10.1071/ENv2n3context

Contents in Context
Environmental Chemistry, Vol. 2, no. 3, 2005

Surfactants in South East Asian Aerosols
M. T. Latif, P. Brimblecomb, N. A. Ramli, J. Sentian, J. Sukhapan, N. Sulaiman *Environ. Chem.* **2005**, *2*, 198

Surfactants are present in all atmospheric aerosols with potential effects on surface tension, cloud droplets and even human health. They appear to be anionic and associated with yellow aqueous extracts, suggesting a humic-like character. These surfactants are probably derived from the oxidation of combustion-generated soot (from vehicles and forest fires).

A Two-Phase Box Model to Study Mercury Atmospheric Mechanisms
L. Pan, G. R. Carmichael *Environ. Chem.* **2005**, *2*, 205

Elemental mercury (Hg^0) is converted to divalent mercury (Hg^{2+}) in the atmosphere, largely in water droplets. The wet deposition of Hg^{2+} is a major concern to human health. Because it is bio-accumulated through the food chain, consumption of contaminated fish can be particularly dangerous. Currently the budgets of mercury in the atmosphere are poorly understood, due in part to uncertainties in the chemical pathways controlling the speciated forms of mercury. Improved mercury chemistry models are needed to better predict Hg^{2+} levels in water droplets and to estimate wet deposition of Hg^{2+} in order to help assess the potential health risks of mercury.

Thermal Metamorphism of Primitive Meteorites—XII. The Enstatite Chondrites Revisited
M.-S. Wang, M. E. Lipschutz *Environ. Chem.* **2005**, *2*, 215

The first Solar System material condensed 4.567 billion years ago, rapidly forming planetesimals—solid bodies that might combine to form planets (accretion) or survive as asteroidal meteorites. Earth's main accretion ended within the next 30 million years, but subsequent high temperatures essentially erased evidence of this history. However, heating in these early episodes produced effects uniquely recorded by 14 volatile trace elements. The volatile element composition of chondritic meteorites, whose parent material formed closest to Earth, may thus provide important information about early planetesimal evolution.

High Throughput Determination of BTEX by a One-Step Fluorescence Polarization Immunoassay
S. A. Eremin, D. Knopp, R. Niessner, J. Y. Hong, S.-J. Park, M. J. Choi *Environ. Chem.* **2005**, *2*, 227

Benzene, toluene, ethylbenzene, and xylenes (BTEX) are used as solvents in paints and coatings and are constituents of petroleum products. BTEX can contaminate air, water or soil and is toxic; benzene, in particular, is a recognized human carcinogen. Most existing methods for detecting BTEX are time-consuming, complicated and very expensive for routine screening. A rapid immunoassay of BTEX is presented that greatly simplifies environmental monitoring of water contamination.

Investigating the Mechanism of Uranium Removal by Zerovalent Iron
C. Noubactep, G. Meinrath, B. J. Merkel *Environ. Chem.* **2005**, *2*, 235

Groundwater is the water that fills the spaces between sand, soil, and rock below the water table. It discharges into ecologically sensitive wetlands and is used as drinking water or in agriculture and industry. Inappropriate waste disposal and poor land management can contaminate groundwater and may minimize its use for decades. The common method for pumping contaminated groundwater to the surface for treatment is costly and labour intensive. Zerovalent iron is a new, more cost-effective method of groundwater remediation.