

Table 4: Wood Smoke Pollutants Cited as Toxic In U.S. Law

Wood Smoke Pollutant	Federal Clean Air Act	Toxic Federal Water PCA	Prop. 65, CA
Carbon Monoxide ¹			● ¹⁵
Methane ¹			
VOCs (C2-C7) ¹			
<i>Aldehydes</i> ¹			
Formaldehyde ¹	● ¹¹		● ¹⁵
Acrolein ¹	● ¹¹	● ¹²	
Propionaldehyde ¹	● ¹¹		
Butryaldehyde ¹			
Acetaldehyde ¹	● ¹¹		● ¹⁵
Furfural ¹			
Substituted Furans ¹			
Benzene ¹	● ¹¹	● ¹²	● ¹⁵
<i>Alkyl Benzenes</i> ¹	● ¹¹	● ¹²	
Toluene ¹	● ¹¹	● ¹²	r
Acetic Acid ¹			
Formic Acid ¹			
<i>Nitrogen Oxides (NO,NO2)</i> ¹			
Sulfur Dioxide ¹			
Methyl chloride ¹	● ¹¹		
Napthalene ¹	● ¹¹	● ¹²	
<i>Substituted Napthalenes</i> ¹	● ¹¹		● ¹⁵
<i>Oxygenated Monoaromatics</i> ¹			
Guaiacol (and derivatives) ¹			
Phenol (and derivatives) ¹	● ¹¹		
Syringol (and derivatives) ¹			
Catechol (and derivatives) ¹	● ¹¹		
Total Particle Mass ¹			
Particulate Organic Carbon ¹	● ¹¹		
<i>Oxygenated PAHs</i> ¹			
<i>PAHs</i> ¹		● ¹²	
Fluorene ¹			
Phenanthrene ¹			
Anthracene ¹		● ¹²	
Methylanthracenes ¹			
Fluoranthene ¹		● ¹²	

Wood Smoke Pollutant	Federal Clean Air Act	Toxic Federal Water PCA	Prop. 65, CA
Pyrene ¹		● ¹²	
Benzo(a)anthracene ¹		● ¹²	● ¹⁵
Chrysene ¹		● ¹²	
Benzo(a)fluoranthene ¹		● ¹²	● ¹⁵
Benzo(e)pyrene ¹		● ¹²	
Benzo(a)pyrene ¹		● ¹²	● ¹⁵
Perylene ¹			
Ideno(1,2,3-cd)pyrene ¹		● ¹²	
Benz(ghi)perylene ¹			
Coronene ¹			
Dibenzo(a,h)pyrene ¹			● ¹⁵
Retene ¹			
Dibenzo(a,h) Anthracene ¹			
<i>Trace Elements¹</i>			
Strontium ¹			
Magnesium ¹			
Aluminum ¹			
Silicon ¹			
Sulphur ¹			
Chlorine ¹			
Potassium ¹			
Calcium ¹			
Titanium ¹			
Vanadium ¹			
Chromium ¹	● ¹¹	● ¹²	
Manganese ¹	● ¹¹		
Iron ¹			
Nickel ¹	● ¹¹	● ¹²	● ¹⁵
Copper ¹		● ¹²	
Zinc ¹		● ¹²	
Bromine ¹			
Lead ¹	● ¹¹	● ¹²	● ¹⁵
Particulate Elemental Carbon ¹			
<i>Normal alkanes¹</i>			
<i>Cyclic di-and triterpenoids¹</i>			
Dehydroabiatic acid ¹			
Lupenone ¹			
Friedelin ¹			

Wood Smoke Pollutant	Federal Clean Air Act	Toxic Federal Water PCA	Prop. 65, CA
<i>Chlorinated Dioxins</i> ¹		● ¹²	● ¹⁵
<i>Particulate Acidity</i> ¹			
<i>Additional wood smoke emmissions found in other studies</i>			
<i>Cresol</i> ³	● ¹¹		● ¹⁵
Isopimaric acid			
<i>Ethylbenzene</i> ³	● ¹¹		
<i>Arsenic</i> ⁴	● ¹¹	● ¹²	● ¹⁵
Cesium			
<i>Cadmium</i> ⁴	● ¹¹	● ¹²	● ¹⁵
<i>Molybdenum</i> ⁵			
<i>Selenium</i> ⁵	● ¹¹	● ¹²	
<i>Carbozole</i>			● ¹⁵
<i>Acridine</i>			
Barium			
Phosphorus	● ¹¹		
Sodium			
<i>Phenathrol</i>			
<i>Phenathrene</i>			
^d <i>10-phenanthrene</i>			
<i>acenaphthylene</i>			
<i>nitronaphthalene</i>			
^d <i>12-chrysene</i>			
<i>3-methylcholanthrene</i>			
<i>acenaphthene</i>	● ¹¹		
<i>Indeno (1,2,3,c,d,) pyrene</i>			
<i>Molds</i>			
Thermoactinomyces vulgaris ¹³			
Aspergillus fumigatus ¹³			
Cladosporium herbarium ¹³			
Penicillium sp mixture ¹³			
Micropolyspora faeni ¹³			
Alternaria tenius ¹³			