

Metro East Community Air Quality Study

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Illinois State Water Survey's Central Analytical Laboratory (ISWS/CAL) of the Prairie Research Institute at the University of Illinois at Urbana-Champaign performs measuring gaseous ambient nitrogen dioxide (NO₂) and sulfur dioxide (SO₂) concentrations in Metro East St-Louis region. This study is a part of Metro East Community Air Project, which is sponsored by Action Research Illinois, at the University of Illinois.

Passive type diffusion Radiello™ samplers, adsorbing NO₂ and SO₂ onto triethanolamine (TEA) are deployed at 25 locations for one week every other month. After transporting to CAL, samplers are extracted, and the extracts are then analyzed for nitrite (NO₂⁻) and sulfite (SO₃²⁻). NO₂⁻ is directly determined by Flow Injection Analysis (FIA); SO₃²⁻ is oxidized to SO₄²⁻, and then the concentration of SO₄²⁻ is determined by Ion Chromatography (IC).

A number of measures (sample triplicates, travel blanks, preparation blanks, quality control analytical blanks, etc.) are provided for producing quality assured data. Preliminary results are presented.