

## IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet VI.A4.20 HET\_SL\_20

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This data sheet last evaluated: June 2011; last change in preferred values: June 2011



### Experimental data

<i>Parameter</i>	Temp./K	Reference	Technique/ Comments
<i>Uptake coefficients: <math>\gamma</math></i>			
$3 \times 10^{-3}$	200	Hanson and Ravishankara, 1993	CWFT-CIMS (a)

### Comments

- (a) Uptake study using a coated wall laminar flow tube coupled to CIMS detection. On liquid 58%  $\text{H}_2\text{SO}_4$  a reversible physical adsorption was observed with an initial uptake coefficient  $\gamma_0 = 3 \times 10^{-3}$  (displayed) and 0.5 s exposure time within the wall-coated laminar flow tube. For longer exposure times ( $\sim 20$  s)  $\gamma$  decreases to  $2 \times 10^{-4}$ , most likely owing to partial saturation of the uptake and a rate-limiting acid-catalyzed hydrolysis.

### Preferred Values

*No recommendation.*

In view of the single determination with very few experimental data at one temperature and one  $\text{H}_2\text{SO}_4$  concentration no recommendation is given.

### References

Hanson, D.R., Ravishankara, A.R.: NATO ASI Series (17), 281, in "The Tropospheric Chemistry of Ozone in the Polar Regions," Niki, H. and Becker, K.H., eds., Springer Verlag, 1993.