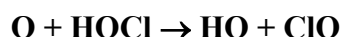


IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet iClOx1

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 re-transmitted or disseminated either electronically or in hard copy without explicit written permission.

This data sheet updated: 23th July 2003.



$$\Delta H^\circ = -32 \text{ kJ}\cdot\text{mol}^{-1}$$

Rate coefficient data

$k/\text{cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$	Temp./K	Reference	Technique/ Comments
<i>Absolute Rate Coefficients</i>			
$(1.3 \pm 0.2) \times 10^{-13}$	298	Vogt and Schindler, 1992	DF-MS
$(1.7 \pm 0.3) \times 10^{-13}$	213-298	Schindler et al., 1996	DF-MS

Preferred Values

$k = 1.7 \times 10^{-13} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$, independent of temperature over the range 210 K to 300 K.

Reliability

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

$\Delta(E/R) = \pm 300$ K.

Comments on Preferred Values

The preferred values are based on the results of the study of Schindler et al. (1996) in which k was found to be independent of temperature over the range 213 K to 298 K. These results are preferred over those of the previous study (Vogt and Schindler, 1992) from the same laboratory, which was only at room temperature. In the most recent study (Schindler et al., 1996), product analysis using ^{18}O atoms and *ab-initio* model calculations indicate that Cl atom abstraction is the predominant primary reaction channel.

References

- Schindler, R. N., Dethlefs, J. and Schmidt, M.: Ber. Bunsenges. Phys. Chem. 100, 1242, 1996.
Vogt, R. and Schindler, R. N.: Geophys. Res. Lett. 19, 1935, 1992.