

IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet SO_x26

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HO₂ + CH₃SH → products

Rate coefficient data

$k/\text{cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$	Temp./K	Reference	Technique/ Comments
<i>Absolute Rate Coefficients</i> <4 x 10 ⁻¹⁵	298	Mellouki and Ravishankara, 1994 ¹	DF-LMR

Preferred Values

$k < 4 \times 10^{-15} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$ at 298 K.

Comments on Preferred Values

This upper limit is taken from the study of Mellouki and Ravishankara.¹ It is consistent with the upper limits reported for the corresponding reactions of HO₂ with H₂S and CH₃SCH₃. It is also consistent with results noted in the Barnes *et al.*² study of the reactions of the HO radical with various sulfur compounds. In that publication² the authors stated that previous experiments in that laboratory had shown that the rate coefficients for reactions of HO₂ with thiols were <1 x 10⁻¹⁵ cm³ molecule⁻¹ s⁻¹.

References

- ¹ A. Mellouki and A. R. Ravishankara, *Int. J. Chem. Kinet.* **26**, 355 (1994).
- ² I. Barnes, V. Bastian, K. H. Becker, E. H. Fink, and W. Nelsen, *J. Atmos. Chem.* **4**, 445 (1986).