

Interactive comment on “298 K rate coefficients for the reaction of OH with i -C₃H₇I, n -C₃H₇I and C₃H₈” by “S. A. Carl and J. N. Crowley”

Anonymous Referee #2

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General comments

The paper by Carl and Crowley reports high quality experimental results characterizing the chemical kinetics of iodo-propane reactions relevant in the marine atmospheric environment. In addition to the issues addressed by Referee 1 (ACPD, 1, S14-S15, 2001) the following questions and comments should be answered, and the paper should be revised accordingly before publication in ACP.

Specific comments

Table 1: The caption refers at the same time to "298 K kinetic data" and "bimolecular rate coefficients for each temperature" - which temperatures are meant here? The weighting applied in the fitting procedure should be specified.

The different types of statistical indicators used to quantify measurement uncer-

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tainty should be defined explicitly. Apparently the error bars of the data points in the figures represent the standard deviation of repeated measurements (1 s.d., 2 s.d., or 3 s.d., and how many measurements per data point?), whereas the parameter σ appears to be the standard error of the slope of the (linear) least squares fit to the data points?

p.31,l.24: How are the rate coefficients k_1 and k_2 defined?

p.33,l.11: Are the iodo-propane j-values reported for clear sky conditions?

p.33,l.13: The calculated first order decay rate coefficients should not be termed "loss rates", and as already mentioned by Referee 1, the relatively high OH concentration value used to calculate these decay rate coefficients should be substantiated.

Technical corrections

Abstract: Remove the blank between propyl- and iodides

Table 1: The dash after the colon in the caption has to be removed, and the units in the table header should be given in brackets.

Figure 2: In the caption the "rate constants obtained" should be specified as bi-molecular in the same way as in Table 1 and in the text.

Throughout the paper (text, table, figures) the alternating use of k_{298} and k_{bi} for bi-molecular rate coefficients should be avoided/unified. For consistency, square brackets should be reserved for concentrations, and units should be given in round brackets.

Interactive comment on Atmos. Chem. Phys. Discuss., 1, 23, 2001.

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