PLAINTIFF'S EXHIBIT
CAP-424

NEW SCIENTIST AND SCIENCE JOURNAL (British), January 21, 1971

Crocidolite asbestos—still a hazard

The use of crocidolite, known to cause pleural malignancy, continues to constitute a health hazard, according to work carried out by the Medical Research Council at Cardiff. The air-borne particles of this mineral, known generally as blue asbestos, are fine and generally quite straight. It seems to be because of this that they are easily able to penetrate deep into the lung tissues and thence through to the pleura (membranes covering the lungs). The more widely used white asbestos, which now constitutes 90 per cent of world production, is very much less of a health hazard, apparently because of the more irregular and curled shape of its dust particles. They are more easily trapped by the lung mucus and are then dealt with, like other dusts, by the ciliated membranes of the bronchial tree.

Blue asbestos was widely used during the war in gas masks, and many of those who worked in the factories have since succumbed to the form of cancer that it can cause. The condition, mesothelioma, resembles tuberculosis in its appearance and radiological evidence is of little use in locating early cases. The growth is relatively diffuse, and it may take 40 years between exposure and diagnosis, by which time it is too late to take constructive action.

It has been suggested in the past that mesothelioma may become a new public health hazard because of the vast amounts liberated each year as dust from the wear of brake shoes. But this is unlikely, since the white asbestos fibres used by the motor industry now seem to be unable to penetrate into the lung. It is probably just as well: a substitute would be hard to find. But blue asbestos continues to be used in the construction of asbestos sheet and in the production of lagging material, both of which are widely used by the home handyman and also in the laboratory. Its blue colour enables it to be readily identified, and the MRC team—Dr I. C. Wagner, Dr V. Timbrell, Dr J. C. Gilson and Mr G. Berry (a statistician) suggest it should not be used at all. If it is to be cut or handled, they suggest, it should certainly be kept wet throughout as a means of controlling the dust.

Government control of blue asbestos is strict: 28 days notice to the Factory Inspector is required before it can be employed by industry. At the present time it is still used in making accumulators and in ship building, and there are some 60 cases of mesothelioma directly ascribable to its use each year in the United Kingdom alone.

The wider use of rock fibre and glass wool is helping to control the crocidolite hazard, but only an outright ban would constitute an ultimate solution. Meanwhile, we should be glad that Hitler didn't use gas. Though Britons were equipped with asbestos and carbon masks which would have been quite effective, the long-term risks of breathing through them might well have been just as severe.

Brian J. Ford

NEW SCIENTIST AND SCIENCE JOURNAL (British), February 4, 1971

Asbestos

Sir,—The article by Mr Brian J. Ford (COMMENT, 21 January, p 102) contains information on the use of blue asbestos which could be extremely misleading. Blue asbestos is not used in the production of asbestos-cement building products, asbestos boards or panels manufactured in this country. It is no longer used in the production of asbestos lagging material, nor is it "still used in shipbuilding" here. Since building products containing blue asbestos are not made here, it follows that they could not be "widely used by the home handyman and also in the laboratory".

In fact last year imports of blue asbestos into the UK were less than 0.4 per cent of total asbestos imports and its diminishing and highly specialised use in industry is subject to the stringent safeguards of the Asbestos Regulations. Its use in battery boxes is completely safe, since special dustproof bags are used to contain the material. It is introduced into a wet mix while still in the bags, which decompose in the mix. Harmful amounts of dust are not therefore released by this process. Once encapsulated in a battery box, the fibre cannot be inhaled and there is therefore no risk to the public from this application.

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Without wishing to protract this argument, it most certainly *does* follow that there are hazards, notwithstanding the smaller imports of raw blue asbestos into the UK. Japan, Europe and the United States are not merely continuing to use the material but are considerably expanding, and the exports of blue asbestos from South Africa are steadily increasing. Manufactured goods that find their way into this country, even the foreign-built ships in our yards for repair, are posing quite enough health problems for us to do without complacency.—*Brian J. Ford*