



Technology Transfer Network

Clearinghouse for Emission Inventories & Emissions Factors
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 Emissions Factors & Policy Applications Center
 Emissions Factors & AP 42

Emissions Factors & AP 42, Compilation of Air Pollutant Emission Factors

An **emissions factor** is a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant. These factors are usually expressed as the weight of pollutant divided by a unit weight, volume, distance, or duration of the activity emitting the pollutant (e.g., kilograms of particulate emitted per megagram of coal burned). Such factors facilitate estimation of emissions from various sources of air pollution. In most cases, these factors are simply averages of all available data of acceptable quality, and are generally assumed to be representative of long-term averages for all facilities in the source category (i.e., a population average).

The general equation for emissions estimation is:

$$E = A \times EF \times (1 - ER/100)$$

where:

E = emissions;
 A = activity rate;
 EF = emission factor, and
 ER = overall emission reduction efficiency, %

AP-42, Compilation of Air Pollutant Emission Factors, has been published since 1972 as the primary compilation of EPA's emission factor information. It contains emission factors and process information for more than 200 air pollution source categories. A source category is a specific industry sector or group of similar emitting sources. The emission factors have been developed and compiled from source test data, material balance studies, and engineering estimates. The Fifth Edition of AP-42 was published in January 1995. Since then EPA has published supplements and updates to the fifteen chapters available in **Volume I, Stationary Point and Area Sources**. The latest emissions factors are available below on this website. Use the [AP 42 Chapter webpage links](#) below to access the document by chapter.

Access to these emissions factors and other EPA reviewed stationary point and area source factors is also [available from the WebFIRE application](#). WebFIRE provides fast and complete access to the Agency's air emissions factors information.

For information about emissions factors from highway vehicles and nonroad mobile sources, visit the [Office of Transportation and Air Quality](#) web site.