

AP-42  
FIFTH EDITION  
JANUARY 1995

**COMPILATION  
OF  
AIR POLLUTANT  
EMISSION FACTORS**

**VOLUME I:  
STATIONARY POINT  
AND AREA SOURCES**

Office Of Air Quality Planning And Standards  
Office Of Air And Radiation  
U. S. Environmental Protection Agency  
Research Triangle Park, NC 27711

January 1995

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FIFTH EDITION  
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## NOTICE

The Emission Factor And Inventory Group (EFIG) has been working for several months on this Fifth Edition of AP-42. It is the result of a major technical undertaking by EFIG's AP-42 Team and the several contractors who assisted. This document represents a substantial step toward complying with Section 130 of the *Clean Air Act Amendments Of 1990*, which direct the U. S. Environmental Protection Agency to review and revise its air pollutant emission factors every three years. Although such updating is required only for ozone-related pollutants (total organic compounds, oxides of nitrogen, and carbon monoxide), the AP-42 Team has also addressed the other criteria pollutants, hazardous pollutants, global warming gases and speciation information, where data are available. Sections of AP-42 are continuously being developed, reviewed and/or updated.

Even though there are significant additions and improvements in this book, many data gaps and uncertainties still exist. All readers and users of AP-42 are asked to provide comments, test data, and any other information for our evaluation and possible use to improve future updates.

Users familiar with this document may notice changes in factor quality ratings, specifically that some factors, although unchanged or supported by even newer and more extensive data, are rated lower in quality than previously in the AP-42 series. This is attributable to the adoption of more consistent and stringently applied rating criteria. There are some factors in this edition with lower ratings than previously, but they are believed to represent appropriate estimates. AP-42 emission factors are truly for estimation purposes and are no substitute for exact measurements taken at a source.

Users should especially note this edition's expanded "Introduction", for its information on pollutant definition, factor limitations, the factor rating system, and cautionary notes on the use of factors for anything other than emission estimation and inventory and approximation purposes.

In addition to print, the AP-42 series is available in several other media. The *Air CHIEF* compact disc (CD-ROM), with AP-42 and other hazardous air pollutant emission estimation reports and data bases, can be purchased from the Government Printing Office. Also, *The CHIEF* electronic bulletin board (by modem, 919-541-5742) posts the latest AP-42 and other reports and tools before they are available on paper. Final sections of AP-42 can be obtained quickly from our automatic *Fax CHIEF* service (919-541-5626 or -0548). These last two media operate 24 hours per day, 7 days per week. If you have questions or need further information on these tools or other aspects of emission estimation, call our help line, *Info CHIEF*, at 919-541-5285, during regular office hours, eastern time.

If you have factor needs, new data, questions, or suggestions, please send them to the address below. You may also ask for a free subscription to *The CHIEF*, our quarterly newsletter (also on the electronic bulletin board and *Fax CHIEF*). Our abilities to respond to individual questions often get impinged by time and resource constraints and the sheer volume of requests, so please use the above capabilities and tools whenever possible. Though we are a client-oriented organization, we have neither staff nor structure to provide engineering support.

AP-42 Team (MD 14)  
Emission Factor And Inventory Group  
Emissions, Monitoring, And Analysis Division  
Office Of Air Quality Planning And Standards  
U. S. Environmental Protection Agency  
Research Triangle Park, NC 27711

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Pp. 3.4-3 and -4 replace same. Editorial Change.  
Pp. 5.3-1 through -8 (blank) replace same. Editorial Change.  
Pp. 7.0-1 and -2 (blank) replace same. Revised Chapter Introduction.  
Pp. 7.1-1 through -102 (blank) replace 7.1-1 through-108 (blank). Major Revision.  
Pp. 9.5.2-1 through -6 replace 9.5.2-1 and -2 (blank). New Section.  
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Pp. 11.26-1 through -8 (blank) replace 11.26-1 through -4 (blank). Major Revision.  
Pp. 11.28-1 through -4 replace 11.28-1 and -2 (blank). New Section.  
Pp. 13.2. 1-1 through -28 replace same. Editorial Change.  
Pp. 13.2.2-1 through -8 replace same. Editorial Change.  
Pp. B.2-3 and -4 replace same. Editorial Change.  
Insert new Technical Report Data Sheet.

**Instructions For Inserting  
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Preliminary Matter	Publications In Series, Contents, Key Word Index	Replace all	Minor Revision
Chap. 1, Sect 1-11	External Combustion Sources	Replace all	New Information
Chap. 2, Sect. 1	Refuse Combustion	Replace entire	Minor Revision
Chap. 3, Sect. 1-4	Stationary Internal Combustion Sources	Replace all	New Information
Chap. 6, Sect. 2	Adipic Acid	Replace entire	Major Revision
Chap. 9, Sect. 7	Cotton Ginning	Replace [Work In Progress] sheet	New Section
Chap. 9, Sect. 9.4	Alfalfa Dehydrating	Replace [Work In Progress] sheet	New Section
Chap. 9, Sect. 12.1	Malt Beverages	Replace [Work In Progress] sheet	New Section
Chap. 11, Sect. 7	Ceramic Products Manufacturing	Replace entire	Major Revision
Chap. 12, Sect. 20	Electroplating	Add	New Section
Chap. 13, Sect. 1	Wildfires And Prescribed Burning	Replace entire	Minor Revision
Chap. 14, Sect. 1-3	Greenhouse Gas Biogenic Sources	Add	New Chapter
Insert new Technical Report Data Sheet.			

**Instructions For Inserting  
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Chap. 9, Sect. 5.1	Meat Packing Plants	Replace [Work In Progress] sheet	New Section
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Chap. 9, Sect. 15	Leather Tanning	Replace [Work In Progress] sheet	New Section
Chap. 11, Sect. 3	Brick And Structural Clay Product Manufacturing	Replace entire	Major Revision
Chap. 11, Sect. 14	Frit Manufacturing	Replace entire	Minor Revision
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