

**AP-42, COMPILATION OF AIR POLLUTANT  
EMISSION FACTORS FOR STATIONARY SOURCES  
(as of 1/2024)**

**TABLE OF CONTENTS**

INTRODUCTION .....	1
1. EXTERNAL COMBUSTION SOURCES .....	1.0-1
1.1 Bituminous And Subbituminous Coal Combustion .....	1.1-1
1.2 Anthracite Coal Combustion.....	1.2-1
1.3 Fuel Oil Combustion .....	1.3-1
1.4 Natural Gas Combustion .....	1.4-1
1.5 Liquefied Petroleum Gas Combustion .....	1.5-1
1.6 Wood Waste Combustion In Boilers.....	1.6-1
1.7 Lignite Combustion.....	1.7-1
1.8 Bagasse Combustion In Sugar Mills .....	1.8-1
1.9 Residential Fireplaces .....	1.9-1
1.10 Residential Wood Stoves.....	1.10-1
1.11 Waste Oil Combustion.....	1.11-1
2. SOLID WASTE DISPOSAL .....	2.0-1
2.1 Refuse Combustion .....	2.1-1
2.2 Sewage Sludge Incineration.....	2.2-1
2.3 Medical Waste Incineration.....	2.3-1
2.4 Landfills.....	2.4-1
2.5 Open Burning.....	2.5-1
2.6 Automobile Body Incineration.....	2.6-1
2.7 Conical Burners.....	2.7-1
3. STATIONARY INTERNAL COMBUSTION SOURCES.....	3.0-1
3.1 Stationary Gas Turbines For Electricity Generation.....	3.1-1
3.2 Heavy-duty Natural Gas-fired Pipeline Compressor Engines.....	3.2-1
3.3 Gasoline And Diesel Industrial Engines .....	3.3-1
3.4 Large Stationary Diesel And All Stationary Dual-fuel Engines .....	3.4-1
4. EVAPORATION LOSS SOURCES.....	4.0-1
4.1 Dry Cleaning .....	4.1-1
4.2 Surface Coating.....	4.2-1
4.2.1 Nonindustrial Surface Coating.....	4.2.1-1
4.2.2 Industrial Surface Coating.....	4.2.2-1
4.2.2.1 General Industrial Surface Coating .....	4.2.2.1-1
4.2.2.2 Can Coating .....	4.2.2.2-1
4.2.2.3 Magnet Wire Coating .....	4.2.2.3-1
4.2.2.4 Other Metal Coating.....	4.2.2.4-1
4.2.2.5 Flat Wood Interior Panel Coating.....	4.2.2.5-1
4.2.2.6 Paper Coating.....	4.2.2.6-1
4.2.2.7 Polymeric Coating Of Supporting Substrates.....	4.2.2.7-1

4.2.2.8	Automobile And Light Duty Truck Surface Coating Operations .....	4.2.2.8-1
4.2.2.9	Pressure Sensitive Tapes And Labels .....	4.2.2.9-1
4.2.2.10	Metal Coil Surface Coating .....	4.2.2.10-1
4.2.2.11	Large Appliance Surface Coating .....	4.2.2.11-1
4.2.2.12	Metal Furniture Surface Coating .....	4.2.2.12-1
4.2.2.13	Magnetic Tape Manufacturing .....	4.2.2.13-1
4.2.2.14	Surface Coating Of Plastic Parts For Business Machines .....	4.2.2.14-1
4.3	Waste Water Collection, Treatment And Storage.....	4.3-1
4.4	Polyester Resin Plastic Products Fabrication .....	4.4-1
4.5	Asphalt Paving Operations .....	4.5-1
4.6	Solvent Degreasing .....	4.6-1
4.7	Waste Solvent Reclamation.....	4.7-1
4.8	Tank And Drum Cleaning .....	4.8-1
4.9	Graphic Arts.....	4.9-1
4.9.1	General Graphic Printing .....	4.9.1-1
4.9.2	Publication Gravure Printing.....	4.9.2-1
4.10	Commercial/Consumer Solvent Use .....	4.10-1
4.11	Textile Fabric Printing .....	4.11-1
4.12	Manufacture of Rubber Products .....	4.11-1
5.	PETROLEUM INDUSTRY .....	5.0-1
5.1	Petroleum Refining.....	5.1-1
5.2	Transportation And Marketing Of Petroleum Liquids .....	5.2-1
5.3	Natural Gas Processing.....	5.3-1
6.	ORGANIC CHEMICAL PROCESS INDUSTRY .....	6.0-1
6.1	Carbon Black.....	6.1-1
6.2	Adipic Acid .....	6.2-1
6.3	Explosives .....	6.3-1
6.4	Paint And Varnish .....	6.4-1
6.5	Phthalic Anhydride.....	6.5-1
6.6	Plastics .....	6.6-1
6.6.1	Polyvinyl Chloride.....	6.6.1-1
6.6.2	Poly(ethylene terephthalate).....	6.6.2-1
6.6.3	Polystyrene .....	6.6.3-1
6.6.4	Polypropylene.....	6.6.4-1
6.7	Printing Ink.....	6.7-1
6.8	Soap And Detergents.....	6.8-1
6.9	Synthetic Fibers.....	6.9-1
6.10	Synthetic Rubber .....	6.10-1
6.11	Terephthalic Acid .....	6.11-1
6.12	Lead Alkyl .....	6.12-1
6.13	Pharmaceuticals Production .....	6.13-1
6.14	Maleic Anhydride.....	6.14-1
7.	LIQUID STORAGE TANKS .....	7.0-1
7.1	Organic Liquid Storage Tanks.....	7.1-1

8.	INORGANIC CHEMICAL INDUSTRY.....	8.0-1
8.1	Synthetic Ammonia .....	8.1-1
8.2	Urea .....	8.2-1
8.3	Ammonium Nitrate.....	8.3-1
8.4	Ammonium Sulfate.....	8.4-1
8.5	Phosphate Fertilizers .....	8.5-1
8.5.1	Normal Superphosphates.....	8.5.1-1
8.5.2	Triple Superphosphates.....	8.5.2-1
8.5.3	Ammonium Phosphate.....	8.5.3-1
8.6	Hydrochloric Acid.....	8.6-1
8.7	Hydrofluoric Acid .....	8.7-1
8.8	Nitric Acid .....	8.8-1
8.9	Phosphoric Acid .....	8.9-1
8.10	Sulfuric Acid .....	8.10-1
8.11	Chlor-Alkali.....	8.11-1
8.12	Sodium Carbonate.....	8.12-1
8.13	Sulfur Recovery.....	8.13-1
9.	FOOD AND AGRICULTURAL INDUSTRIES.....	9.0-1
9.1	[Reserved] .....	9.1-1
9.2	Growing Operations .....	9.2-1
9.2.1	Fertilizer Application.....	9.2.1-1
9.2.2	Pesticide Application .....	9.2.2-1
9.2.3	Orchard Heaters.....	9.2.3-1
9.3	Harvesting Operations.....	9.3-1
9.3.1	Cotton Harvesting .....	9.3.1-1
9.3.2	Grain Harvesting.....	9.3.2-1
9.4	Livestock And Poultry Feed Operations.....	9.4-1
9.4.1	Cattle Feedlots .....	9.4.1-1
9.4.2	Swine Feedlots .....	9.4.2-1
9.4.3	Poultry Houses .....	9.4.3-1
9.4.4	Dairy Farms.....	9.4.4-1
9.5	Animal And Meat Products Preparation.....	9.5-1
9.5.1	Meat Packing Plants .....	9.5.1-1
9.5.2	Meat Smokehouses.....	9.5.2-1
9.5.3	Meat Rendering Plants.....	9.5.3-1
9.6	Dairy Products .....	9.6-1
9.6.1	Natural And Processed Cheese.....	9.6.1-1
9.7	Cotton Ginning .....	9.7-1
9.8	Preserved Fruits And Vegetables.....	9.8-1
9.8.1	Canned Fruits And Vegetables.....	9.8.1-1
9.8.2	Dehydrated Fruits And Vegetables.....	9.8.2-1
9.8.3	Pickles, Sauces And Salad Dressings .....	9.8.3-1
9.9	Grain Processing.....	9.9-1
9.9.1	Grain Elevators And Processes .....	9.9.1-1
9.9.2	Cereal Breakfast Food .....	9.9.2-1

9.9.3	[Reserved] .....	9.9.3-1
9.9.4	Alfalfa Dehydration.....	9.9.4-1
9.9.5	Pasta Manufacturing .....	9.9.5-1
9.9.6	Bread Baking.....	9.9.6-1
9.9.7	Corn Wet Milling.....	9.9.7-1
9.10	Confectionery Products.....	9.10-1
9.10.1	Sugar Processing.....	9.10.1-1
9.10.1.1	Cane Sugar Processing.....	9.10.1.1-1
9.10.1.2	Sugar Beet Processing .....	9.10.1.2-1
9.10.2	Salted And Roasted Nuts And Seeds .....	9.10.2-1
9.10.2.1	Almond Processing .....	9.10.2.1-1
9.10.2.2	Peanut Processing .....	9.10.2.2-1
9.11	Fats And Oils .....	9.11-1
9.11.1	Vegetable Oil Processing .....	9.11.1-1
9.12	Beverages .....	9.12-1
9.12.1	Malt Beverages.....	9.12.1-1
9.12.2	Wines And Brandy .....	9.12.2-1
9.12.3	Distilled Spirits .....	9.12.3-1
9.13	Miscellaneous Food And Kindred Products .....	9.13-1
9.13.1	Fish Processing .....	9.13.1-1
9.13.2	Coffee Roasting .....	9.13.2-1
9.13.3	Snack Chip Deep Fat Frying .....	9.13.3-1
9.13.4	Yeast Production .....	9.13.4-1
9.14	[Reserved] .....	9.14-1
9.15	Leather Tanning.....	9.15-1
10.	WOOD PRODUCTS INDUSTRY .....	10.0-1
10.1	[Reserved] .....	10.1-1
10.2	Chemical Wood Pulping.....	10.2-1
10.3	[Reserved] .....	10.3-1
10.4	[Reserved] .....	10.4-1
10.5	Plywood.....	10.5-1
10.6	Reconstituted Wood Products.....	10.6-1
10.6.1	Waferboard And Oriented Strand Board .....	10.6.1-1
10.6.2	Particleboard .....	10.6.2-1
10.6.3	Medium Density Fiberboard.....	10.6.3-1
10.6.4	Hardboard and Fiberboard .....	10.6.4-1
10.7	Charcoal.....	10.7-1
10.8	Wood Preserving .....	10.8-1
10.9	Engineered Wood Products .....	10.8-1
11.	MINERAL PRODUCTS INDUSTRY .....	11.0-1
11.1	Hot Mix Asphalt Plants .....	11.1-1
11.2	Asphalt Roofing .....	11.2-1
11.3	Bricks And Related Clay Products .....	11.3-1
11.4	Calcium Carbide Manufacturing .....	11.4-1
11.5	Refractory Manufacturing .....	11.5-1

11.6	Portland Cement Manufacturing.....	11.6-1
11.7	Ceramic Products Manufacturing.....	11.7-1
11.8	Clay And Fly Ash Sintering.....	11.8-1
11.9	Western Surface Coal Mining.....	11.9-1
11.10	Coal Cleaning.....	11.10-1
11.11	Coal Conversion.....	11.11-1
11.12	Concrete Batching.....	11.12-1
11.13	Glass Fiber Manufacturing.....	11.13-1
11.14	Frit Manufacturing.....	11.14-1
11.15	Glass Manufacturing.....	11.15-1
11.16	Gypsum Manufacturing.....	11.16-1
11.17	Lime Manufacturing.....	11.17-1
11.18	Mineral Wool Manufacturing.....	11.18-1
11.19	Construction Aggregate Processing.....	11.19-1
11.19.1	Sand And Gravel Processing.....	11.19.1-1
11.19.2	Crushed Stone Processing.....	11.19.2-1
11.20	Lightweight Aggregate Manufacturing.....	11.20-1
11.21	Phosphate Rock Processing.....	11.21-1
11.22	Diatomite Processing.....	11.22-1
11.23	Taconite Ore Processing.....	11.23-1
11.24	Metallic Minerals Processing.....	11.24-1
11.25	Clay Processing.....	11.25-1
11.26	Talc Processing.....	11.26-1
11.27	Feldspar Processing.....	11.27-1
11.28	Vermiculite Processing.....	11.28-1
11.29	[Reserved].....	11.29-1
11.30	Perlite Manufacturing.....	11.30-1
11.31	Abrasives Manufacturing.....	11.31-1
12.	METALLURGICAL INDUSTRY.....	12.0-1
12.1	Primary Aluminum Production.....	12.1-1
12.2	Coke Production.....	12.2-1
12.3	Primary Copper Smelting.....	12.3-1
12.4	Ferroalloy Production.....	12.4-1
12.5	Iron And Steel Production.....	12.5-1
12.5.1	Minimills.....	12.5.1-1
12.6	Primary Lead Smelting.....	12.6-1
12.7	Zinc Smelting.....	12.7-1
12.8	Secondary Aluminum Operations.....	12.8-1
12.9	Secondary Copper Smelting And Alloying.....	12.9-1
12.10	Gray Iron Foundries.....	12.10-1
12.11	Secondary Lead Processing.....	12.11-1
12.12	Secondary Magnesium Smelting.....	12.12-1
12.13	Steel Foundries.....	12.13-1
12.14	Secondary Zinc Processing.....	12.14-1
12.15	Storage Battery Production.....	12.15-1
12.16	Lead Oxide And Pigment Production.....	12.16-1

12.17	Miscellaneous Lead Products .....	12.17-1
12.18	Leadbearing Ore Crushing And Grinding.....	12.18-1
12.19	Electric Arc Welding.....	12.19-1
12.20	Electroplating .....	12.20-1
13.	MISCELLANEOUS SOURCES .....	13.0-1
13.1	Wildfires And Prescribed Burning .....	13.1-1
13.2	Fugitive Dust Sources .....	13.2-1
13.2.1	Paved Roads .....	13.2.1-1
13.2.2	Unpaved Roads.....	13.2.2-1
13.2.3	Heavy Construction Operations .....	13.2.3-1
13.2.4	Aggregate Handling And Storage Piles .....	13.2.4-1
13.2.5	Industrial Wind Erosion .....	13.2.5-1
13.2.6	Abrasive Blasting.....	13.2.5-1
13.3	Explosives Detonation .....	13.3-1
13.4	Wet Cooling Towers.....	13.4-1
13.5	Industrial Flares .....	13.5-1
14.	GREENHOUSE GAS BIOGENIC SOURCES .....	14.0-1
14.1	Emissions From Soils - Greenhouse Gases.....	14.1-1
14.2	Termites - Greenhouse Gases .....	14.2-1
14.3	Lightning Emissions - Greenhouse Gases.....	14.3-1
14.4	Enteric Fermentation - Greenhouse Gases .....	14.4-1
15.	ORDNANCE DETONATION .....	15.0-1
15.1	Small Cartridges < 30 mm .....	15.1-1
15.2	Medium Cartridges 30-75 mm.....	15.2-1
15.3	Large Cartridges > 75 mm.....	15.3-1
15.4	Projectiles, Canisters, and Charges .....	15.4-1
15.5	Grenades .....	15.5-1
15.6	Rockets, Rocket Motors, and Igniters .....	15.6-1
15.7	Mines and Smoke Pots .....	15.7-1
15.8	Signals and Simulators.....	15.8-1
15.9	Blasting Caps, Demolition Charges, and Detonators.....	15.9-1
15.10	Fuses and Primers.....	15.10-1

APPENDIX A	
Miscellaneous Data And Conversion Factors .....	A.1-1
APPENDIX B.1	
Particle Size Distribution Data And Sized Emission Factors For Selected Sources .....	B.1-1
APPENDIX B.2	
Generalized Particle Size Distributions .....	B.2-1
APPENDIX C.1	
Procedures For Sampling Surface/Bulk Dust Loading.....	C.1-1
APPENDIX C.2	
Procedures For Laboratory Analysis Of Surface/Bulk Dust Loading Samples .....	C.2-1

# KEY WORD INDEX

Chapter/Section

Abrasives Manufacturing.....	11.31
Acid	
Adipic.....	6.2
Hydrochloric.....	8.6
Hydrofluoric.....	8.7
Nitric.....	8.8
Phosphoric.....	8.9
Sulfuric.....	8.10
Terephthalic.....	6.11
Adipic Acid.....	6.2
Aggregate Handling.....	13.2.4
Aggregate Manufacturing, Lightweight.....	11.20
Aggregate Processing, Construction.....	11.19
Aggregate Storage Piles.....	13.2.4
Agricultural Industries.....	9.0
Alfalfa Dehydration.....	9.9.4
Alkali, Chlor-.....	8.11
Almond Processing.....	9.10.2.1
Aluminum	
Operations, Secondary.....	12.8
Production, Primary.....	12.1
Ammonia, Synthetic.....	8.1
Ammonium Nitrate.....	8.3
Ammonium Phosphate.....	8.5.3
Ammonium Sulfate.....	8.4
Analysis, Surface/Bulk Dust Loading.....	App. C.2
Anhydride, Phthalic.....	6.5
Animal And Meat Products Preparation.....	9.5
Anthracite Coal Combustion.....	1.2
Appliance Surface Coating.....	4.2.2.11
Ash	
Fly Ash Sintering.....	11.8
Asphalt	
Hot Mix Plants.....	11.1
Paving.....	4.5
Roofing.....	11.2
Automobile Body Incineration.....	2.6
Automobile Surface Coating.....	4.2.2.8
Bagasse Combustion In Sugar Mills.....	1.8
Baking, Bread.....	9.9
Bark	
Wood Waste Combustion In Boilers.....	1.6
Batching, Concrete.....	11.12
Battery Production, Storage.....	12.15
Beet Sugar Processing.....	9.10.1.2
Beverages.....	9.12
Brandy.....	9.12.2
Liquors, Distilled Spirits.....	9.12.3
Malt.....	9.12.1
Wines.....	9.12.2



Bituminous Coal Combustion .....	1.1
Brandy .....	9.12.2
Bread Baking.....	9.9.6
Bricks And Related Clay Products .....	11.3
Bulk Material Analysis Procedures.....	App. C.2
Bulk Material Sampling Procedures.....	App. C.1
Burners, Conical (Teepee) .....	2.7
Burning, Open.....	2.5
Burning, Prescribed, And Wildfires .....	13.1
Business Machines, Plastic Parts Coating .....	4.2.2.14
Calcium Carbide Manufacturing .....	11.4
Can Coating .....	4.2.2.2
Cane Sugar Processing.....	9.10.1.1
Canned Fruits And Vegetables.....	9.8.1
Carbon Black.....	6.1
Carbonate	
Sodium Carbonate Manufacturing .....	8.12
Cement	
Portland Cement Manufacturing.....	11.6
Ceramic Products Manufacturing.....	11.7
Cereal Breakfast Food .....	9.9.2
Charcoal.....	10.7
Cheese, Natural And Processed .....	9.6.1
Chemical Wood Pulping.....	10.2
Chemicals, Inorganic.....	8.0
Chemicals, Organic .....	6.0
Chlor-Alkali .....	8.11
Clay	
Bricks And Related Clay Products .....	11.3
Ceramic Products Manufacturing.....	11.7
Clay And Fly Ash Sintering.....	11.8
Clay Processing.....	11.25
Cleaning	
Coal.....	11.10
Drum.....	4.8
Dry Cleaning.....	4.1
Tank .....	4.8
Coal	
Anthracite Combustion.....	1.2
Bituminous Combustion .....	1.1
Cleaning.....	11.10
Conversion.....	11.11
Subbituminous Combustion .....	1.1
Surface Mining, Western .....	11.9
Coating, Surface .....	4.2
Appliance, Large .....	4.2.2.11
Automobile And Light Duty Truck.....	4.2.2.8
Can.....	4.2.2.2
Fabric.....	4.2.2.7
Flat Wood Interior Panel .....	4.2.2.5
Labels, Pressure Sensitive.....	4.2.2.9
Magnet Wire.....	4.2.2.3
Magnetic Tape .....	4.2.2.13
Metal Coil.....	4.2.2.10
Metal Furniture .....	4.2.2.12

Metal, General.....	4.2.2.4
Paper .....	4.2.2.6
Plastic Parts For Business Machines .....	4.2.2.14
Polymeric Coating Of Supporting Substrates.....	4.2.2.7
Tapes, Pressure Sensitive .....	4.2.2.9
Coffee Roasting .....	9.13.2
Coke Manufacturing.....	12.2
Collection, Waste Water.....	4.3
Combustion	
Anthracite Coal .....	1.2
Bagasse, In Sugar Mills .....	1.8
Bituminous Coal.....	1.1
Fuel Oil.....	1.3
Internal, Stationary.....	3.0
Lignite .....	1.7
Liquefied Petroleum Gas .....	1.5
Natural Gas.....	1.4
Orchard Heaters .....	9.2.3
Refuse.....	2.1
Residential Fireplaces .....	1.9
Residential Wood Stoves .....	1.10
Subbituminous Coal .....	1.1
Waste Oil .....	1.11
Wood Waste In Boilers .....	1.6
Compressors, Pipeline, Natural Gas Fired .....	3.2
Concrete Batching .....	11.12
Confectionery Products.....	9.10
Conical Burners.....	2.7
Construction Aggregate Processing .....	11.19
Construction Operations, Heavy .....	13.2.3
Conversion factors, units, etc. – Miscellaneous .....	App. A
Cooling Towers, Wet .....	13.4
Copper	
Alloying.....	12.9
Smelting, Primary.....	12.3
Smelting, Secondary .....	12.9
Corn Wet Milling.....	9.9.7
Cotton	
Ginning .....	9.7
Harvesting.....	9.3.1
Crushed Stone Processing .....	11.19.2
Dairy Products .....	9.6
Deep Fat Frying, Snack Chip.....	9.13.3
Degreasing, Solvent .....	4.6
Dehydrated Fruits And Vegetables.....	9.8.2
Dehydration, Alfalfa .....	9.9.4
Detergents	
Soap And Detergents.....	6.8
Detonation, Explosives .....	13.3
Diatomite Processing.....	11.22
Diesel Engines, Industrial .....	3.3
Diesel Engines, Stationary .....	3.4
Distilled Spirits.....	9.12.3
Drum Cleaning .....	4.8

Dry Cleaning .....	4.1
Dual Fuel Engines, Stationary .....	3.4
Dust Loading Analysis, Surface/Bulk.....	App. C.2
Dust Loading Sampling Procedures, Surface/Bulk .....	App. C.1
Dust Sources, Fugitive .....	13.2
Electric Arc Welding.....	12.19
Electric Utility Power Plants, Gas.....	3.1
Electricity Generators, Stationary Gas Turbine.....	3.1
Electroplating .....	12.20
Erosion, Wind, Industrial .....	13.2.5
Evaporation Loss Sources.....	4.0
Explosives .....	6.3
Explosives Detonation .....	13.3
External Combustion Sources .....	1.0
Fabric Coating.....	4.2.2.7
Fabric Printing, Textile .....	4.11
Fats, Cooking .....	9.11
Feldspar Processing .....	11.27
Ferroalloy Production.....	12.4
Fertilizer Application.....	9.2.1
Fertilizers	
Ammonium Phosphate.....	8.5.3
Phosphate.....	8.5
Fiberboard, Medium Density .....	10.6.3
Fiberboard, Hardboard.....	10.6.4
Fiber Manufacturing, Glass .....	11.13
Fibers, Synthetic .....	6.9
Fireplaces, Residential .....	1.9
Fires	
Forest Wildfires And Prescribed Burning .....	13.1
Fish Processing .....	9.13.1
Flares, Industrial .....	13.5
Flat Wood Interior Panel Coating.....	4.2.2.5
Fly Ash	
Clay And Fly Ash Sintering.....	11.8
Food And Agricultural Industries.....	9.0
Food And Kindred Products, Miscellaneous .....	9.13
Coffee Roasting .....	9.13.2
Fish Processing .....	9.13.1
Snack Chip Deep Fat Frying.....	9.13.3
Yeast Production .....	9.13.4
Foundries	
Gray Iron.....	12.10
Steel.....	12.13
Frit Manufacturing.....	11.14
Fruits, Preserved.....	9.8
Canned .....	9.8.1
Dehydrated.....	9.8.2
Fuel Oil Combustion .....	1.3
Fugitive Dust Sources .....	13.2
Furniture Surface Coating, Metal .....	4.2.2.12
Gas Combustion, Liquefied Petroleum .....	1.5
Gas, Natural	
Combustion .....	1.4

Pipeline Compressors .....	3.2
Processing.....	5.3
Turbines, Electricity-generating.....	3.1
Gasoline/Diesel Industrial Engines.....	3.3
Ginning, Cotton .....	9.7
Glass Fiber Manufacturing.....	11.13
Glass Manufacturing.....	11.15
Graphic Arts.....	4.9
General Graphic Printing .....	4.9.1
Publication Gravure Printing.....	4.9.2
Grain	
Alfalfa Dehydration.....	9.9.4
Bread Baking.....	9.9.6
Cereal Breakfast Food .....	9.9.2
Corn Wet Milling.....	9.9.7
Elevators And Processes.....	9.9.1
Harvesting.....	9.3.2
Pasta Manufacturing .....	9.9.5
Processing.....	9.9
Gravel Processing .....	11.19.1
Gray Iron Foundries.....	12.10
Greenhouse Gas - Biogenic Sources .....	14.0
Emissions From Soils - Greenhouse Gases.....	14.1
Enteric Fermentation - Greenhouse Gases.....	14.4
Lightning Emissions - Greenhouse Gases.....	14.3
Termites - Greenhouse Gases.....	14.2
Growing Operations .....	9.2
Gypsum Manufacturing.....	11.16
Harvesting Operations.....	9.3
Cotton Harvesting.....	9.3.1
Grain Harvesting.....	9.3.2
Heaters, Orchard.....	9.2.3
Hot Mix Asphalt Plants .....	11.1
Hydrochloric Acid.....	8.6
Hydrofluoric Acid .....	8.7
Incineration	
Automobile Body .....	2.6
Medical Waste .....	2.3
Open Burning.....	2.5
Sewage Sludge.....	2.2
Industrial Engines, Gasoline And Diesel .....	3.3
Industrial Flares .....	13.5
Industrial Surface Coating.....	4.2.2
Industrial Surface Coating, General .....	4.2.2.1
Industrial Wind Erosion .....	13.2.5
Ink, Printing .....	6.7
Inorganic Chemical Industry .....	8.0
Interior Panel Coating, Flat Wood.....	4.2.2.5
Internal Combustion Engines	
Off-highway Stationary.....	3.0
Iron	
Gray Iron Foundries.....	12.10
Iron Production .....	12.5

Labels, Pressure Sensitive.....	4.2.2.9
Landfills .....	2.4
Large Bore Engines .....	3.4
Lead	
Ore Crushing And Grinding .....	12.18
Processing, Secondary .....	12.11
Products, Miscellaneous.....	12.17
Smelting, Primary.....	12.6
Lead Alkyl.....	6.12
Lead Oxide Production .....	12.16
Lead Pigment Production .....	12.16
Leadbearing Ore Crushing And Grinding.....	12.18
Leather Tanning.....	9.15
Light Duty Truck Surface Coating .....	4.2.2.8
Lightning.....	14.1
Lightweight Aggregate Manufacturing.....	11.20
Lignite Combustion.....	1.7
Lime Manufacturing .....	11.17
Liquefied Petroleum Gas Combustion .....	1.5
Liquid Storage Tanks .....	7.0
Livestock Feed Operations .....	9.4
Magnesium, Secondary Smelting.....	12.12
Magnet Wire Coating .....	4.2.2.3
Magnetic Tape Manufacturing .....	4.2.2.13
Maleic Anhydride.....	6.14
Malt Beverages.....	9.12.1
Marketing, Petroleum Liquids .....	5.2
Meat Packing Plants .....	9.5.1
Meat Products Preparation.....	9.5
Meat Rendering Plants .....	9.5.3
Meat Smokehouses.....	9.5.2
Medical Waste Incineration.....	2.3
Metal Coating, General .....	4.2.2.4
Metal Coil Surface Coating .....	4.2.2.10
Metal Furniture Surface Coating .....	4.2.2.12
Metallic Minerals Processing .....	11.24
Metallurgical Industry.....	12.0
Mineral Products Industry .....	11.0
Mineral Wool Manufacturing .....	11.18
Minerals Processing, Metallic .....	11.24
Minimills.....	12.5.1
Mining, Western Surface Coal .....	11.9
Miscellaneous Sources .....	13.0
Natural And Processed Cheese.....	9.6.1
Natural Gas Combustion .....	1.4
Natural Gas Fired Pipeline Compressors .....	3.2
Natural Gas Processing.....	5.3
Nitric Acid Manufacturing.....	8.8
Nonindustrial Surface Coating.....	4.2.1
Normal Superphosphates.....	8.5.1
Nuts And Seeds, Salted And Roasted .....	9.10.2
Almond Processing .....	9.10.2.1
Peanut Processing .....	9.10.2.2
Off-highway Stationary Sources .....	3.0

Oil	
Fuel Oil Combustion .....	1.3
Waste Oil Combustion .....	1.11
Oils, Cooking .....	9.11
Vegetable Oil Processing .....	9.11.1
Open Burning .....	2.5
Orchard Heaters .....	9.2.3
Ore Processing	
Leadbearing Ore Crushing And Grinding .....	12.18
Taconite .....	11.23
Organic Chemical Process Industry .....	6.0
Organic Liquid Storage Tanks .....	7.1
Oriented Strand Board .....	10.6.1
Paint And Varnish .....	6.4
Panel Coating, Flat Wood Interior .....	4.2.2.5
Paper Coating .....	4.2.2.6
Particleboard .....	10.6.2
Particle size distribution data, factors, generalized .....	App. B.2
Particle size distribution data, factors, selected .....	App. B.1
Pasta Manufacturing .....	9.9.5
Paved Roads .....	13.2.1
Paving, Asphalt .....	4.5
Peanut Processing .....	9.10.2.2
Perlite Manufacturing .....	11.30
Pesticide Application .....	9.2.2
Petroleum	
Liquefied Petroleum Gas Combustion .....	1.5
Liquids, Transportation And Marketing .....	5.2
Refining .....	5.1
Storage Of Organic Liquids .....	7.1
Petroleum Industry .....	5.0
Pharmaceuticals Production .....	6.13
Phosphate, Ammonium .....	8.5.3
Phosphate Fertilizers .....	8.5
Phosphate Rock Processing .....	11.21
Phosphoric Acid .....	8.9
Phthalic Anhydride .....	6.5
Pickles .....	9.8.3
Pigment Lead Oxide And Pigment Production .....	12.16
Pipeline Compressors, Natural Gas Fired .....	3.2
Plastic Part Surface Coating, Business Machine .....	4.2.2.14
Plastics .....	6.6
Plywood .....	10.5
Polyester Resin Plastic Products Fabrication .....	4.4
Poly(ethylene terephthalate) .....	6.6.2
Polymeric Coating Of Supporting Substrates .....	4.2.2.7
Polypropylene .....	6.6.4
Polystyrene .....	6.6.3
Polyvinyl Chloride .....	6.6.1
Portland Cement Manufacturing .....	11.6
Poultry Feed Operations .....	9.4
Prescribed Burning, Wildfires And .....	13.1
Preserved Fruits And Vegetables .....	9.8
Preserving, Wood .....	10.8
Printing, General Graphic .....	4.9.1

Printing, Publication Gravure .....	4.9.2
Printing, Textile Fabric .....	4.11
Printing Ink.....	6.7
Processed Cheese.....	9.6.1
Pulping, Chemical Wood.....	10.2
Reclamation, Waste Solvent.....	4.7
Reconstituted Wood Products.....	10.6
Recovery, Sulfur.....	8.13
Refining, Petroleum.....	5.1
Refractory Manufacturing .....	11.5
Refuse Combustion .....	2.1
Rendering Plants, Meat .....	9.5.3
Residential Fireplaces .....	1.9
Resin, Polyester, Plastic Product Fabrication.....	4.4
Roads	
Paved.....	13.2.1
Unpaved .....	13.2.2
Roasted Nuts And Seeds .....	9.10.2
Roasting, Coffee .....	9.13.2
Rock Processing, Phosphate.....	11.21
Roofing, Asphalt .....	11.2
Rubber, Synthetic .....	6.10
Salad Dressings.....	9.8.3
Salted And Roasted Nuts And Seeds.....	9.10.2
Almond Processing .....	9.10.2.1
Peanut Processing .....	9.10.2.2
Sampling, Surface/Bulk Loading .....	App. C.1
Sand And Gravel Processing .....	11.19.1
Sauces.....	9.8.3
Seeds, Salted And Roasted.....	9.10.2
Sewage Sludge Incineration .....	2.2
Sized emission factors, generalized.....	App. B.2
Sized emission factors, selected.....	App. B.1
Smelting	
Primary Copper.....	12.3
Primary Lead.....	12.6
Secondary Copper Smelting And Alloying.....	12.9
Secondary Magnesium .....	12.12
Zinc .....	12.7
Smokehouses, Meat.....	9.5.2
Snack Chip Deep Fat Frying .....	9.13.3
Soap And Detergent Manufacturing .....	6.8
Sodium Carbonate Manufacturing .....	8.12
Soils .....	14.1
Solid Waste Disposal.....	2.0
Solvent	
Commercial/Consumer Use .....	4.10
Degreasing.....	4.6
Waste, Reclamation.....	4.7
Stationary Gas Turbines.....	3.1
Stationary Internal Combustion Sources, Off-highway.....	3.0
Steel	
Foundries.....	12.13
Production .....	12.5
Stone Processing, Crushed .....	11.19.2

Storage, Waste Water.....	4.3
Storage Battery Production.....	12.15
Storage Piles, Aggregate.....	13.2.4
Storage Tanks, Liquid .....	7.0
Organic Liquid Storage Tanks .....	7.1
Subbituminous Coal Combustion.....	1.1
Substrates, Supporting, Polymeric Coating Of.....	4.2.2.7
Sugar Harvesting, Cane.....	9.3.4
Sugar Mills, Bagasse Combustion In .....	1.8
Sugar Processing.....	9.10.1
Sugar Processing, Beet .....	9.10.1.2
Sugar Processing, Cane.....	9.10.1.1
Sulfur Recovery.....	8.13
Sulfuric Acid .....	8.10
Surface/Bulk Dust Loading Analysis .....	App. C.2
Surface/Bulk Dust Loading Sampling Procedures .....	App. C.1
Surface Coal Mining, Western .....	11.9
Surface Coating .....	4.2
Surface Coating, Industrial.....	4.2.2
Surface Coating, Nonindustrial.....	4.2.1
Surface Material Analysis Procedures .....	App. C.2
Surface Material Sampling Procedures .....	App. C.1
Synthetic Ammonia.....	8.1
Synthetic Fibers .....	6.9
Synthetic Rubber .....	6.10
Taconite Ore Processing.....	11.23
Talc Processing .....	11.26
Tank And Drum Cleaning .....	4.8
Tape, Magnetic, Manufacturing .....	4.2.2.13
Tapes And Labels, Pressure Sensitive .....	4.2.2.9
Teepee (Conical) Burners .....	2.7
Terephthalic Acid .....	6.11
Termites .....	14.2
Textile Fabric Printing .....	4.11
Tilling Operations.....	9.1
Transportation And Marketing Of Petroleum Liquids .....	5.2
Treatment, Waste Water .....	4.3
Triple Superphosphates.....	8.5.2
Truck, Light Duty, Surface Coating, .....	4.2.2.8
Turbines, Natural Gas Fired .....	3.1
Unpaved Roads.....	13.2.2
Urea .....	8.2
Varnish	
Paint And Varnish Manufacturing.....	6.4
Vegetable Oil Processing .....	9.11.1
Vegetables, Canned.....	9.8.1
Vegetables, Dehydrated .....	9.8.2
Vegetables, Preserved.....	9.8
Vermiculite Processing .....	11.28
Waferboard .....	10.6.1
Waste Disposal, Solid.....	2.0
Waste Oil Combustion.....	1.11
Waste Solvent Reclamation.....	4.7
Waste Water Collection, Treatment and Storage .....	4.3
Welding, Electric Arc.....	12.19



Wet Cooling Towers .....	13.4
Wet Milling, Corn.....	9.9.7
Wildfires .....	13.1
Wind Erosion	
Industrial.....	13.2.5
Wines.....	9.12.2
Wire Coating, Magnet .....	4.2.2.3
Wood	
Charcoal.....	10.7
Engineered Wood Products.....	10.8
Flat Interior Panel Coating.....	4.2.2.5
Medium Density Fiberboard .....	10.6.3
Oriented Strand Board .....	10.6.1
Particleboard.....	10.6.2
Plywood .....	10.5
Pulping, Chemical.....	10.2
Reconstituted Wood Products .....	10.6
Stoves .....	1.10
Waferboard .....	10.6.1
Waste Combustion In Boilers .....	1.6
Wood Preserving .....	10.8
Wood Products Industry .....	10.0
Yeast Production .....	9.13.4
Zinc	
Processing, Secondary .....	12.14
Smelting.....	12.7