



MOUNT SINAI
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**Comments to EPA Science Advisory Board
Asbestos Committee on
Office of Solid Waste and Emergency Response (OSWER)
Proposed Approach for Estimation of
Bin-Specific Cancer Potency Factors for Inhalation Exposure to Asbestos**

Dear Colleagues,

I am a board-certified physician in occupational medicine, Chairman of the Department of Community & Preventive Medicine of the Mount Sinai School of Medicine, former Chair of the New York State Asbestos Advisory Board, a former Division Director in the National Institute for Occupational Safety and Health (NIOSH), a former Senior Advisor to the Administrator of the US Environmental Protection Agency (EPA), President of the Collegium Ramazzini, and a scientist who has been involved for nearly four decades with research into the health hazards of asbestos. I thank you for the opportunity to offer these comments.

I am writing to express my profound disagreement with the approach that EPA's Office of Solid Waste and Emergency Response (OSWER) and their contractors have taken for estimation of bin-specific cancer potency factors for inhalation exposure to asbestos. This approach is strongly reminiscent of the "manufactured doubt" that the tobacco industry has created for many decades to advance their products in world markets.

The OSWER approach to asbestos risk assessment begins with and is based upon the unproven presumption that different types of asbestos differ in their carcinogenic potency. In particular, the OSWER approach advances the fallacious notion that Canadian chrysotile asbestos is somehow less dangerous to human health than other forms of asbestos. This claim is not true. It runs

counter to experimental evidence, and it runs against the conclusions of many high-quality, peer-reviewed, published epidemiological studies. If accepted, this false claim could result in the relaxation of occupational and environmental exposure standards for chrysotile asbestos in the United States and thus result in disease and death in many thousands of persons who are exposed to asbestos in place in buildings in this country; 90-95% of the asbestos in buildings in the United States is Canadian chrysotile. Moreover, if this false claim is accepted as a basis for regulation in the US, it will result in tens of thousands of cases of illness and death among persons in other nations who are exposed to imported Canadian chrysotile and who look to regulations in the United States as a benchmark and bellwether for the control of occupational and environmental hazards in their countries.

Extensive experimental investigations have shown that all forms of asbestos, including Canadian chrysotile, are fully capable of causing cancer in laboratory animals. In these studies, all forms of asbestos have been shown capable of causing malignant mesothelioma, and indeed in some of these studies, Canadian chrysotile asbestos has produced more mesothelioma at equal levels of exposure than other forms of asbestos.

Epidemiologic studies of workers with exclusive or predominant exposure to chrysotile have also shown incidence rates of lung cancer and malignant mesothelioma in these workers that are little different from those observed in populations exposed to other forms of asbestos. This finding runs counter to the notion that different forms of asbestos differ in their carcinogenic potency. Of particular interest here are the studies of asbestos textile workers in the Carolinas undertaken by Lemen and Dement, and the studies of African asbestos miners conducted by Cullen et al.

With reference to the epidemiological literature, I find it astounding that the OSWER contractors have chosen not to consider the studies of Selikoff et al. that were published from the Department that I now have the honor to chair at the Mount Sinai School of Medicine. These are the some of the largest and best conducted studies of asbestos workers in North America and are based on a cohort of over 17,000 meticulously well characterized asbestos insulation workers in the United States and Canada. The Selikoff studies have formed the bedrock of previous asbestos risk assessments. The reasons offered by the OSWER contractors for dismissing these studies are not convincing. They raise the suspicion that the contractors wished to include in their analysis only those studies that fit with their pre-determined conclusions

In the real world, the notion that different forms of asbestos convey different risks is of little import and is, in fact dangerous and misleading. Although 90-95% of the asbestos in place in American buildings is Canadian chrysotile asbestos, the remaining 5-10% still comprises many hundreds of thousands of tons of asbestos mineral. In a typical work setting of abatement, repair or demolition, often

involving disenfranchised immigrant workers with little or no training, it is simply not feasible to distinguish whether a particular pipe is wrapped with amosite or chrysotile, or whether particular ceiling is sprayed with chrysotile or crocidolite. To the worker on the job, to the custodian in the basement, to the 5-year-old child in the day-care center, the exposure is to the asbestos as found, and the asbestos as found may consist of any of the principal forms of asbestos or a mixture of all of them. In the real world, there are no bins. Therefore in the real world, the only prudent approach that is protective of human health is to consider all forms of asbestos to be equally dangerous and equally carcinogenic. That is the approach that has been traditionally taken by OSHA, by EPA and by the International Agency for Research on Cancer (IARC), the cancer agency of the World Health Organization.

The Collegium Ramazzini, an international academic society in occupational and environmental medicine of which I am President has called for an immediate ban on all mining and use of all forms of asbestos worldwide. The Collegium Ramazzini considers the evidence overwhelming that all forms of asbestos are fully capable of causing cancer, and it makes no distinction among asbestos fiber types. I commend this approach to you.

Sincerely,

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