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Adsorption Isotherm studies of Methyl Bromide adsorbed on Magnesium Oxide TERESA BURNS, Coastal Carolina University, MICHAEL SPRUNG, JOHN LARESE, University of Tennessee, ORNL — Understanding the interaction of polar molecules with ionic surfaces is technologically very important. Using high precision, volumetric adsorption isotherms the layering properties of methyl bromide on the MgO(100) surface were examined between 164 K and 179 K. Methyl bromide (Triple point = 179.49K) is found to exhibit two layering transitions within this temperature interval. Thermodynamic quantities derived from this study including the layering transition temperatures, the 2D compressibility, layer enthalpy and entropy of adsorption, and the isosteric enthalpy of adsorption will be presented. Comparisons with the adsorption properties of methyl chloride and methyl iodide will also be included.

Teresa Burns
Coastal Carolina University

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