



# Naturally Occurring Asbestos in France: Geological Mapping, Mineral Characterization and Regulatory Developments

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## **Naturally Occurring Asbestos in France: Geological Mapping, Mineral Characterization and Regulatory Developments**

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In France, the asbestos banning is subject to a national decree (n° 96-1133), published in 1996. The regulatory texts and standards adopted to control this banning concern in particular asbestos-bearing manufactured products, but remain difficult to apply to asbestos-bearing natural materials (ie. rocks, soils).

Considering problems related to such asbestos-bearing natural materials, the Ministry of Ecological and Solidary Transition has mandated the French Geological Survey to locate the impacted areas. Mappings were priority carried out in geological domains where NOA was predictable (French Alps, Corsica). These studies integrated field expertise, sampling and laboratory analyses, in order to characterize the potential of geological units to contain NOA. Furthermore, some expertises were carried out on geological formations exploited in France to produce aggregates. These studies concerned the quarries exploiting massive basic or ultrabasic rocks, likely to contain NOA, and quarries exploiting alluvium likely to contain asbestos-bearing rock pebbles.

These studies highlight the difficulty of establishing robust diagnoses for natural materials. Indeed, distinction between cleavage fragments resulting from the fragmentation of non-asbestos particles and proper asbestos fibers is particularly problematic for laboratories. Thus, a recent study of the National Agency for Health Safety, Food, Environment and Work (2015) recommends to apply the asbestos regulation for elongated mineral particles ( $L/D > 3:1$ ,  $L > 5 \mu\text{m}$ ,  $D < 3 \mu\text{m}$ ) with chemical composition corresponding to one of the five regulated amphibole species, irrespective of their mode of crystallization (asbestiform or non-asbestiform).

The upcoming regulatory changes are part of a decree published in 2017, including the prior identification of asbestos in natural soils or rocks likely to be impacted by the execution of work. Specific protocols will be defined for sampling, analysis and characterization of natural materials that may contain asbestos.