06	-	-	-
Slovakia	0.2	N/A	N/A	-
Slovenia	14.9	1.7	4.3	39.6
Turkey	N/A	N/A	N/A	N/A

- no cases, N/A not applicable

Medical surveillance for exposed workers

All countries considered within the remit of this project have established a policy for preventing risks that could cause an occupational disease, as listed in Annex I to Recommendation **2003/670/EC**. According to an EU report only Slovenia has officially set risk prevention priorities, which are primarily focused on asbestos (EC, 2013). However, national conditions are specific for each country.

The **Polish** AMIANTUS Programme of prophylactic examinations applicable to former asbestos exposed workers is a legal act which stipulates medical care after the end of exposure. The AMIANTUS Programme covers 28 asbestos processing plants in Poland, so only some of the asbestos-exposed workers are covered.

According to **Romanian** law, an occupational physician may indicate that medical surveillance must continue after the end of exposure for as long as is considered necessary to safeguard the health of the person concerned. Pensioners are not included.

In **Croatia,** monitoring of formerly exposed workers includes obligatory preventive examinations performed at least every 3 years. Monitoring has to be carried out over a period of 40 years after the end of occupational exposure to asbestos, irrespective of whether an occupational disease has been diagnosed.

In other countries, there is no legal requirement to follow-up on formerly exposed workers. General medical practitioners can send workers for medical examinations if there are signs of disease progression or a new asbestos-related disease.

Table 5: Monitoring of exposure and health and inventory of asbestos diseases

Accredited laboratories	National and private
Methods for exposure monitoring	Most used: **optical microscopy with phase contrast**

Post exposure worker surveillance	In general, not performed officially. Exceptions: **Polish AMIANTUS Programme** of prophylactic examinations available for former workers of asbestos processing plants; Croatian Act on Mandatory Health Monitoring of Workers Occupationally Exposed to Asbestos (OG 79/07 and 139/10); Slovak Act on protection, promotion and development of the public health (No. 355/ 2007 Coll)
Inventories/ Registers	Inventories of asbestos-related diseases are generally not kept separately. They are included in other registers. Exception: **Slovenian Register of Asbestos-related diseases,** by the Institute of Occupational, Traffic and Sports Medicine.

Compensation of asbestos-related occupational diseases

Systems of social insurance for occupational diseases vary widely. In principle there are four basic possibilities:

- The worker bears the costs himself
- The individual employer bears the costs (US, UK system)
- A state or private-sector insurance scheme covers these costs for the employer, so the liability is with this organisation (Lithuania, Poland, Slovakia, similar as in e.g. Germany)
- The state is responsible for compensation and funds it from general taxation (Hungary, Romania, Slovenia, Turkey).

Compensation covers different costs:

- medical costs
- financial compensation for loss of income
- benefits for dependants if the person should die.

The scale of this reimbursement and its economic impact depend above all on the social security provisions in place for workers (ISSA, 2006), but also on the quantities of asbestos used in a given country.

Table 6: Compensation, early retirement and support for victims

Compensation system	In general, the same as for other occupational diseases, when there is lost or decreased working capacity (20-50%) or death. There are exceptions: **Croatia** and **Slovenia**
Early retirement	In some countries, there is the possibility of early retirement for employees that worked in hazardous conditions.
Support for victims	In general, limited to governmental bodies. Example of NGOs*: • **Association of patients with asbestos -related diseases**, Deskle, Slovenia, • **The Croatian Asbestosis Patient Association**, • **Clean Air Action Group**, Hungary, • **Green Federation GAJA Association**, Poland

** NGOs - Non-governmental organisations*

Most EU Member States have specific systems for occupational disease compensation, which differ from systems for non-occupational diseases. In countries which have specific compensation systems, benefits are often more generous. Benefits in cash can be higher, pension amounts (in cases of permanent injury) more favourable to the victim, and other benefits can be offered, such as rehabilitation. In those countries that do not have a specific compensation system, temporary working incapacity is covered under the general health insurance regime, while disability and death are covered by the relevant disability or pension insurance provisions (EC, 2013).

Support for asbestos victims

In general, governmental bodies are active in raising awareness of the asbestos issue. Examples of CEE countries NGOs are listed in table six.

International asbestos conferences are important for supporting victims and public mobilization. The Brussels Conference 'Europe's Asbestos Catastrophe' in September 17-18, 2012 is an example of an international meeting. During discussion sessions over two days, delegates considered a range of topical issues including national asbestos realities, occupational exposures and public health risks. They also explored measures for minimizing asbestos hazards: legislative solutions, medical protocols and decon-tamination technologies. This asbestos conference was part of a project entitled "Asbestos-Related Diseases in Europe' and was organised by a partnership of trade unions and asbestos victims' groups (EFBWW, IBAS, ETUC, ABEVA) with funding from the EU. More information about this conference can be found on the IBAS website[6].

Picture 2: Discussion session at Brussels Conference Europe's Asbestos Catastrophe, September 17-18, 2012

6. IBAS, http://www.ibasecretariat.org/lka-bruss-europes-asbestos-catastrophe-report-2012.php

References

- BGS (British Geological Survey): European Mineral Statistics 2000-04, 2004-2008, 2006-2010. A product of the World Mineral Statistics database, available at: http://nora.nerc.ac.uk/7996/1/EMS2000-2004.pdf http://nora.nerc.ac.uk/9532/1/ EMS_2004_2008_web.pdf http://nora.nerc.ac.uk/17613/1/EMS2006-2010.pdf

- EC (European Commission): Report on the current situation in relation to occupational diseases' systems in EU Member States and EFTA/EEA countries, in particular relative to Commission Recommendation 2003/670/EC concerning the European Schedule of Occupational Diseases and gathering of data on relevant related aspects. 2013

- EUROGIP: Asbestos-related occupational diseases in Europe - Recognition - Figures - Specific systems. 2006, Paris

- Fajković H., Savić V.-J.: Asbestos as Environmental and Legal Issue. Indian Society for International Law. New Delhi, India. Conference Papers. December 2007, p. 213.-230

- IARC (International Agency for Research on Cancer): 'Man-made Vitreous Fibres' IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. 2002. Vol. 81, pp. 1-418. Available at: http:// monographs.iarc.fr/ENG/Monographs/vol81/ mono81.pdf

- ISSA (International Social Security Association): Asbestos: towards a worldwide ban. 2006. Available at: http://www.issa.int/Resources/ISSA-Publications/ Asbestos-Towards-a-worldwide-ban

- Kooperationsstelle Hamburg IFE (Authors: Banduch I., Lissner L.): Asbestos-related occupational diseases in Central and East European Countries, Research Report, Hamburg, 2013

- Kooperationsstelle Hamburg IFE: Survey on 'Recognition of asbestos-related diseases in Europe. Answers to the survey from:
  - ◊ Cyprus: Department of Labour Inspection, Olga Nicolaidou,
  - ◊ Croatia: Croatian National Institute of Public Health / Vlasta Dečković-Vukres,
  - ◊ Czech Republic: Department of Occupational Medicine, Char-les University in Prague, Daniela Pelclova, Zdenka Fenclova,
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  - ◊ Slovenia: University Medical Center in Ljubljana, Clinical Institute of Occupational, Traffic and Sports Medicine, Metoda Dodic-Fikfak and Alenka Franko,
  - ◊ Turkey: Turkish Medical Association, İbrahim Akkurt; Istanbul Health and Safety Labour Watch, Asli Odman

- HNCI (National Cancer Institute): Asbestos Exposure and Cancer Risk. Last update on 05.01.2009. 2013, available at: http://www.cancer.gov/cancertopics/ factsheet/Risk/asbestos

- USGS (United State Geological Survey): 2013 Minerals Information, available at: http:// minerals.usgs.gov/minerals/pubs/country/ europe.html#rb

- WHO (World Health Organisation): Report of the World Health Organisation workshop on mechanisms of fibre carcinogenesis and assessment of chrysotile asbestos substitutes. 8–12 November 2005. Lyon, France

- WHO (World Health Organisation): National Programmes for Elimination of Asbestos Related diseases: Review and Assessment. 07-08 June 2011. Bonn