The Effect of MTBE on the Hygroscopic Property of Sodium Chloride Particles

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- Master Thesis presentation

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Abstract

With the development of modern industry, anthropogenic pollutants have been coming into the soil, water and atmosphere, and influence the climate change. Automobile emission is one of the major man-made pollution sources. As one of the widely used gasoline additives, MTBE (Methyl-Tertiary-Butyl Ether) may also influences climate change.

A TDMA (Tandem Differential Mobility Analyzer) system was developed to investigate the hygroscopic property of sodium chloride with MTBE. The hygroscopic growth curves of sodium chloride particles (With and without MTBE) were plotted. Comparing with pure sodium chloride particles, particles with MTBE has higher DRH (Deliquescence Relative Humidity) and growing factor. Reference data were used to see the difference between different experimental conditions.

Further studies were suggested to give a general figure about the effects of MTBE on CCN (Cloud Condensation Nuclei) and climate change.

Key words: methyl-tertiary-butyl ether (MTBE), tandem differential mobility analyzer (TDMA), deliquescence relative humidity (DRH), cloud condensation nuclei (CCN)

-The presentation will be in English

Welcome!