

**Table 2.** Sulfate formation rates and uptake coefficients for heterogeneous reactions of SO<sub>2</sub> on hematite and the hematite-nitrate mixtures at 298 K.

NaNO <sub>3</sub> (%)	A <sub>BET</sub> (m <sup>2</sup> /g)	Sulfate formation rate (ions s <sup>-1</sup> ) (×10 <sup>15</sup> )	A <sub>geometric</sub> (m <sup>2</sup> ) (×10 <sup>5</sup> )	γ <sub>BET</sub> (×10 <sup>7</sup> )	γ <sub>geometric</sub> (×10 <sup>3</sup> )
0	12.1	1.28±0.07	7.85	5.58±0.29	2.58±0.14
2	11.8	1.48±0.15	7.85	6.60±0.69	2.98±0.31
4	11.7	2.01±0.12	7.85	9.04±0.56	4.04±0.25
6	11.5	3.62±0.18	7.85	16.6±0.81	7.29±0.35
12	10.9	4.93±0.29	7.85	23.8±0.14	9.93±0.58
24	9.1	7.11±1.34	7.85	41.2±0.78	14.3±2.69
48	5.2	4.39±0.39	7.85	44.5±0.39	8.84±0.78
60	4.0	1.62±0.25	7.85	21.3±0.32	3.25±0.49
72	2.8	0.59±0.15	7.85	11.2±0.29	1.19±0.31
90	1.3	0.15±0.03	7.85	6.10±1.05	0.30±0.05
100		0		0	0