IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation - Data Sheet oFOx91; VII.A5.8

The citation for the preferred values in this data sheet is: IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation, http://iupac.pole-ether.fr.
This datasheet last evaluated: June 2015; last change in preferred values: June 2009.

$$\mathbf{HO + \textit{n}\text{-}C_3F_7CH_2OH \rightarrow \textit{n}\text{-}C_3F_7CHOH + H_2O} \quad \textbf{(1)}$$
$$\mathbf{\rightarrow \textit{n}\text{-}C_3F_7CH_2O + H_2O} \quad \textbf{(2)}$$

Rate coefficient data ($k = k_1 + k_2$)

k/cm^3 molecule^{-1} s^{-1}	T/K	Reference	Technique/ Comments
Relative Rate Coefficients			
$(9.4 \pm 0.8) \times 10^{-14}$	296	Hurley et al. (2004)	RR (a)

Comments

(a) HO radicals were generated by the photolysis of CH_3ONO in 700 Torr (933 mbar) of air. A rate coefficient ratio of $k(HO+C_3F_7CH_2OH)/k(HO+C_2H_2) = 0.12 \pm 0.01$ was reported. Using $k(HO+C_2H_2) = 7.8 \times 10^{-13}$ cm^3 molecule^{-1} s^{-1} (Atkinson et al., 2006) gives $k(HO+C_3F_7CH_2OH) = (9.4 \pm 0.8) \times 10^{-14}$ cm^3 molecule^{-1} s^{-1}.

Preferred Values

Parameter	Value	T/K
k /cm^3 molecule^{-1} s^{-1}	9.4×10^{-14}	298
Reliability		
$\Delta \log k$	± 0.15	298

Comments on Preferred Values

The recommendation is based upon the sole study of this reaction by Hurley et al. (2004).

References

Atkinson, R., Baulch, D. L., Cox, R. A., Crowley, J. N., Hampson, R. F., Hynes, R. G., Jenkin, M. E., Rossi, M. J., and Troe, J.: Atmos. Chem. Phys., 6, 3625, 2006; IUPAC Subcommittee for Gas Kinetic Data Evaluation, http://iupac.pole-ether.fr.
Hurley, M. D., Wallington, T. J., Andersen, M. P. S., Ellis, D. A., Martin, J. W., and Mabury, S. A.: J. Phys. Chem. A, 108, 1973, 2004.