IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet oClOx63

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HO + $C(O)Cl_2$ → products

Rate coefficient data

k/cm^3 molecule^{-1} s^{-1}	Temp./K	Reference	Technique/ Comments
Relative Rate Coefficients			
$<1 \times 10^{-15}$	298 ± 3	Nelson et al., 1990	RR (a)

Comments

(a) HO radicals were generated by the photolysis of CH_3ONO in CH_3ONO-NO-$C(O)Cl_2$-reference compound-air mixtures at ~1 bar pressure. The concentrations of $C(O)Cl_2$ and the reference compound were monitored during the experiments by GC. No reaction of $C(O)Cl_2$ was observed. However, no details concerning the reference compound used or the amount of reference compound reacted were given.

Preferred Values

Parameter	Value	T/K
k /cm^3 molecule^{-1} s^{-1}	$<5 \times 10^{-15}$	298

Comments on Preferred Values

The preferred upper limit to the 298 K rate coefficient is based on the sole reported study of Nelson et al. (1990), with the preferred upper limit being increased by a factor of 5 over that cited by Nelson et al. (1990).

References

Nelson, L., Shanahan, I., Sidebottom, H. W., Treacy, J. and Nielsen, O. J.: Int. J. Chem. Kinet., 22, 577, 1990.