

Macrokinetics of flue gas desulfurization by the reaction with calcined limestone

Ilie SIMINICEANU^a, Simion DRĂGAN^b, Anton FRIEDL^c, Michael HARASEK^c and Mihaela DRĂGAN^b

^a"Gh.Asachi" University, Mangeron Blvd. 71A, 6600 Jassy, Romania

^b"Babes Bolyai" University, 11, Arrany Janos Street, 3400 Cluj Napoca, Romania

^cInstitut für Verfahrenstechnik, Wien, Austria

Abstract Experimental thermogravimetric measurements, employing a CAHN TG- 121 system, have been performed on the reaction of sulfur dioxide and oxygen with burned limestone. The conversions versus time of burned limestone, ranging in particle size from 25 to 900 μm , were measured over the temperature range 973-1173 K and a gas rate of 0.0230 to 0.0277 m/s. On the basis of experimental data, using the unreacted core model, the kinetic parameters have been identified and the kinetic regimes evaluated.

Keywords: gas desulfurization, kinetic parameters, thermogravimetric measurements.
