



## **Gas-phase bromine production from NaBr and NaBr/NaCl: A study of aqueous and frozen solutions and dry salts**

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Bromine chemistry is now recognized to play an important role in many environments throughout the troposphere. Numerous campaigns in the Arctic have demonstrated that reactive bromine species drive the ozone depletion events observed during the spring. Field studies in other mid-latitude locations such as the regions surrounding dry lake beds and the marine boundary layer have also shown that bromine influences the local chemistry.

Laboratory measurements of gas phase Br<sub>2</sub> released from a variety of surfaces were obtained using a wetted-wall flow tube coupled to a chemical ionization mass spectrometer (CIMS). Earlier studies of Br<sub>2</sub> production from aqueous solutions of NaBr and NaBr/NaCl exposed to gas-phase hydroxyl radicals were revisited. The current study was expanded to explore the production of gas-phase Br<sub>2</sub> from dry salts and frozen solutions (NaBr and NaBr/NaCl) exposed to OH. The effects of acidity and humidity will again be examined, and the yields of Br<sub>2</sub> formed relative to OH lost will be presented. The interaction of reactive nitrogen species will also be addressed. Time permitting, preliminary results from irradiation of ice surfaces contained nitrate and bromide will also be presented.