

## IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet VI.A4.4 HET\_SL\_4

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This data sheet last evaluated: June 2009; last change in preferred values: June 2009.



### Experimental data

| <i>Parameter</i>                                | [H <sub>2</sub> SO <sub>4</sub> ]<br>/wt % | Temp./K | Reference            | Technique/ Comments |
|---|--|---------|----------------------|---------------------|
| <i>Uptake coefficients: <math>\gamma</math></i> |  |         |                      |                     |
| $\gamma < 5.0 \times 10^{-6}$                   | 70   | 193-243 | Saastad et al., 1993 | static (a)          |

### Comments

- (a) Measurement of the total pressure drop in a static system over 70% H<sub>2</sub>SO<sub>4</sub>-H<sub>2</sub>O monitored by MS. The solution was believed to be a supercooled solution from its visual appearance. Total pressure was about 10<sup>-2</sup> mbar, NO pressures 10<sup>-5</sup> – 10<sup>-2</sup> mbar.

### Preferred Values

| <b>Parameter</b>                             | <b>Value</b>  | <b>T/K</b> |
|--|---|------------|
| $\gamma$                                     | $< 5 \times 10^{-6}$ (70 % H <sub>2</sub> SO <sub>4</sub> ) | 200 - 298  |
| <i>Reliability</i><br>$\Delta \log (\gamma)$ | undetermined  |            |

### Comments on Preferred Values

The upper limit to  $\gamma$  from the single study of Saastad et al. (1993) was adopted for the recommendation.

### References

Saastad, O. W., Ellermann, T., and Nielsen, C. J.: Geophys. Res. Lett., 20, 1191-1193, 1993.