

**A global model study of isocyanic acid (HNCO): Early results**

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A new measurement technique (negative-ion proton-transfer chemical ionization mass spectrometry) has been used to identify the occurrence of isocyanic acid (HNCO) in biomass burning emissions, as well as over urban areas. It has been estimated that levels of HNCO > 1 ppbv may be of concern for human health, as exposure to the cyanate ion (NCO<sup>-</sup>) has been associated with several deleterious effects, including disease of the kidneys and coronary arteries. The main HNCO sources are thought to be protein pyrolysis (e.g. biomass burning); the photochemical breakdown of amides; and leakage from SCR (selective catalytic reduction) technology in newer diesel engines. The latter is a potentially growing source, depending on regional air quality legislation. Here, we will present our initial results from a global chemical transport modeling study to examine the potential distribution of HNCO. We will highlight potential hotspot regions, as well as consider the sensitivity of the results to different parameterizations of the physical properties of HNCO. We will also consider how air quality legislation could impact HNCO emissions.