

IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet SOx71

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CH₃SS + O₃ → products

Rate coefficient data

<i>k</i> /cm ³ molecule ⁻¹ s ⁻¹	Temp./K	Reference	Technique/ Comments
<i>Absolute Rate Coefficients</i> (4.6 ± 1.1) × 10 ⁻¹³	300	Dominé et al., 1992	(a)

Comments

- (a) Discharge-flow study. Photoionization mass spectrometry was used to monitor CH₃SS radicals. CH₃S radicals were generated by Cl + CH₃SH, and CH₃SS was observed to be formed in the CH₃S source and thought to be due to the CH₃S + S₂ reaction on walls. [CH₃SS] was monitored in the presence of excess O₃ to obtain *k*.

Preferred Values

$$k = 4.6 \times 10^{-13} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1} \text{ at } 298 \text{ K.}$$

Reliability

$$\Delta \log k = \pm 0.3 \text{ at } 298 \text{ K.}$$

Comments on Preferred Values

The only available measurement (Dominé et al., 1992) of *k* is accepted but substantial error limits are assigned until confirmatory studies are made.

References

Dominé, F., Ravishankara, A. R. and Howard, C. J.: J. Phys. Chem. 96, 2171, 1992.