

VABILO NA PREDAVANJE / INVITATION TO THE LECTURE

Seminarji L04 (2009/2010)

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bo imela seminarsko predavanje z naslovom / will give a seminar lecture entitled

**"Heterogeneous reactivity of pesticides adsorbed on atmospheric
particles"**

v četrtek / Thursday, 25. 03. 2009 ob / at 14.30

**Velika predavalnica /
Big Lecture Room at National Institute of Chemistry**

Hajdrihova 19, Ljubljana

VLJUDNO VABLJENI / KINDLY INVITED!

Heterogeneous reactivity of pesticides adsorbed on atmospheric particles

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The atmosphere is rated as an important vector for pesticides dissemination in local to global environment since 30 to 50% of these compounds enter the atmosphere during agricultural treatments. A comprehensive knowledge of the behaviour of these compounds in the atmosphere is necessary in order to understand their environmental fate. Although pesticides can be associated to particles, their atmospheric residence times are currently calculated from their reactivity in the gas phase. This fact can be explained by the very few kinetic data available for particulate phase. The disagreement between predicted (some hours to some days) and observed (several weeks) atmospheric residence times for pesticides is most probably a result of the lack of information.

To improve the scientific knowledge towards atmospheric fate of pesticides the heterogeneous reactivity of several herbicides with atmospheric oxidants (ozone and OH radicals) was investigated using a flow reactor under simulated conditions. The obtained results show that the particles can act as an inhibitor of oxidation, which implies that the current atmospheric residence times calculated from gas phase data may be under-estimated. Therefore, it seems necessary to further investigate the heterogeneous reactivity of pesticides in order to draw up a more complete picture of the atmospheric degradation mechanisms of these compounds.