

## IUPAC Task Group on Atmospheric Chemical Kinetic Data Evaluation – Data Sheet RO\_21

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This data sheet updated: 24<sup>th</sup> November 2006.

### CH<sub>3</sub>CH(O)CH<sub>2</sub>CH<sub>3</sub> + NO<sub>2</sub> → products

#### Rate coefficient data

$k/\text{cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$	Temp./K	Reference	Technique/ Comments
<i>Absolute Rate Coefficients</i>			
$8.6 \times 10^{-12} \exp(400 \pm 100)/T]$	223-305	Lotz and Zellner, 2001	PLP-LIF (a)
$(3.3 \pm 0.3) \times 10^{-11}$	298		

#### Comments

- (a) Pulsed laser photolysis at 351 nm / laser-excited fluorescence of 2-butylnitrite in the presence of NO<sub>2</sub> at a total pressure of N<sub>2</sub> of 26 mbar. The rate constant at 295 K is independent of pressure in the range 6.5-104 mbar N<sub>2</sub>.

#### Preferred Values

$k = (3.3 \pm 0.3) \times 10^{-11} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$  at 298 K.

$k = 8.6 \times 10^{-12} \exp(400 \pm 100)/T] \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$  in the range 223-305 K.

#### Reliability

$\Delta \log k = \pm 0.2$  at 298 K.

#### Comments on Preferred Values

The preferred value is based on the sole study of Lotz and Zellner (2001).

#### References

Lotz, C. and Zellner, R.: Phys. Chem. Chem. Phys. 3, 2607, 2001.