

CORRECTION

View Article Online  
View Journal | View Issue



Cite this: *Environ. Sci.: Processes Impacts*, 2018, 20, 416

# Correction: The stability and generation pattern of thermally formed isocyanic acid (ICA) in air – potential and limitations of proton transfer reaction-mass spectrometry (PTR-MS) for real-time workroom atmosphere measurements

Mikolaj Jan Jankowski, \* Raymond Olsen, Yngvar Thomassen and Paal Molander

Correction for 'The stability and generation pattern of thermally formed isocyanic acid (ICA) in air – potential and limitations of proton transfer reaction-mass spectrometry (PTR-MS) for real-time workroom atmosphere measurements' by Mikolaj Jan Jankowski *et al.*, *Environ. Sci.: Processes Impacts*, 2016, 18, 810–818.

DOI: 10.1039/c8em90007h

rsc.li/espi

The reported ion-neutral collision rates (capture rate) were erroneously estimated using the PTR-MS drift tube temperature and not the effective temperature ( $T_{\text{eff}}$ ) resultant of the electric field in the drift tube. Thus, the reported collision rates for polar compounds are too high resulting in an overestimation of the instrument response factors and consequently leading to underestimated volume mixing ratios for methyl and ethyl isocyanate. Volume mixing ratios for ICA are unaffected by this error, as the PTR-MS was calibrated against an FT-IR spectrometer. However, the formula (eqn (4)) used for PTR-MS response correction is based on incorrect reaction rates. Fig. 4 is marginally affected. The error does not change the conclusion of the article.

- In the ninth sentence of the “PTR-MS measurements” section (p. 812), the values “1.68, 2.12, 2.24” replace “2.89, 4.11, 4.12”.
- In the Fig. 3 image: the legend should read:

$$m/z\ 44, k_{\text{SC}} = 1.68 \times 10^{-9} \text{ cm}^3 \text{ s}^{-1}$$

$$m/z\ 72, k_{\text{SC}} = 2.24 \times 10^{-9} \text{ cm}^3 \text{ s}^{-1}$$

and the equations for the linear fits are replaced by:

$$f_{m/z\ 44} = 0.7950 - 0.0126 \times \text{AH}$$

$$f_{m/z\ 72} = 0.2904 - 0.0126 \times \text{AH}$$

- Corrected eqn (4):

$$[\text{ICA}]_{\text{corrected}} = \frac{[m/z\ 44]_{\text{ppb}} - [\text{EIC}]_{\text{Denuder,ppb}} (0.7950 - 0.0126 \times \text{AH})}{0.4352 - 0.0126 \times \text{AH}}$$

- Fig. 4: equation for the cubic fit replaced by:  $f(x) = 228 - 26.8x + 2.59x^2 - 0.112x^3$
- Fig. 5: traces for  $m/z\ 58$  and  $72$  are increased by a factor of 1.94 and 1.84, respectively.
- In the ninth sentence of the second paragraph of the “Thermal decomposition of polymers” section (p. 817), the values “2.2, 1.9” replace “1.3, 1.3”.
- In Table 1, the data in the PTR-MS columns for MIC and EIC are increased by a factor of 1.94 and 1.84, respectively.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.

National Institute of Occupational Health, P.O. Box 8149, N-0033, Oslo, Norway. E-mail: mikolaj.jankowski@stami.no

