In respect of the basic features of the body's reaction to asbestos fibres there is nothing to choose between them and particles of silica. The particular differences, which are undoubtedly observed, arise from different physical form; difference in solubility; difference in size, and the possible difference in carcinogenic properties.

The term asbestos is vague and industrially may refer to any of a series of complex silicates. It belongs to a group of crystalline magnesium silicates, which include talc (steatite) $Mg_3H_2(SiO_3)_4$, Meerschaum $Mg_2H_2(SiO_3)_3.H_2O$, possessing varying degrees of resistance to heat and to chemical agents. It is best as recommended by Spencer (1937) to preface the word asbestos with the particular mineral from which it is derived, for example serpentine asbestos and amphibole asbestos (hornblende). Unfortunately, more words than one are used in this industry for the same natural product.

The common forms, with country of main origin, used in the various industries with which our present theme is concerned are:

(1) *Serpentine asbestos* (*Canadian*) (chrysotile*; amiant). Chrysotile is the most used of the fibrous silicates. Empirical formula: $H_4Mg_3Si_2O_9$ $(= 3MgO.H_4(SiO_3)_2)$.

As mined the following is the analytical composition of an average sample of the naturally found mineral (serpentine: hydrous magnesium silicate):

	per cent
SiO_2	43
Al_2O_3	0 52
FeO Fe_2O_3	1 0
MgO	41·36
H_2O	13·79

(2) *Amphiboles* Empirical formulae:

$H_2Ca_2Mg_6(SiO_3)_8$	Tremolite (Italian)
$H_2Ca_2(MgFe)_6(SiO_3)_8$	Asbestos (amphibole asbestos)
$CaMg_3(SiO_3)_4$	Actinolite
$H_2Na_2Fe''Fe_2'''(SiO_3)_6$	Crocidolite (Blue asbestos—South Africa, Australia)

(3) *Amosite asbestos* (*South Africa*) (ferro-anthophyllite). Empirical formula: $H_2(MgFe)_7(SiO_3)_8$.

Their commercial value is due to the long fine, infusible, non-conducting fibres in which these silicates exist and can be worked and it is this character which motivates the characteristic changes in the lungs when inhaled over considerable periods. In the mining of serpentine and of the asbestos from it as a mass of fine, silky crystals in Canada, Cartier (1949) found that he could divide the 3,242 workers of whom 40 per cent had been in the mines for 10–40 years into two groups, one exposed to the dust of serpentine, which remained free from asbestosis and the other, exposed in grinding,

* Not to be confused with chrysolite which is an isomorphous mixture of Mg_2SiO_4 (forsterite) and Fe_2SiO_4 (fayalite).