

This is a repository copy of *Iodine's impact on tropospheric oxidants : A global model study in GEOS-Chem*.

White Rose Research Online URL for this paper:

<https://eprints.whiterose.ac.uk/95475/>

Version: Published Version

Article:

Sherwen, T. orcid.org/0000-0002-3006-3876, Evans, M. J. orcid.org/0000-0003-4775-032X, Carpenter, L. J. orcid.org/0000-0002-6257-3950 et al. (11 more authors) (2016) *Iodine's impact on tropospheric oxidants : A global model study in GEOS-Chem*. *Atmospheric Chemistry and Physics*. pp. 1161-1186. ISSN 1680-7324

<https://doi.org/10.5194/acp-16-1161-2016>

Reuse

This article is distributed under the terms of the Creative Commons Attribution (CC BY) licence. This licence allows you to distribute, remix, tweak, and build upon the work, even commercially, as long as you credit the authors for the original work. More information and the full terms of the licence here:

<https://creativecommons.org/licenses/>

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



Corrigendum to “Iodine’s impact on tropospheric oxidants: a global model study in GEOS-Chem” published in Atmos. Chem. Phys., 16, 1161–1186, 2016

T. Sherwen¹, M. J. Evans^{1,2}, L. J. Carpenter¹, S. J. Andrews¹, R. T. Lidster¹, B. Dix³, T. K. Koenig^{3,4}, R. Sinreich³,
I. Ortega^{3,4}, R. Volkamer^{3,4}, A. Saiz-Lopez⁵, C. Prados-Roman⁵, A. S. Mahajan⁶, and C. Ordóñez⁷

¹Wolfson Atmospheric Chemistry Laboratories (WACL), Department of Chemistry, University of York,
York, YO10 5DD, UK

²National Centre for Atmospheric Science (NCAS), University of York, York, YO10 5DD, UK

³Department of Chemistry and Biochemistry, University of Colorado, Boulder,
CO 80309-0215, USA

⁴Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder,
CO 80309-021, USA

⁵Department of Atmospheric Chemistry and Climate, Institute of Physical Chemistry Rocasolano, CSIC,
Madrid, 28006, Spain

⁶Indian Institute of Tropical Meteorology, Maharashtra, 411008, India

⁷Met Office, FitzRoy Road, Exeter, EX1 3PB, UK

Correspondence to: T. Sherwen (ts551@york.ac.uk)

Published: 16 February 2016

We have been made aware of a typographic error and a point where a clarification on the representation of information could be improved. First, in Table 4 an additional term ($\frac{E_a}{RT}$) was erroneously present in the second sentence of the caption. The fourth column and final sentence of the caption are therefore no longer required. The updated caption and table are shown below.

Second, in Sect. 2.4. (“Photolysis rates”) the cross-section/quantum yield used for I_2O_X ($X = 2, 3, 4$) was not clear. Therefore, the sentence has been updated (New) for clarity as seen below.

Old: “For I_2O_X ($X = 2, 3, 4$) we assume the same absorption cross section as INO_3 , an approach used previously (Bloss et al., 2010). For most species (I_2 , HOI, IO, OIO, INO, INO_2 , I_2O_2 , CH_3I , CH_2I_2 , CH_2IBr and CH_2ICl) we assume a quantum yield of 1, but for INO_3 we use a quantum yield of 0.21 (Sander et al., 2011).”

New: “For I_2O_X ($X = 2, 3, 4$) we assume the same absorption cross-section as INO_3 , an approach used previously (Bloss et al., 2010). For most species (I_2 , HOI, IO, OIO, INO, INO_2 , CH_3I , CH_2I_2 , CH_2IBr and CH_2ICl) we assume a quantum yield of 1, but for INO_3 we use a quantum yield of 0.21 (Sander et al., 2011). We assume I_2O_X ($X = 2, 3, 4$) to have the same quantum yield as INO_3 .”

Table 4. Termolecular iodine reactions. The lower pressure limit rate (k_0) is given by $A_0 \cdot (\frac{300}{T})^x$. The high pressure limit is given by k_∞ . F_c characterises the fall-off curve of the reaction as described by Atkinson et al. (2007).

Rxn ID	Reaction	A_0 $\text{cm}^6 \text{ molecules}^{-2} \text{ s}^{-1}$	x	k_∞ $\text{cm}^3 \text{ molecules}^{-1} \text{ s}^{-1}$	F_c	Citation
T1	$\text{I} + \text{NO} + \text{M} \rightarrow \text{INO} + \text{M}$	1.80×10^{-32}	1	1.70×10^{-11}	0.60	Atkinson et al. (2007)
T2	$\text{I} + \text{NO}_2 + \text{M} \rightarrow \text{INO}_2 + \text{M}$	3.00×10^{-31}	1	6.60×10^{-11}	0.63	Atkinson et al. (2007)
T3	$\text{IO} + \text{NO}_2 + \text{M} \rightarrow \text{INO}_3 + \text{M}$	7.70×10^{-31}	5	1.60×10^{-11}	0.40	Atkinson et al. (2007)