ASBESTOS AND YOUR HEALTH

The questions people are asking — and the answers

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What is asbestos?

Asbestos is a mineral fibre, a hydrated magnesium silicate. There are several different varieties of asbestos. Of these, commercially the most valuable one is chrysotile. The world's three leading producers of chrysotile asbestos are Canada, the USSR and Southern Africa. Of the 4.5 million tons mined in the world each year, the USSR is the principal producer and user, Canada is the largest exporter and the USA is the chief importer. Canada accounts for 35 per cent — 1.6 million tons — of annual world asbestos production, injecting almost a quarter-billion dollars annually into Canada's economy.

What is made from asbestos?

Virtually everyone does. You cannot operate a road or rail vehicle, a ship or an aircraft without it. It goes into brake linings, roofing products, sewage systems, floor tiling, electrical insulation, fireproof partitioning, the exteriors of buildings, fire-fighting clothing, lubricants and caulking materials, highway asphalt, rockets and space vehicles, acoustical tiling, as well as steam, gas-turbine and rocket engines. Skyscrapers sit on lead-and-asbestos pillows: Fresh, pure water flows through asbestos-cement pressure pipes. Chrysotile asbestos goes into prefabricated buildings, ships at sea, subway trains, aircraft and submarines. It has literally scores of essential applications in the office, the plant, the suburban home, the downtown apartment. The paper on which this leaflet is printed could not have been produced without asbestos. On every day, in every way, chrysotile asbestos is essential.

What makes asbestos essential?

Asbestos fibres are unique. When they are combined with other materials — and asbestos is rarely, if ever, used by itself — they provide protection from fire, absorption of heat from friction, insulation from heat, cold and noise, reinforcement for plastic and other materials, particularly cement. Or any combination of these. And they do all this at remarkably low cost.

Does asbestos present a health hazard?

No — there is at present no evidence of hazard to the general public from the minute amounts of asbestos that may be present in community air. In an October 1971 publication, **Asbestos — the Need for and Feasibility of Air Pollution Controls**, the U.S. National Academy of Sciences states, "At present, there is no evidence that the small numbers of fibers found in most members of the general population affect health or longevity."

Does asbestos fibre present a health hazard?

Yes — for many years, it has been recognized that a group of respiratory diseases are related to asbestos. However it is also known that, when these develop, they generally do so only after excessive amounts of asbestos dust are inhaled over a long period. A recent study conducted by McGill University into the health of 10,421 past and present chrysotile asbestos mine workers in Quebec shows that their death-rate from such diseases was in fact lower than that expected for of the rest of the general Quebec populace for the same causes. According to the June 1971 issue of **Archives of Environmental Health**, the death-rate was higher only in the case of workers who, in the course of employment 30-40 years ago, were subjected to heavy chrysotile asbestos dust concentrations.

Is asbestos harmful in the atmosphere?

No — Conducted by an asbestos research group at New York's Mount Sinai Hospital, dust counts in New York City and other urban areas of the U.S. show that asbestos levels in the community air are many times lower than levels considered to be safe for workers who actually handle asbestos. What's more, recent evidence indicates that small amounts of asbestos fibre from natural sources, such as weathering of surface outcrops, have existed in the atmosphere for perhaps millions of years. Humans thus probably evolved into their present form in an atmosphere containing some asbestos.

Hardly any — a study by the U.S. Public Health Service shows that only a tiny fraction of the asbestos in brake linings is released to the air in its original form when brakes are applied. The action of heat converts the rest into forsterite, a non-fibrous, inert and harmless material.

No — there is no evidence, scientific or otherwise, that anyone in the general public has ever contracted any disease from exposure to the minute amounts of asbestos released into community air through the application, use, wearing or weathering of finished asbestos products.

No — long-term medical studies of workers who are exposed to asbestos in their jobs show that low to moderate levels of exposure do not lead to an increased rate of disease. In these studies, a higher-than-normal incidence of disease was found only among employees exposed to extremely high asbestos concentrations for long periods of time.

No — the lung's normal cleaning mechanisms quickly remove the majority of inhaled particles, including respirable-sized asbestos fibres.

No — asbestos concentrations both in the workplace and in community air can be satisfactorily controlled. There is therefore, from a public health standpoint, no reason to ban the use of any asbestos-containing product. In fact, society would surely suffer if deprived of the wide range of asbestos products designed to protect health, life and property.

Because of the long latent period of asbestos-related diseases, some cases still occur among long-service employees whose exposures began at a time when little was known of the amount of asbestos a human could tolerate, and when dust control equipment was not as efficient or as widespread as today. With expanding medical knowledge and today's improved dust control measures, however, there is every reason to believe that these cases will decrease in the future and asbestos-related disease will cease to be a occupational problem.

Yes — chrysotile asbestos fibre can be handled and used on the job with perfect safety so long as certain basic precautions are followed. These include the careful handling of containers to prevent spillage, the use of dust control exhaust hoods at all stages of in-plant handling where dust is unavoidably created, the wearing of protective respiratory equipment where necessary, as well as good housekeeping with regard to dust clean-up and disposal procedures.

No — more is known about the potential health hazards of chrysotile asbestos and the proper means for controlling them than is the case with materials that might be used to replace it. It would be unwise to substitute unproven materials, whose health effects are unknown, for chrysotile asbestos which has proved its usefulness to mankind for the past 100 years. For many essential, life-saving uses, chrysotile asbestos is the only material that can do the job.

A lot — the Canadian asbestos-mining industry sponsored in the 1930s some of the first studies of asbestos-related disease ever undertaken in North America. These studies provided information that became the basis for environmental control programs in the industry which have been refined and expanded over the years. Millions of dollars have been devoted to sophisticated equipment and techniques aimed at preventing asbestos dust from being inhaled by workers in the mining and milling of chrysotile asbestos and in the manufacture of asbestos-containing products.

Through the Institute of Occupational and Environmental Health in Montreal, the Industrial Hygiene Foundation in Pittsburgh and in various hospitals and universities around the world, the industry has sponsored and continues to support major epidemiological and other research projects designed to identify and eliminate asbestos-related health risks not only for Canada's chrysotile asbestos production workers but also for worldwide fabricators and applicators of finished asbestos-containing products.

Recent public discussion of the health implications of exposure to asbestos dust has led to the unwarranted and erroneous assumption that data on health risks associated with heavy, long-term, on-the-job exposure to asbestos can also be applied to the general public.

The known medical facts, supported by nearly half a century of international studies

and research, are that:

1. Asbestos-related health risks are basically confined to the job setting. Every step is being taken to eliminate these job-related risks.

2. Asbestos-related diseases develop, generally, only after the inhalation of substantial amounts of asbestos dust for a prolonged period of time.

3. There is at present no evidence that exposure to the minute amounts of asbestos that may be present in community air present any hazard whatsoever to the general public.

For further information, please contact:

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