



# Technology Transfer Network

## Clearinghouse for Inventories & Emissions Factors



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## 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 1, *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](#).

**WebFIRE:** 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.

**AP 42, Fifth Edition**  
***Compilation of Air Pollutant Emission Factors,***  
***Volume 1: Stationary Point and Area Sources***

**Proposed and final rules related to emissions factors**

**October 14, 2009** - The [Emissions Factors Program Improvements - Advanced notice of proposed](#)

CHIEF Home

Basic Information

Emissions Factors / AP42

Emission Factor & Estimation Tools

CHIEF Archives

[rulemaking](#) is available on the [www.regulations.gov](http://www.regulations.gov) website [EXIT Disclaimer](#), and the EPA's [OAR and Policy Guidance Recent Additions webpage](#) (PDF 290K). The comment period ended December 14, 2009.

## AP 42 FAQs

[Answers to frequently asked questions about AP 42](#)

## Drafts

[Draft Sections Under Review](#)

## AP 42 listing of supplements and updates.

[Supplements A through F \(1996 - 2000\)](#)

[Updates 2001 to present](#)

## Older editions of AP-42, Volume 1

[This information is available for historical purposes only.](#) For the most recent emissions factors, supported by the EPA, please see the table of contents below.

## Emissions Factors Procedures

[Procedures for the Development of Emissions Factors from Stationary Sources.](#) This page includes both the existing procedures and the review draft for the proposed new procedures.

### Table of Contents, AP 42, Volume I, Fifth Edition

Cover page and Contents	<a href="#">Cover page, detailed Table of Contents, Publications in Series, Insertion Instructions, and Key Word Index</a> (PDF 128K). This is current through the Fifth Edition, Supplement C of AP 42. For sections and chapters added after November 1997, see the chapter web pages below.
Introduction	<a href="#">Introduction to AP 42, Volume I, Fifth Edition</a> - January 1995 (PDF 40K)
Chapter 1	<a href="#">External Combustion Sources</a>
Chapter 2	<a href="#">Solid Waste Disposal</a>
Chapter 3	<a href="#">Stationary Internal Combustion Sources</a>
Chapter 4	<a href="#">Evaporation Loss Sources</a>
Chapter 5	<a href="#">Petroleum Industry</a>
Chapter 6	<a href="#">Organic Chemical Process Industry</a>
Chapter 7	<a href="#">Liquid Storage Tanks</a>
Chapter 8	<a href="#">Inorganic Chemical Industry</a>
Chapter 9	<a href="#">Food and Agricultural Industries</a>
Chapter 10	<a href="#">Wood Products Industry</a>
Chapter 11	<a href="#">Mineral Products Industry</a>
Chapter 12	<a href="#">Metallurgical Industry</a>
Chapter 13	<a href="#">Miscellaneous Sources</a>
Chapter 14	<a href="#">Greenhouse Gas Biogenic Sources</a>
Chapter 15	<a href="#">Ordnance Detonation</a>
Appendix A	<a href="#">Miscellaneous Data &amp; Conversion Factors</a> -- September 1985 (PDF 103K)
Appendix B.1	<a href="#">Particle Size Distribution Data and Sized Emission Factors for Selected Sources</a> -- October 1986 (PDF 2M)

- Appendix B.2 [Generalized Particle Size Distributions](#) -- September 1996 (PDF 137K)
- Appendix C.1 [Procedures for Sampling Surface/Bulk Dust Loading](#) -- July 1993 (PDF 65K)
- Appendix C.2 [Procedures for Laboratory Analysis of Surface/Bulk Dust Loading Samples](#) -- July 1993 (PDF 42K)

### Draft Sections Under Review

[After the comment period, can I use a draft section?](#) (TXT 1K)

Chapter & Section	Description	Comments Requested by:
Section 2.4	<a href="#">Municipal Solid Waste Landfills</a>	May 5, 2009
Section 4.12	<a href="#">Manufacture of Rubber Products</a>	February 2, 2009
Section 5.1	<a href="#">Petroleum Refining</a>	August 19, 2014
Section 8.13	<a href="#">Sulfur Recovery</a>	August 19, 2014
Section 13.5	<a href="#">Industrial Flares</a>	August 19, 2014
Chapter 15	<a href="#">Ordnance Detonation</a>	December 7, 2009

For current information on AP 42 updates and the activities of the Measurement Policy Group, you can subscribe to the [CHIEF Listserv](#).

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<http://www.epa.gov/ttn/chief/ap42/index.html#toc>  
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