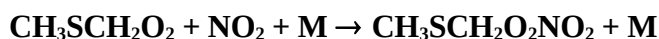


IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet SOx69

Website: <http://iupac.pole-ether.fr>. See website for latest evaluated data. Data sheets can be downloaded for personal use only and must not be retransmitted or disseminated either electronically or in hardcopy without explicit written permission.

This data sheet last evaluated: 28th June 2007; no revision of preferred values.



Rate coefficient data

$k/\text{cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$	P/mbar	M	Temp./K	Reference	Comments
<i>Absolute Rate Coefficients</i>					
$(9.2 \pm 0.9) \times 10^{-12}$	1000	SF ₆	296	Nielsen et al., 1995	(a)
$(7.1 \pm 0.9) \times 10^{-12}$	300	SF ₆	296		

Comments

- (a) Pulse radiolysis of SF₆-CH₃SCH₃-O₂-NO₂ mixtures with measurement of the rate of decay of NO₂ via its absorption at 400 nm. Insufficient data to obtain k_0 or k_∞ , although the reaction was measured near the high-pressure limit.

Preferred Values

$k = 9 \times 10^{-12} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$ at 1 bar and 298 K.

Reliability

$\Delta \log k = \pm 0.5$ at 1 bar and 298 K.

Comments on Preferred Values

The preferred value is based on the sole study of Nielsen et al. (1995). Until further studies confirm this value, we assign large error limits.

References

Nielsen, O. J., Sehested, J. and Wallington, T. J.: Chem. Phys. Lett. 236, 385, 1995.