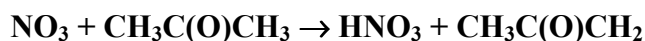


**IUPAC Subcommittee on Gas Kinetic Data Evaluation – Data Sheet NO3\_VOC11**

Website: <http://www.iupac-kinetic.ch.cam.ac.uk/>. See website for latest evaluated data. Datasheets can be downloaded for personal use only and must not be retransmitted or disseminated either electronically or in hardcopy without explicit written permission. This datasheet updated: 9<sup>th</sup> August 2002.



$$\Delta H^\circ = -15.5 \text{ kJ}\cdot\text{mol}^{-1}$$

**Rate coefficient data**

$k/\text{cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$	Temp./K	Reference	Technique/ Comments
<i>Absolute Rate Coefficients</i> $\leq (8.5 \pm 2.5) \times 10^{-18}$	302	Boyd <i>et al.</i> , 1991 <sup>1</sup>	(a)

**Comments**

- (a) Stopped flow system with detection of the NO<sub>3</sub> radical by optical absorption at 662 nm. Secondary reactions were believed to be important and a stoichiometry factor of  $\geq 2$  has been used to obtain the cited upper limit to the rate coefficient.

**Preferred Values**

$$k < 3 \times 10^{-17} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1} \text{ at } 298 \text{ K.}$$

*Comments on Preferred Values*

The upper limit to the preferred value is derived from the overall rate coefficient of  $(1.7 \pm 0.5) \times 10^{-17} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$  measured by Boyd *et al.*,<sup>1</sup> with no account taken of the expected greater than unity stoichiometry.

**References**

- <sup>1</sup> A. Boyd, C. E. Canosa-Mas, A. D. King, R. P. Wayne, and M. R. Wilson, J. Chem. Soc. Faraday Trans. **87**, 2913 (1991).