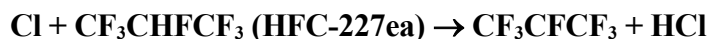


## IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet of FOx110

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. The citation for this data sheet is: IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation, <http://iupac.pole-ether.fr>.

This datasheet last evaluated: September 2011; last change in preferred values: September 2011.



### Rate coefficient data (*k*)

<i>k</i> /cm <sup>3</sup> molecule <sup>-1</sup> s <sup>-1</sup>	<i>T</i> /K	Reference	Technique/ Comments
<i>Relative Rate Coefficients</i>			
(4.68 ± 0.52) × 10 <sup>-16</sup>	296	Møgelberg et al. (1996)	(a)
(4.10 ± 0.63) × 10 <sup>-16</sup>	296		(b)

### Comments

- (a) Cl atoms were generated by the photolysis of Cl<sub>2</sub> in CF<sub>3</sub>CHF<sub>2</sub>CF<sub>3</sub>/CHF<sub>2</sub>CF<sub>3</sub>/Cl<sub>2</sub> and CF<sub>3</sub>CHF<sub>2</sub>CF<sub>3</sub>/CHF<sub>2</sub>CF<sub>2</sub>CF<sub>3</sub>/Cl<sub>2</sub> mixtures in 700 Torr (933 mbar) of N<sub>2</sub> or air diluent. The loss of the reactant and reference compounds was measured by FTIR spectroscopy. The measured rate coefficient ratios of  $k(\text{Cl}+\text{CF}_3\text{CHF}_2\text{CF}_3)/k(\text{Cl}+\text{CHF}_2\text{CF}_3) = 0.18 \pm 0.02$  and  $k(\text{Cl}+\text{CF}_3\text{CHF}_2\text{CF}_3)/k(\text{Cl}+\text{CHF}_2\text{CF}_2\text{CF}_3)$  were placed on an absolute basis using  $k(\text{Cl}+\text{CHF}_2\text{CF}_3) = 2.6 \times 10^{-15}$  (Atkinson et al., 2008) and  $k(\text{Cl}+\text{CHF}_2\text{CF}_2\text{CF}_3) = 3.15 \times 10^{-16}$  (Giessing et al., 1996) cm<sup>3</sup> molecule<sup>-1</sup> s<sup>-1</sup>.
- (b) Using CHF<sub>2</sub>CF<sub>2</sub>CF<sub>3</sub> as reference.

### Preferred Values

Parameter	Value	<i>T</i> /K
<i>k</i> / cm <sup>3</sup> molecule <sup>-1</sup> s <sup>-1</sup>	4.4 × 10 <sup>-16</sup>	298
<i>Reliability</i>		
Δ log <i>k</i>	± 0.15	298

### Comments on Preferred Values

The recommended value is the average of the relative rate determinations by Møgelberg et al. (1996).

### References

- Atkinson, R., Baulch, D. L., Cox, R. A., Crowley, J. N., Hampson, R. F., Hynes, R. G., Jenkin, M. E., Rossi, M. J., Troe, J., and Wallington, T. J.: Atmos. Chem. Phys., 9, 4141, 2008; IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation, <http://iupac.pole-ether.fr>.
- Giessing, A. M. B., Feilberg, A., Møgelberg, T. E., Sehested, J., Bilde, M., Wallington, T. J., and Nielsen, O. J.: J. Phys. Chem., 100, 6572, 1996.
- Møgelberg, T. E., Sehested, J., Bilde, M., Wallington, T. J., and Nielsen, O. J.: J. Phys. Chem., 100, 8882, 1996.