

MAGNETIC POLLUTANTS IN SETTLED DUST AND PM10 SAMPLES FROM MISKOLC, HUNGARY

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The North Hungarian Inspectorate for Environmental Protection runs monitoring stations in Miskolc and its environs. In former years, settled dust was collected at 18 stations. The number of such stations have recently been reduced to nine. At the same time an air monitoring station was installed for collecting PM10 at a point where vehicular traffic is heavy.

In and around Miskolc industrial activity is highly concentrated. Of the different kinds of polluting sources, the ironworks was closed down at the end of 2008. As it was thought to be the major air pollutant in Miskolc, emitting also magnetite spherules, we are going to compare, month by month, the mass specific susceptibilities of settled dusts collected at the still existing stations prior and after the closing of the ironworks.

PM10 samples were the first time collected in February, 2009, for two weeks. The daily filters were divided. Magnetic measurements were carried out on one quarter, while the rest was analyzed for poisonous metals (Pb, Ni, As, Cd) and organic compounds. It was interesting to observe minimum values of the mass specific susceptibilities on Sundays, which suggests that the magnetic pollutants originate from vehicles. At the same time, no correlation was found between mass specific susceptibilities and the concentrations of the poisonous metals. The latter seem to originate from distant industrial sources and although their concentrations are far from constant, the weekend days are by no means less polluted than the work days. Higher Pb, Ni, As and Cd concentration was measured during the first week of February, when a very weak wind was blowing from the direction of an ore dressing plant. During the second week, a considerably stronger wind was blowing from the same direction, yet the concentration of the above elements became less at the air monitoring station.

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