

IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet SOx65

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CH₃SOO + NO₂ → products

Rate coefficient data

<i>k</i> /cm ³ molecule ⁻¹ s ⁻¹	Temp./K	Reference	Technique/ Comments
<i>Absolute Rate Coefficients</i> (2.2 ± 0.6) × 10 ⁻¹¹	227-246	Turnipseed et al., 1993	(a)

Comments

- (a) Pulsed laser photolysis of (CH₃)₂S₂-O₂-NO₂ mixtures at 248 nm in He [107-467 mbar (80-350 Torr)] or SF₆ [87 mbar (65 Torr)]. [CH₃S] was monitored and the temporal profile simulated to obtain *k*. No variation of *k* with pressure or temperature was observed.

Preferred Values

$k = 2.2 \times 10^{-11} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$, independent of temperature over the range 227-246 K.

Reliability

$\Delta \log k = \pm 0.3$ over the range 227-246 K.

Comments on Preferred Values

The value of *k* obtained in the only study (Turnipseed et al., 1993) of this reaction is accepted but substantial error limits are assigned until confirmatory studies are made.

References

Turnipseed, A. A., Barone, S. B. and Ravishankara, A. R.: J. Phys. Chem. 97, 5926, 1993.