

IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet oRCIOx58

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O₃ + C₂HCl₃ → products

Rate coefficient data

k/cm ³ molecule ⁻¹ s ⁻¹	Temp./K	Reference	Technique/ Comments
<i>Absolute Rate Coefficients</i> <3 x 10 ⁻²⁰	296	Atkinson et al., 1982	S-CL

Preferred Values

$k < 5 \times 10^{-20} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$ at 298 K.

Comments on Preferred Values

The upper limit to the preferred value is taken from the data of Atkinson et al. (1982), with the upper limit being increased by a factor of ~2 to take into account additional uncertainties in the study of Atkinson et al. (1982). This upper limit is consistent with the reported data for the reactions of O₃ with the chloroethenes (Atkinson and Carter, 1984), which show that Cl atom substitution markedly decreases the rate coefficients at room temperature, relative to that for ethene.

References

- Atkinson, R. and Carter, W. P. L.: Chem. Rev. 84, 437, 1984.
Atkinson, R., Aschmann, S. M., Fitz, D. R., Winer, A. M. and Pitts Jr., J. N.: Int. J. Chem. Kinet. 14, 13, 1982.