



The Rt Hon Iain Duncan Smith MP
4th Floor, Caxton House
Tothill Street
London, SW1H 9DA

11 May 2011

Dear Iain,

Classification of Chrysotile Asbestos

Bill Gunnyeon wrote to me on your behalf on 12 November 2010, asking me to consider "whether there is any evidence that would justify an imminent change to the '*international scientific consensus on the classification of asbestos*' and so allow Ministers to re-consider UK legislation". My apologies for the delay in replying to your request.

In order to address this issue and carefully consider the supporting scientific evidence I have consulted widely with experts and interested parties and have gathered relevant recent scientific literature. This has included officials and scientists from your Department, the Health and Safety Executive, Health Protection Agency, academics, and members of the International Agency for Research on Cancer. I have also met with representatives from Asbestos Watchdog. All have provided relevant scientific papers, published opinion articles and/or personal statements of their views on the issue.

To provide further depth to my analysis, I drew together a small group of recommended experts in the field (from HSE, Imperial College, London School of Hygiene and Tropical Medicine, and The Annals of Occupational Hygiene). This has led me to distil my views on the question you have raised as follows:

The available scientific evidence base that drives the scientific literature is of varying quality and is limited, particularly in relation to dose and exposure measurement and the potential for concurrent exposure to other forms of asbestos. It is also difficult to find comparator or control populations for these studies. Considerable uncertainties in the evidence permit a range of interpretations about the extent of the hazard posed by chrysotile asbestos with respect to mesothelioma and lung cancer. Therefore conclusions drawn from analyses of the literature must be seen in this light.

There is consistent evidence that chrysotile causes lung cancer, though there is less consistent evidence and more uncertainty with regard to causation of mesothelioma, particularly at low levels of exposure. This supports the current international consensus that chrysotile is carcinogenic, and as such is correctly classified as a Class 1 carcinogen

Furthermore, the evidence suggests that the relative risk of getting lung cancer from chrysotile exposure compared to amphibole forms of asbestos is within one order of magnitude, when compared at the same exposure levels. The relative risk of getting mesothelioma from chrysotile exposure compared to amphibole is within two orders of magnitude, when compared at the same exposure levels.

Chrysotile readily breaks down in the lung and is therefore less biopersistent than other amphibole forms of asbestos, but there is insufficient current evidence to determine the toxicological action of chrysotile, and whether there is a linear or non-linear dose response relationship between exposure to chrysotile and causation of lung cancer or mesothelioma i.e. if the carcinogenicity of asbestos fibres is linked to biopersistence in the lung or to cumulative exposure over time

There is evidence that cancer risk reduces as exposure reduces, and many epidemiological studies imply that exposure to chrysotile can occur at higher levels and for more prolonged exposure periods than amphibole forms of

asbestos before an increased risk of cancer becomes detectable. However, it is not possible to determine a threshold level below which exposure to 'pure' chrysotile could be deemed 'safe' for human health. The same applies for exposure to chrysotile from cement during removal and disposal activities.

Finally, there is currently evidence to show that mined chrysotile, or products made from chrysotile in previous decades do have some level of contamination with more dangerous forms of amphibole forms of asbestos. However, the level of contamination may vary greatly, and can only be determined by laboratory testing. There does not appear to be any readily available analysis on purity of current commercial supplies of chrysotile.

Therefore it is my opinion that on the evidence available there is no justification for an imminent change to the international scientific consensus on the classification of chrysotile as a Class 1 carcinogen. A full note of my meeting with the experts is appended.

I believe that I have taken this investigation as far as it is possible at this stage, but am happy to look at the issue in more detail if requested.

I intend to now write to those who helped and provided advice in this process to thank them, and to outline my advice to you. I also intend to publish this letter and the annexed meeting note on the GO-Science website.

Best Regards,

A handwritten signature in black ink, consisting of a long horizontal stroke followed by a shorter, more complex stroke below it.

Sir John Beddington