



## **Oxidation of aerosolized iodide by gaseous ozone**

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Photoactive halogen diatoms are presumed to be released during the oxidation of halide ions in the marine aerosol by atmospheric species. These processes are not elementary but, necessarily, involve the mass accommodation of gaseous oxidants at the air/aerosol interface, followed by oxidant/halide ion reactions at the interface as well as in the bulk, in competition with oxidant diffusion into the medium and product diffusion out of the aerosol phase. The formation of highly oxidized species, reflecting the delayed release of primary products, could provide evidence on the location and timing of the oxidative events. Online electrospray ionization mass spectrometry allows us to detect a variety of polyatomic oxo-iodine species, in addition to gas-phase molecular iodine, during the oxidation of aqueous iodide solutions aerosolized into a chamber flushed with ozone/oxygen mixtures. Iodide oxidation rates and product distributions are found to depend on initial pH, revealing in situ aerosol droplet chemistry.