



***Corrigendum to***  
**“Nepal Ambient Monitoring and Source Testing Experiment (NAMaSTE): emissions of trace gases and light-absorbing carbon from wood and dung cooking fires, garbage and crop residue burning, brick kilns, and other sources” published in Atmos. Chem. Phys., 16, 11043–11081, 2016**

Chelsea E. Stockwell<sup>1,a</sup>, Ted J. Christian<sup>1</sup>, J. Douglas Goetz<sup>2</sup>, Thilina Jayarathne<sup>3</sup>, Prakash V. Bhawe<sup>4</sup>, Puppala S. Praveen<sup>4</sup>, Sagar Adhikari<sup>5</sup>, Rashmi Maharjan<sup>5</sup>, Peter F. DeCarlo<sup>2</sup>, Elizabeth A. Stone<sup>3</sup>, Eri Saikawa<sup>6</sup>, Donald R. Blake<sup>7</sup>, Isobel J. Simpson<sup>7</sup>, Robert J. Yokelson<sup>1</sup>, and Arnico K. Panday<sup>4</sup>

<sup>1</sup>Department of Chemistry, University of Montana, Missoula, MT 59812, USA

<sup>2</sup>Departments of Chemistry and Civil, Architectural, and Environmental Engineering, Drexel University, Philadelphia, PA 19104, USA

<sup>3</sup>Department of Chemistry, University of Iowa, Iowa City, IA 52242, USA

<sup>4</sup>International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, 44700, Nepal

<sup>5</sup>MinErgy Pvt. Ltd, Lalitpur, 9354, Nepal

<sup>6</sup>Department of Environmental Sciences, Emory University, Atlanta, GA 30322, USA

<sup>7</sup>Department of Chemistry, University of California-Irvine, Irvine, CA 92697, USA

<sup>a</sup>now at: Chemical Sciences Division, NOAA Earth System Research Laboratory, Boulder, CO 80305, USA

*Correspondence to:* Robert J. Yokelson (bob.yokelson@umontana.edu)

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In Table 4, in the first column, the row labels for “SSA 405” and “SSA 870” are reversed. These entries are found in rows 93 and 94 (in bold font). The labels are correct in the larger source table in the Supplement (Table S8). The other aerosol values in Tables 1–6 have been re-checked and are correct. After correcting the row labels in Table 4 the appropriate values are confirmed to be as below:

**Table 4.** Compiled emission factors ( $\text{g kg}^{-1}$ ) and 1 standard deviation for open traditional cooking fires using dung and wood fuels. The NAMaSTE values include field measurements and adjusted laboratory measurements.

Compound (formula)	EF hardwood cooking NAMaSTE avg (SD) <sup>a</sup>	EF dung cooking NAMaSTE avg (SD)	EF wood open cooking Akagi et al. (2011) avg (SD)	EF wood open cooking Stockwell et al. (2015) avg (SD) <sup>b</sup>	EF dung burning Akagi et al. (2011) avg (SD)
MCE	0.923	0.898	0.927	0.927	0.839
PM	–	–	6.73 (1.61)	–	22.9
Carbon dioxide (CO <sub>2</sub> )	1462 (16)	1129 (80)	1548 (125)	1548 (125)	859 (15)
Carbon monoxide (CO)	77.2 (13.5)	80.9 (13.8)	77.4 (26.2)	77.4 (26)	105 (10)
Methane (CH <sub>4</sub> )	5.16 (1.39)	6.65 (0.46)	4.86 (2.73)	4.86 (0.20)	11.0 (3.3)
Acetylene (C <sub>2</sub> H <sub>2</sub> )	0.764 (0.363)	0.593 (0.443)	0.970 (0.503)	0.602 (0.361)	nm
Ethylene (C <sub>2</sub> H <sub>4</sub> )	2.70 (1.17)	4.23 (1.39)	1.53 (0.66)	2.21 (1.40)	1.12 (0.23)
Propylene (C <sub>3</sub> H <sub>6</sub> )	0.576 (0.195)	1.47 (0.58)	0.565 (0.338)	0.317 (0.145)	1.89 (0.42)
Formaldehyde (HCHO)	1.94 (0.75)	2.42 (1.40)	2.08 (0.86)	1.70 (0.74)	nm
Methanol (CH <sub>3</sub> OH)	1.92 (0.61)	2.38 (0.90)	2.26 (1.27)	2.05 (1.63)	4.14 (0.88)
Formic acid (HCOOH)	0.179 (0.071)	0.341 (0.308)	0.220 (0.168)	0.620 (0.533)	0.460 (0.308)
Acetic acid (CH <sub>3</sub> COOH)	3.14 (1.11)	7.32 (6.59)	4.97 (3.32)	8.90 (9.27)	11.7 (5.1)
Glycolaldehyde (C <sub>2</sub> H <sub>4</sub> O <sub>2</sub> )	0.238 (0.155)	0.499 (0.260)	1.42 (–)	0.455 (0.149)	nm
Furan (C <sub>4</sub> H <sub>4</sub> O)	0.241 (0.024)	0.534 (0.209)	0.400 (–)	0.228 (0.162)	0.950 (0.220)
Hydroxyacetone (C <sub>3</sub> H <sub>6</sub> O <sub>2</sub> )	1.26 (0.09)	3.19 (2.24)	nm	0.480 (0.367)	9.60 (2.38)
Phenol (C <sub>6</sub> H <sub>5</sub> OH)	0.496 (0.159)	1.008 (0.348)	3.32 (–)	0.264 (0.085)	2.16 (0.36)
1,3-Butadiene (C <sub>4</sub> H <sub>6</sub> )	0.204 (0.144)	0.409 (0.306)	nm	$3.37 \times 10^{-2}$ ( $9.67 \times 10^{-3}$ )	nm
Isoprene (C <sub>5</sub> H <sub>8</sub> )	$4.16 \times 10^{-2}$ ( $2.23 \times 10^{-2}$ )	0.325 (0.443)	nm	0.145 (0.077)	nm
Ammonia (NH <sub>3</sub> )	0.259 (0.253)	3.00 (1.33)	0.865 (0.404)	$7.88 \times 10^{-2}$ ( $6.90 \times 10^{-2}$ )	4.75 (1.00)
Hydrogen cyanide (HCN)	0.557 (0.247)	2.01 (1.25)	nm	0.221 (0.005)	0.530 (0.300)
Nitrous acid (HONO)	0.452 (0.068)	0.276 (0.101)	nm	0.291 (0.169)	nm
Sulfur dioxide (SO <sub>2</sub> )	bdl	bdl	nm	0.499	$6.00 \times 10^{-2}$ (–)
Hydrogen fluoride (HF)	bdl	bdl	nm	bdl	nm
Hydrogen chloride (HCl)	$7.51 \times 10^{-2}$ ( $7.99 \times 10^{-2}$ )	$3.76 \times 10^{-2}$ ( $3.59 \times 10^{-2}$ )	nm	bdl	nm
Nitric oxide (NO)	1.62 (1.30)	2.22 (1.02)	1.72 (0.75)	0.319 (0.089)	0.500
Nitrogen dioxide (NO <sub>2</sub> )	0.577 (0.348)	0.898 (0.444)	0.490 (0.330)	1.11 (0.28)	nm
Carbonyl sulfide (OCS)	$1.87 \times 10^{-2}$ ( $1.15 \times 10^{-2}$ )	0.148 (0.123)	nm	nm	nm
DMS (C <sub>2</sub> H <sub>6</sub> S)	0.255 (0.359)	$2.37 \times 10^{-2}$ ( $7.67 \times 10^{-4}$ )	nm	nm	nm
Chloromethane (CH <sub>3</sub> Cl)	$2.36 \times 10^{-2}$ ( $1.62 \times 10^{-2}$ )	1.60 (1.53)	nm	nm	nm
Bromomethane (CH <sub>3</sub> Br)	$5.61 \times 10^{-4}$ ( $3.01 \times 10^{-4}$ )	$5.34 \times 10^{-3}$ ( $3.02 \times 10^{-3}$ )	nm	nm	nm
Methyl iodide (CH <sub>3</sub> I)	$1.23 \times 10^{-4}$ ( $1.11 \times 10^{-4}$ )	$4.39 \times 10^{-4}$ ( $1.78 \times 10^{-4}$ )	nm	nm	nm
1,2-Dichloroethene (C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> )	$1.24 \times 10^{-4}$ (3.00E-5)	$4.97 \times 10^{-3}$ (–)	nm	nm	nm
Methyl nitrate (CH <sub>3</sub> NO <sub>3</sub> )	$6.96 \times 10^{-3}$ ( $5.73 \times 10^{-3}$ )	$1.46 \times 10^{-2}$ ( $1.94 \times 10^{-2}$ )	nm	nm	nm
Ethane (C <sub>2</sub> H <sub>6</sub> )	0.160 (0.122)	1.075 (0.300)	1.50 (0.50)	nm	nm
Propane (C <sub>3</sub> H <sub>8</sub> )	0.202 (0.140)	0.457 (0.137)	nm	nm	nm
i-Butane (C <sub>4</sub> H <sub>10</sub> )	0.406 (0.478)	0.215 (0.126)	nm	nm	nm
n-Butane (C <sub>4</sub> H <sub>10</sub> )	1.11 (1.48)	0.29 (0.09)	nm	nm	nm
1-Butene (C <sub>4</sub> H <sub>8</sub> )	0.726 (0.904)	0.399 (0.331)	nm	0.245 (0.148)	nm
i-Butene (C <sub>4</sub> H <sub>8</sub> )	0.846 (1.113)	0.281 (0.091)	nm	nm	nm
trans-2-Butene (C <sub>4</sub> H <sub>8</sub> )	$6.78 \times 10^{-2}$ ( $5.98 \times 10^{-2}$ )	0.151 (0.010)	nm	nm	nm
cis-2-Butene (C <sub>4</sub> H <sub>8</sub> )	$5.51 \times 10^{-2}$ ( $4.76 \times 10^{-2}$ )	0.102 (0.016)	nm	nm	nm
i-Pentane (C <sub>5</sub> H <sub>12</sub> )	$8.58 \times 10^{-2}$ ( $1.58 \times 10^{-2}$ )	0.811 (0.387)	nm	nm	nm
n-Pentane (C <sub>5</sub> H <sub>12</sub> )	$2.18 \times 10^{-2}$ ( $1.73 \times 10^{-2}$ )	0.190 (0.254)	nm	nm	nm
1-Pentene (C <sub>5</sub> H <sub>10</sub> )	$1.43 \times 10^{-2}$ ( $9.36 \times 10^{-3}$ )	0.168 (0.086)	nm	nm	nm
trans-2-Pentene (C <sub>5</sub> H <sub>10</sub> )	$1.05 \times 10^{-2}$ ( $8.30 \times 10^{-3}$ )	0.115 (0.035)	nm	nm	nm
cis-2-Pentene (C <sub>5</sub> H <sub>10</sub> )	$8.69 \times 10^{-3}$ (–)	$5.14 \times 10^{-2}$ ( $7.55 \times 10^{-3}$ )	nm	nm	nm
3-Methyl-1-butene (C <sub>5</sub> H <sub>10</sub> )	$7.43 \times 10^{-3}$ ( $5.79 \times 10^{-3}$ )	$5.58 \times 10^{-2}$ ( $3.50 \times 10^{-2}$ )	nm	nm	nm
1,2-Propadiene (C <sub>3</sub> H <sub>4</sub> )	$2.33 \times 10^{-2}$ ( $1.07 \times 10^{-2}$ )	$7.15 \times 10^{-2}$ ( $6.76 \times 10^{-2}$ )	nm	nm	nm
Propyne (C <sub>3</sub> H <sub>4</sub> )	$6.39 \times 10^{-2}$ ( $3.07 \times 10^{-2}$ )	0.172 (0.156)	nm	nm	nm
1-Butyne (C <sub>4</sub> H <sub>6</sub> )	$1.28 \times 10^{-2}$ ( $4.73 \times 10^{-3}$ )	$2.29 \times 10^{-2}$ ( $1.38 \times 10^{-2}$ )	nm	nm	nm
2-Butyne (C <sub>4</sub> H <sub>6</sub> )	$1.02 \times 10^{-2}$ ( $6.56 \times 10^{-3}$ )	$1.86 \times 10^{-2}$ ( $9.11 \times 10^{-3}$ )	nm	nm	nm
n-Hexane (C <sub>6</sub> H <sub>14</sub> )	$1.85 \times 10^{-2}$ (–)	0.291 (0.248)	nm	nm	nm
n-Heptane (C <sub>7</sub> H <sub>16</sub> )	$1.01 \times 10^{-2}$ ( $1.35 \times 10^{-2}$ )	0.114 (0.069)	nm	nm	nm
n-Octane (C <sub>8</sub> H <sub>18</sub> )	$1.75 \times 10^{-2}$ (–)	$4.77 \times 10^{-2}$ ( $9.85 \times 10^{-3}$ )	nm	nm	nm
n-Nonane (C <sub>9</sub> H <sub>20</sub> )	$4.87 \times 10^{-2}$ ( $6.40 \times 10^{-2}$ )	$4.68 \times 10^{-2}$ ( $2.55 \times 10^{-2}$ )	nm	nm	nm
n-Decane (C <sub>10</sub> H <sub>22</sub> )	$6.90 \times 10^{-2}$ ( $9.61 \times 10^{-2}$ )	$4.71 \times 10^{-2}$ ( $4.03 \times 10^{-2}$ )	nm	nm	nm
2,3-Dimethylbutane (C <sub>6</sub> H <sub>14</sub> )	$1.57 \times 10^{-2}$ ( $1.16 \times 10^{-2}$ )	0.112 (0.105)	nm	nm	nm
2-Methylpentane (C <sub>6</sub> H <sub>14</sub> )	$9.93 \times 10^{-3}$ ( $1.29 \times 10^{-2}$ )	0.231 (0.192)	nm	nm	nm
3-Methylpentane (C <sub>6</sub> H <sub>14</sub> )	$6.79 \times 10^{-3}$ ( $6.63 \times 10^{-3}$ )	0.155 (0.137)	nm	nm	nm
2,2,4-Trimethylpentane (C <sub>8</sub> H <sub>18</sub> )	– (–)	0.100 (0.080)	nm	nm	nm
Cyclopentane (C <sub>5</sub> H <sub>10</sub> )	$4.06 \times 10^{-3}$ (–)	0.146 (0.178)	nm	nm	nm
Cyclohexane (C <sub>6</sub> H <sub>12</sub> )	$1.16 \times 10^{-2}$ (–)	0.224 (0.255)	nm	nm	nm
Methylcyclohexane (C <sub>7</sub> H <sub>14</sub> )	$1.62 \times 10^{-2}$ (–)	$4.76 \times 10^{-2}$ ( $3.96 \times 10^{-2}$ )	nm	nm	nm
Benzene (C <sub>6</sub> H <sub>6</sub> )	1.05 (0.19)	1.96 (0.45)	nm	2.58 (2.68)	nm
Toluene (C <sub>7</sub> H <sub>8</sub> )	0.241 (0.160)	1.26 (0.05)	nm	0.290 (0.311)	nm
Ethylbenzene (C <sub>8</sub> H <sub>10</sub> )	$4.19 \times 10^{-2}$ ( $4.25 \times 10^{-2}$ )	0.366 (0.085)	nm	nm	nm

Table 4. Continued.

Compound (formula)	EF hardwood cooking NAMASTE avg (SD) <sup>a</sup>	EF dung cooking NAMASTE avg (SD)	EF wood open cooking Akagi et al. (2011) avg (SD)	EF wood open cooking Stockwell et al. (2015) avg (SD) <sup>b</sup>	EF dung burning Akagi et al. (2011) avg (SD)
m/p-Xylene (C <sub>8</sub> H <sub>10</sub> )	9.57 × 10 <sup>-2</sup> (7.99 × 10 <sup>-2</sup> )	0.601 (0.294)	nm	0.265 (0.380)	nm
o-Xylene (C <sub>8</sub> H <sub>10</sub> )	3.93 × 10 <sup>-2</sup> (4.31 × 10 <sup>-2</sup> )	0.228 (0.083)	nm	nm	nm
Styrene (C <sub>8</sub> H <sub>8</sub> )	8.71 × 10 <sup>-2</sup> (6.69 × 10 <sup>-2</sup> )	0.255 (0.091)	nm	0.234 (0.306)	nm
i-Propylbenzene (C <sub>9</sub> H <sub>12</sub> )	1.70 × 10 <sup>-2</sup> (1.67 × 10 <sup>-2</sup> )	1.87 × 10 <sup>-2</sup> (1.40 × 10 <sup>-2</sup> )	nm	nm	nm
n-Propylbenzene (C <sub>9</sub> H <sub>12</sub> )	1.78 × 10 <sup>-2</sup> (1.58 × 10 <sup>-2</sup> )	3.10 × 10 <sup>-2</sup> (1.45 × 10 <sup>-2</sup> )	nm	nm	nm
3-Ethyltoluene (C <sub>9</sub> H <sub>12</sub> )	2.62 × 10 <sup>-2</sup> (5.41 × 10 <sup>-3</sup> )	5.61 × 10 <sup>-2</sup> (2.38 × 10 <sup>-2</sup> )	nm	nm	nm
4-Ethyltoluene (C <sub>9</sub> H <sub>12</sub> )	2.07 × 10 <sup>-2</sup> (1.19 × 10 <sup>-2</sup> )	3.57 × 10 <sup>-2</sup> (1.74 × 10 <sup>-2</sup> )	nm	nm	nm
2-Ethyltoluene (C <sub>9</sub> H <sub>12</sub> )	2.10 × 10 <sup>-2</sup> (1.16 × 10 <sup>-2</sup> )	3.39 × 10 <sup>-2</sup> (1.34 × 10 <sup>-2</sup> )	nm	nm	nm
1,3,5-Trimethylbenzene (C <sub>9</sub> H <sub>12</sub> )	2.14 × 10 <sup>-2</sup> (-)	1.79 × 10 <sup>-2</sup> (8.32 × 10 <sup>-3</sup> )	nm	7.01 × 10 <sup>-2</sup> (9.27 × 10 <sup>-2</sup> )	nm
1,2,4-Trimethylbenzene (C <sub>9</sub> H <sub>12</sub> )	1.74 × 10 <sup>-2</sup> (2.35 × 10 <sup>-2</sup> )	3.91 × 10 <sup>-2</sup> (1.65 × 10 <sup>-2</sup> )	nm	nm	nm
1,2,3-Trimethylbenzene (C <sub>9</sub> H <sub>12</sub> )	2.16 × 10 <sup>-2</sup> (-)	2.34 × 10 <sup>-2</sup> (4.30 × 10 <sup>-3</sup> )	nm	nm	nm
alpha-Pinene (C <sub>10</sub> H <sub>16</sub> )	2.02 × 10 <sup>-2</sup> (2.33 × 10 <sup>-2</sup> )	0.348 (0.487) <sup>c</sup>	nm	0.197 (0.257)	nm
beta-Pinene (C <sub>10</sub> H <sub>16</sub> )	4.67 × 10 <sup>-2</sup> (-)	0.471 (-) <sup>c</sup>	nm	nm	nm
Ethanol (C <sub>2</sub> H <sub>6</sub> O)	0.128 (0.017)	0.563 (0.589)	nm	nm	nm
Acetaldehyde (C <sub>2</sub> H <sub>4</sub> O)	0.541 (0.362)	1.88 (1.63)	nm	0.792 (0.439)	nm
Acetone (C <sub>3</sub> H <sub>6</sub> O)	0.524 (0.256)	1.63 (0.38)	nm	nm	nm
Butanal (C <sub>4</sub> H <sub>8</sub> O)	8.28 × 10 <sup>-3</sup> (6.27 × 10 <sup>-3</sup> )	5.40 × 10 <sup>-2</sup> (2.19 × 10 <sup>-2</sup> )	nm	nm	nm
Butanone (C <sub>4</sub> H <sub>8</sub> O)	0.232 (0.286)	0.262 (0.109)	nm	8.04 × 10 <sup>-2</sup> (4.98 × 10 <sup>-2</sup> )	nm
EF black carbon (BC)	0.221 (0.127)	4.15 × 10 <sup>-2</sup> (3.18 × 10 <sup>-2</sup> )	0.833 (0.453)	nm	nm
EF brown carbon (BrC)	8.59 (5.62)	5.54 (1.66)	nm	nm	nm
EF B <sub>abs</sub> 405 (m <sup>2</sup> kg <sup>-1</sup> )	10.6 (6.8)	5.85 (1.95)	nm	nm	nm
EF B <sub>scat</sub> 405 (m <sup>2</sup> kg <sup>-1</sup> )	40.4 (23.8)	49.5 (5.8)	nm	nm	nm
EF B <sub>abs</sub> 870 (m <sup>2</sup> kg <sup>-1</sup> )	1.04 (0.60)	0.197 (0.151)	nm	nm	nm
EF B <sub>scat</sub> 870 (m <sup>2</sup> kg <sup>-1</sup> )	1.51 (0.52)	0.922 (0.324)	nm	nm	nm
EF B <sub>abs</sub> 405 just BrC (m <sup>2</sup> kg <sup>-1</sup> )	8.40 (5.48)	5.43 (1.62)	nm	nm	nm
EF B <sub>abs</sub> 405 just BC (m <sup>2</sup> kg <sup>-1</sup> )	2.24 (1.28)	0.423 (0.324)	nm	nm	nm
<b>SSA 870 nm</b>	<b>0.605 (0.061)</b>	<b>0.811 (0.164)</b>	<b>nm</b>	<b>nm</b>	<b>nm</b>
<b>SSA 405 nm</b>	<b>0.794 (0.009)</b>	<b>0.893 (0.043)</b>	<b>nm</b>	<b>nm</b>	<b>nm</b>
AAE	3.01 (0.10)	4.63 (0.68)	nm	nm	nm

Note: "bdl" indicates below the detection limit; "-" indicates concentrations were not greater than background; "nm" indicates not measured. <sup>a</sup> NAMASTE gas-phase data include adjusted laboratory and unadjusted field values. Aerosol values include field measurements only (see Sect. 3.6). <sup>b</sup> This includes laboratory adjusted values (see Stockwell et al., 2014, 2015); additional gas-phase compounds are reported therein. <sup>c</sup> High monoterpene values likely due to wood kindling.