

Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet HO_x_VOC45

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HO + CH₃C(O)CH₂ONO₂ → products

Rate coefficient data

$k/\text{cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$	Temp./K	Reference	Technique/ Comments
<i>Relative Rate Coefficients</i> <4.0 x 10 ⁻¹³	298 ± 2	Zhu et al., 1991	RR (a)

Comments

- (a) HO radicals were generated by the photolysis of CH₃ONO-NO-N₂-O₂ mixtures at 1 bar pressure. The concentrations of CH₃C(O)CH₂ONO₂ and *n*-butane were measured during the experiments by GC, and the measured rate constant ratio of $k(\text{HO} + \text{CH}_3\text{C}(\text{O})\text{CH}_2\text{ONO}_2)/k(\text{HO} + n\text{-butane}) < 0.17$ is placed on an absolute basis by use of a rate coefficient of $k(\text{HO} + n\text{-butane}) = 2.3 \times 10^{-12} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$ (IUPAC, current recommendation).

Preferred Values

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

Comments on Preferred Values

The preferred value is based on the sole study of Zhu et al. (1991), but with a higher upper limit to reflect additional uncertainties.

References

- IUPAC,; <http://iupac.pole-ether.fr>, 2013.
Zhu, T., Barnes, I. and Becker, K. H.: J. Atmos. Chem. 13, 301, 1991.