## Supp Info: Isoprene Exposure in the United States based on Urinary IPM3: NHANES 2015-2016

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Running Title: Isoprene Exposure in the United States

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**Table S1.** USDA Food Codes and Logic for Apportioning Dietary Intake.

|  |  |
| --- | --- |
| **Food Group** | **USDA Food Code and Additional Logic** |
| Milk and Milk Products | DR1IFDCD = 1 |
| Meat, Poultry, and Mixtures | DR1IFDCD = 2 |
| Eggs | DR1IFDCD = 3 |
| Legumes, Nuts, and Seeds | DR1IFDCD = 4 |
| Grain Products | DR1IFDCD = 5 |
| Fruits | DR1IFDCD = 6 |
| Vegetables | DR1IFDCD = 7 |
| Fats, Oils, and Salad Dressings | DR1IFDCD = 8 |
| Sugars, Sweets, and Beverages | DR1IFDCD = 9 |
| Coffee | DR1IFDCD = 921  Then subtract total mass from DR1IFDCD = 9 |
| Beer and ales | DR1IFDCD = 931  Then subtract total mass from DR1IFDCD = 9 |

**Table S2**. Sample-weighted Medians, Geometric Means, and 95th Percentiles for Creatinine-adjusted Values (µg/g creatinine) and Non Creatinine-adjusted Values (ng/mL) for Urinary IPM3 in NHANES 2015 – 2016 (N = 2,271).a

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **IPM3 (µg/g creatinine)** | | | **IPM3 (ng/mL)** | | |
| **Variable** | **N** | **Median [25th, 75th percentile]** | **GM [95%CI]b** | **95th Percentile** | **Median [25th, 75th percentile]** | **GM [95%CI]b** | **95th Percentile** |
| **All** | 2271 | 3.39 [2.13, 6.12] | 4.27 [3.91, 4.62] | 53.6 | 2.96 [1.55, 6.38] | 3.66 [3.27, 4.04] | 46.6 |
| **Smoking Status** |  |  |  |  |  |  |  |
| Exclusive Smokerc | 252 | 39.8 [14.7, 72.3] | 28.6 [23.6, 33.7] | 134 | 35.1 [13.0, 68.6] | 27.1 [20.3, 33.9] | 144 |
| Non-userd | 2019 | 3.05 [2.03, 4.93] | 3.23 [3.07, 3.39] | 10.7 | 2.62 [1.32, 4.95] | 2.73 [2.58, 2.88] | 13.4 |
| **Sex** |  |  |  |  |  |  |  |
| Male | 1102 | 3.05 [1.97, 5.78] | 3.96 [3.48, 4.45] | 48.2 | 3.06 [1.83, 6.71] | 4.00 [3.51, 4.50] | 46.4 |
| Female | 1169 | 3.69 [2.29, 6.49] | 4.55 [4.16, 4.94] | 61.6 | 2.75 [1.24, 6.25] | 3.37 [3.02, 3.72] | 46.5 |
| **Age (yr)** |  |  |  |  |  |  |  |
| 3-5 | 257 | 6.06 [3.99, 8.86] | 6.25 [5.46, 7.03] | 17.7 | 2.46 [0.850, 4.45] | 2.50 [2.14, 2.87] | 12.0 |
| 6 - 11 | 261 | 4.11 [2.59, 6.49] | 4.30 [3.84, 4.76] | 13.8 | 2.68 [1.32, 5.70] | 2.88 [2.61, 3.15] | 14.3 |
| 12 - 19 | 323 | 2.44 [1.78, 3.79] | 2.68 [2.46, 2.91] | 8.68 | 2.51 [1.23, 4.85] | 2.78 [2.45, 3.12] | 13.9 |
| 20 - 39 | 472 | 2.93 [1.87, 6.09] | 4.00 [3.29, 4.72] | 52.7 | 2.89 [1.48, 6.25] | 3.62 [2.95, 4.30] | 52.2 |
| 40 - 59 | 468 | 3.57 [2.17, 6.65] | 4.94 [4.20, 5.68] | 79.0 | 3.11 [1.73, 7.38] | 4.28 [3.43, 5.13] | 64.5 |
| ≥ 60 | 490 | 3.68 [2.49, 6.15] | 4.62 [4.02, 5.23] | 44.5 | 3.05 [1.70, 6.71] | 3.85 [3.35, 4.36] | 38.9 |
| **Race/ethnicity** |  |  |  |  |  |  |  |
| Non-Hispanic White | 686 | 3.53 [2.30, 6.45] | 4.61 [4.00, 5.22] | 65.8 | 2.79 [1.63, 6.21] | 3.71 [3.14, 4.27] | 54.6 |
| Non-Hispanic Black | 453 | 2.99 [1.88, 7.01] | 4.07 [3.48, 4.66] | 37.9 | 4.09 [2.04, 10.5] | 5.12 [4.28, 5.96] | 65.3 |
| Mexican-American | 468 | 3.11 [2.05, 5.65] | 3.62 [3.38, 3.86] | 22.5 | 3.03 [1.44, 6.05] | 3.26 [2.97, 3.55] | 25.9 |
| Other Hispanic or other/multi race | 664 | 2.99 [1.98, 5.62] | 3.68 [3.24, 4.13] | 24.5 | 2.63 [0.850, 5.68] | 3.04 [2.60, 3.47] | 25.6 |
| **BMI** |  |  |  |  |  |  |  |
| Healthy weight | 855 | 3.69 [2.38, 6.68] | 4.63 [4.08, 5.19] | 50.3 | 2.71 [0.850, 5.92] | 3.20 [2.70, 3.69] | 40.9 |
| Underweight | 29 | 4.04 [2.30, 6.92] | 4.92 [2.03, 7.81] | 44.9 | 3.10 [0.850, 8.67] | 3.85 [1.70, 6.00] | 25.8 |
| Overweight/Obese | 1387 | 3.21 [2.04, 5.85] | 4.09 [3.69, 4.49] | 53.7 | 3.02 [1.75, 6.53] | 3.90 [3.45, 4.34] | 54.3 |

aSame data as in stratified serum cotinine regression models

bGeometric mean [95% confidence intervals]

cParticipants reporting using cigarettes (and no other tobacco products) 5 days prior to physical examination and with serum cotinine measurement >10 ng/mL

dParticipants reporting not using cigarettes during 5 days prior to physical examination or with serum cotinine measurement ≤10 ng/mL

**Table S3**. IPM3 Full model vs. Reduced model (omit CPD Group)

|  |  |  |
| --- | --- | --- |
|  | **Variables** | **R-squared** |
| **Full model** | Creatinine (urine), CPD Group, Sex, Race/ethnicity, BMI, Food Group | 0.63 |
| **Reduced model** | Creatinine (urine), Sex, Race/ethnicity, BMI, Food Group | 0.30 |