

Nitrogen oxides and material damage indoors

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Nitrogen oxides deposit onto surfaces where there are a number of reactions that can lead to the production of nitrites and nitrates, and subsequent acidification and “nitration” of the surface. We present analyses that show nitrite appears as a component of a number of materials such as leather, wool, gypsum and concrete. Kinetic studies suggest that nitrite is stable under alkaline conditions, but in more acidic regimes may degas or be oxidized. These processes have relevance to the degradation of materials indoors and can affect the chemistry of the indoor atmosphere.

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