

IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet SO_x27

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HO₂ + CH₃SCH₃ → products

Rate coefficient data

<i>k</i> /cm ³ molecule ⁻¹ s ⁻¹	Temp./K	Reference	Technique/ Comments
<i>Absolute Rate Coefficients</i> <5 x 10 ⁻¹⁵	298	Mellouki and Ravishankara, 1994 ¹	DF-LMR

Preferred Values

$k < 5 \times 10^{-15} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$ 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 the HO₂ radical with H₂S and CH₃SH. It is also consistent with unpublished results of Niki, who in a study of the decay of CH₃SCH₃ in the presence of HO₂ in 1 bar air showed the reaction of HO₂ with CH₃SCH₃ to be very slow with $k < 1 \times 10^{-15} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$ (reported in Mellouki and Ravishankara¹ as a private communication from H. Niki).

References

¹ A. Mellouki and A. R. Ravishankara, Int. J. Chem. Kinet. **26**, 355 (1994).