

## IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet iBrOx5

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This data sheet last evaluated: 28<sup>th</sup> June 2007; no revision of preferred values.



$$\Delta H^\circ(1) = 2.8 \text{ kJ}\cdot\text{mol}^{-1}$$

$$\Delta H^\circ(2) \leq 6 \text{ kJ}\cdot\text{mol}^{-1}$$

### 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>			
$<1.5 \times 10^{-15}$	298	Leu, 1980	DF-MS
$<3.0 \times 10^{-15}$	417		
$<2.0 \times 10^{-15}$	~298	Posey et al., 1981	DF-MS
$<5 \times 10^{-16}$	298	Toohey et al., 1987	DF-RF (a)
$<5 \times 10^{-16}$	378		

### Comments

- (a) Decays of Br radicals were monitored in the presence of excess  $\text{H}_2\text{O}_2$ . Measurement of  $\text{HO}_2$  and HO radical products by LMR allowed upper limits of  $5 \times 10^{-16} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$  to be derived for both channel (1) and channel (2).

### Preferred Values

$$k < 5 \times 10^{-16} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1} \text{ at } 298 \text{ K.}$$

#### *Comments on Preferred Values*

The upper limit to the preferred value is based on the data of Toohey et al. (1987), who also obtained the same upper limit at 378 K. The upper limits to the rate constant of Toohey et al. (1987) are consistent with the previous higher upper limits of Leu (1980) and Posey et al. (1981).

### References

Leu, M.-T.: Chem. Phys. Lett. 69, 37, 1980.

Posey, J., Sherwell, J. and Kaufman, M.: Chem. Phys. Lett. 77, 476, 1981.

Toohey, D. W., Brune, W. H. and Anderson, J. G.: J. Phys. Chem. 91, 1215, 1987.