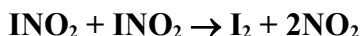


## IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet iIOx22

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: 3<sup>rd</sup> February 2004.



$$\Delta H^\circ = 8.4 \text{ kJ}\cdot\text{mol}^{-1}$$

### Rate coefficient data

$k/\text{cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$	Temp./K	Reference	Technique/ Comments
<i>Absolute Rate Coefficients</i>			
$1.7 \times 10^{-14}$	350	van den Bergh and Troe, 1976 <sup>1</sup>	PLP-UVA
$4.7 \times 10^{-13} \exp(-1670 \pm 340/T)$	277.7-344.85	Gawler, Boakes and Rowley, 2003 <sup>2</sup>	FP-UVA

### Preferred Values

$k = 1.7 \times 10^{-15} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$  at 298 K.

$k = 4.7 \times 10^{-13} \exp(-1670/T) \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$  over the temperature range 270 to 350 K.

#### Reliability

$\Delta \log k = \pm 0.7$  at 298 K.

$\Delta(E/R) = \pm 1000$  K.

#### Comments on Preferred Values

The preferred values are based on the new measurements of Gawler et al.<sup>2</sup> The measured rate constant at a single temperature of 350 K from van den Bergh and Troe<sup>1</sup> is higher by a factor of 4, but uncertainties in both studies are large.

### References

- <sup>1</sup> H. van den Bergh and J. Troe, J. Chem. Phys. **64**, 736 (1976).
- <sup>2</sup> K.S.Gawler, G Boakes and D.M.Rowley, Phys.Chem.Chem.Phys., 3632, (2003).