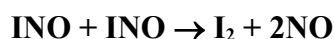


IUPAC Task Group on Atmospheric chemical Kinetic Data Evaluation – Data Sheet iIOx21

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: 3rd February 2004.



$$\Delta H^\circ = 0.3 \text{ kJ}\cdot\text{mol}^{-1}$$

Rate coefficient data

$k/\text{cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$	Temp./K	Reference	Technique/ Comments
<i>Absolute Rate Coefficients</i>			
$8.4 \times 10^{-11} \exp(-2620/T)$	320-450	van den Bergh and Troe, 1976 ¹	PLP-UVA
1.3×10^{-14}	298*		
$2.9 \times 10^{-12} \exp(-1320/T)$	298-328	Basco and Hunt, 1978 ²	FP-UVA
3.4×10^{-14}	298		

Preferred Values

$$k = 1.3 \times 10^{-14} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1} \text{ at } 298 \text{ K.}$$

$$k = 8.4 \times 10^{-11} \exp(-2620/T) \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1} \text{ over the temperature range } 300 \text{ K to } 450 \text{ K.}$$

Reliability

$$\Delta \log k = \pm 0.4 \text{ at } 298 \text{ K.}$$

$$\Delta(E/R) = \pm 600 \text{ K.}$$

Comments on Preferred Values

The results from the study of van den Bergh and Troe¹ are preferred over those from Basco and Hunt² because of a much wider range of conditions studied.

References

- ¹ H. van den Bergh and J. Troe, *J. Chem. Phys.* **64**, 736 (1976).
- ² N. Basco and J. E. Hunt, *Int. J. Chem. Kinet.* **10**, 733 (1978).