

Table 2: Wood Smoke Emissions
Comparisons With Other Toxic Sources

Wood Smoke Pollutant	Open Burn, AG Burn	Tobacco Smoke	Incinerators	Coal	Diesel
Carbon Monoxide ¹		● ¹⁰		●	●
Methane ¹		● ¹⁰	● ⁶		
VOCs (C2-C7) ¹		● ¹⁰	● ⁶	●	
<i>Aldehydes</i> ¹		● ¹⁰	● ⁶	●	
Formaldehyde ¹		● ¹⁰	● ⁶		
Acrolein ¹		● ¹⁰			
Propionaldehyde ¹					
Butryaldehyde ¹					
Acetaldehyde ¹		● ²			
Furfural ¹					
Substituted Furans ¹					
Benzene ¹		● ²	● ⁶	● ¹⁴	●
<i>Alkyl Benzenes</i> ¹		● ¹⁰		● ¹⁴	
Toluene ¹		● ¹⁰	● ⁶		
Acetic Acid ¹		● ¹⁰			
Formic Acid ¹		● ¹⁰			
<i>Nitrogen Oxides (NO,NO2)</i> ¹		● ¹⁰		●	● ⁷
Sulfur Dioxide ¹		● ¹⁰		● ⁵	● ⁷
Methyl chloride ¹		● ¹⁰			
Napthalene ¹	● ¹⁷	● ¹⁰	● ⁶		● ¹⁷
<i>Substituted Napthalenes</i> ¹					
<i>Oxygenated Monoaromatics</i> ¹		●			
Guaiacol (and derivatives) ¹					
Phenol (and derivatives) ¹		● ²	● ⁶		
Syringol (and derivatives) ¹					
Catechol (and derivatives) ¹		● ¹⁰			
Total Particle Mass ¹		● ¹⁰		● ⁷	● ⁷
Particulate Organic Carbon ¹		● ¹⁰		●	●
<i>Oxygenated PAHs</i> ¹					
<i>PAHs</i> ¹		● ¹⁰		● ⁵	
Fluorene ¹				● ⁵	
Phenanthrene ¹	● ¹⁷			● ¹⁴	● ¹⁷
Anthracene ¹	● ¹⁷		● ⁶		● ¹⁷
Methylanthracenes ¹					

Table 2: Wood Smoke Emissions
Comparisons With Other Toxic Sources

Wood Smoke Pollutant	Open Burn, AG Burn	Tobacco Smoke	Incinerators	Coal	Diesel
Fluoranthene ¹	● ¹⁷			● ⁵	● ¹⁷
Pyrene ¹	● ¹⁷	● ¹⁰		● ⁵	● ¹⁷
Benzo(a)anthracene ¹				● ⁵	
Chrysene ¹		● ¹⁶		● ⁵	
Benzofluoranthenes ¹		● ¹⁶		● ⁵	
Benzo(e)pyrene ¹	● ¹⁷	● ¹⁰			● ¹⁷
Benzo(a)pyrene ¹	● ¹⁷	● ¹⁰		● ⁵	● ¹⁷
Perylene ¹		● ¹⁰			
Ideno(1,2,3-c, d)pyrene ¹				● ⁵	
Benz(g,h,i)perylene ¹		● ¹⁰		● ⁵	
Coronene ¹		● ¹⁰			
Dibenzo(a,h)pyrene ¹					
Retene ¹	● ¹⁷				
Dibenzo(a,h) Anthracene ¹				● ⁵	
<i>Trace Elements¹</i>					
Strontium ¹					
Magnesium ¹		● ⁷		●	
Aluminum ¹		● ⁷		●	● ⁷
Silicon ¹				●	● ⁷
Sulphur ¹				●	
Chlorine ¹					
Potassium ¹		● ⁷		● ⁵	● ⁷
Calcium ¹				● ⁵	● ⁷
Titanium ¹				●	● ⁷
Vanadium ¹					● ⁷
Chromium ¹		● ²	● ⁶		● ⁷
Manganese ¹		● ²			● ⁷
Iron ¹				● ⁵	● ⁷
Nickle ¹		● ¹⁰			● ⁷
Copper ¹		● ⁷		● ⁵	
Zinc ¹		● ¹⁰	● ⁶	● ⁵	
Bromine ¹		● ⁷			● ⁷
Lead ¹		● ¹⁰	● ⁶	● ⁵	
Particulate Elemental Carbon ¹		● ¹⁰		●	
<i>Normal alkanes¹</i>					
<i>Cyclic di-and triterpenoids¹</i>					
Dehydroabietic acid ¹					

Table 2: Wood Smoke Emissions
Comparisons With Other Toxic Sources

Wood Smoke Pollutant	Open Burn, AG Burn	Tobacco Smoke	Incinerators	Coal	Diesel
Lupenone ¹					
Friedelin ¹					
Chlorinated Dioxins ¹		● ²	● ⁶		
Particulate Acidity ¹		● ²			
Additional wood smoke emissions found in other studies					
Cresol ³³					
Isopimaric acid ³					
Ethylbenzene ³		● ²			
Arsenic ⁴		● ²	● ⁶	●	● ⁷
Cesium ⁹					
Cadmium ⁴		● ²	● ⁶		
Molybdenum ⁵				● ⁵	
Selenium ⁵			● ⁶	● ⁵	
Carbozole ⁸					
Acridine ⁸					
Barium			● ⁶		
Phosphorus		● ⁷			● ⁷
Sodium		● ⁷	● ⁷	● ⁷	● ⁷
Phenathrol ⁸					
Phenathrene ⁸				● ¹⁴	
^d 10-phenanthrene ⁸					
acenaphthylene ⁸					
nitronaphthalene ⁸					
^d 12-chrysene ⁸					
3-methylcholanthrene ⁸					
acenaphthene ⁸					
Indeno (1,2,3,c,d) pyrene ⁸					
Molds					
Thermoactinomyces vulgaris ¹³					
Aspergillus fumigatus ¹³					
Cladosporium herbarium ¹³					
Penicillium sp mixture ¹³					
Micropolyspora faeni ¹³					
Alternaria tenuis ¹³					

Table 2: Wood Smoke Emissions
Comparisons With Other Toxic Sources