Outdoor and Indoor Acrolein Measurements

Tom Dann, Daniel Wang
Environment Canada - Ottawa

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Indoor/Outdoor VOC Concentrations – Windsor, Ontario

Predicting Personal Exposure of Windsor, Ontario Residents to Volatile Organic Compounds using Indoor Measurements and Survey Data:

Corinne Stocco, Morgan MacNeill, Daniel Wang, Xiaohong Xu, Mireille Guay, Jeff Brook, Amanda J. Wheeler.

Atmospheric Environment – in press.
Indoor/Outdoor VOC Concentrations – Windsor, Ontario

- 48 non-smoking homes and non-occupational exposures
- concurrent indoor, outdoor and personal exposure sampling
- winter and summer sampling campaigns
- 188 measured VOCs but only 18 reported in paper
Indoor/Outdoor VOC Concentrations - Windsor

- 1,1,1-Trichloroethane
- 1,2-Dichloroethane
- 1,3-Butadiene
- Acrolein
- Benzene
- Dichloromethane

Environmental Concentration [µg/m³]
### Annual Indoor/Outdoor and Personal Exposure/Outdoor VOC Ratios (geometric means)

<table>
<thead>
<tr>
<th>VOC</th>
<th>I/O</th>
<th>P/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrolein</td>
<td>9.0</td>
<td>7.7</td>
</tr>
<tr>
<td>Benzene</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>2.1</td>
<td>2.4</td>
</tr>
<tr>
<td>Ethanol</td>
<td>170</td>
<td>153</td>
</tr>
<tr>
<td>Limonene</td>
<td>288</td>
<td>668</td>
</tr>
</tbody>
</table>
Personal Benzene Levels Categorized by Type of Garage

Attached Garage
Detached Garage
No Garage

[Graph showing personal benzene levels categorized by type of garage]