

## **THE STATE OF ASBESTOS IN HUNGARY**

**TÓTH, E., WEISZBURG, T. G.** (Department of Mineralogy, Eötvös Loránd University, Budapest, Hungary)

E-mail: t.g.vidor@mail.datanet.hu

Due to their excellent refractory and insulating properties, chemical stability and solidity, asbestos has been widely used all over the world since the last decades of the 19<sup>th</sup> century. In Hungary, the production of asbestos-containing goods began in 1902 in Nyergesújfalu. Building industry became the main consumer of asbestos: it was used in roofing slates, insulating materials, paints and pipe-works. Among other consumers car manufacturing, shipbuilding and military industry can be listed.

The success story of asbestos broke when attention was drawn to the lung diseases induced by these minerals in the last quarter of the 20<sup>th</sup> century. Recently, the word “asbestos” – which refers mainly to amphibole and chrysotile developing fibrous habit – arises only fear and rejection in public.

Since different minerals with different chemistry carry different health risks, mineralogy is a suitable device to evaluate asbestos-containing materials. To estimate the health risks of asbestos that induces disease only if its fibres accumulate in the respiratory system, we investigated the potential of various asbestos-containing products to release individual fibres. Based on these results, the existing epidemiological literature, the manufacturing and import data available in Hungary, we tried to estimate the amount, quality and hazards of asbestos that has been processed in the last hundred years in Hungary. As the basic co-ordinator of usage, removal and waste-management of asbestos, the Hungarian Asbestos Association is presented, too.

Concerning law, the usage of the inevitably carcinogenic amphibole asbestos is already prohibited. Since 1992, it has not been used in Hungary, either. In spite of the fact that the epidemiological effect of chrysotile is still debated, legislative bodies show a tendency to withdraw all kinds of asbestos from circulation all over the world. This approach, irrespective of the quality of asbestos is highly dangerous as: (1) resources for asbestos removal are limited; (2) by demolition of asbestos-containing materials vast amounts of waste would be produced; (3) no appropriate substitute for asbestos that meets health, industrial and economic requirements at the same time has been found so far.

The future of asbestos is still open today. On the one hand, it is possible that all kinds of asbestos will be withdrawn from circulation. In this case, removal and waste-management of asbestos-containing materials are going to be vitally important in the coming decades. Should there be no appropriate substitute to find, however, the processing of chrysotile might go on with some technological restrictions. We think that analytical methods of mineralogy (SEM and TEM basically) will be essential in testing substitutes as well as in handling asbestos-containing materials and waste, no matter what the future brings.