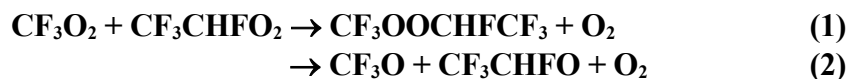


# IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet of FO<sub>x</sub>68

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: 24<sup>th</sup> 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> (8 ± 3) × 10 <sup>-12</sup>	297	Maricq and Szente, 1992	(a)

## Comments

- (a) Flash photolysis of F<sub>2</sub> in the presence of CF<sub>3</sub>CH<sub>2</sub>F-O<sub>2</sub>-N<sub>2</sub>-He mixtures. CF<sub>3</sub>CHFO<sub>2</sub> radicals were monitored by UV absorption with  $\sigma_{213 \text{ nm}} = (5.2 \pm 0.3) \times 10^{-18} \text{ cm}^2 \text{ molecule}^{-1}$ . The derived value of  $k$  listed above was obtained by modeling the decay of CF<sub>3</sub>CFHO<sub>2</sub> radicals and the formation and decay of CF<sub>3</sub>O<sub>2</sub> radicals.

## Preferred Values

$k = 8 \times 10^{-12} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$  at 298 K.

### Reliability

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

### Comments on Preferred Values

The preferred value of the rate coefficient at 298 K seems reasonable, but requires independent confirmation. Maricq and Szente (1992) assumed that the reaction proceeds entirely by channel (2) on the basis of studies of the self-reactions of CF<sub>3</sub>O<sub>2</sub> and CF<sub>3</sub>CHFO<sub>2</sub> radicals.

## References

Maricq, M. M. and Szente, J. J.: J. Phys. Chem., 96, 10862, 1992.