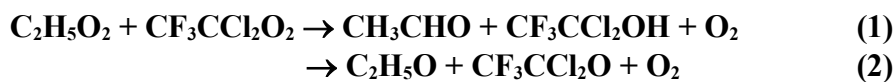


IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet oRCIOx49

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 updated: 27th January 2006.



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

| $k/\text{cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$ | Temp./K | Reference | Technique/ Comments |
|--|---------|---------------------|---------------------|
| <i>Absolute Rate Coefficients</i> | | | |
| $k_1 = (3.6 \pm 0.5) \times 10^{-12}$ | 298 | Hayman et al., 1994 | PLP-UVA (a) |
| $k_2 = (9^{+9}_{-5}) \times 10^{-13}$ | 298 | | |

Comments

- (a) Laser flash photolysis-UV absorption study of $\text{CF}_3\text{CCl}_3\text{-C}_2\text{H}_6\text{-O}_2\text{-N}_2$ mixtures. Kinetic data were obtained by analyzing two sets of transient decays on the basis of a mechanism consisting of 13 reactions.

Preferred Values

$k_1 = 3.6 \times 10^{-12} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$ at 298 K.

$k_2 = 9 \times 10^{-13} \text{ molecule}^{-1} \text{ s}^{-1}$ at 298 K.

Reliability

$\Delta \log k_1 = \pm 0.3$ at 298 K.

$\Delta \log k_2 = \pm 0.5$ at 298 K.

Comments on Preferred Values

While the above values of the rate coefficients appear reasonable, they have been derived from the analysis of a complex chemical system and require independent verification to reduce the recommended error limits.

References

Hayman, G. D., Jenkin, M. E., Murrells, T. P. and Johnson, C. E.: Atmos. Environ., 28A, 421, 1994.