

Topic Page: [Smog](#)

Definition: **smog** from *The Penguin Dictionary of Science*

Smoke-filled fog that pollutes the air over cities. The London smogs were notorious until the Clean Air Act of 1956. **Photochemical smog**, a brown haze containing a complex cocktail of molecules such as nitrogen dioxide created by reactions initiated by the absorption of sunlight, remains a problem in some cities, such as Los Angeles.



Image from: [Smog obscures the south-east coast of China...](#) in *Guide to Global Hazards*

Summary Article: **smog**

From *The Columbia Encyclopedia*

(smŏg) [*smoke+fog*], dense, visible air pollution. Smog is commonly of two types. The gray smog of older industrial cities like London and New York derives from the massive combustion of coal and fuel oil in or near the city, releasing tons of ashes, soot, and sulfur compounds into the air. The brown smog characteristic of Los Angeles and Denver in the late 20th cent. is caused by automobiles. Nitric oxide from automobile exhaust combines with oxygen in the air to form the brown gas nitrogen dioxide. Also, when hydrocarbons and nitrous oxides from auto emissions are exposed to sunlight, a photochemical reaction takes place that results in the formation of ozone and other irritating compounds. In some instances, atmospheric pollutants accumulate and become concentrated when air movement is stopped by a temperature inversion: Usually the air is warmer at the earth's surface and colder above; in a temperature inversion a layer of warm air forms above and holds down a layer of cool air at the ground. Smog usually results in reduced visibility, irritation of the eyes and respiratory system, and damage to paint, metal, rubber, and other materials. Prolonged smogs (generally caused by temperature inversions) are often lethal to persons with respiratory ailments. As the result of an unremitting smog in 1948 in Donora, Pa., more than 5,000 persons were reported ill and the deaths of 20 persons were recorded. In London, smog accounted for the deaths of more than 4,000 persons in 1952 and 106 persons in 1962.

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Smog. (2018). In P. Lagasse, & Columbia University, *The Columbia encyclopedia* (8th ed.). New York, NY: Columbia University Press. Retrieved from <https://search.credoreference.com/content/topic/smog>



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