

## **FLUORO-EDENITE: A NEW AMPHIBOLE FIBER**

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### **ABSTRACT**

Protection of People's health and of environment represent a first line commitment of all Institutions and of each citizen. In Italian public health programs a particular attention has been given to sanitation of common and work environments where asbestos is present, being associated health hazard long been proven. A specific “Protection plan from asbestos” has been designed; it includes interventions aimed at knowing exactly places where such material is present, in order to promote necessary interventions for its removal or making it safe. By doing so, one could remove health hazards linked to inhaling fibres made free in the environment by asbestos when it is present in the friable form.

In a recent epidemiological study, investigating mortalities from malignant pleural neoplasm in Italy, a significant increase of mortality from pleural mesothelioma was observed in the town of Biancavilla, located at the slopes of Etna volcano, if compared with expected figures derived from Regional Sicilian rates. An environmental survey suggested the stone quarries located in “Monte Calvario”, as a possible source of asbestiform fibre exposure. A detailed crystal-chemical analysis of amphiboles contained in this material allowed the discovery and the identification of a new fiber that was named fluoro-edenite.

In our Laboratories daily we analysed environmental samples looking for asbestos fibres both in solid and dispersed form, using MOCF and analytic SEM.

During some survey carried out during modernization of the railway line F.C.E. Paternò-Adrano, in Biancavilla, we found numerous fibers of this mineral in the various monitored areas.