



Surfactants in atmospheric aerosols: Concentration and characteristic

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The concentrations and characteristics of surfactants in aerosols at a range of locations were determined as methylene blue active substances (MBAS) and ethyl violet active substances (EVAS) for anionic surfactants and as disulphine blue active substances (DBAS) for the cationic surfactants. Results showed that the anionic surfactants (in the pmol m^{-3} range) dominated the concentration of surfactant in atmospheric aerosols. Further study showed that both MBAS and EVAS found that MBAS and EVAS concentrations well correlated with surface tension ($p < 0.05$) with and absorbance of 'brown colour' of aerosol extract. These substances appeared to be of high molecular weight (10000 MW) and may be related to humic like substances in atmospheric aerosols especially those that are derived from soot or its oxidized surface. This is supported by the observation that the presence of MBAS and EVAS sources appears to be influenced by photochemical and oxidation processes in atmosphere