



Outdoor Secondhand Tobacco Smoke Fact Sheet



Tobacco smoke contains at least 172 toxic substances¹, including:

- 3 regulated outdoor air pollutants
- 33 hazardous air pollutants
- 47 chemicals restricted as hazardous waste
- 67 chemicals known to cause cancer in humans and animals

This is true whether tobacco smoke is inhaled in the act of smoking, or inhaled by nonsmokers out of the air indoors or outdoors.

Field studies and controlled experiments were conducted at outdoor patios², airports^{2,3}, parks², college campuses³, city sidewalks² and streets⁴, parking lots⁵, outdoor cafes⁴, amusement parks³, government and office buildings³, and the open-air area of a cruise ship traveling at 20 knots⁶ (about 23 miles per hour).

The results show:

- During smoking, outdoor tobacco smoke levels outdoors may be as high as indoor tobacco smoke levels.³
- Being upwind from a smoker outdoors does not eliminate the chemicals from the air.²
- People are exposed to higher levels of cancer-causing chemicals in outdoor areas when smoking is occurring than when smoking is not occurring.⁴

¹ Repace JL. Exposure to Secondhand Smoke. Chapter 9, In: *Exposure Analysis*, W Ott, A Steinemann, and L Wallace, Eds. CRC Press (2006).

² Klepeis, et al. (2007) Real-Time Measurement of Outdoor Tobacco Smoke Particles, *J. Air & Waste Manage. Assoc.* **57**:522–534

³ CARB, 2006

⁴ Repace JL and Rupprecht AA. Outdoor Air Pollution From Secondhand Smoke. Presented at the 13th World Conference on Tobacco Or Health, Washington, DC, July 12-15, 2006.

⁵ Denmark/Boffi

⁶ Repace (2005) Indoor and Outdoor Carcinogen Pollution on a Cruise Ship in the Presence and Absence of Tobacco Smoking Presented at the 14th Annual Conference of the International Society of Exposure Analysis, Oct. 17-21, Philadelphia, PA.