

TOXIC AIR POLLUTION IN ALABAMA: A THREAT TO HUMAN HEALTH



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**TOXIC AIR POLLUTION IN ALABAMA:
A THREAT TO HUMAN HEALTH**

Presented to

Alabama Environmental Management Commission

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Through its Conservation Campaign, the Foundation works to address fundamental issues that plague the health of Alabama's citizens, economy, and environment. The Foundation is committed to reducing the cumulative risk of pollution on communities throughout the State of Alabama.

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TABLE OF CONTENTS

I.	SUMMARY	1
II.	RECOMMENDATIONS	3
III.	TOXIC AIR POLLUTANT MONITORING DATA	3
	<i>Summary of Data</i>	3
	<i>Methodology</i>	3
	<i>Site Data</i>	7
	<i>State-wide Site Data (2007)</i>	
	Figure 1: 3009 28th Street North - Birmingham, Jefferson County	8
	Figure 2: 1242 Jersey Street - Wylam, Jefferson County	9
	Figure 3: 2201 Airport Road - Huntsville, Madison County	10
	Figure 4: 1350 Coliseum Boulevard - Montgomery, Montgomery County ...	11
	Figure 5: 1320 Broad Street - Phenix City, Russell County	12
	<i>Jefferson County Health Department Study Site Data (2005-2006)</i>	
	Figure 6: 1801 Bruce Shaw Road - Providence (Adger)	13
	Figure 7: 841 Finley Avenue - East Thomas (Birmingham)	14
	Figure 8: 3009 28th Street North - North Birmingham (Birmingham)	15
	Figure 9: 4113 Shuttlesworth Drive - Birmingham	16
	<i>Mobile County Air Quality Study Site Data (2002-2003)</i>	
	Figure 10: 801 Iroquois Street - Chickasaw	17
	Figure 11: State Highway 43 - LeMoyne	18
	Figure 12: 650 St. Anthony Street - Mobile	19

Figure 13: 3650 Newman Road - Seven Hills	20
Figure 14: 5325 Commerce Lane - Theodore	21
IV. TOXIC AIR POLLUTANT MODELING DATA	22
<i>Summary of Data</i>	22
<i>Methodology</i>	22
<i>Site Data (1999)</i>	22
Figure 15: Autauga County	23
Figure 16: Baldwin County	24
Figure 17: Calhoun County	25
Figure 18: Choctaw County	26
Figure 19: Clarke County	27
Figure 20: Colbert County	28
Figure 21: Covington County	29
Figure 22: Dallas County	30
Figure 23: Escambia County	31
Figure 24: Etowah County	32
Figure 25: Greene County	33
Figure 26: Jackson County	34
Figure 27: Jefferson County	35
Figure 28: Lamar County	36
Figure 29: Lawrence County	37
Figure 30: Lee County	38

Figure 31: Madison County	39
Figure 32: Marengo County	40
Figure 33: Marshall County	41
Figure 34: Mobile County	42
Figure 35: Montgomery County	43
Figure 36: Monroe County	44
Figure 37: Morgan County	45
Figure 38: Pike County	46
Figure 39: Russell County	47
Figure 40: Shelby County	48
Figure 41: St. Clair County	49
Figure 42: Talladega County	50
Figure 43: Tallapoosa County	51
Figure 44: Tuscaloosa County	52
Figure 45: Walker County	53
Figure 46: Washington County	54
Figure 47: Wilcox County	55
V. DEMOGRAPHIC DATA	56
<i>Summary of Data</i>	56
<i>Methodology</i>	56
<i>Site Data (2000)</i>	56
Table 6: 437 County Road 8 - Clio, Barbour County	57

Table 7: 1801 Bruce Shaw Road - Providence (Adger), Jefferson County . . .	58
Table 8: 841 Finley Avenue - East Thomas (Birmingham), Jefferson County .	59
Table 9: 3009 28th Street North - North Birmingham (Birmingham), Jefferson County	60
Table 10: 4113 Shuttlesworth Drive - Birmingham, Jefferson County	61
Table 11: 1242 Jersey Street - Wylam (Birmingham), Jefferson County	62
Table 12: 2201 Airport Road - Huntsville, Madison County	63
Table 13: Iroquois Street and Azalea Drive - Chickasaw, Mobile County	64
Table 14: State Highway 43 - LeMoyne, Mobile County	65
Table 15: 650 St. Anthony Street - Mobile, Mobile County	66
Table 16: 3650 Newman Road - Seven Hills, Mobile County	67
Table 17: 5325 Commerce Lane - Theodore, Mobile County	68
Table 18: 1350 Coliseum Boulevard - Montgomery, Montgomery County . . .	69
Table 19: 1320 Broad Street - Phenix City, Russell County	70
VI. POLLUTANT CHARACTERIZATION	71
<i>Summary of Data</i>	71
<i>Methodology</i>	71
<i>Toxic Air Pollutant Characterization Data</i>	71
Fact Sheet: Acetaldehyde	72
Fact Sheet: Acrolein	77
Fact Sheet: Arsenic Compounds	82
Fact Sheet: Benzene	89

Fact Sheet: 1,3-Butadiene	94
Fact Sheet: Cadmium Compounds	99
Fact Sheet: Carbon tetrachloride	104
Fact Sheet: Chloroform	110
Fact Sheet: Ethylene Dibromide (Dibromoethane)	115
Fact Sheet: Ethylene Dichloride (1,2-Dichloroethane)	120
Fact Sheet: Formaldehyde	125
Fact Sheet: Hexachlorobutadiene	130
Fact Sheet: Manganese Compounds	135
Fact Sheet: Naphthalene	140
Fact Sheet: 1,1,2,2-Tetrachloroethane	145
VII. SOURCE CHARACTERIZATION	150
<i>Summary of Data</i>	150
<i>Methodology</i>	150
<i>Source Data</i>	151
<i>Relative Source Contributions</i>	
Table 21: Acetaldehyde	153
Table 22: Acrolein	153
Table 23: Arsenic Compounds	154
Table 24: Benzene	154
Table 25: 1,3-Butadiene	155
Table 26: Cadmium Compounds	155

Table 27: Carbon tetrachloride	156
Table 28: Chloroform	156
Table 29: Ethylene Dibromide (Dibromoethane)	157
Table 30: Ethylene Dichloride (1,2-Dichloroethane)	157
Table 31: Formaldehyde	158
Table 32: Hexachlorobutadiene	158
Table 33: Manganese Compounds	159
Table 34: Naphthalene	159
Table 35: 1,1,2,2-Tetrachloroethane	160

Facility Emissions Data

Table 36: Acetaldehyde	161
Table 37: Acrolein	169
Table 38: Arsenic Compounds	174
Table 39: Benzene	180
Table 40: 1,3-Butadiene	194
Table 41: Cadmium Compounds	196
Table 42: Carbon tetrachloride	202
Table 43: Chloroform	210
Table 44: Ethylene Dibromide (Dibromoethane)	218
Table 45: Ethylene Dichloride (1,2-Dichloroethane)	225
Table 46: Formaldehyde	234
Table 47: Hexachlorobutadiene	244

Table 48: Manganese Compounds	246
Table 49: Naphthalene	254
Table 50: 1,1,2,2-Tetrachloroethane	261
VIII. APPENDICES	268
<i>A. Other Studies</i>	269
<i>B. ADEM Letter May 12, 2008</i>	271
<i>C. ADEM Letter August 8, 2008</i>	273

I. SUMMARY

The present Federal and Alabama air pollution regulatory systems focus on “criteria air pollutants” (particulate matter, carbon monoxide, nitrogen dioxide, ozone, lead, and sulfur dioxide) and 187 “hazardous air pollutants.” Ambient air quality standards and implementation plans, including emission limitations to achieve those standards, have been established for criteria air pollutants. Technology-based emission limitations for specific industrial categories have been established for hazardous air pollutants. *See* 40 C.F.R. Part 61.¹ Although this regulatory system has undoubtedly reduced the emission

of toxic air pollutants in Alabama,² the monitoring and modeling data presented in this report unequivocally demonstrate that the present regulatory system is not sufficient to reduce ambient concentrations of all toxic air pollutants below appropriate “maximum safe chronic exposure” concentrations. Many toxic air pollutants are present in the ambient air at levels that pose an unacceptable risk to human health.

Fifteen toxic air pollutants are reviewed in this report. Thirteen of these have potential for causing cancer in humans. Two others have the potential to cause other adverse health effects. Table 1 identifies the critical health effects of exposure to these toxic air pollutants and the extent to which ambient air concentrations exceed “maximum safe chronic exposure” concentrations.

Pollutant monitoring data are preferred over pollutant modeling data because the former represent measured pollutant concentrations and exposures whereas the latter represent imperfect predictions of pollutant concentrations and exposures. However, Alabama’s present state-wide routine monitoring system consists of only five sites monitoring only seven chemicals. Thus, this report also presents the results of larger, short-duration, monitoring studies conducted in two counties and the results of modeling in thirty-three counties.

¹ Section 112(f) of the federal Clean Air Act requires that EPA promulgate limitations on the emission of hazardous air pollutants from categories or subcategories of sources in addition to technology-based (“maximum achievable control technology”) limitations where EPA determines that technology-based limitations do not protect the most exposed persons at a cancer risk level of 1×10^{-6} . This authority to address “residual risks” is subject to several caveats that severely limit its efficacy. First, the provision applies only to sources emitting 10 tons or more of any hazardous air pollutant per year or 25 tons or more of a mixture of hazardous air pollutants per year. Smaller sources are not subject to residual risk limitations. Second, the provision requires limitations that will provide an “ample margin of safety to protect public health,” not attainment of a cancer risk level of 1×10^{-6} or less. Indeed, EPA has permitted greater residual risk under Section 112(f). Third, EPA claims that it must consider a number of factors other than health is establishing residual risk limitations, including costs, technological feasibility, economic impact, and uncertainties. Fourth, residual risk limitations must be based on consideration of emissions from a defined “source category,” not emissions from other sources at the same facility or emissions from nearby facilities. Fifth, residual risk rules have been promulgated for only eight source categories (coke ovens, dry cleaning, industrial cooling towers, hazardous organic NESHAP, gasoline distribution, ethylene oxide sterilizers, magnetic tape, and halogenated solvents).

² *See* Letter from Ron W. Gore, Chief, Air Division, Alabama Department of Environmental Management, to David A. Ludder (May 12, 2008) (Appendix B).

**TABLE 1 (Revised)
TOXIC AIR POLLUTANTS REVIEWED**

Chemical	Cancer Potential	Critical Effect	Relative Cancer Hazard		Maximum Safe Chronic Exposure Concentration (mg/m ³)	Highest Measured Annual Mean Concentration (mg/m ³)	Percent Difference
			Inhalation Unit Risk (per µg/m ³)	Cancer Potency Rank			
Acetaldehyde	Probable Human Carcinogen	Nasal squamous cell carcinoma or adenocarcinoma	2.2x10 ⁻⁶	13	0.0005	0.00198649	297
Acrolein	Insufficient Data	Nasal lesions	/	/	0.00002	0.00114812	5641
Arsenic	Human Carcinogen	Lung cancer	4.3x10 ⁻³	1	0.0000002	0.0000058	2782
Benzene	Human Carcinogen	Leukemia	7.8x10 ⁻⁶	11	0.00013	0.00618250	4656
1,3-Butadiene	Human Carcinogen	Leukemia	3x10 ⁻⁵	5	0.000003	0.00025352	8351
Cadmium	Probable Human Carcinogen	Lung, trachea, bronchus cancer deaths	1.8x10 ⁻³	2	0.0000006	0.0000082	1267
Carbon tetrachloride	Probable Human Carcinogen	Hepatocellular carcinomas/ hepatomas	1.5x10 ⁻⁵	9	0.00007	0.00068349	876
Chloroform	Likely Human Carcinogen (at high exposure)	Hepatocellular carcinoma	2.3x10 ⁻⁵	7	0.00004	0.0002490	523
Ethylene dibromide	Likely Human Carcinogen	Forestomach tumors, hemangiosarcomas, thyroid follicular cell adenomas or carcinomas	6x10 ⁻⁵	3	0.000002	0.0001921	9504
Ethylene dichloride	Probable Human Carcinogen	Hemangiosarcomas	2.6x10 ⁻⁵	6	0.00008	0.00010119	153
Formaldehyde	Probable Human Carcinogen	Squamous cell carcinoma	1.3x10 ⁻⁵	10	0.00008	0.00489953	6024
Hexachlorobutadiene	Possible Human Carcinogen	Renal tubular adenomas and adenocarcinomas	2.2x10 ⁻⁵	8	0.00005	0.00019541	291
Manganese	Insufficient Data	Impairment of neurobehavioral function (other effect: Impairment of neurobehavioral function.)	/	/	0.00005	0.0002327	365
Naphthalene	Possible Human Carcinogen	Respiratory epithelial adenoma and olfactory epithelial neuroblastoma	3.4x10 ⁻⁵	4	0.00003	0.0004900	1533
1,1,2,2-Tetrachloroethane	Possible Human Carcinogen	Hepatocellular carcinoma	5.8x10 ⁻⁵	12	0.00002	0.0001788	794

II. RECOMMENDATIONS

1. The Alabama Environmental Management Commission should adopt rules restricting the emission of individual toxic air pollutants from individual sources to ensure that maximum safe chronic exposure concentrations for such pollutants are not exceeded in the ambient air where humans may be exposed.
2. The Alabama Environmental Management Commission should adopt rules restricting the emission of multiple toxic air pollutants from individual sources and multiple toxic air pollutants from multiple sources to ensure that the combination of such pollutants do not exceed concentrations that pose an unacceptable risk to the health of humans who may be exposed.
3. The Alabama Department of Environmental Management should design and implement an expanded state-wide air toxics monitoring system. An expanded system of air toxics monitoring will undoubtedly require a significant financial investment, however that investment can be minimized by targeting locations most likely to include air toxics and by targeting chemicals most likely to be present at such locations. In addition, multiple temporary “roving” monitoring stations might be utilized to monitor for air toxics in more locations, thereby reducing the costs of having multiple permanent fixed-location monitors.

III. TOXIC AIR POLLUTANT MONITORING DATA

Summary of Data

Pollutant monitoring data are preferred over pollutant modeling data because the former represent measured pollutant

concentrations and exposures whereas the latter represent imperfect predictions of pollutant concentrations and exposures. Toxic pollutant monitoring data in Alabama are limited to three data sets: a very limited data set collected from a small number of sites around the State during multiple years³ (e.g., five sites monitoring seven chemicals in 2007);⁴ an extensive data set collected from four sites in Jefferson County from July 2005 to June 2006; and an extensive data set collected from five sites in Mobile County from August 2002 to August 2003. These data sets are described in Tables 2 through 4.

Although not all chemicals in these data sets were reviewed, many of the chemicals judged most likely to exceed “safe” health-based concentrations were reviewed and are reported here. These data demonstrate that many toxic air pollutants are present in the ambient air at levels that pose an unacceptable risk to human health. See Table 5.

Methodology

Annual arithmetic mean concentrations of toxic air pollutants from the Jefferson County Health Department Study (July 2005-June 2006) were obtained from data provided by the Jefferson County Health Department. Annual arithmetic mean concentrations of

³ This report focuses on data collected from the State-wide monitoring system during 2007. Earlier limited data sets from the State-wide monitoring system are available but are not reported here. Those can be found at the U.S. Environmental Protection Agency’s *AirData* website at <http://www.epa.gov/air/data/index.html>.

⁴ The state-wide air toxics monitoring system that generated the data presented in this report suffers from an inadequate number of monitoring sites and an inadequate number of monitored chemicals. These inadequacies result in severe limitations on the present knowledge about human exposure to air toxics in Alabama.

toxic air pollutants from the State-wide Monitoring System (2007) were obtained from the U.S. Environmental Protection Agency's *AirData* website at <http://www.epa.gov/air/data/index.html>. Calculated annual arithmetic mean concentrations of toxic air pollutants from the Mobile County Air Quality Study (August 2002 - August 2003) were derived from data included in a *Raw Data Report* printed by the U.S. Environmental Protection Agency on August 13, 2008.⁵

Any data reported in nanograms per cubic meter (ng/m³) or micrograms per cubic meter (µg/m³) were converted to milligrams per cubic meter (mg/m³) to facilitate direct comparison to recommended maximum health-based concentrations using the following formulas:

$$mg / m^3 = \frac{ng / m^3}{1000000 ng / mg}$$

$$mg / m^3 = \frac{\mu g / m^3}{1000 \mu g / mg}$$

Any data reported in parts per billion Carbon (ppbC) were converted to milligrams per cubic meter (mg/m³) to facilitate direct comparison to recommended health-based concentrations using the following formula:

$$mg / m^3 = \frac{ppbC \times MolecularWeight \times 273.15K}{\#Carbon\ Atoms \times 22.4 \times 298.15K \times 1000}$$

Any data reported in parts per billion Volume (ppbV) were converted to milligrams per cubic meter (mg/m³) to facilitate direct comparison to recommended health-based concentrations using the following formula:

$$mg / m^3 = \frac{ppbV \times MolecularWeight \times 101325kPa}{8.3144 \times 298.15K \times 1000}$$

The presence and concentration of toxic air pollutants not monitored at particular monitoring sites is unknown. The presence and concentration of toxic air pollutants at locations other than the identified monitoring sites is also unknown. This lack of data does not suggest, and should not be assumed to suggest, the absence of any toxic air pollutants or the absence of any health concern.

Unless otherwise noted here, values for “Maximum Safe Chronic Exposure Concentrations” are equivalent to Reference Concentrations (RfCs) for non-carcinogens and Inhalation Risk Concentrations (at 10⁻⁶ risk level) for carcinogens reported in the U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS) at <http://cfpub.epa.gov/ncea/iris/index.cfm>. The “Maximum Safe Chronic Exposure Concentration” for Naphthalene is derived from the Inhalation Unit Risk published by the California Office of Environmental Health Hazard Assessment (0.000034 µg/m³)⁶ as recommended by the U.S. Environmental Protection Agency.⁷

⁵ The *Raw Data Report* indicates that some individual measurements are suspect and of questionable validity. Not knowing the basis for these conclusions and recognizing that their omission would have little consequence on the calculation of the annual mean, such data were not omitted. The failure to omit these measurements does not alter the validity of the conclusion that ambient concentrations of toxic chemicals exceed “safe” health-based concentrations.

⁶ See http://www.oehha.ca.gov/air/hot_spots/naphth.html.

⁷ See <http://www.epa.gov/ttn/atw/toxsource/table1.pdf>.

TABLE 2 STATE-WIDE MONITORING SYSTEM (2007)	
MONITORING SITES	MONITORED CHEMICALS
3009 28th Street North - Birmingham	Arsenic Cadmium Chromium Lead Manganese Mercury Nickel
1242 Jersey Street - Wylam	
2201 Airport Road - Huntsville	
1350 Coliseum Blvd - Montgomery	
1320 Broad Street - Phenix City	
Source: U.S. Environmental Protection Agency's <i>AirData</i> http://www.epa.gov/air/data/hapvals.html?st=AL~Alabama	

TABLE 3 DATA FROM JEFFERSON COUNTY HEALTH DEPARTMENT STUDY (July 2005 - June 2006)	
MONITORING SITES	MONITORED CHEMICALS
1801 Bruce Shaw Road - Providence-Adger	Acetaldehyde
	Acetonitrile
	Acrolein
	Acrylonitrile
	Antimony
	Arsenic
	Benzene
	Benzyl chloride
	Beryllium
	Bromoform
	Bromomethane
	1,3-Butadiene
	Cadmium
	Carbon disulfide
	Carbon tetrachloride
	Chlorobenzene
	Chloroethane
	Chloroform
	Chloromethane
	Chloroprene
	Chromium
	Chromium VI
	Cobalt
	1,4-Dichlorobenzene
	1,1-Dichloroethane
	1,1-Dichloroethylene
	Dichloromethane
	1,2-Dichloropropane
	Ethyl acrylate
	Ethylbenzene
	Ethylene dibromide
	Ethylene dichloride
	Formaldehyde
	Hexachlorobutadiene
	Lead
	Manganese
	Mercury
	Methyl chloroform
	Methyl ethyl ketone
	Methyl isobutyl ketone
	Methyl methacrylate
	Methyl tert-butyl ether
	Naphthalene
	Nickel
	o-Xylene
	Propionaldehyde
	Selenium
	Styrene
	1,1,2,2-Tetrachloroethane
	Tetrachloroethylene
	Toluene
	1,2,4-Trichlorobenzene
	1,1,2-Trichloroethane
	Trichloroethylene
	Vinyl chloride
Source: Jefferson County Health Department	

TABLE 4 DATA FROM MOBILE COUNTY AIR QUALITY STUDY (AUG 2002-AUG 2003)		
MONITORING SITES	MONITORED CHEMICALS	
801 Iroquois Street - Chickasaw	Acetaldehyde	Ethylene dibromide
	Antimony	Ethylene dichloride
	Arsenic	Formaldehyde
	Benzene	n-Hexane
	Benzyl chloride	Isopropylbenzene
State Highway 43 - LeMoyne	Bromomethane	Lead
	1,3-Butadiene	Manganese
	Cadmium	Methyl chloroform
	Carbon disulfide	Nickel
650 St. Anthony Street - Mobile	Carbon tetrachloride	Mercury
	Chlorobenzene	Naphthalene
	Chloroethane	Phosphorus
	Chloroform	Selenium
3650 Newman Road - Seven Hills	Chloromethane	Styrene
	Chromium	1,1,2,2-Tetrachloroethane
	Cobalt	Tetrachloroethylene
	1,4-Dichlorobenzene	Toluene
5325 Commerce Lane - Theodore	1,1-Dichloroethane	1,2,4-Trichlorobenzene
	1,1-Dichloroethylene	1,1,2-Trichloroethane
	Dichloromethane	Trichloroethylene
	1,2-Dichloropropane	Vinyl chloride
	Ethylbenzene	o-Xylene

Source: Mobile County Air Quality Study Raw Data Report

TABLE 5 MEASURED CONCENTRATIONS IN EXCESS OF "SAFE" HEALTH-BASED CONCENTRATIONS (+) AND BELOW "SAFE" HEALTH-BASED CONCENTRATIONS (-)					
Chemical	Jefferson County Sites	Madison County Site	Mobile County Sites	Montgomery County Site	Russell County Site
Acetaldehyde	+	Not Measured	+	Not Measured	Not Measured
Acrolein	+	Not Measured	Not Measured	Not Measured	Not Measured
Arsenic	+	+	+	+	+
Benzene	+	Not Measured	+	Not Measured	Not Measured
1,3-Butadiene	+	Not Measured	+	Not Measured	Not Measured
Cadmium	+	+	+	+	+
Carbon tetrachloride	+	Not Measured	+	Not Measured	Not Measured
Chloroform	+	Not Measured	+	Not Measured	Not Measured
Ethylene dibromide	-	Not Measured	+	Not Measured	Not Measured
Ethylene dichloride	-	Not Measured	+	Not Measured	Not Measured
Formaldehyde	+	Not Measured	+	Not Measured	Not Measured
Hexachlorobutadiene	+	Not Measured	Not Measured	Not Measured	Not Measured
Manganese	+	-	-	-	-
Naphthalene	+	Not Measured	+	Not Measured	Not Measured
1,1,2,2-Tetrachloroethane	-	Not Measured	+	Not Measured	Not Measured

A Reference Concentration (RfC) is an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime.

An Inhalation Unit Risk is the upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1 µg/m³ in air. Dividing the desired cancer risk level (*e.g.*, 1×10⁻⁶) by the Inhalation Unit Risk for a particular chemical yields an Inhalation Risk Concentration (µg/m³) for the specified cancer risk level. For example, the Inhalation Risk Concentration for Naphthalene at a cancer risk level of 1×10⁻⁶ is calculated as follows:

$$\frac{0.000001}{0.000034 / (\mu\text{g} / \text{m}^3)} = 0.029 \mu\text{g} / \text{m}^3 = 0.000029 \text{ mg} / \text{m}^3$$

Toxic air pollutants are classified in the U.S. Environmental Protection Agency’s Integrated Risk Information System (IRIS) as either carcinogen (“C”) or non-carcinogen (“N”) (*i.e.*, systemic toxicant), or both. Where both classifications are identified in IRIS, the classification associated with the lower “maximum safe chronic exposure” value was applied.

Values for “Percent Exceedance” were derived using the following formula:

$$\% \text{ Exceedance} = \frac{(MM - MSCE) \times 100}{MSCE}$$

where:

MM = Mean Measurement

MSCE = Maximum Safe Chronic Exposure

These values represent the percentage by

which the mean measurement exceeds the maximum safe chronic exposure.

Bar charts were produced in Microsoft Excel. The y-axes of the bar charts are logarithmic because the toxic chemicals have widely varying “maximum safe chronic exposure” concentrations and widely varying ambient concentrations. To make comparisons of the amount by which measured concentrations of chemicals exceed “maximum safe chronic exposure” concentrations, it may be easier to review the “percent exceedance” column in the data table below each bar chart.

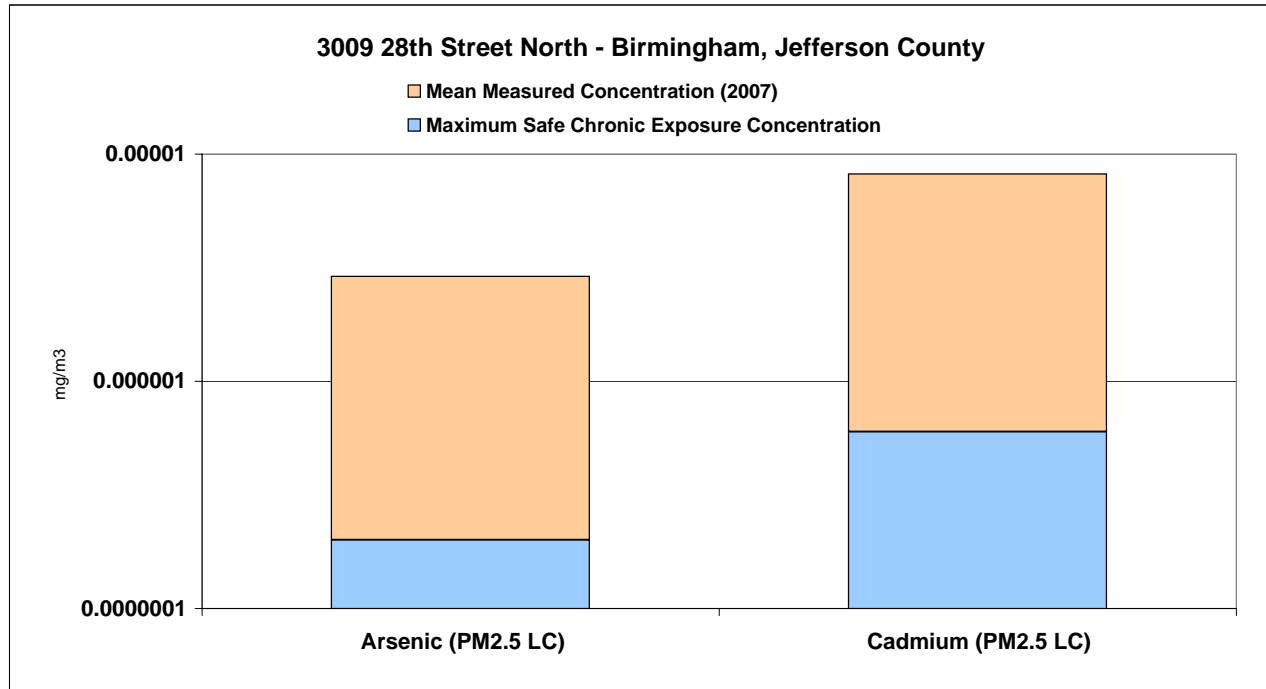
Site Data

Monitoring data from the five sites identified in Table 2 - *State-wide Site Data (2007)* - are shown in Figures 1 through 5.

Monitoring data from the four sites identified in Table 3 - *Jefferson County Health Department Study Site Data (2006)* - are shown in Figures 6 through 9.

Monitoring data from the five sites identified in Table 4 - *Mobile County Air Quality Study Site Data (2002-2003)* - are shown in Figures 10 through 14.

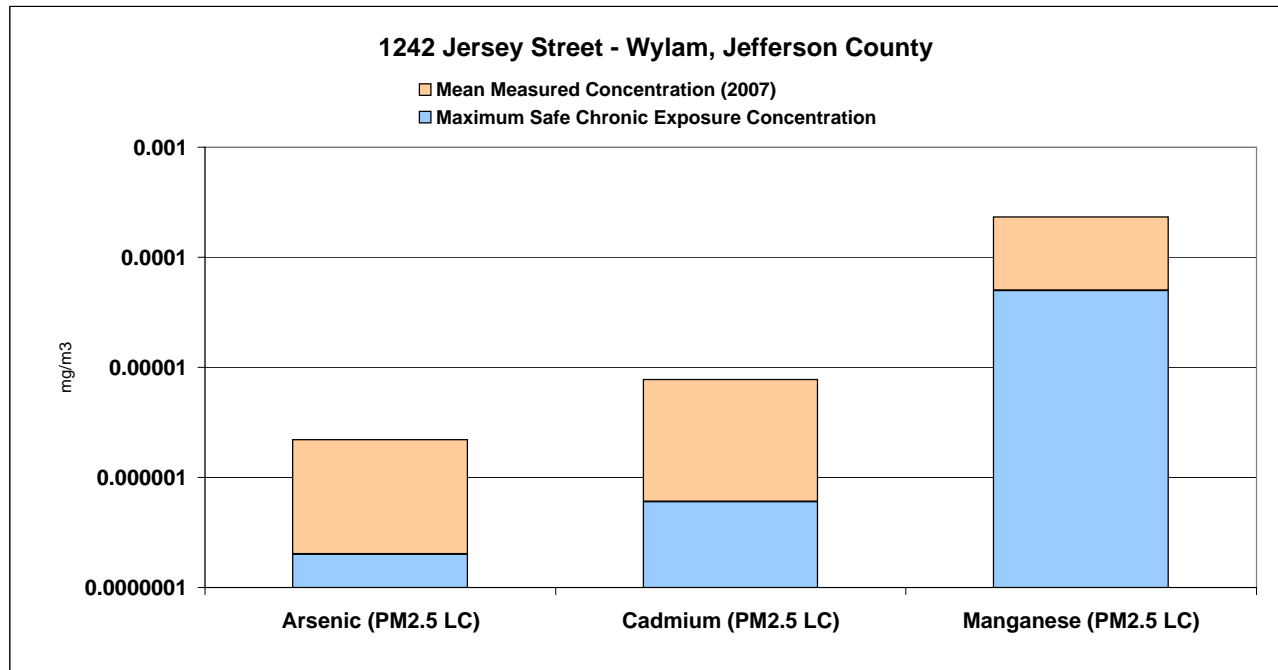
FIGURE 1



Toxic Pollutant	Type	Max Safe Chronic Exposure Conc. (mg/m3)	Mean Measured Conc. (mg/m3) (2007)	Percent Exceedance
Arsenic (PM2.5 LC)	C	0.0000002	0.0000029	1350%
Cadmium (PM2.5 LC)	C	0.0000006	0.0000082	1267%



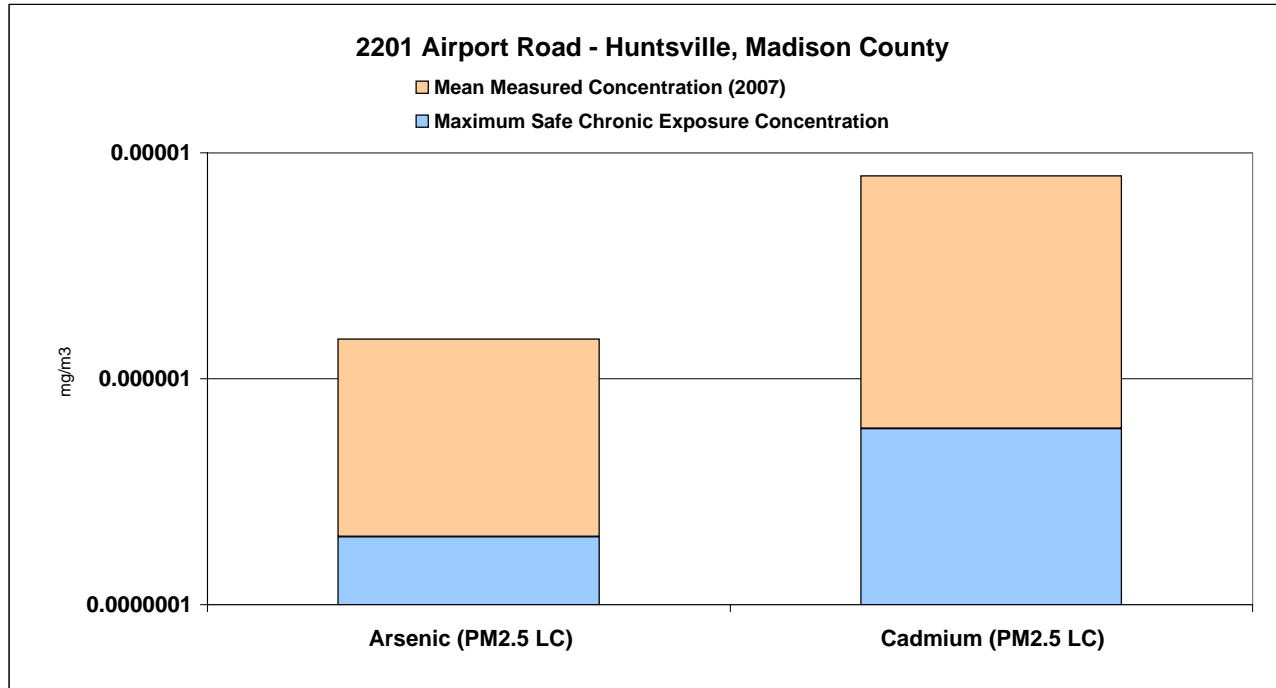
FIGURE 2



Toxic Pollutant	Type	Max Safe Chronic Exposure Conc. (mg/m ³)	Mean Measured Conc. (mg/m ³) (2007)	Percent Exceedance
Arsenic (PM2.5 LC)	C	0.0000002	0.0000022	1000%
Cadmium (PM2.5 LC)	C	0.0000006	0.0000078	1200%
Manganese (PM2.5 LC)	N	0.00005	0.0002327	365%



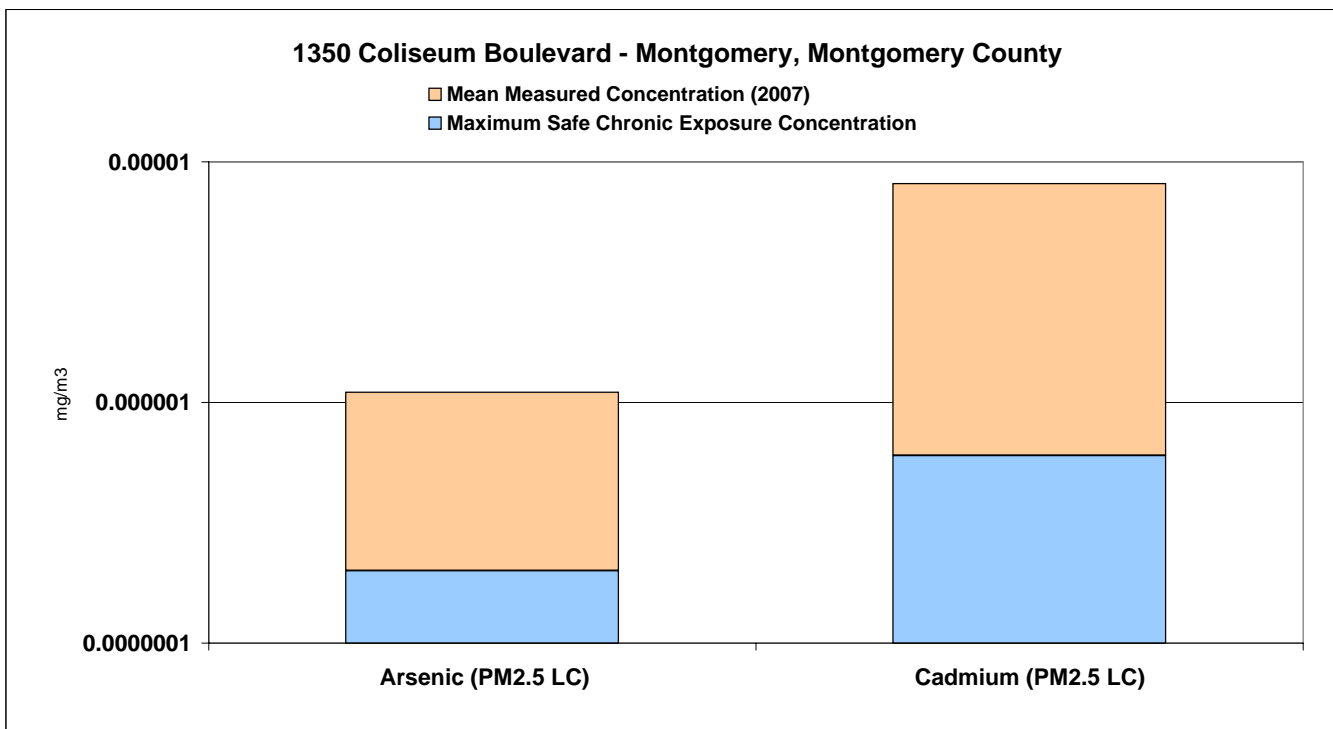
FIGURE 3



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Measured Conc. (mg/m ³) (2007)	Percent Exceedance
Arsenic (PM _{2.5} LC)	C	0.0000002	0.0000015	650%
Cadmium (PM _{2.5} LC)	C	0.0000006	0.0000079	1217%



FIGURE 4



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Measured Conc. (mg/m ³) (2007)	Percent Exceedance
Arsenic (PM _{2.5} LC)	C	0.0000002	0.0000011	450%
Cadmium (PM _{2.5} LC)	C	0.0000006	0.0000081	1250%

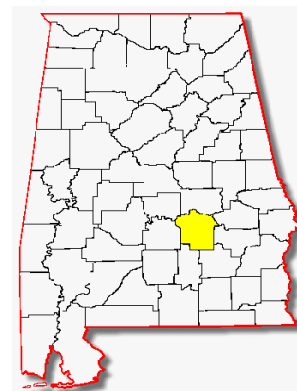
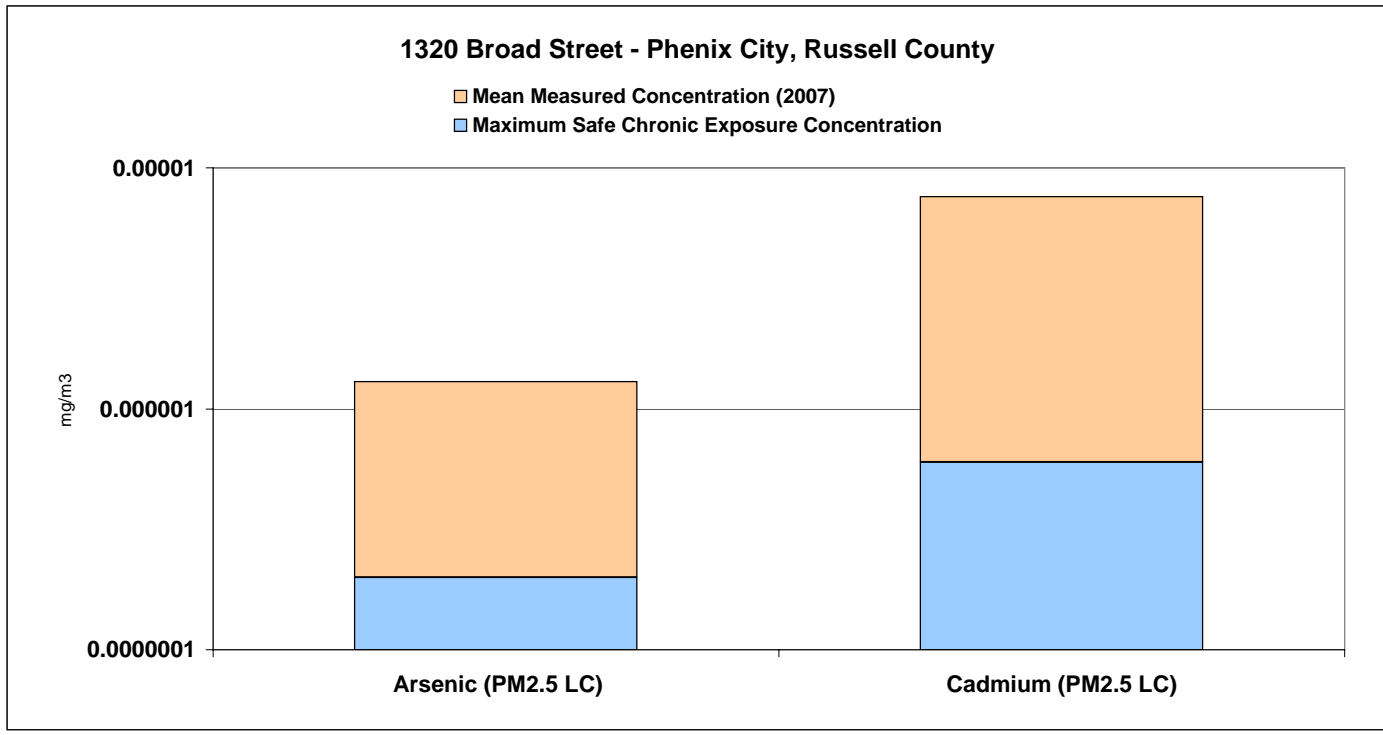


FIGURE 5



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Measured Conc. (mg/m ³) (2007)	Percent Exceedance
Arsenic (PM _{2.5} LC)	C	0.0000002	0.0000013	550%
Cadmium (PM _{2.5} LC)	C	0.0000006	0.0000076	1167%

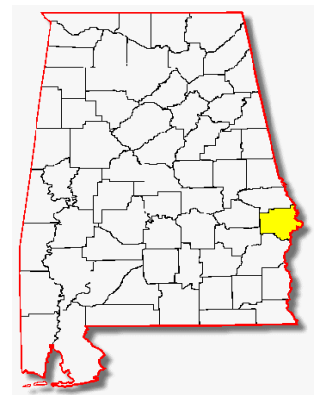
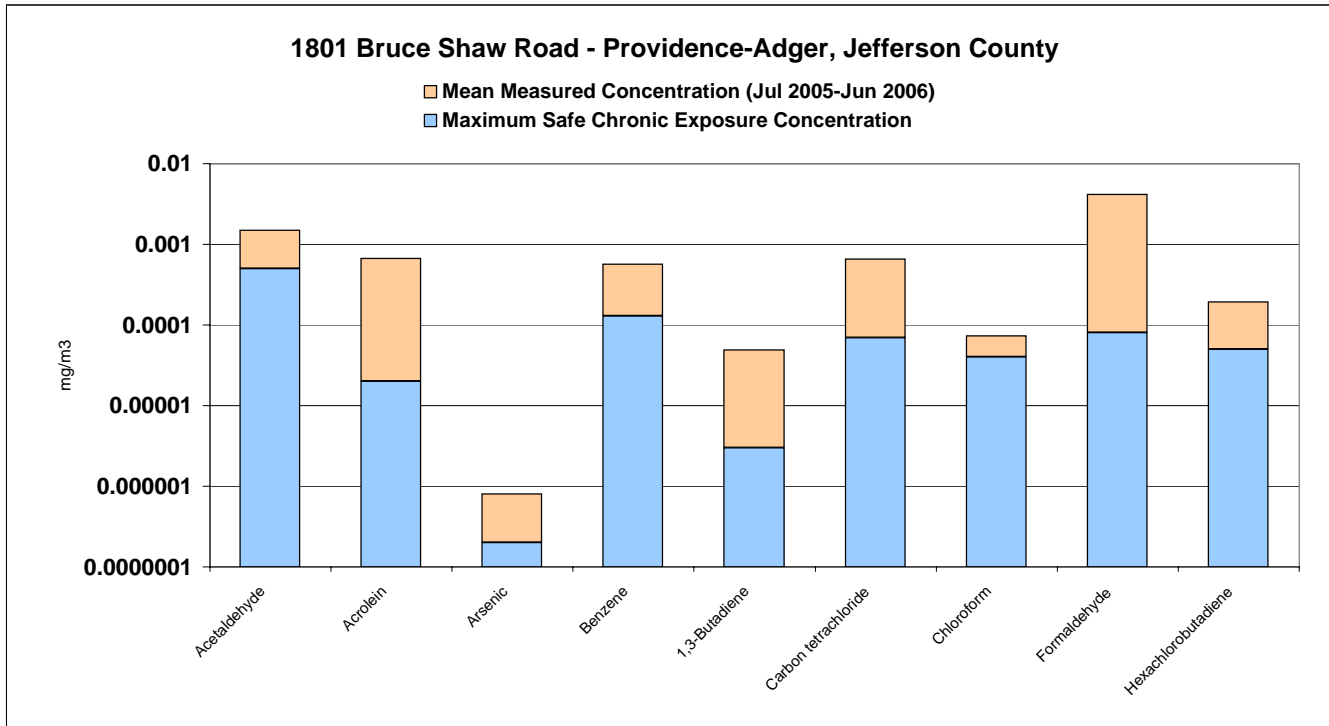


FIGURE 6



Toxic Pollutant	Type	Max Safe Chronic Exposure Conc. (mg/m ³)	Mean Measured Conc. (mg/m ³) (2005-2006)	Percent Exceedance
Acetaldehyde	C	0.0005	0.00148935	198%
Acrolein	N	0.00002	0.00067372	3269%
Arsenic	C	0.0000002	0.00000080	302%
Benzene	C	0.00013	0.00056853	337%
1,3-Butadiene	C	0.000003	0.00004913	1538%
Carbon tetrachloride	C	0.00007	0.00065105	830%
Chloroform	C	0.00004	0.00007319	83%
Formaldehyde	C	0.00008	0.00414046	5076%
Hexachlorobutadiene	C	0.00005	0.00019185	284%

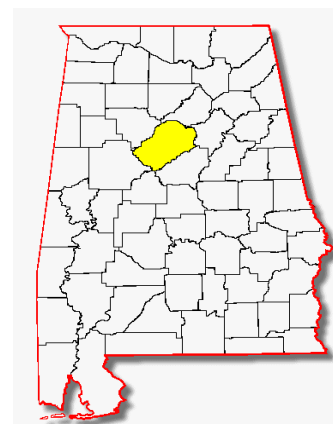
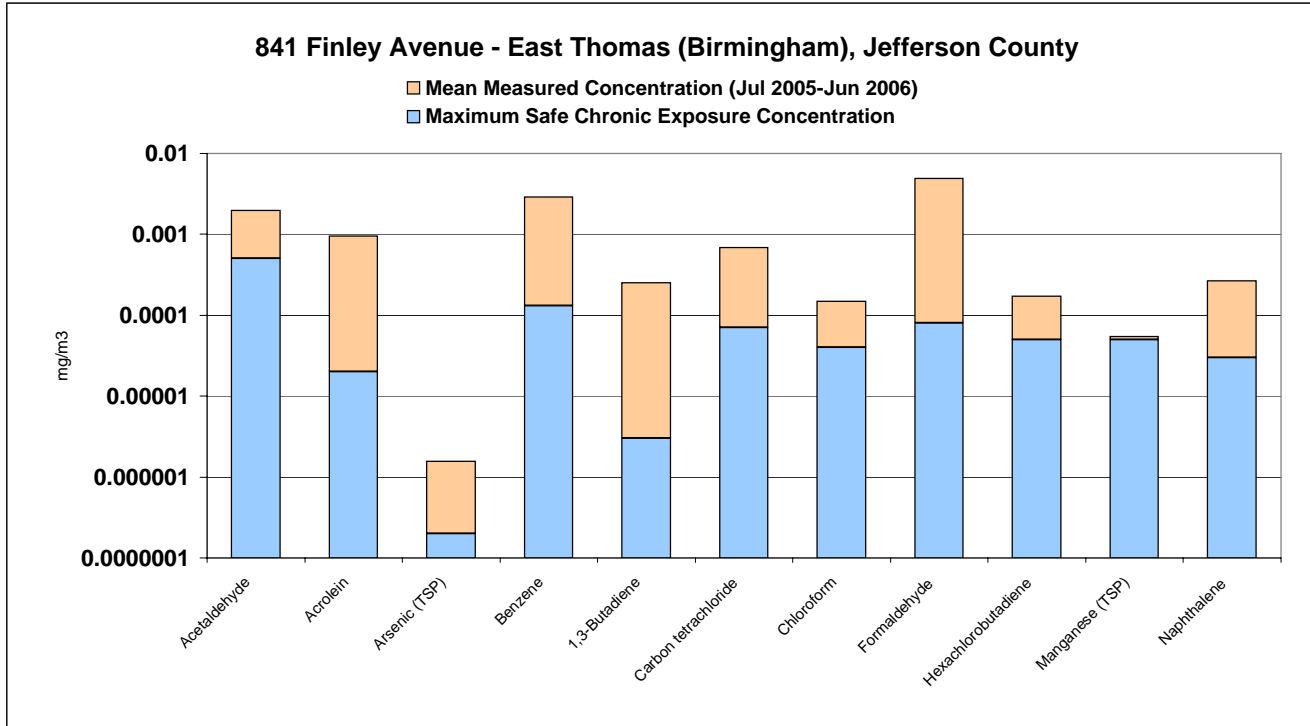


FIGURE 7



Toxic Pollutant	Type	Max Safe Chronic Exposure Conc. (mg/m ³)	Mean Measured Conc. (mg/m ³) (2005-2006)	Percent Exceedance
Acetaldehyde	C	0.0005	0.00198661	297%
Acrolein	N	0.00002	0.00095032	4652%
Arsenic (TSP)	C	0.0000002	0.00000155	677%
Benzene	C	0.00013	0.00289827	2129%
1,3-Butadiene	C	0.000003	0.00025352	8351%
Carbon tetrachloride	C	0.00007	0.00068350	876%
Chloroform	C	0.00004	0.00014910	273%
Formaldehyde	C	0.00008	0.00489885	6024%
Hexachlorobutadiene	C	0.00005	0.00017054	241%
Manganese (TSP)	N	0.00005	0.00005462	9%
Naphthalene	C	0.00003	0.00026553	785%

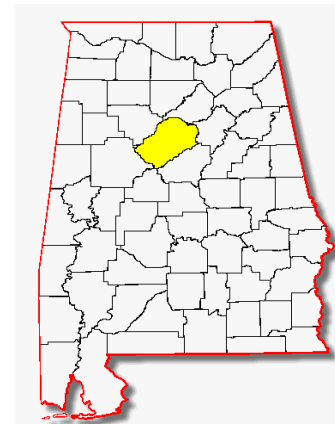
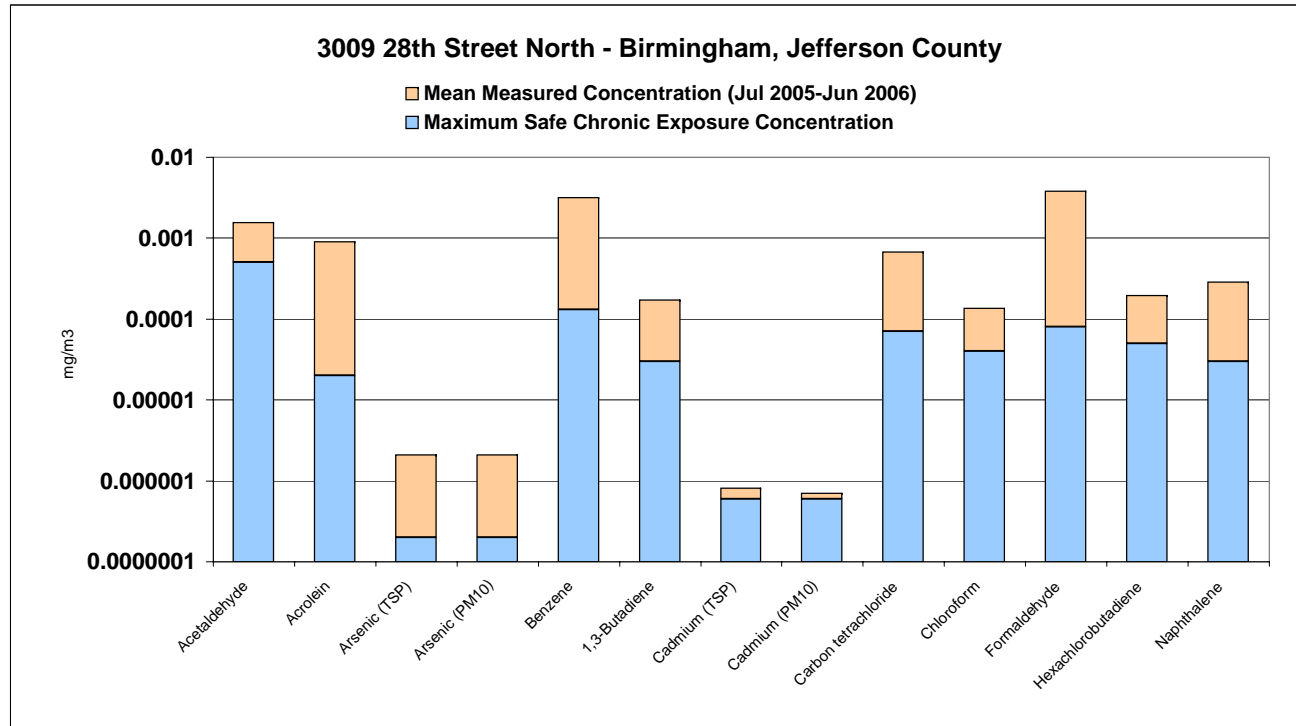


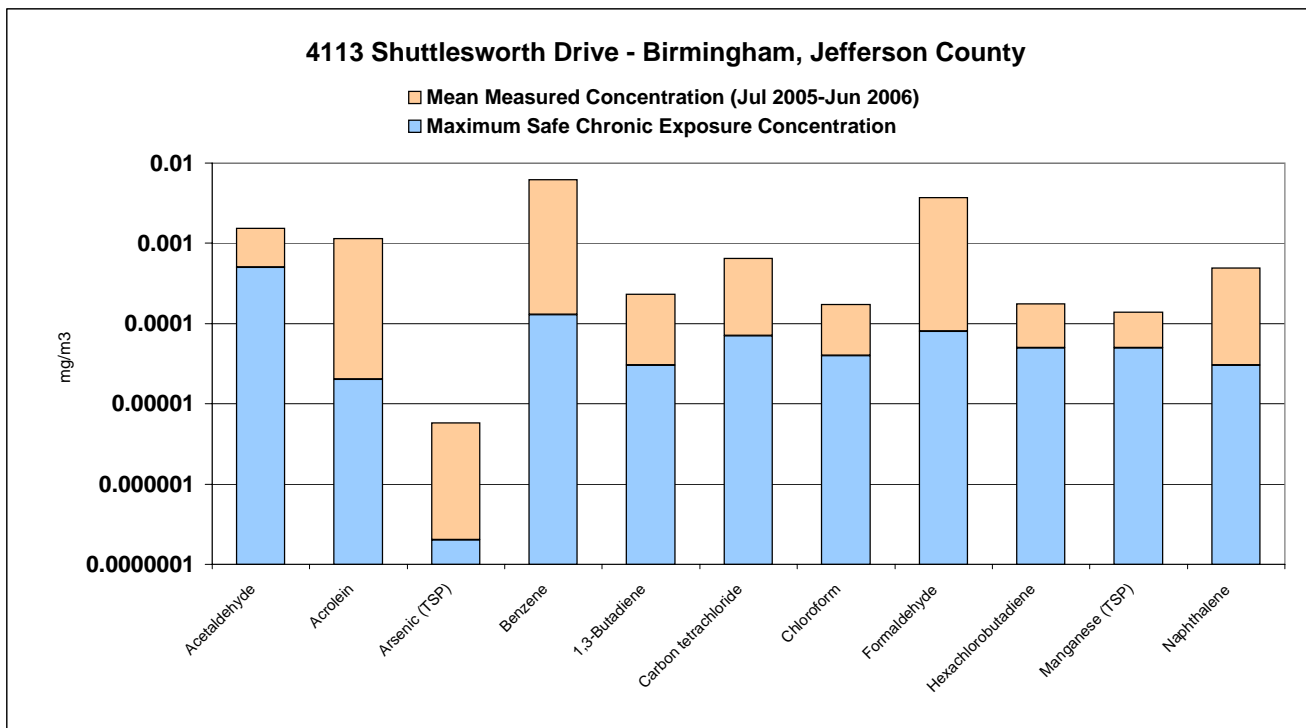
FIGURE 8 (Revised)



Toxic Pollutant	Type	Max Safe Chronic Exposure Conc. (mg/m ³)	Mean Measured Conc. (mg/m ³) (2005-2006)	Percent Exceedance
Acetaldehyde	C	0.0005	0.00157213	214%
Acrolein	N	0.00002	0.00089996	4400%
Arsenic (TSP)	C	0.000002	0.0000208	940%
Arsenic (PM10)	C	0.0000002	0.00000210	950%
Benzene	C	0.00013	0.00316915	2338%
1,3-Butadiene	C	0.00003	0.00017334	478%
Cadmium (TSP)	C	0.0000006	0.00000082	37%
Cadmium (PM10)	C	0.0000006	0.00000071	18%
Carbon tetrachloride	C	0.00007	0.00066931	856%
Chloroform	C	0.00004	0.00013663	242%
Formaldehyde	C	0.00008	0.00382375	4680%
Hexachlorobutadiene	C	0.00005	0.00019541	291%
Naphthalene	C	0.00003	0.00028640	855%



FIGURE 9



Toxic Pollutant	Type	Max Safe Chronic Exposure Conc. (mg/m3)	Mean Measured Conc. (mg/m3) (2005-2006)	Percent Exceedance
Acetaldehyde	C	0.0005	0.00154284	209%
Acrolein	N	0.00002	0.00114819	5641%
Arsenic (TSP)	C	0.0000002	0.00000576	2782%
Benzene	C	0.00013	0.00618277	4656%
1,3-Butadiene	C	0.00003	0.00023136	671%
Carbon tetrachloride	C	0.00007	0.00064700	824%
Chloroform	C	0.00004	0.00017241	331%
Formaldehyde	C	0.00008	0.00368304	4504%
Hexachlorobutadiene	C	0.00005	0.00017764	255%
Manganese (TSP)	N	0.00005	0.00013929	179%
Naphthalene	C	0.00003	0.00048997	1533%

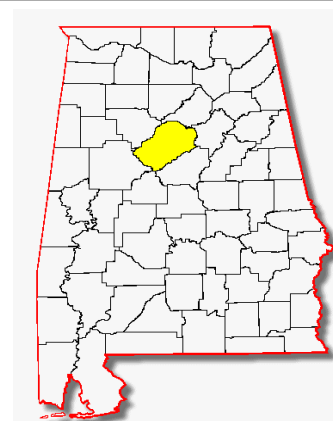
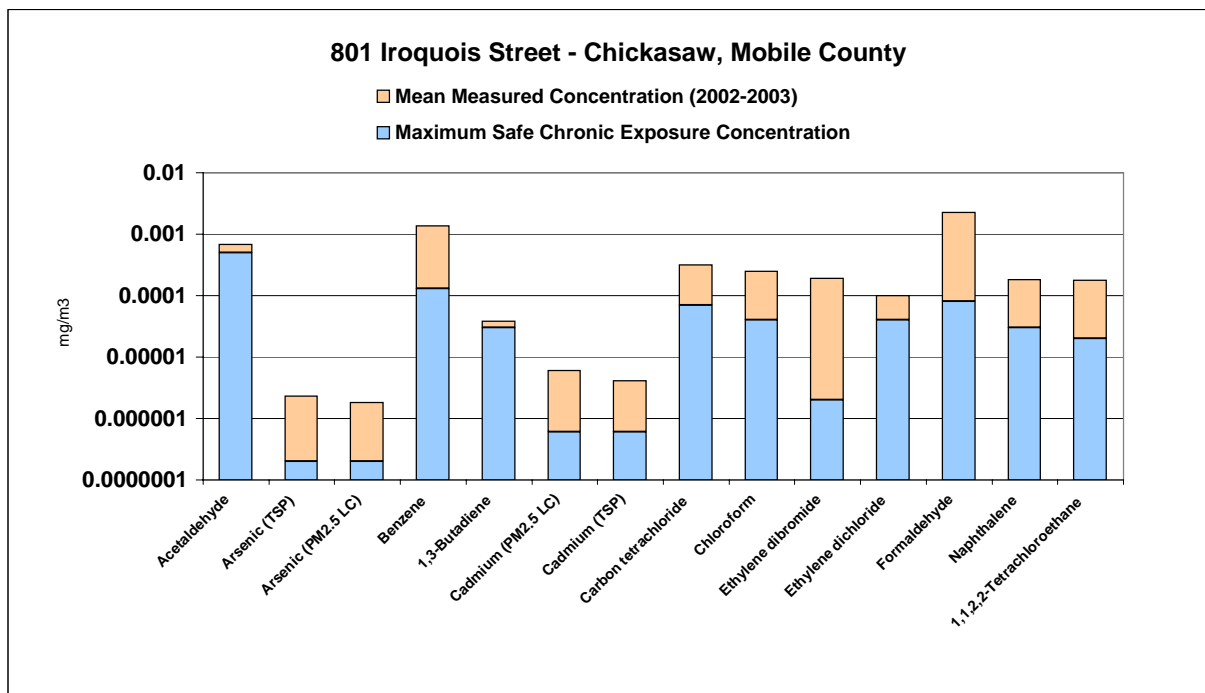


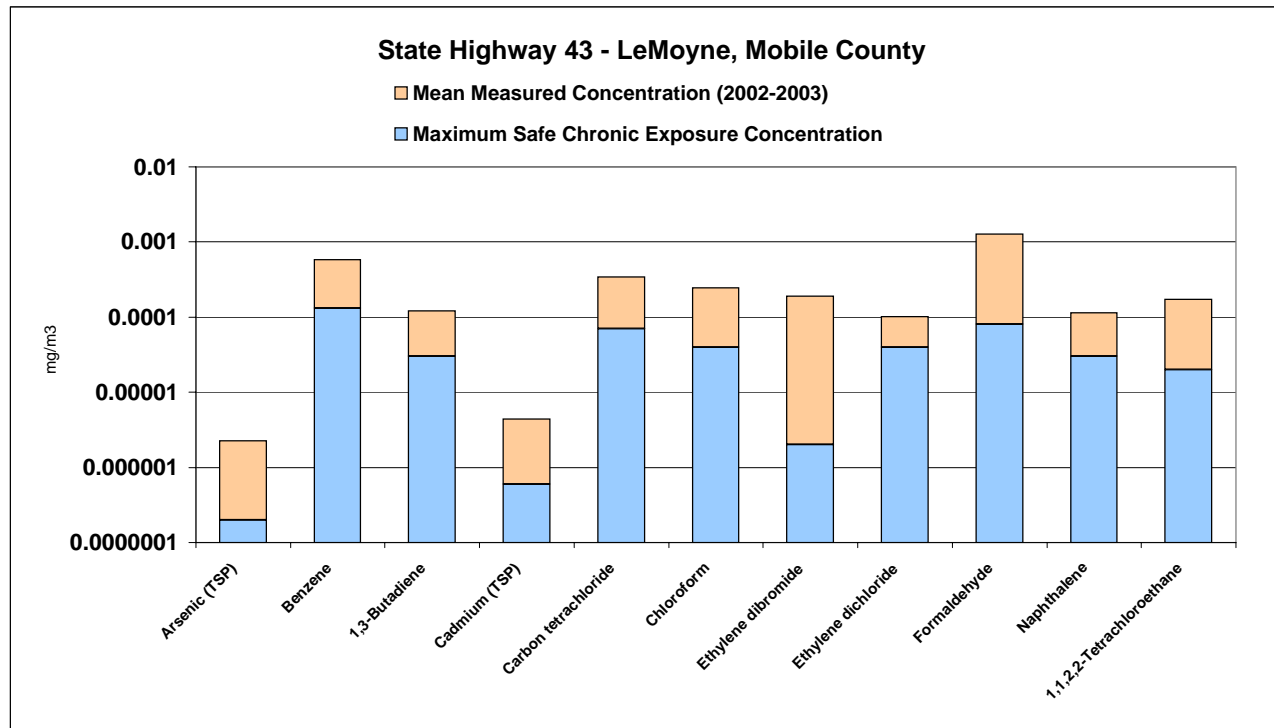
FIGURE 10



Toxic Pollutant	Type	Max Safe Chronic Exposure Conc. (mg/m3)	Mean Measured Conc. (mg/m3) (2002-2003)	Percent Exceedance
Acetaldehyde	C	0.0005	0.00068186	36%
Arsenic (TSP)	C	0.0000002	0.00000230	1050%
Arsenic (PM2.5 LC)	C	0.0000002	0.00000180	800%
Benzene	C	0.00013	0.00137352	957%
1,3-Butadiene	C	0.00003	0.00003796	27%
Cadmium (PM2.5 LC)	C	0.0000006	0.00000605	908%
Cadmium (TSP)	C	0.0000006	0.00000410	583%
Carbon tetrachloride	C	0.00007	0.00031456	349%
Chloroform	C	0.00004	0.00024901	523%
Ethylene dibromide	C	0.000002	0.00019209	9504%
Ethylene dichloride	C	0.00004	0.00010119	153%
Formaldehyde	C	0.00008	0.00225036	2713%
Naphthalene	C	0.00003	0.00018370	512%
1,1,2,2-Tetrachloroethane	C	0.00002	0.00017880	794%



FIGURE 11



Toxic Pollutant	Type	Max Safe Chronic Exposure Conc. (mg/m ³)	Mean Measured Conc. (mg/m ³) (2002-2003)	Percent Exceedance
Arsenic (TSP)	C	0.0000002	0.00000228	1039%
Benzene	C	0.00013	0.00058006	346%
1,3-Butadiene	C	0.00003	0.00012052	302%
Cadmium (TSP)	C	0.0000006	0.00000441	634%
Carbon tetrachloride	C	0.00007	0.00033947	385%
Chloroform	C	0.00004	0.00024413	510%
Ethylene dibromide	C	0.000002	0.00019209	9504%
Ethylene dichloride	C	0.00004	0.00010119	153%
Formaldehyde	C	0.00008	0.00128309	1504%
Naphthalene	C	0.00003	0.00011324	277%
1,1,2,2-Tetrachloroethane	C	0.00002	0.00017162	758%

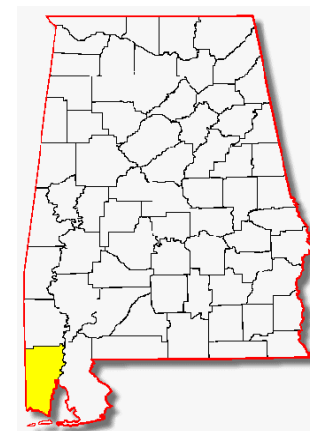
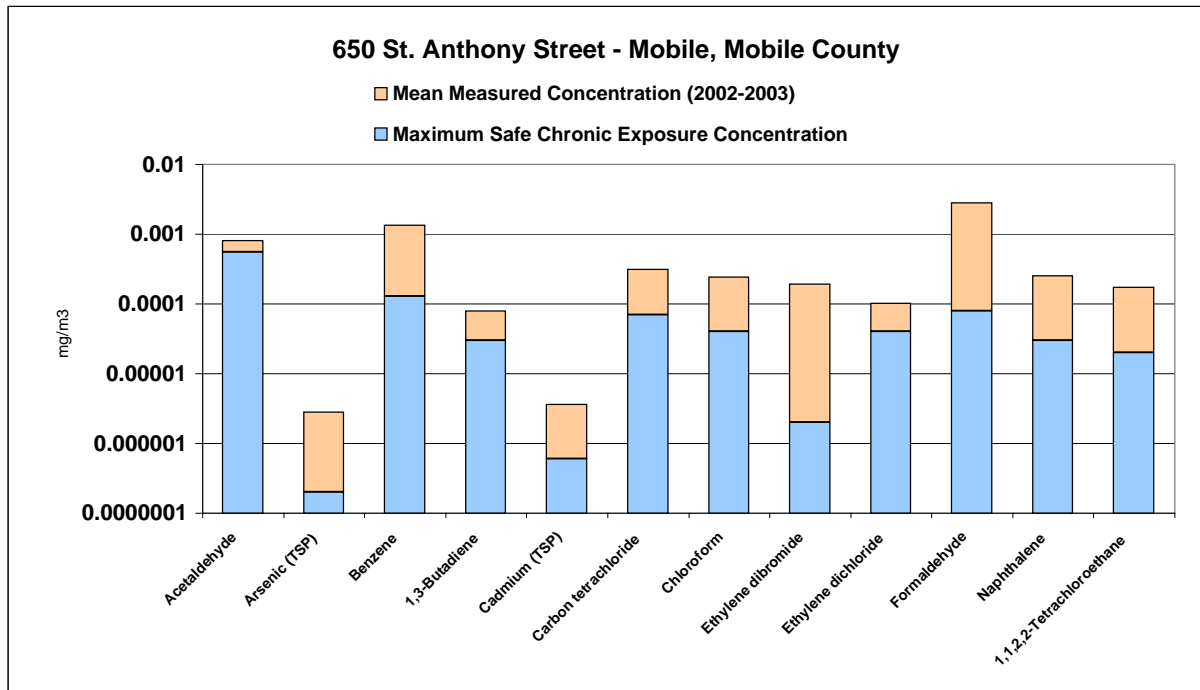


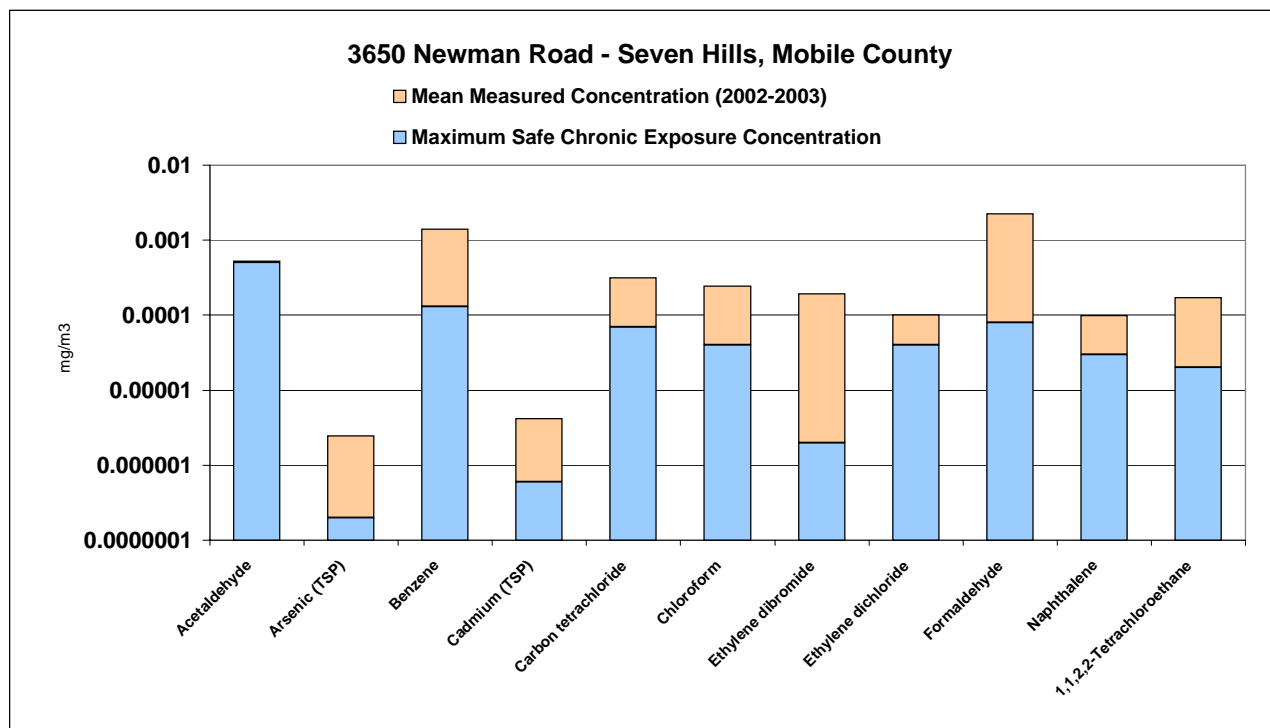
FIGURE 12



Toxic Pollutant	Type	Max Safe Chronic Exposure Conc. (mg/m3)	Mean Measured Conc. (mg/m3) (2002-2003)	Percent Exceedance
Acetaldehyde	C	0.00055	0.00081042	47%
Arsenic (TSP)	C	0.0000002	0.00000280	1300%
Benzene	C	0.00013	0.00135832	945%
1,3-Butadiene	C	0.00003	0.00007854	162%
Cadmium (TSP)	C	0.0000006	0.00000360	500%
Carbon tetrachloride	C	0.00007	0.00031456	349%
Chloroform	C	0.00004	0.00024413	510%
Ethylene dibromide	C	0.000002	0.00019209	9504%
Ethylene dichloride	C	0.00004	0.00010119	153%
Formaldehyde	C	0.00008	0.00282788	3435%
Naphthalene	C	0.00003	0.00025186	740%
1,1,2,2-Tetrachloroethane	C	0.00002	0.00017162	758%



FIGURE 13



Toxic Pollutant	Type	Max Safe Chronic Exposure Conc. (mg/m3)	Mean Measured Conc. (mg/m3) (2002-2003)	Percent Exceedance
Acetaldehyde	C	0.0005	0.00052342	5%
Arsenic (TSP)	C	0.0000002	0.00000246	1132%
Benzene	C	0.00013	0.00139684	974%
Cadmium (TSP)	C	0.0000006	0.00000416	593%
Carbon tetrachloride	C	0.00007	0.00031456	349%
Chloroform	C	0.00004	0.00024413	510%
Ethylene dibromide	C	0.000002	0.00019209	9504%
Ethylene dichloride	C	0.00004	0.00010119	153%
Formaldehyde	C	0.00008	0.00224473	2706%
Naphthalene	C	0.00003	0.00009846	228%
1,1,2,2-Tetrachloroethane	C	0.00002	0.00017162	758%

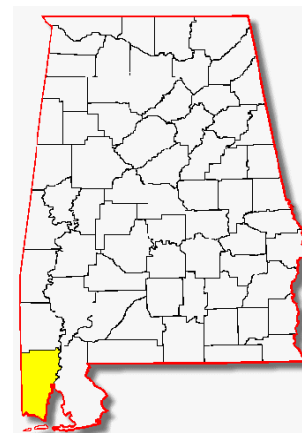
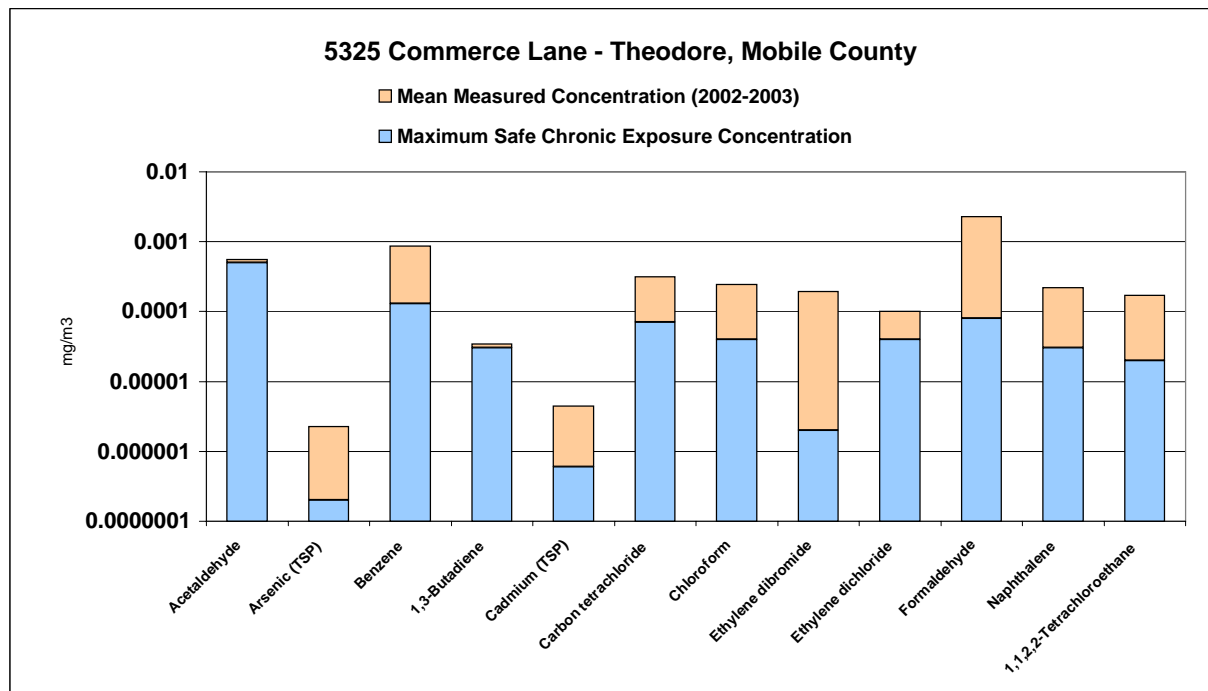


FIGURE 14



Toxic Pollutant	Type	Max Safe Chronic Exposure Conc. (mg/m3)	Mean Measured Conc. (mg/m3) (2002-2003)	Percent Exceedance
Acetaldehyde	C	0.0005	0.00055478	11%
Arsenic (TSP)	C	0.0000002	0.00000226	1031%
Benzene	C	0.00013	0.00086366	564%
1,3-Butadiene	C	0.00003	0.00003466	16%
Cadmium (TSP)	C	0.0000006	0.00000446	643%
Carbon tetrachloride	C	0.00007	0.00031456	349%
Chloroform	C	0.00004	0.00024413	510%
Ethylene dibromide	C	0.000002	0.00019209	9504%
Ethylene dichloride	C	0.00004	0.00010119	153%
Formaldehyde	C	0.00008	0.00227950	2749%
Naphthalene	C	0.00003	0.00022220	641%
1,1,2,2-Tetrachloroethane	C	0.00002	0.00017162	758%



IV. TOXIC POLLUTANT MODELING DATA

Summary of Data

The absence of toxic air pollutant monitoring data throughout most of the State and for most years has resulted in substantial ignorance about human exposure to toxic air pollutants. Although a poor substitute for monitoring data, modeling data can provide an estimate of ambient concentrations of toxic air pollutants and human exposures. Modeling data published by the U.S. Environmental Protection Agency in 2006 predict that at least thirty-three of Alabama's counties are likely to have mean toxic air pollutant concentrations in excess of maximum safe chronic exposure concentrations established for the protection of human health.

Methodology

The U.S. Environmental Protection Agency published the 1999 National-Scale Air Toxics Assessment in 2006. This assessment includes county-level estimates of average concentrations of toxics in the outdoor ambient air. These estimates were developed based on an air dispersion model (the ASPEN model) that analyzes a number of factors, including total emissions from 1999, the number of emissions sources in a particular area, weather patterns, and pollution source characteristics. EPA also included estimated background concentrations (contributions from distant or natural sources) based on existing air quality measurements. See *Frequent Questions* at <http://www.epa.gov/ttn/atw/nata1999/nata99faq.html#A4>; National-Scale Air Toxics Assessment for 1999: Estimated Emissions, Concentrations and Risk: Technical Fact Sheet at <http://www.epa.gov/ttn/atw/nata1999/>

[natafinalfact.html](http://www.epa.gov/ttn/atw/nata1999/tables.html).⁸

Twelve chemicals ("pollutants") were queried in the County-Level Ambient Concentration Summaries at <http://www.epa.gov/ttn/atw/nata1999/tables.html>. The estimated county mean ambient concentration for each of the twelve chemicals that exceeded "maximum safe chronic exposure" concentrations in thirty-three Alabama counties are reported below.

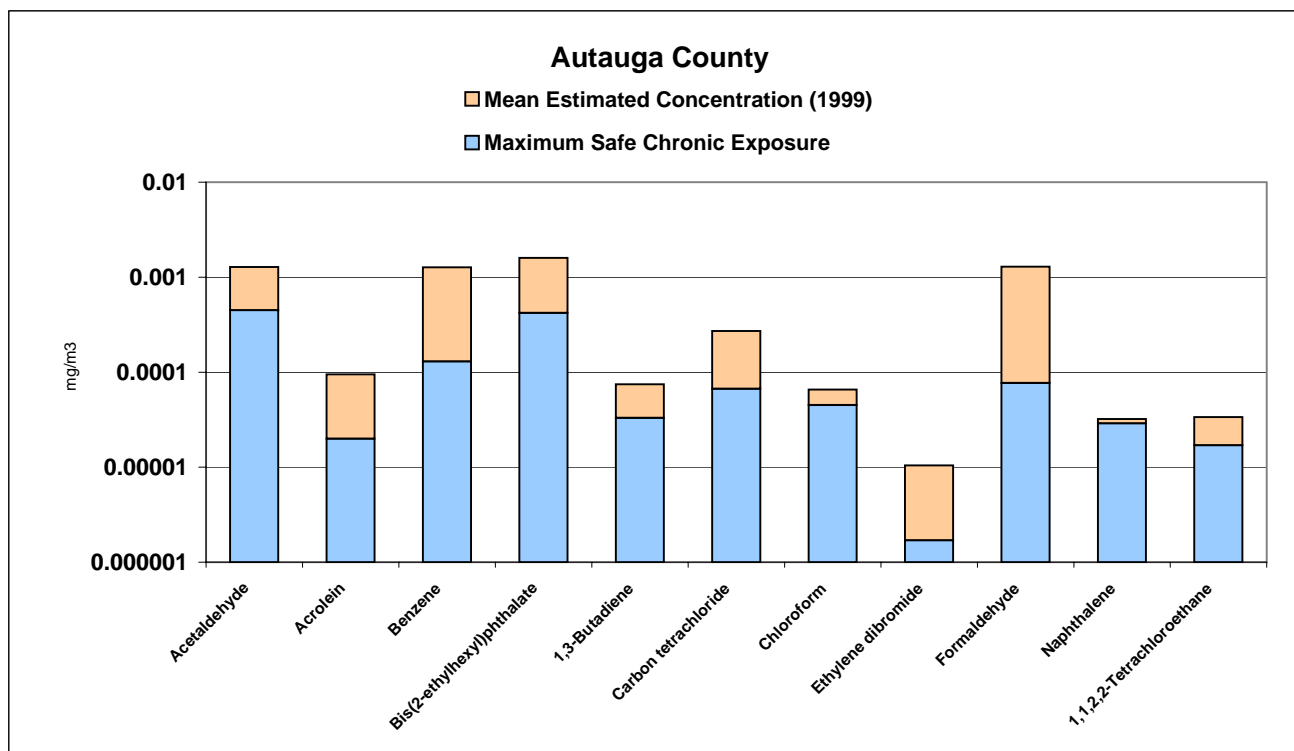
It should be noted that the county-level estimates from the 1999 National-Scale Air Toxics Assessment are not estimates of actual concentrations, but predicted concentrations based on many assumptions, some of which may not reflect reality. Actual ambient concentrations would probably vary throughout a county. Some areas within a county may have concentrations that exceed the predicted mean and exceed the "maximum safe chronic exposure" concentration by more than what is indicated below while other areas may have concentrations that do not exceed the predicted mean and do not exceed the "maximum safe chronic exposure" concentration. As stated previously, pollutant monitoring data are preferred over pollutant modeling data because the former represent measured pollutant concentrations and exposures whereas the latter represent imperfect predictions of pollutant concentrations and exposures.

Site Data

Modeling data for twelve chemicals in thirty-three Alabama counties are presented in Figures 15 through 47.

⁸ A more recent version of the National-Scale Air Toxics Assessment is expected to be published in 2009. This assessment will be based on emission estimates for 2002.

FIGURE 15



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m3)	Mean Est. Conc. (mg/m3) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0011340	152%
Acrolein	N	0.00002	0.0000670	235%
Benzene	C	0.00013	0.0008856	581%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
1,3-Butadiene	C	0.000033	0.0000394	20%
Carbon tetrachloride	C	0.000067	0.0002723	306%
Ethylene dibromide	C	0.000017	0.0000083	389%
Formaldehyde	C	0.000077	0.0009445	1127%
Naphthalene	N	0.000029	0.0000403	39%
1,1,2,2-Tetrachloroethane	C	0.000017	0.0000297	75%

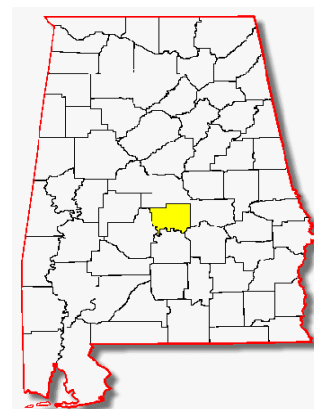
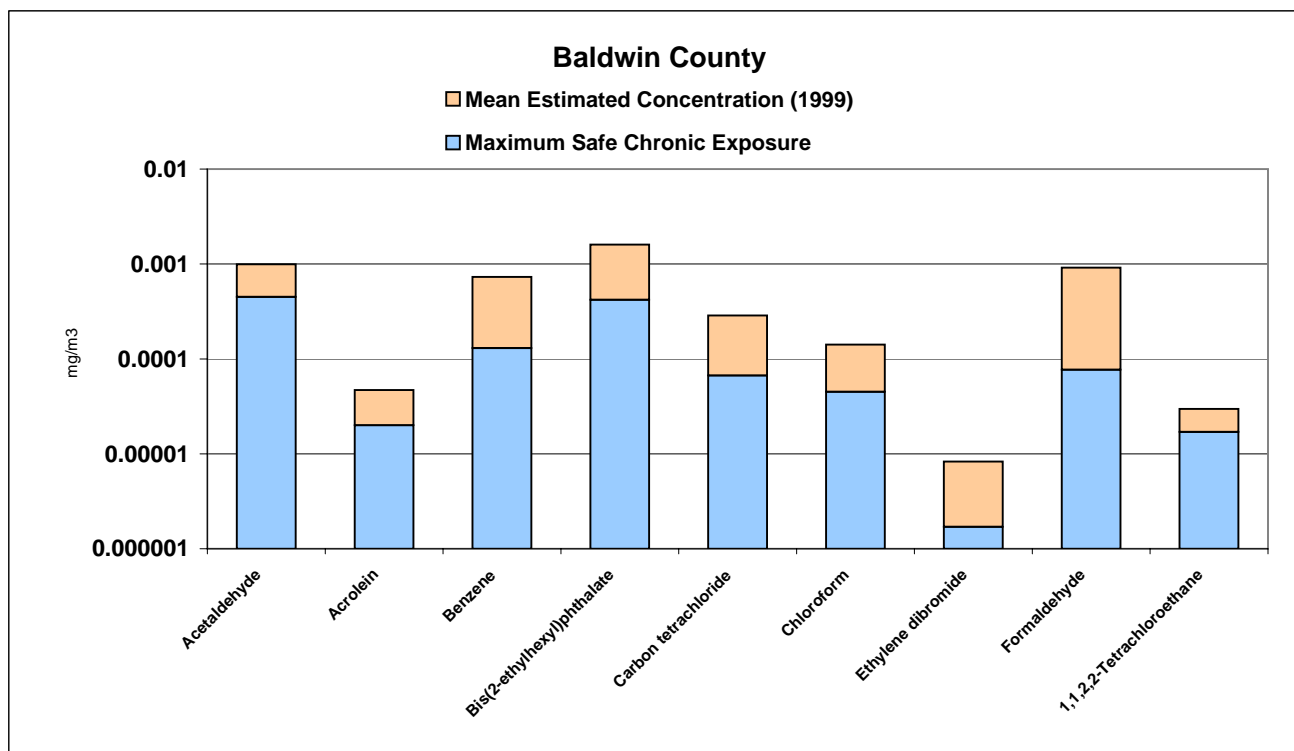


FIGURE 16



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.000930	121%
Acrolein	N	0.00002	0.000470	135%
Benzene	C	0.00013	0.0007314	463%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.00067	0.002873	329%
Chloroform	C	0.00045	0.001414	214%
Ethylene dibromide	C	0.000017	0.000083	388%
Formaldehyde	C	0.00077	0.009139	1087%
1,1,2,2-Tetrachloroethane	C	0.00017	0.000298	75%

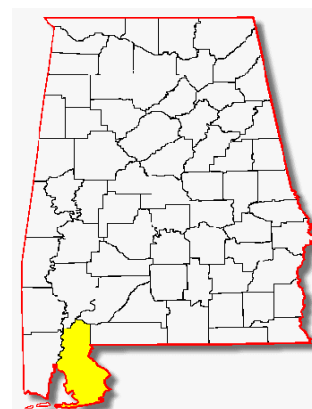
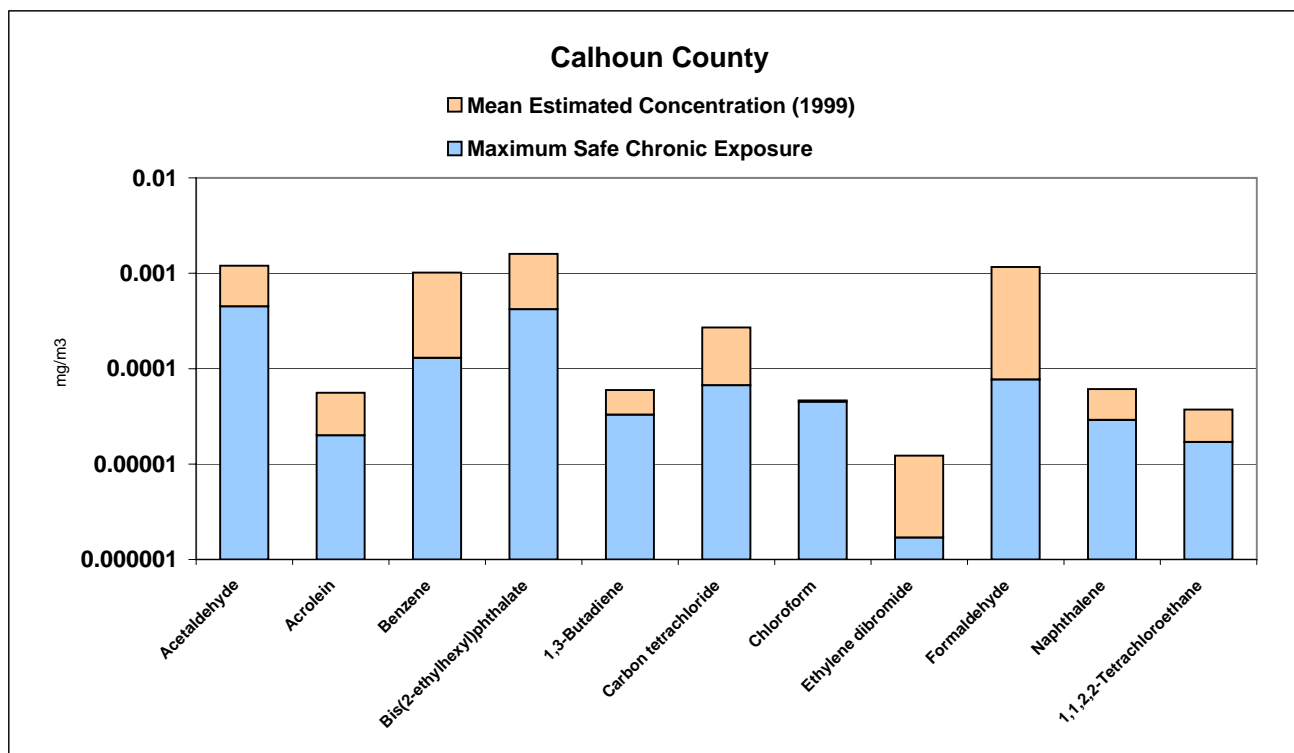


FIGURE 17



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0012010	167%
Acrolein	N	0.00002	0.0000560	180%
Benzene	C	0.00013	0.0010164	682%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
1,3-Butadiene	C	0.000033	0.0000597	81%
Carbon tetrachloride	C	0.000067	0.0002704	304%
Chloroform	C	0.000045	0.0000465	3%
Ethylene dibromide	C	0.0000017	0.0000123	621%
Formaldehyde	C	0.000077	0.0011654	1413%
Naphthalene	N	0.000029	0.0000611	111%
1,1,2,2-Tetrachloroethane	C	0.000017	0.0000373	119%

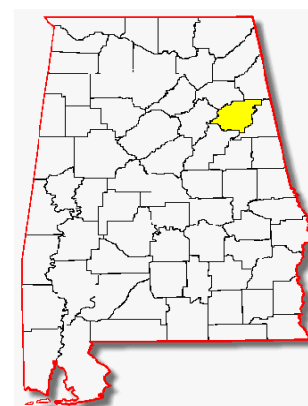
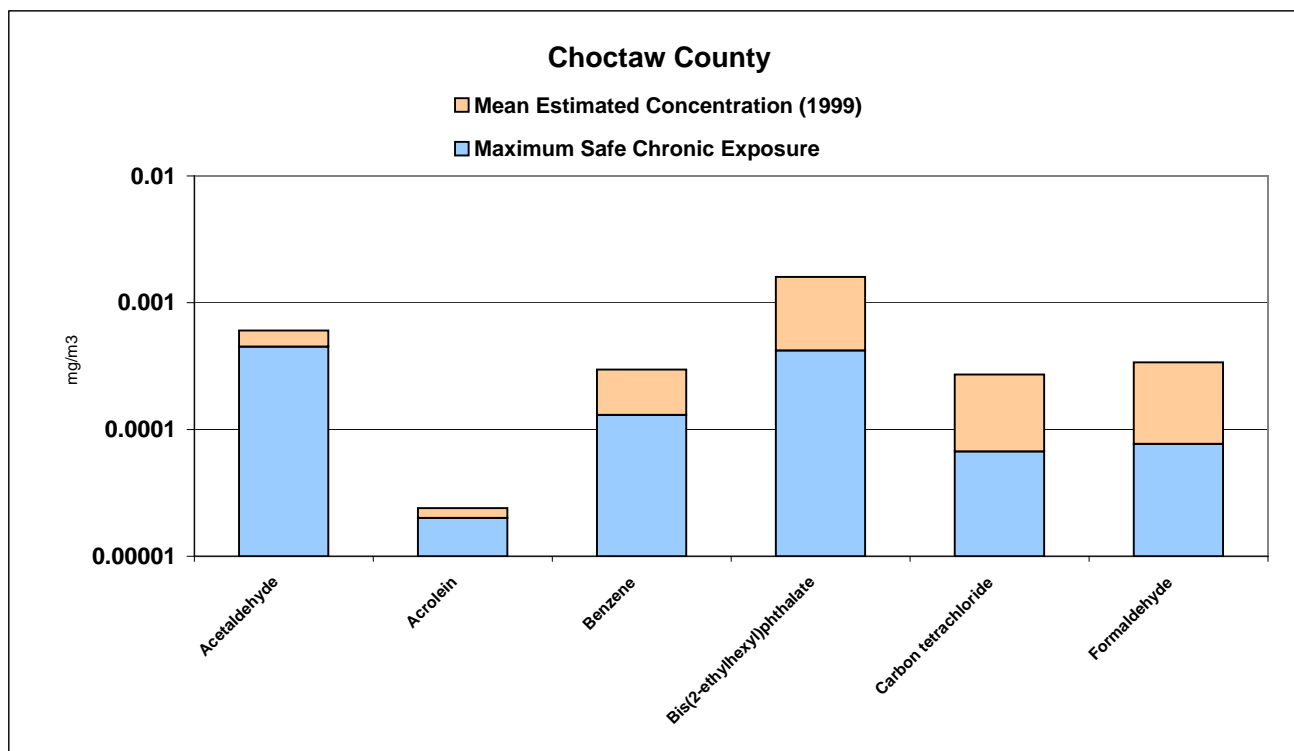


FIGURE 18



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0006040	34%
Acrolein	N	0.00002	0.0000240	20%
Benzene	C	0.00013	0.0002973	129%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.00067	0.0002715	305%
Formaldehyde	C	0.00077	0.0003382	339%

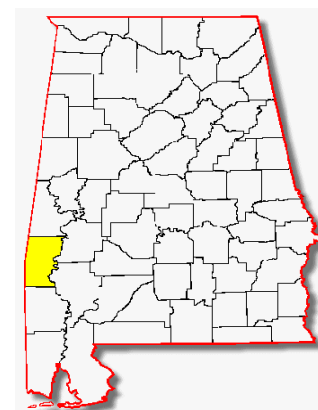
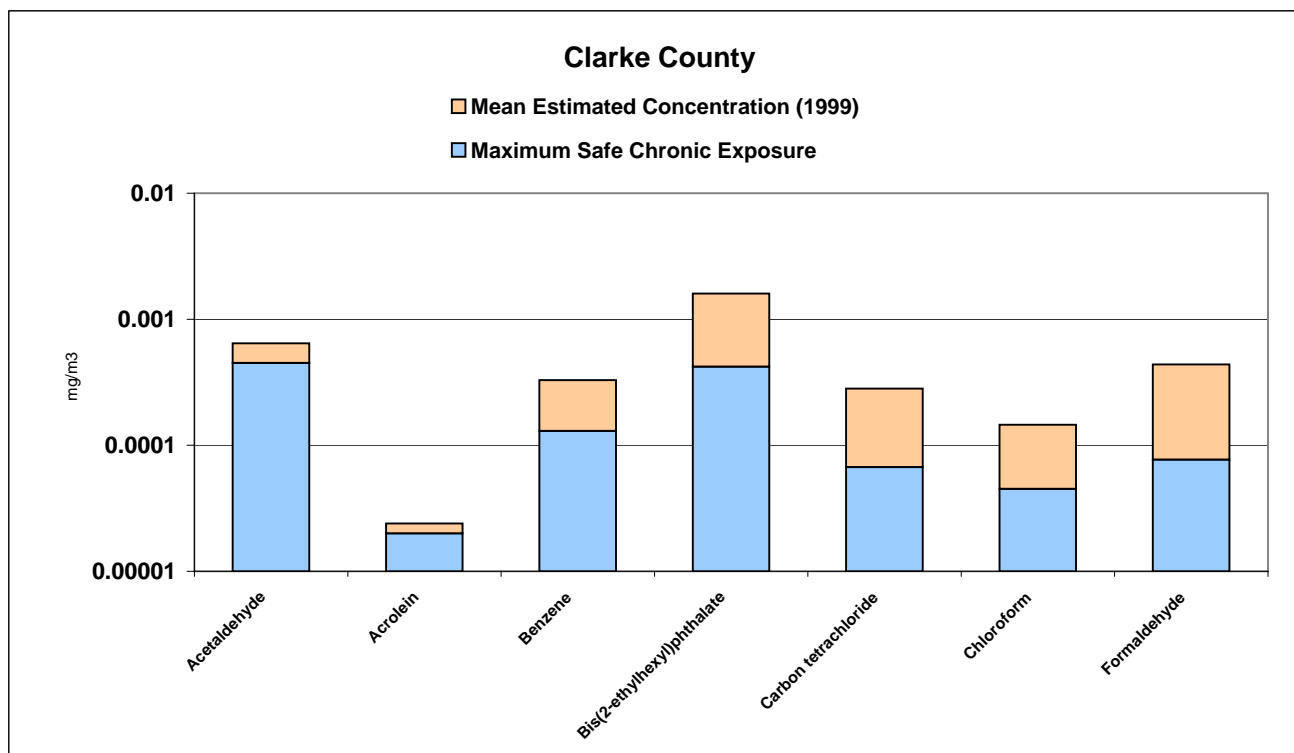


FIGURE 19



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0006450	43%
Acrolein	N	0.00002	0.0000240	20%
Benzene	C	0.00013	0.0003290	153%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.00067	0.0002821	321%
Chloroform	C	0.00045	0.0001455	223%
Formaldehyde	C	0.00077	0.0004375	468%

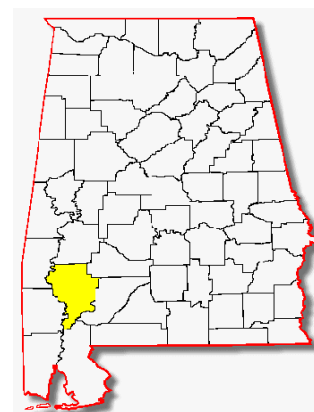
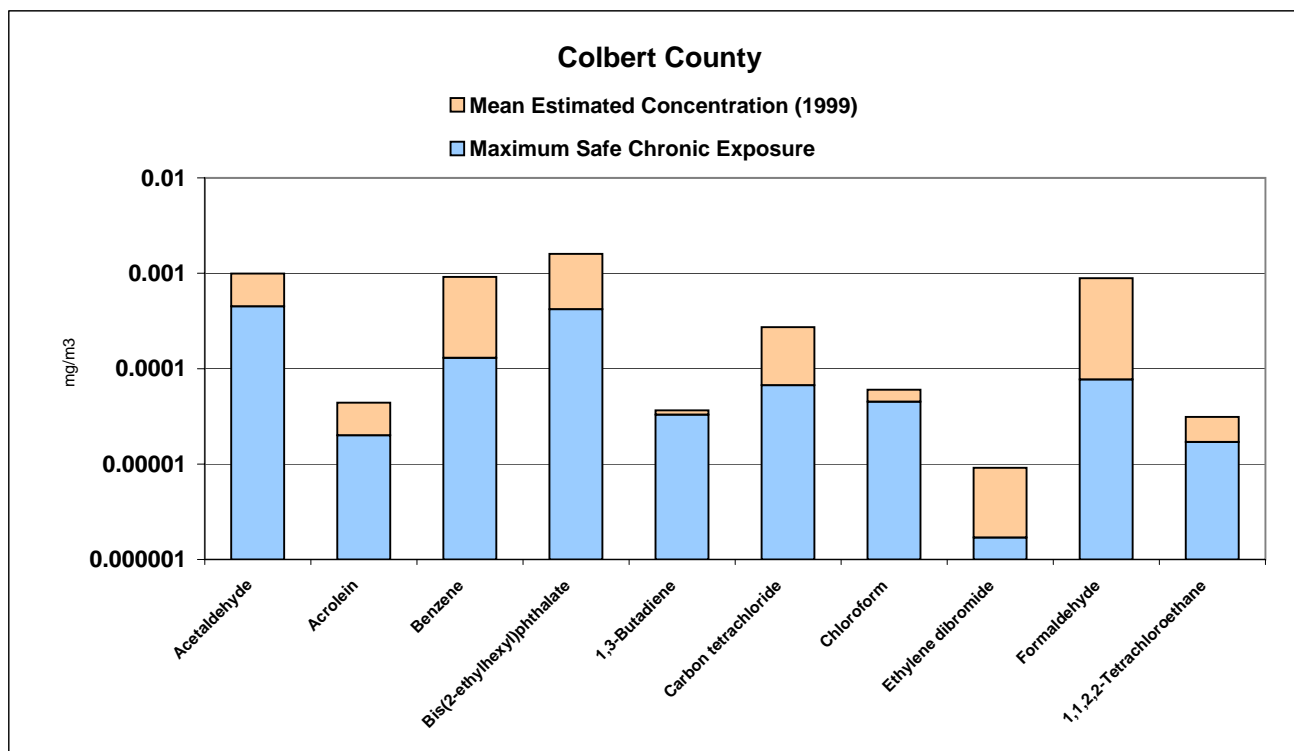


FIGURE 20



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m3)	Mean Est. Conc. (mg/m3) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0009950	121%
Acrolein	N	0.00002	0.0000440	120%
Benzene	C	0.00013	0.0009156	604%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
1,3-Butadiene	C	0.000033	0.0000365	11%
Carbon tetrachloride	C	0.00067	0.0002728	307%
Chloroform	C	0.00045	0.0000603	34%
Ethylene dibromide	C	0.000017	0.0000091	438%
Formaldehyde	C	0.00077	0.0008877	1053%
1,1,2,2-Tetrachloroethane	C	0.00017	0.0000312	84%

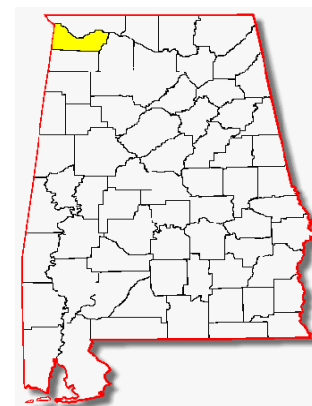
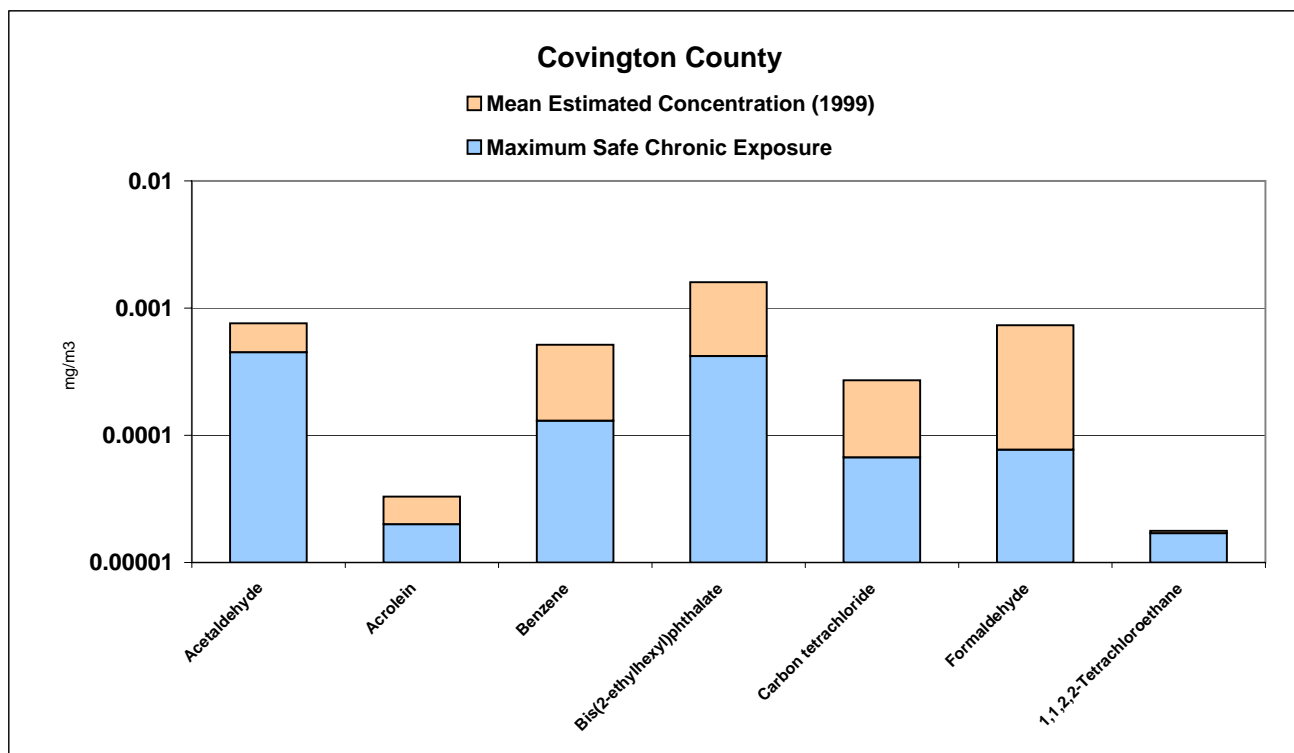


FIGURE 21



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0007590	69%
Acrolein	N	0.00002	0.0000330	65%
Benzene	C	0.00013	0.0005149	296%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.00067	0.0002708	304%
Formaldehyde	C	0.00077	0.0007339	853%
1,1,2,2-Tetrachloroethane	C	0.00017	0.0000177	4%

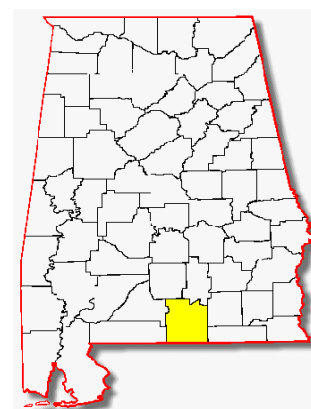
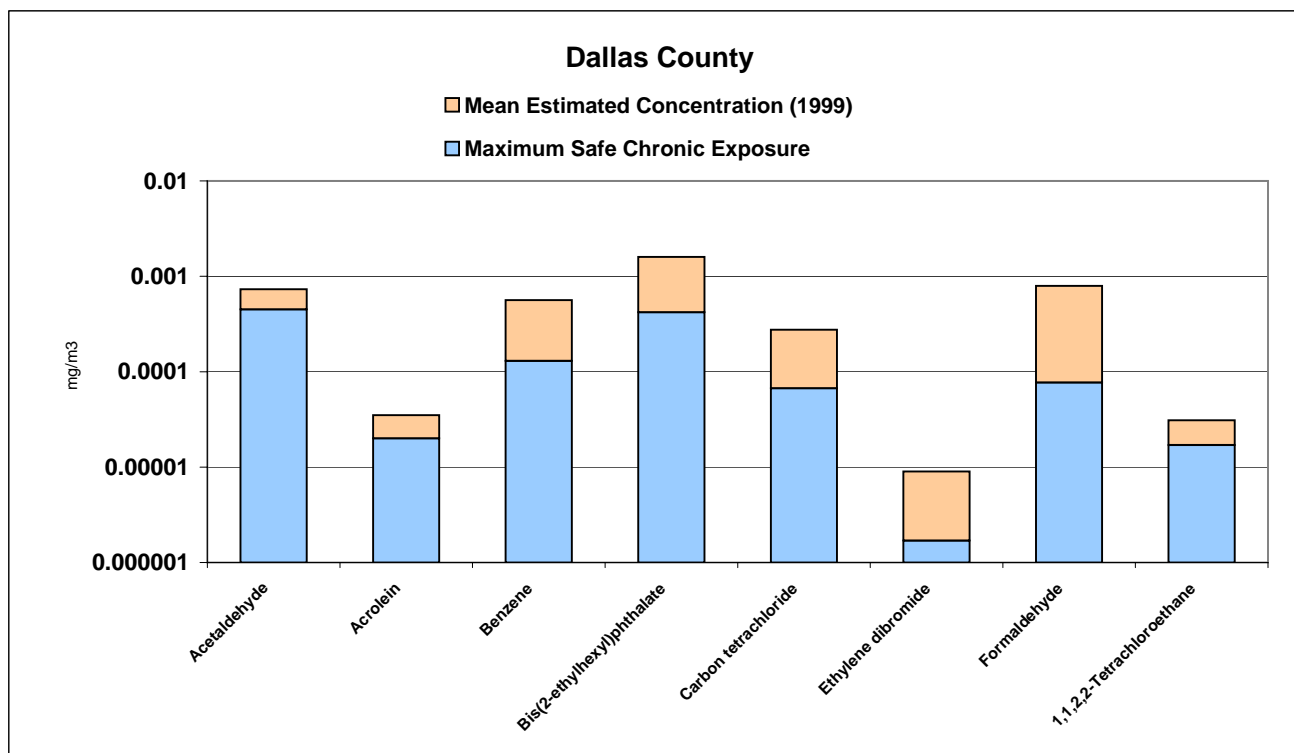


FIGURE 22



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m3)	Mean Est. Conc. (mg/m3) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0007320	63%
Acrolein	N	0.00002	0.0000350	75%
Benzene	C	0.00013	0.0005631	333%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.000067	0.0002756	311%
Ethylene dibromide	C	0.0000017	0.0000090	429%
Formaldehyde	C	0.000077	0.0007951	933%
1,1,2,2-Tetrachloroethane	C	0.000017	0.0000310	82%

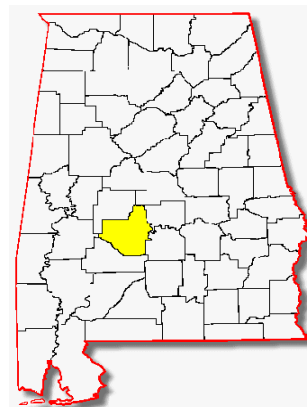
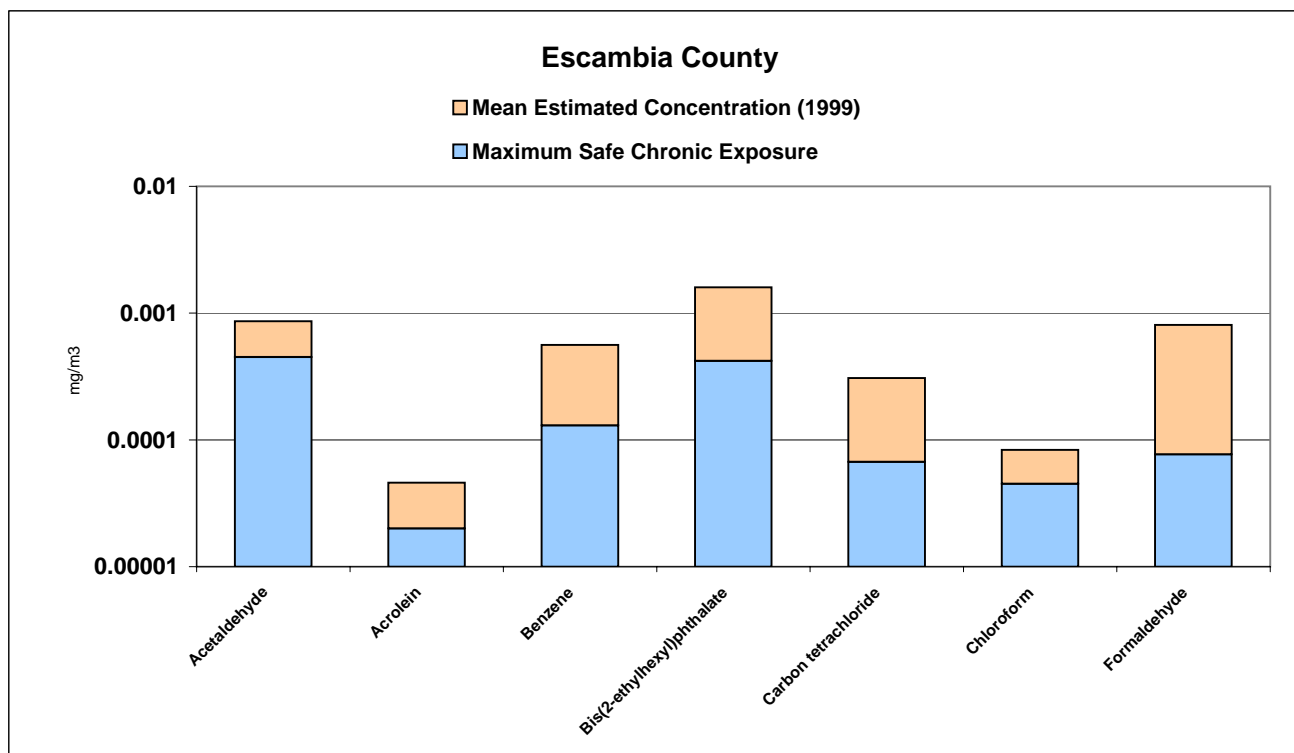


FIGURE 23



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0008640	92%
Acrolein	N	0.00002	0.000460	130%
Benzene	C	0.00013	0.0005617	332%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.000067	0.0003073	359%
Chloroform	C	0.000045	0.000835	86%
Formaldehyde	C	0.000077	0.0008077	949%

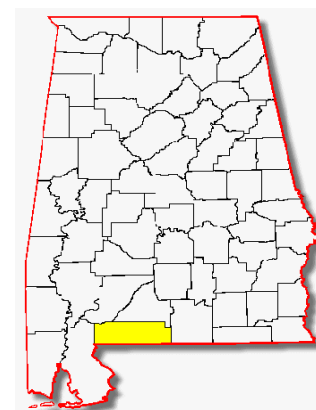
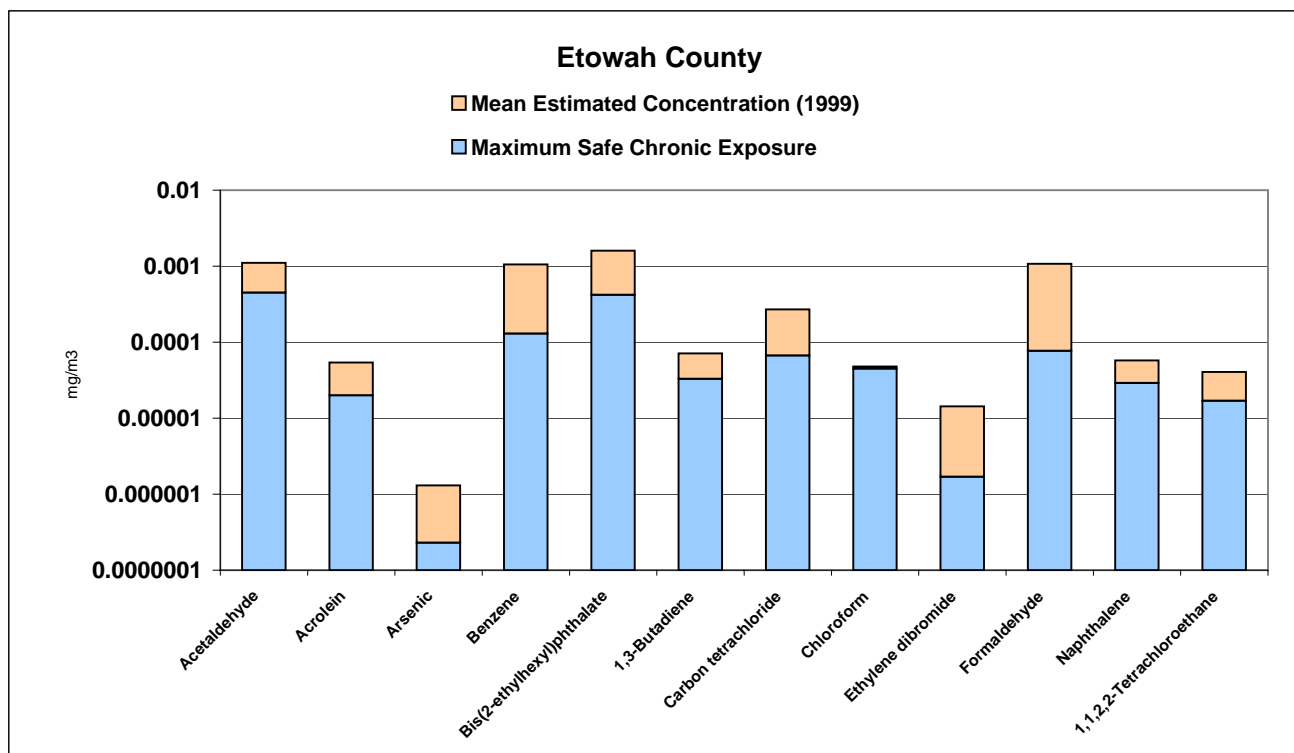


FIGURE 24



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0011070	146%
Acrolein	N	0.00002	0.0000540	170%
Arsenic	C	0.00000023	0.0000013	468%
Benzene	C	0.00013	0.0010548	711%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
1,3-Butadiene	C	0.000033	0.0000713	116%
Carbon tetrachloride	C	0.000067	0.0002704	304%
Chloroform	C	0.000045	0.0000479	6%
Ethylene dibromide	C	0.0000017	0.0000143	742%
Formaldehyde	C	0.000077	0.0010763	1298%
Naphthalene	N	0.000029	0.0000575	98%
1,1,2,2-Tetrachloroethane	C	0.000017	0.0000407	139%

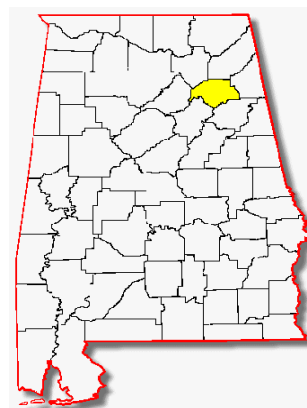
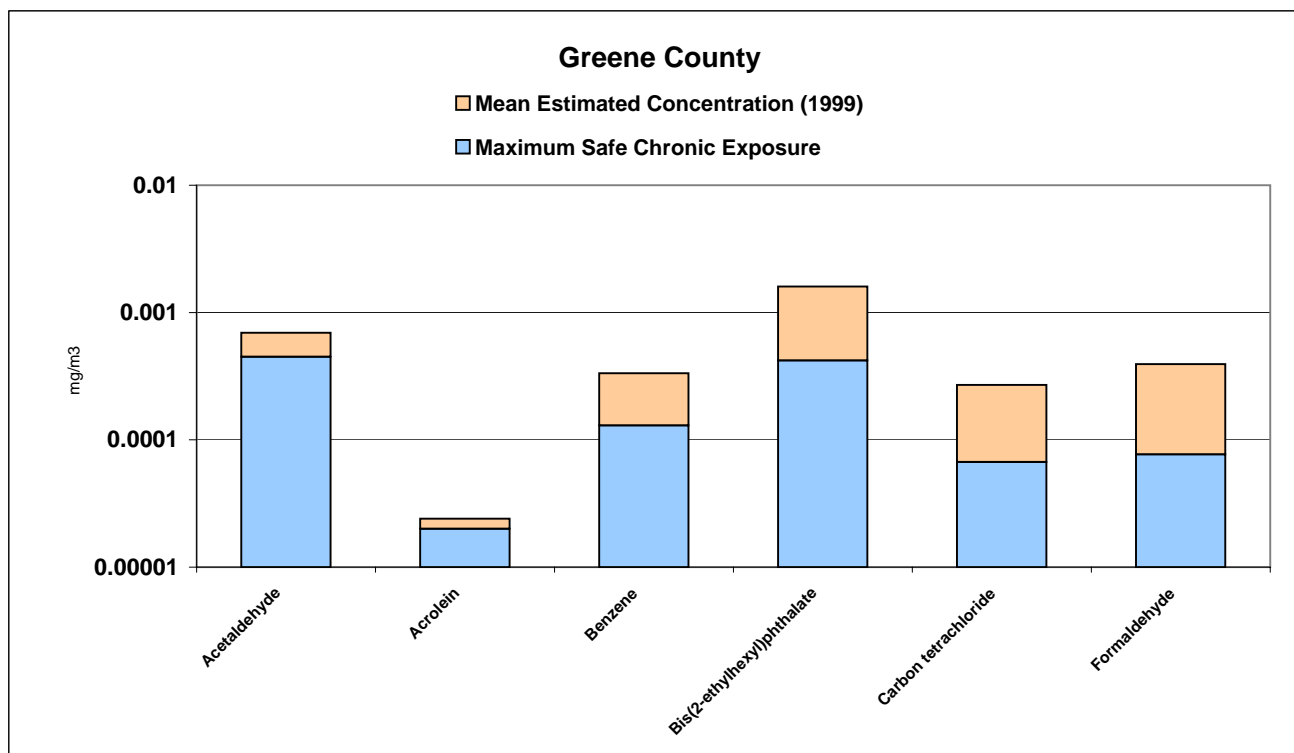


FIGURE 25



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0006940	54%
Acrolein	N	0.00002	0.0000240	20%
Benzene	C	0.00013	0.0003340	157%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.00067	0.0002703	303%
Formaldehyde	C	0.00077	0.0003937	411%

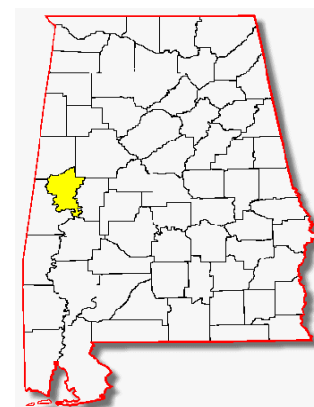
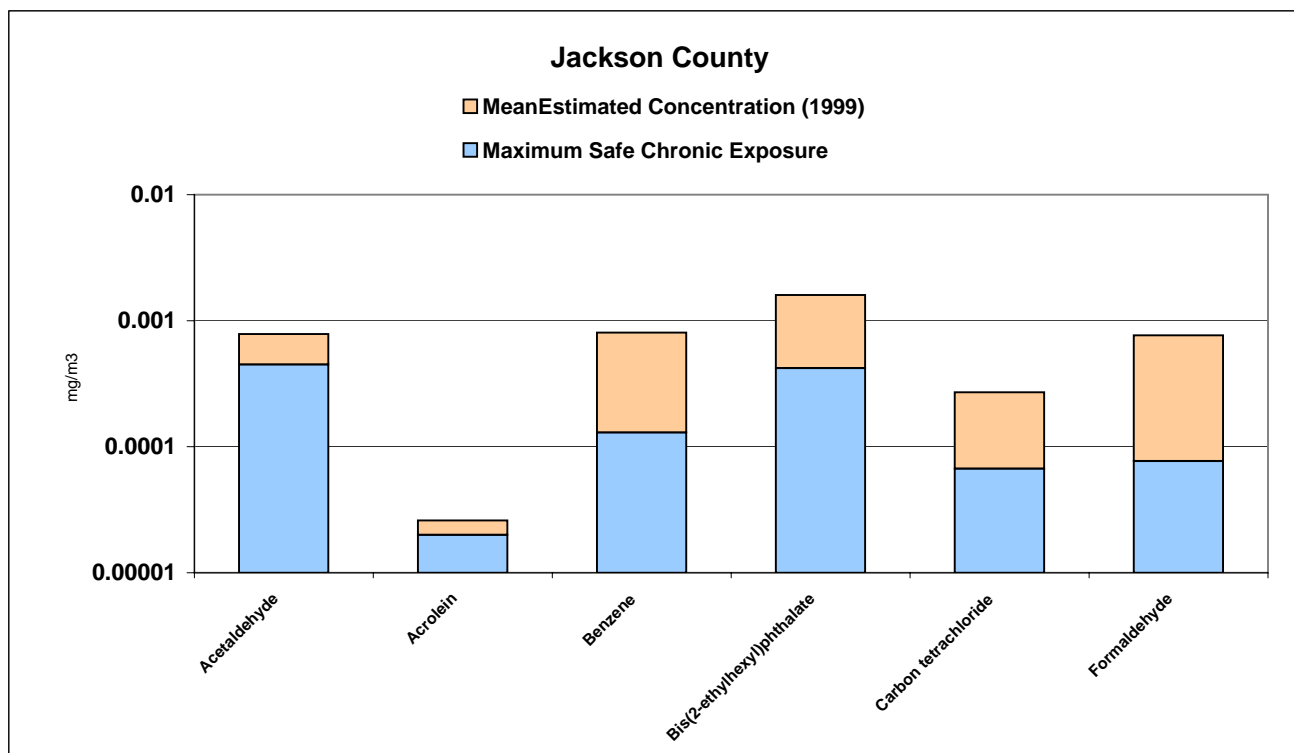


FIGURE 26



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0007840	74%
Acrolein	N	0.00002	0.0000260	30%
Benzene	C	0.00013	0.0008047	519%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.00067	0.0002701	303%
Formaldehyde	C	0.00077	0.0007666	896%

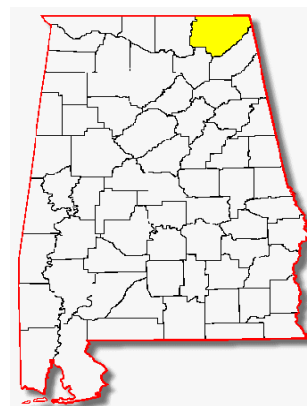
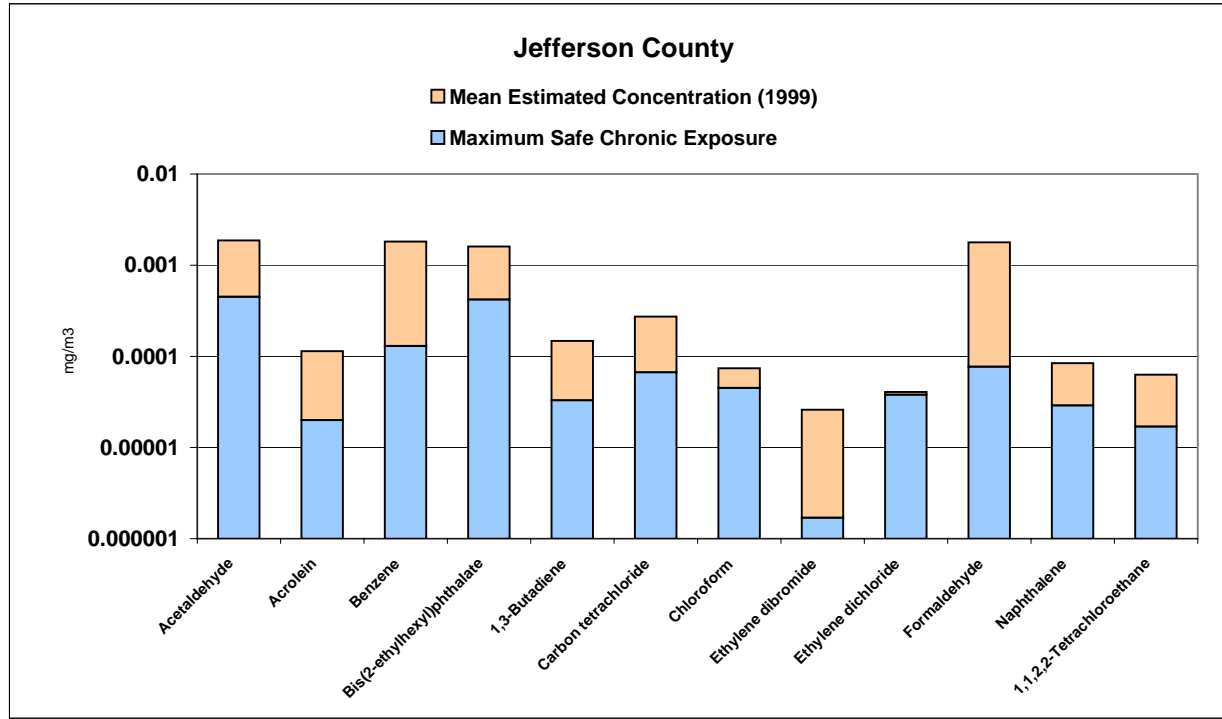


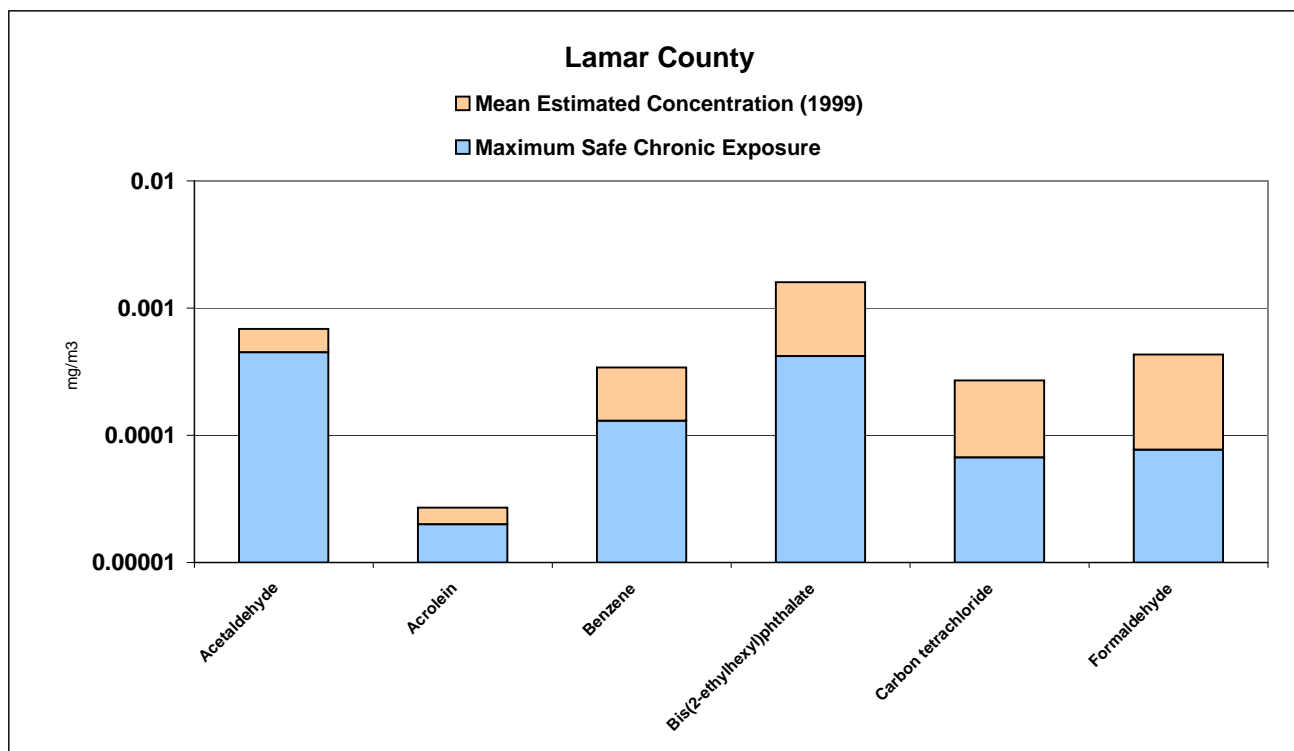
FIGURE 27



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m3)	Mean Est. Conc. (mg/m3) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0018680	315%
Acrolein	N	0.00002	0.0001140	470%
Benzene	C	0.00013	0.0018173	1298%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
1,3-Butadiene	C	0.000033	0.0001476	347%
Carbon tetrachloride	C	0.000067	0.0002735	308%
Chloroform	C	0.000045	0.0000739	64%
Ethylene dibromide	C	0.000017	0.0000260	1430%
Ethylene dichloride	C	0.000038	0.0000408	7%
Formaldehyde	C	0.000077	0.0017804	2212%
Naphthalene	N	0.000029	0.0000843	191%
1,1,2,2-Tetrachloroethane	C	0.000017	0.0000629	270%



FIGURE 28



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0006870	53%
Acrolein	N	0.00002	0.0000270	35%
Benzene	C	0.00013	0.0003412	162%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016004	281%
Carbon tetrachloride	C	0.00067	0.0002704	304%
Formaldehyde	C	0.00077	0.0004318	461%

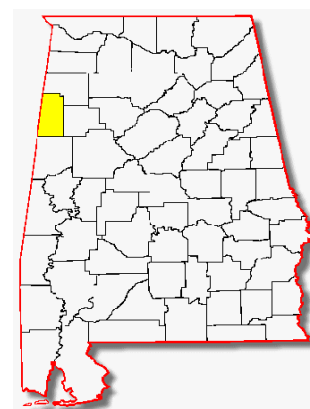
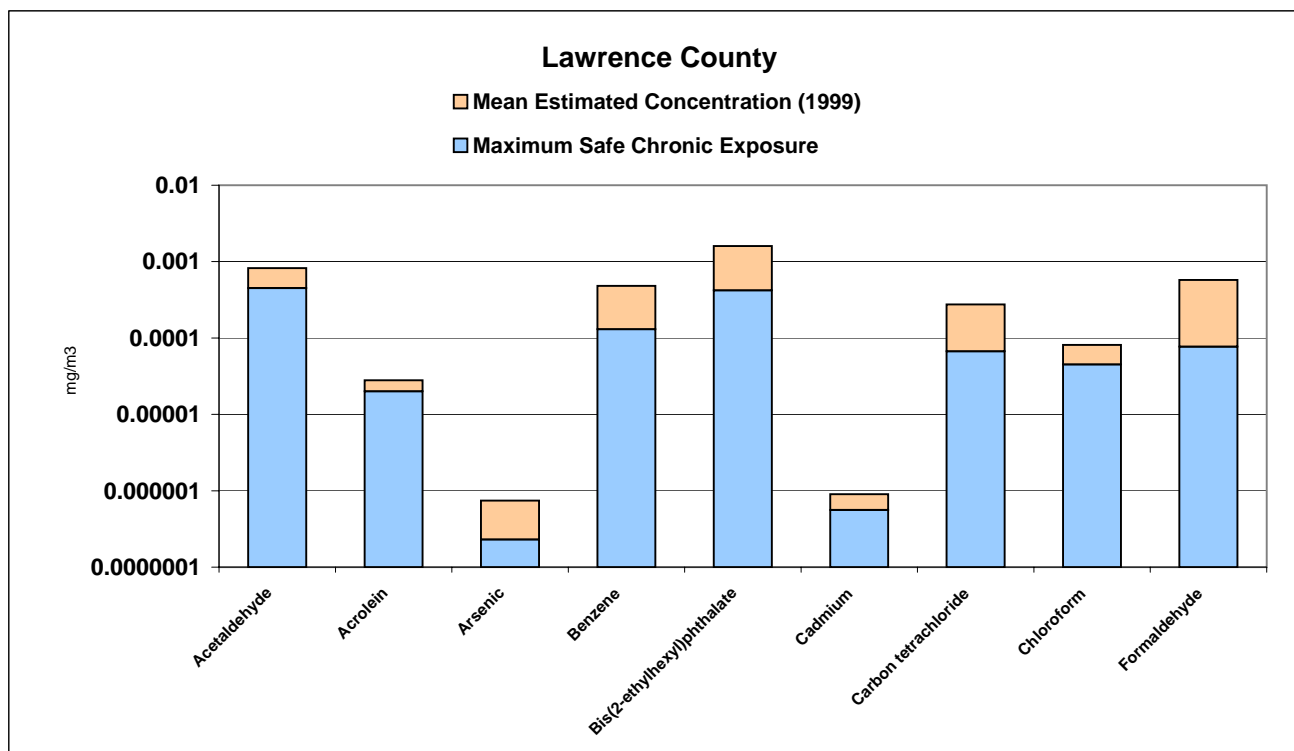


FIGURE 29



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0008240	83%
Acrolein	N	0.00002	0.0000280	40%
Arsenic	C	0.00000023	0.0000007	224%
Benzene	C	0.00013	0.0004811	270%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Cadmium	C	0.00000056	0.0000009	61%
Carbon tetrachloride	C	0.000067	0.0002746	310%
Chloroform	C	0.000045	0.0000810	80%
Formaldehyde	C	0.000077	0.0005759	648%

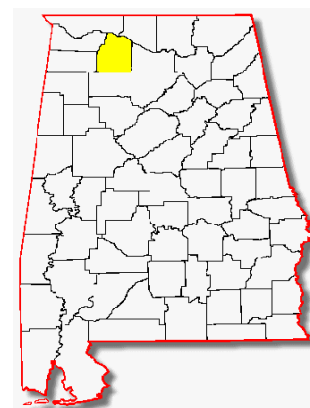
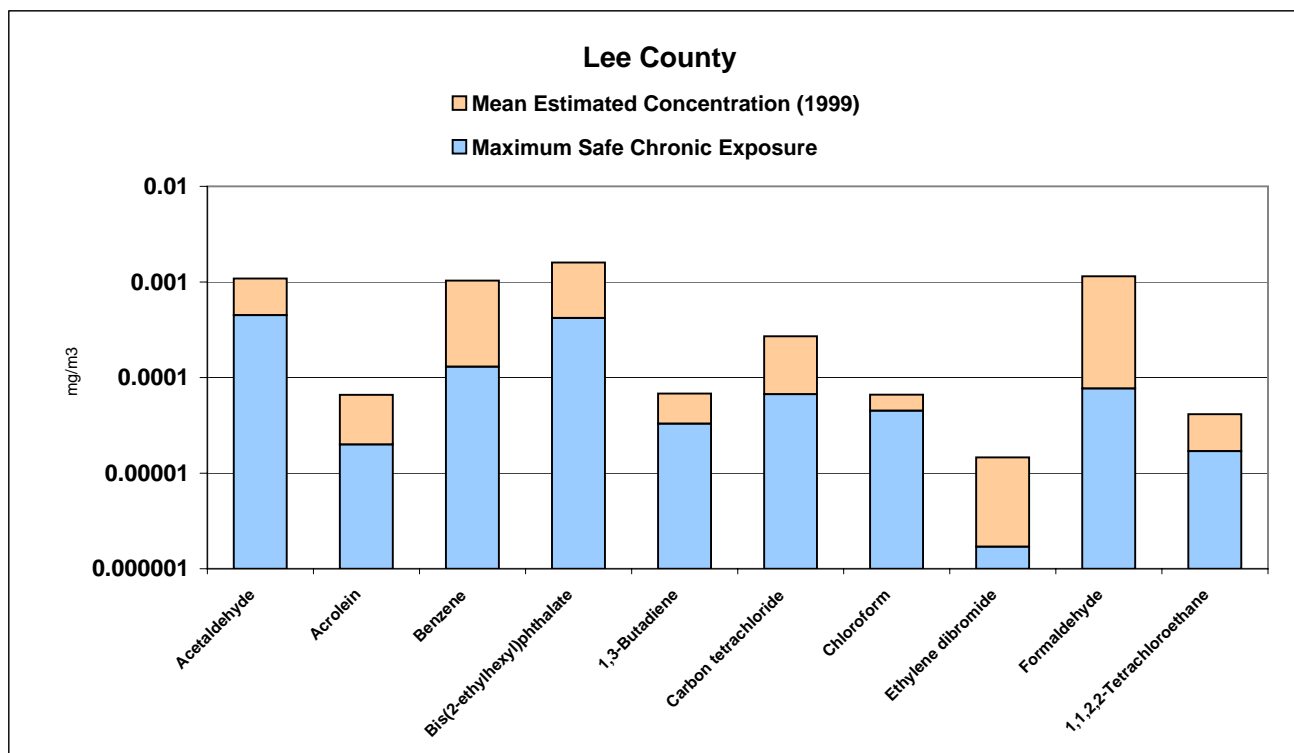


FIGURE 30



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0010850	141%
Acrolein	N	0.00002	0.0000660	230%
Benzene	C	0.00013	0.0010336	695%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
1,3-Butadiene	C	0.000033	0.0000679	106%
Carbon tetrachloride	C	0.00067	0.0002705	304%
Chloroform	C	0.00045	0.000661	47%
Ethylene dibromide	C	0.000017	0.000146	760%
Formaldehyde	C	0.00077	0.0011455	1388%
1,1,2,2-Tetrachloroethane	C	0.00017	0.000413	143%

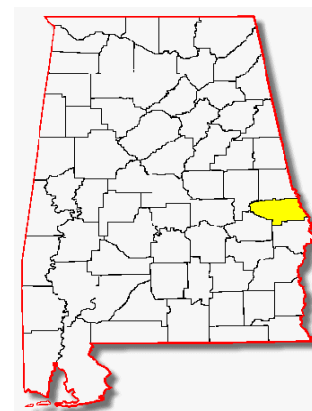
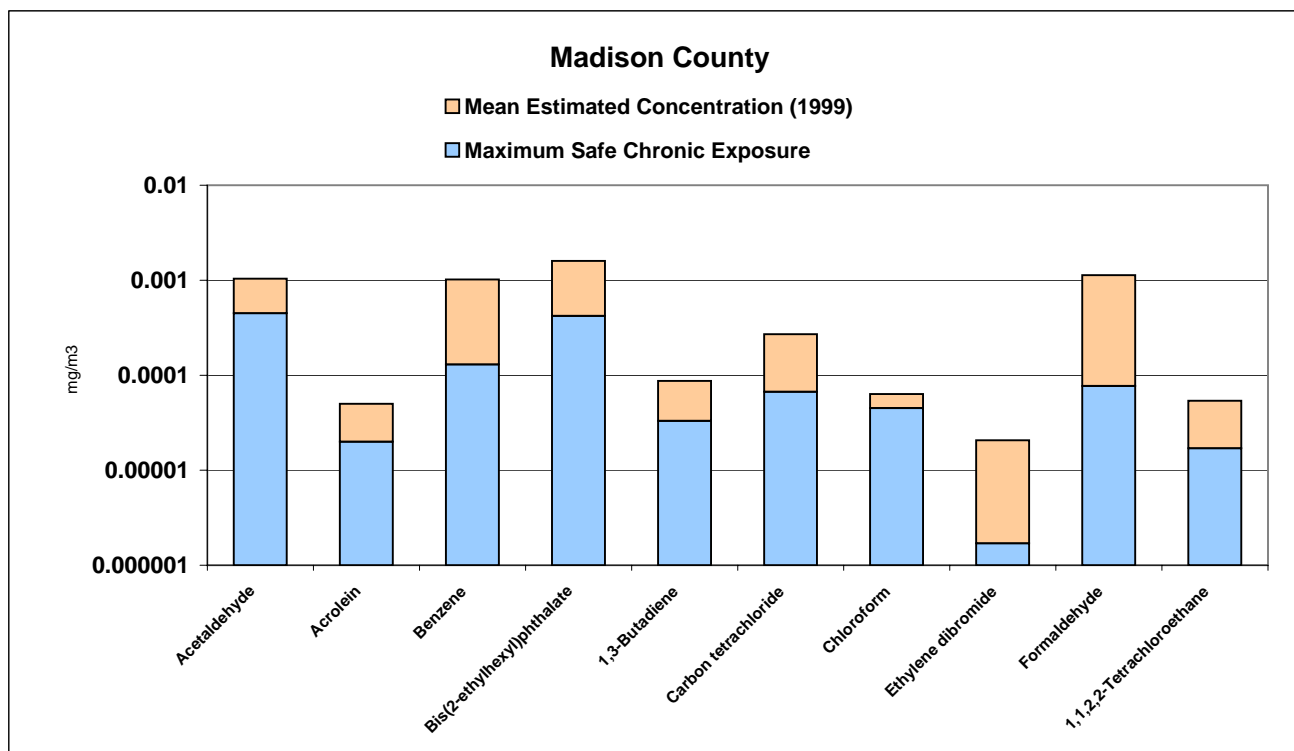


FIGURE 31



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0010380	131%
Acrolein	N	0.00002	0.0000500	150%
Benzene	C	0.00013	0.0010168	682%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
1,3-Butadiene	C	0.00033	0.0000870	164%
Carbon tetrachloride	C	0.00067	0.0002704	304%
Chloroform	C	0.00045	0.0000633	41%
Ethylene dibromide	C	0.000017	0.0000207	1117%
Formaldehyde	C	0.00077	0.0011324	1371%
1,1,2,2-Tetrachloroethane	C	0.00017	0.0000538	216%

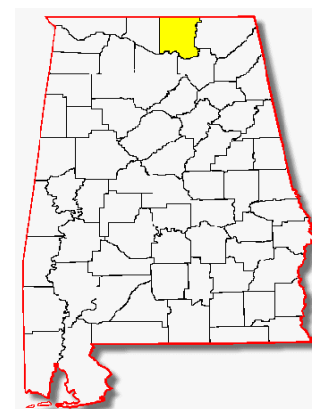
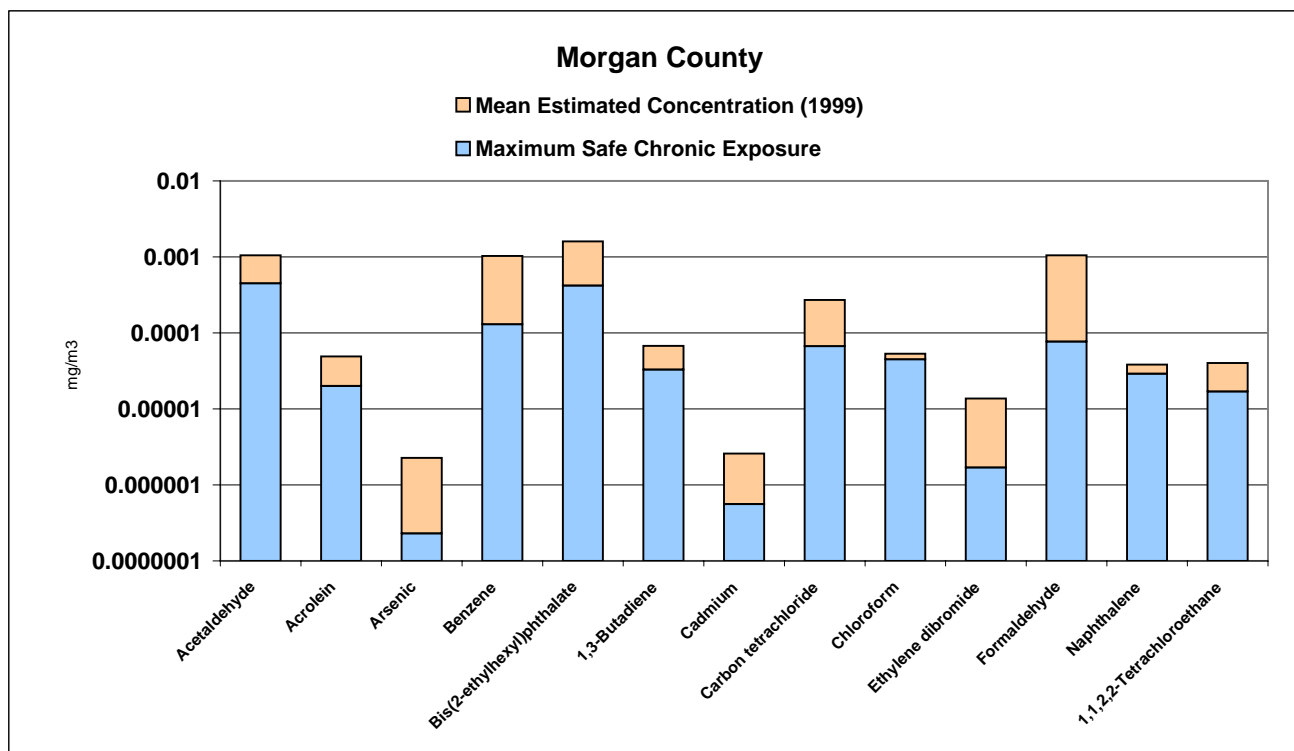


FIGURE 32



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m3)	Mean Est. Conc. (mg/m3) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0010490	133%
Acrolein	N	0.00002	0.0000490	145%
Arsenic	C	0.00000023	0.0000023	887%
Benzene	C	0.00013	0.0010274	690%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
1,3-Butadiene	C	0.000033	0.0000676	105%
Cadmium	C	0.00000056	0.0000026	362%
Carbon tetrachloride	C	0.000067	0.0002709	304%
Chloroform	C	0.000045	0.0000532	18%
Ethylene dibromide	C	0.0000017	0.0000137	705%
Formaldehyde	C	0.000077	0.0010517	1266%
Naphthalene	N	0.000029	0.0000383	32%
1,1,2,2-Tetrachloroethane	C	0.000017	0.0000401	136%

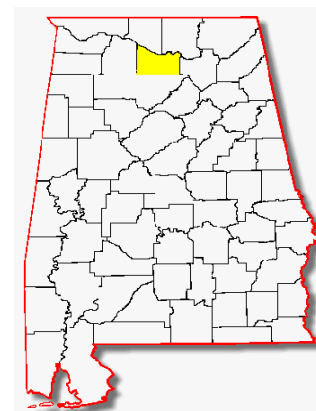
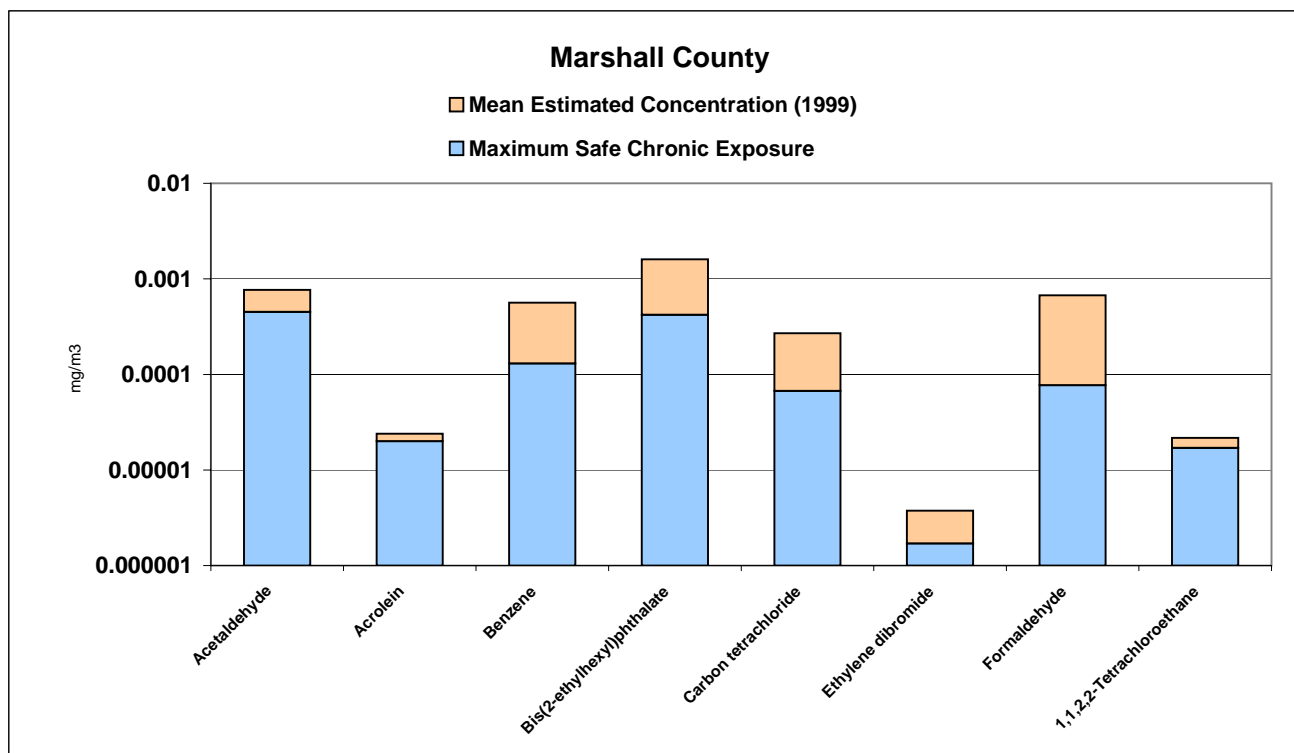


FIGURE 33



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0007660	70%
Acrolein	N	0.00002	0.0000240	20%
Benzene	C	0.00013	0.0005634	333%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.00067	0.002701	303%
Ethylene dibromide	C	0.0000017	0.0000038	121%
Formaldehyde	C	0.00077	0.006729	774%
1,1,2,2-Tetrachloroethane	C	0.00017	0.000217	28%

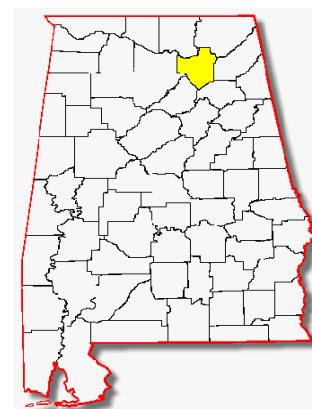
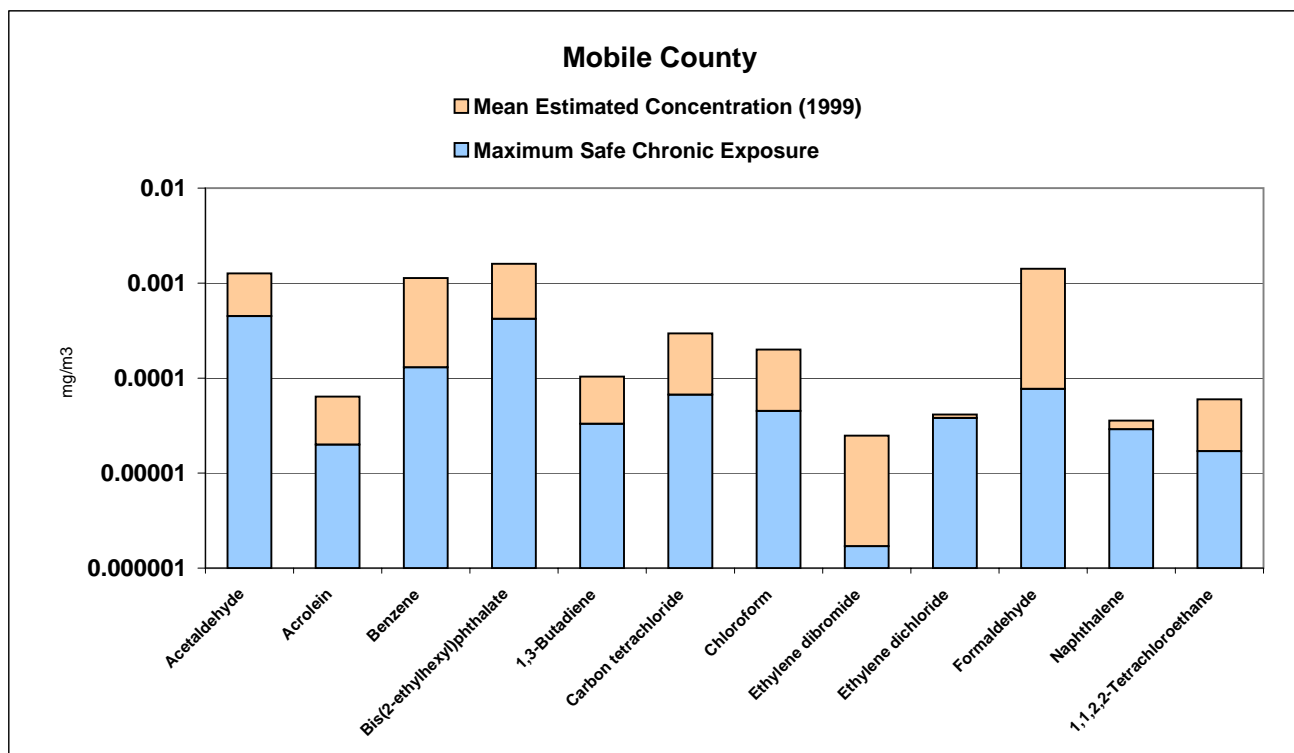


FIGURE 34



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m3)	Mean Est. Conc. (mg/m3) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0012670	182%
Acrolein	N	0.00002	0.0000640	220%
Benzene	C	0.00013	0.0011315	770%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016001	281%
1,3-Butadiene	C	0.000033	0.0001037	214%
Carbon tetrachloride	C	0.000067	0.0002958	342%
Chloroform	C	0.000045	0.0001998	344%
Ethylene dibromide	C	0.0000017	0.0000248	1358%
Ethylene dichloride	C	0.000038	0.0000413	9%
Formaldehyde	C	0.000077	0.0014137	1736%
Naphthalene	N	0.000029	0.0000357	23%
1,1,2,2-Tetrachloroethane	C	0.000017	0.0000597	251%

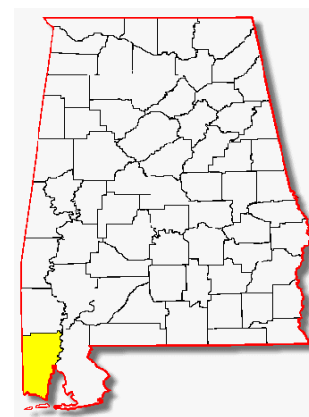
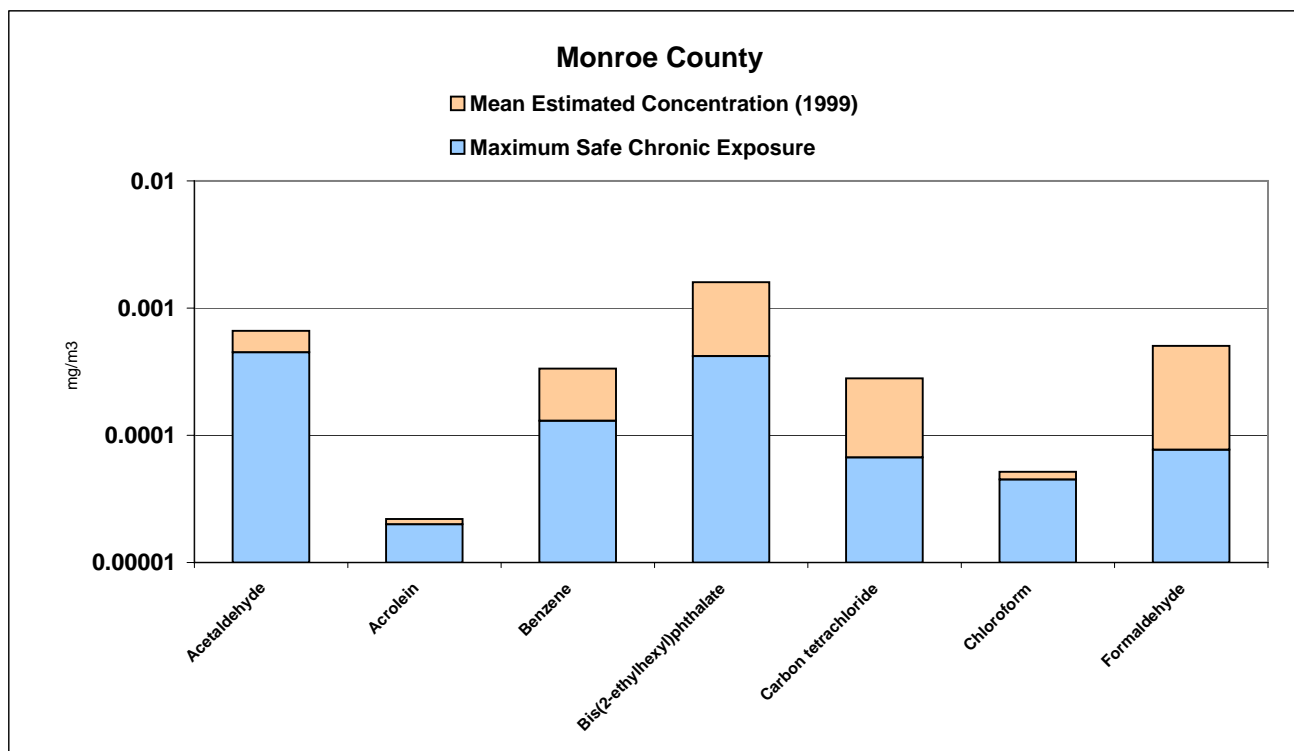


FIGURE 35



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0006630	47%
Acrolein	N	0.00002	0.0000220	10%
Benzene	C	0.00013	0.0003347	157%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.00067	0.0002803	318%
Chloroform	C	0.00045	0.0000516	15%
Formaldehyde	C	0.00077	0.0005043	555%

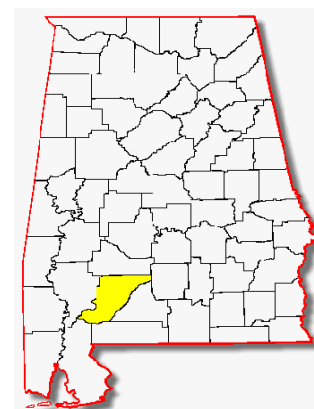
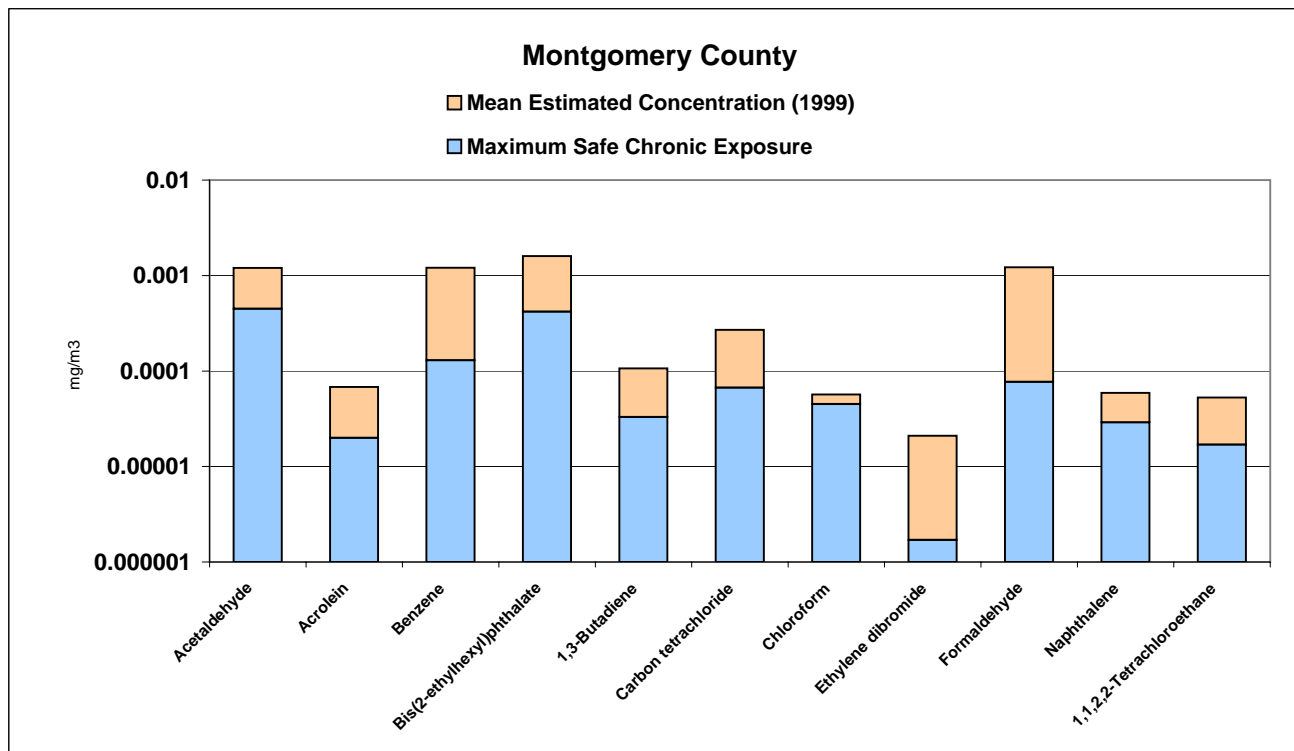


FIGURE 36



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m3)	Mean Est. Conc. (mg/m3) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0012040	168%
Acrolein	N	0.00002	0.0000680	240%
Benzene	C	0.00013	0.0012048	827%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
1,3-Butadiene	C	0.000033	0.0001067	223%
Carbon tetrachloride	C	0.000067	0.0002705	304%
Chloroform	C	0.000045	0.0000567	26%
Ethylene dibromide	C	0.0000017	0.0000210	1136%
Formaldehyde	C	0.000077	0.0012225	1488%
Naphthalene	N	0.000029	0.0000590	103%
1,1,2,2-Tetrachloroethane	C	0.000017	0.0000528	211%

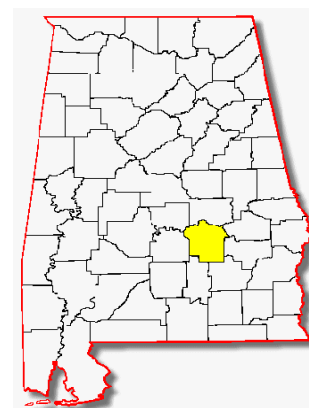
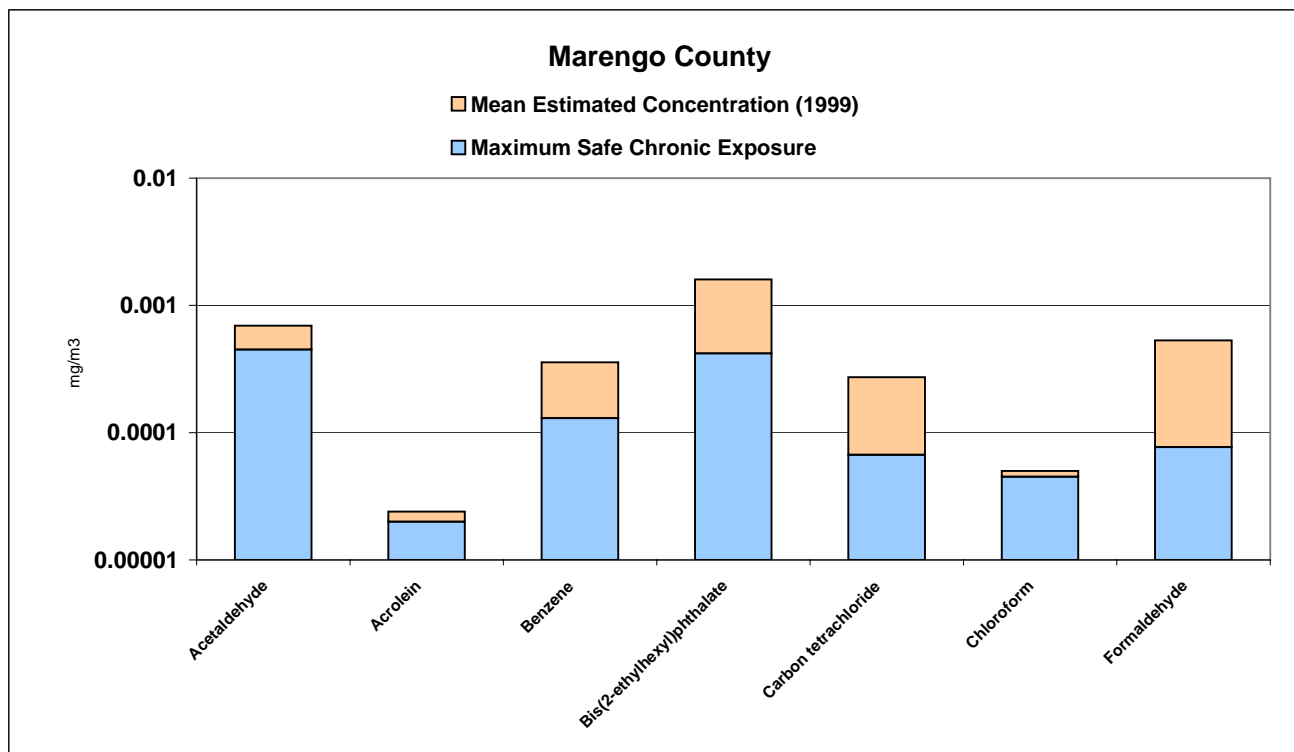


FIGURE 37



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0006940	54%
Acrolein	N	0.00002	0.0000240	20%
Benzene	C	0.00013	0.0003571	175%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.00067	0.0002726	307%
Chloroform	C	0.00045	0.0000500	11%
Formaldehyde	C	0.00077	0.0005303	589%

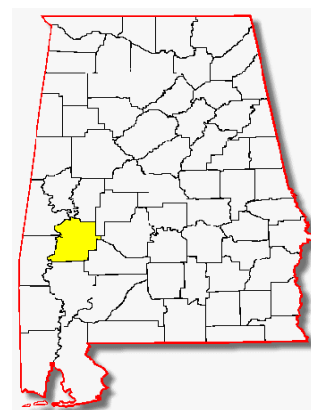
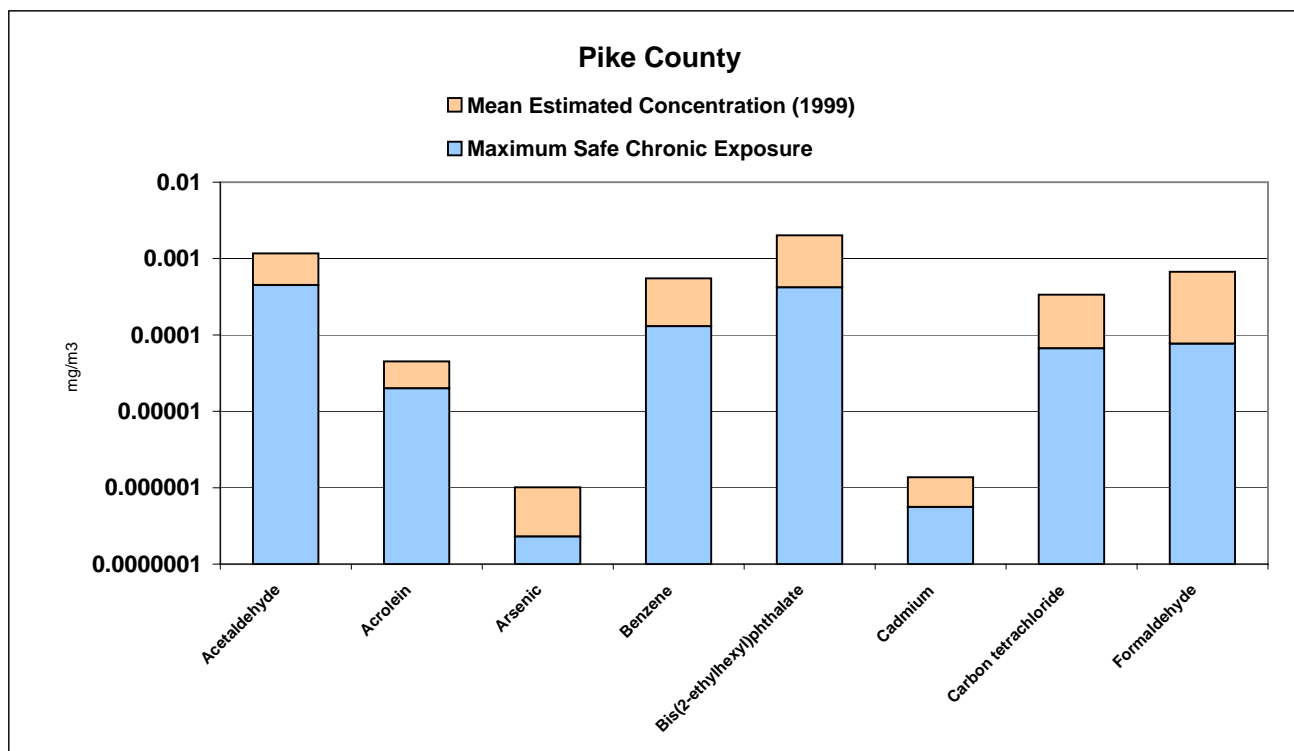


FIGURE 38



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0007210	60%
Acrolein	N	0.00002	0.0000250	25%
Arsenic	C	0.00000023	0.0000008	240%
Benzene	C	0.00013	0.0004209	224%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Cadmium	C	0.00000056	0.0000008	45%
Carbon tetrachloride	C	0.000067	0.0002701	303%
Formaldehyde	C	0.000077	0.0005933	671%

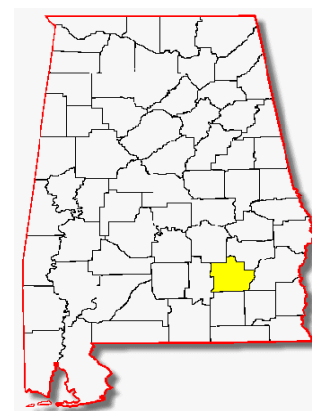
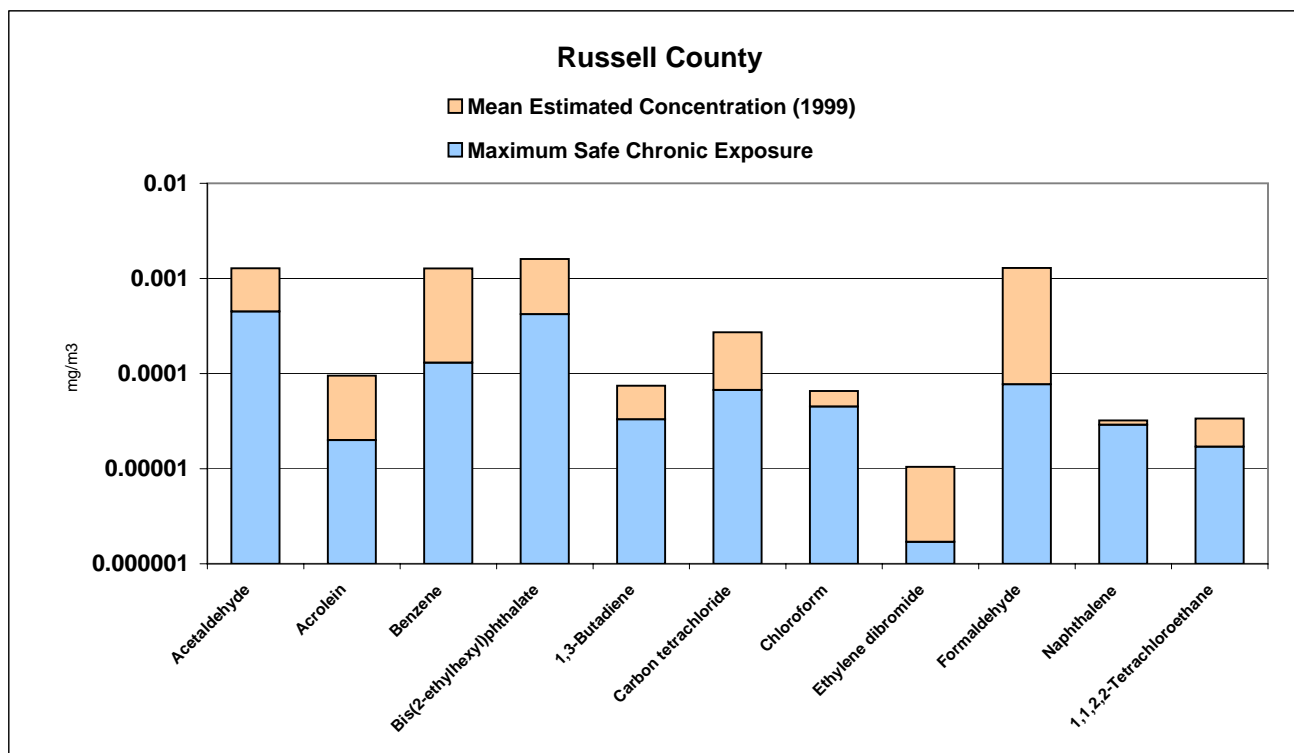


FIGURE 39



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0012800	184%
Acrolein	N	0.00002	0.0000950	375%
Benzene	C	0.00013	0.0012721	879%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
1,3-Butadiene	C	0.000033	0.0000746	126%
Carbon tetrachloride	C	0.000067	0.0002720	306%
Chloroform	C	0.000045	0.0000656	46%
Ethylene dibromide	C	0.0000017	0.0000105	515%
Formaldehyde	C	0.000077	0.0012885	1573%
Naphthalene	N	0.000029	0.0000322	11%
1,1,2,2-Tetrachloroethane	C	0.000017	0.0000337	98%

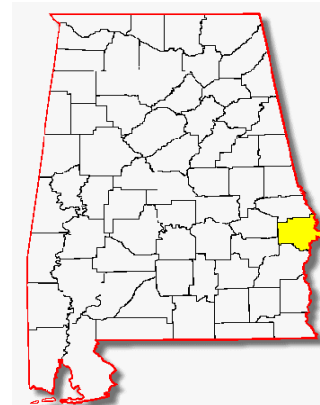
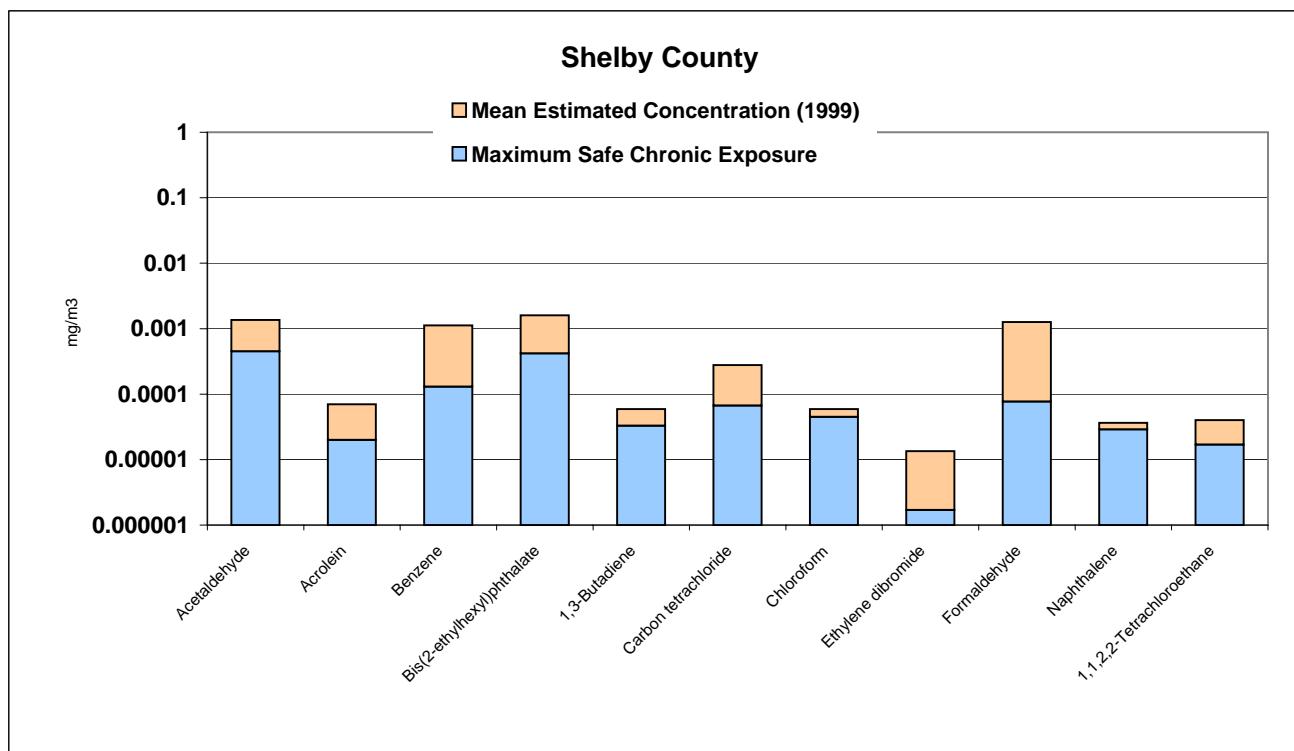


FIGURE 40



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0013600	202%
Acrolein	N	0.00002	0.0000700	250%
Benzene	C	0.00013	0.0011201	762%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
1,3-Butadiene	C	0.000033	0.0000591	79%
Carbon tetrachloride	C	0.000067	0.0002780	315%
Chloroform	C	0.000045	0.0000590	31%
Ethylene dibromide	C	0.0000017	0.0000134	690%
Formaldehyde	C	0.000077	0.0012622	1539%
Naphthalene	N	0.000029	0.0000364	26%
1,1,2,2-Tetrachloroethane	C	0.000017	0.0000402	136%

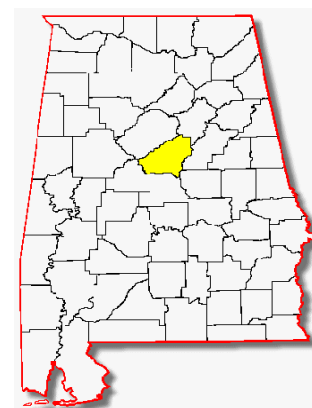
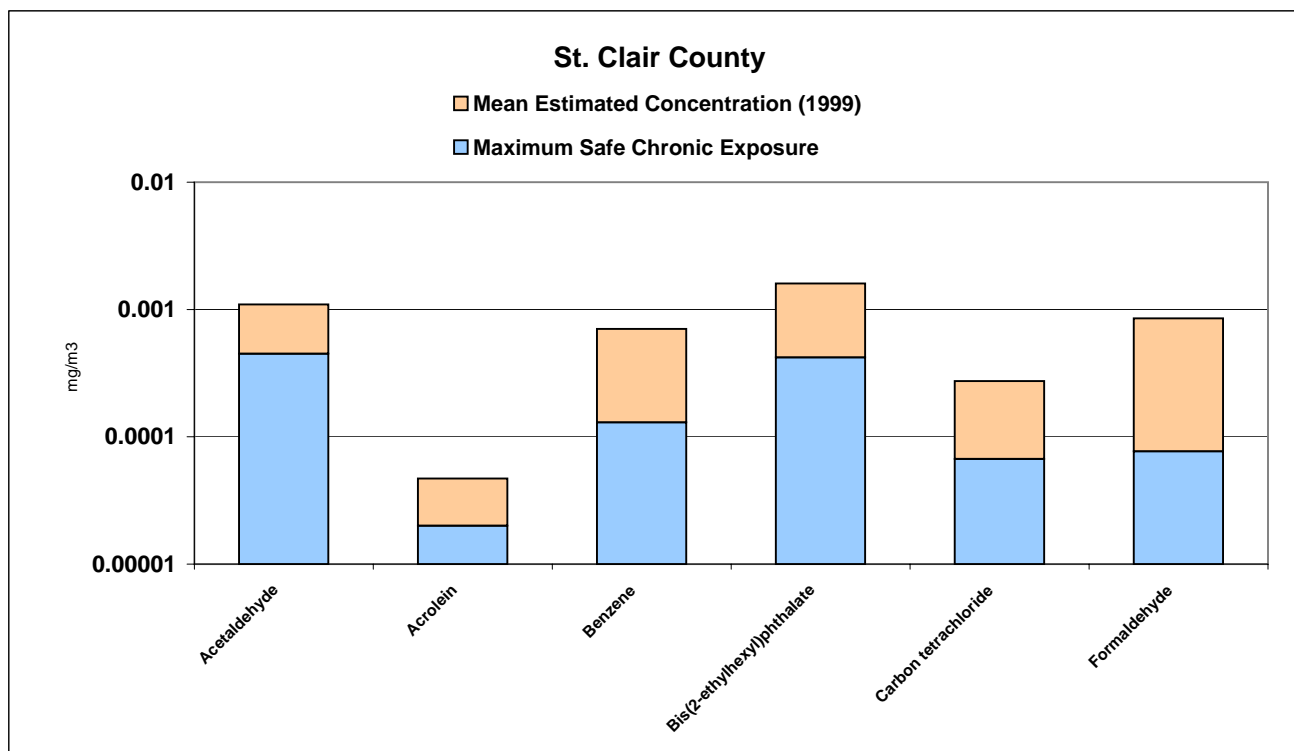


FIGURE 41



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0010970	144%
Acrolein	N	0.00002	0.0000470	135%
Benzene	C	0.00013	0.0007030	441%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.00067	0.002744	310%
Formaldehyde	C	0.00077	0.008516	1006%

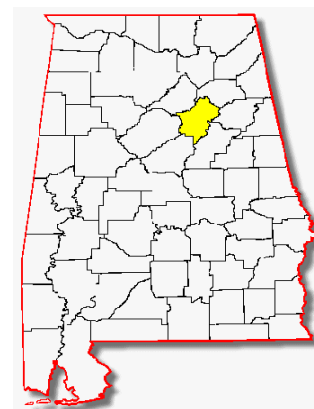
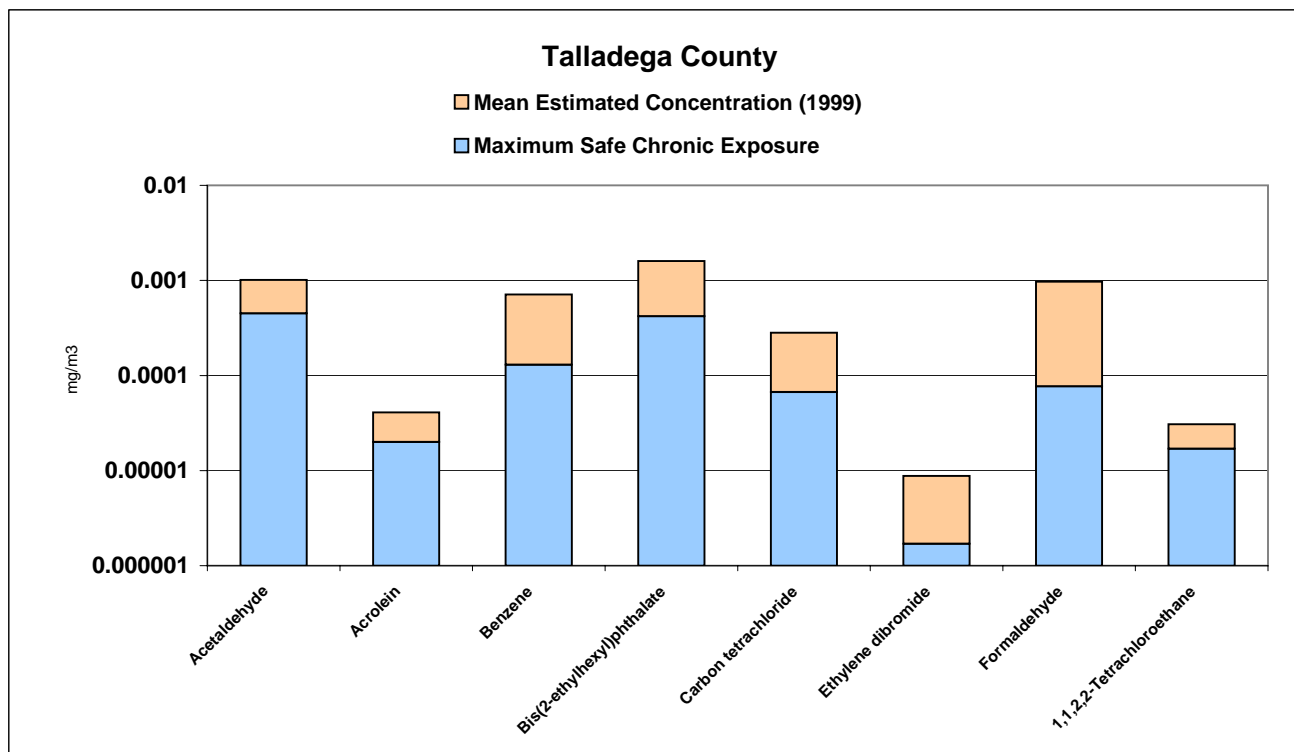


FIGURE 42



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0010110	125%
Acrolein	N	0.00002	0.0000410	105%
Benzene	C	0.00013	0.0007126	448%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.000067	0.0002821	321%
Ethylene dibromide	C	0.0000017	0.0000088	417%
Formaldehyde	C	0.000077	0.0009702	1160%
1,1,2,2-Tetrachloroethane	C	0.000017	0.0000307	81%

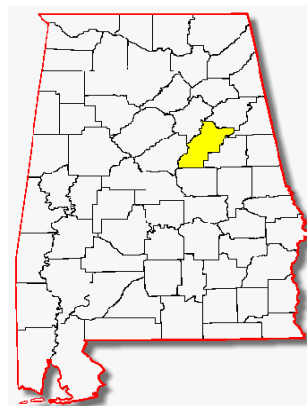
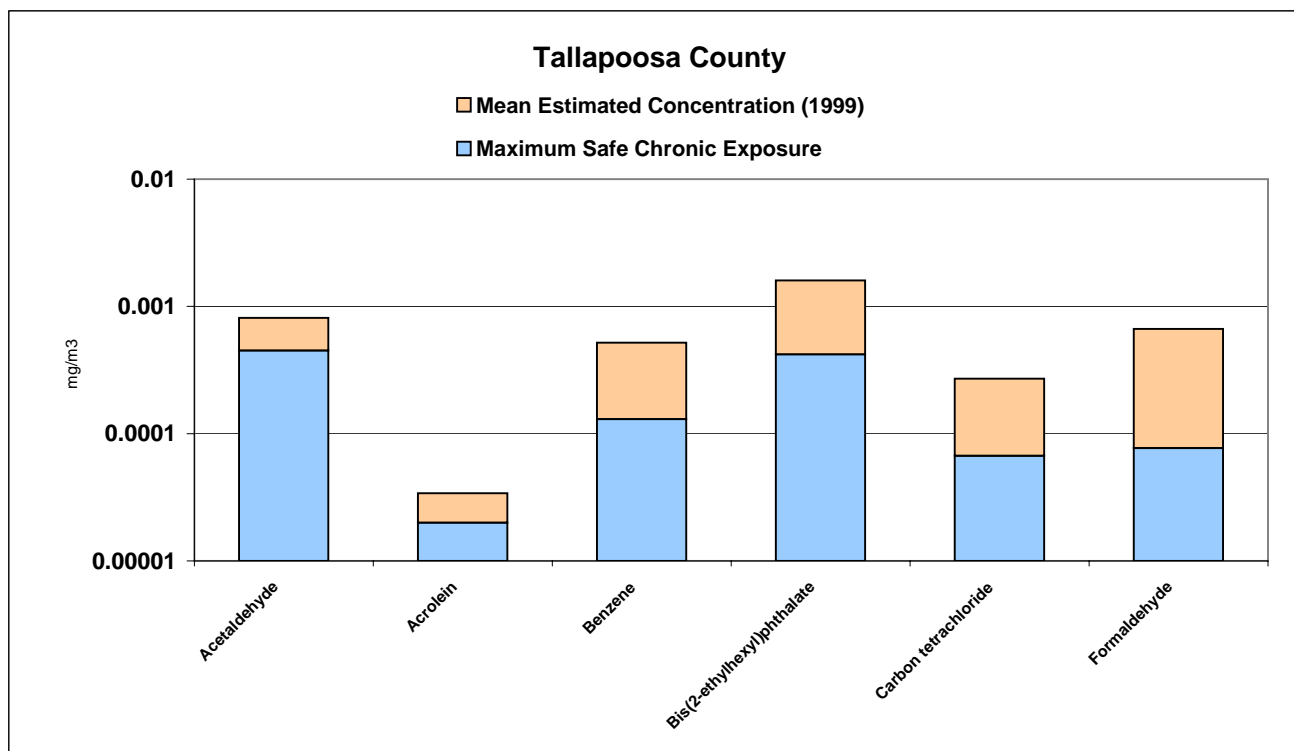


FIGURE 43



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0008130	81%
Acrolein	N	0.00002	0.0000340	70%
Benzene	C	0.00013	0.0005191	299%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.00067	0.0002701	303%
Formaldehyde	C	0.00077	0.0006652	764%

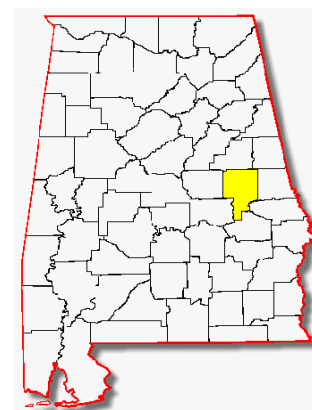
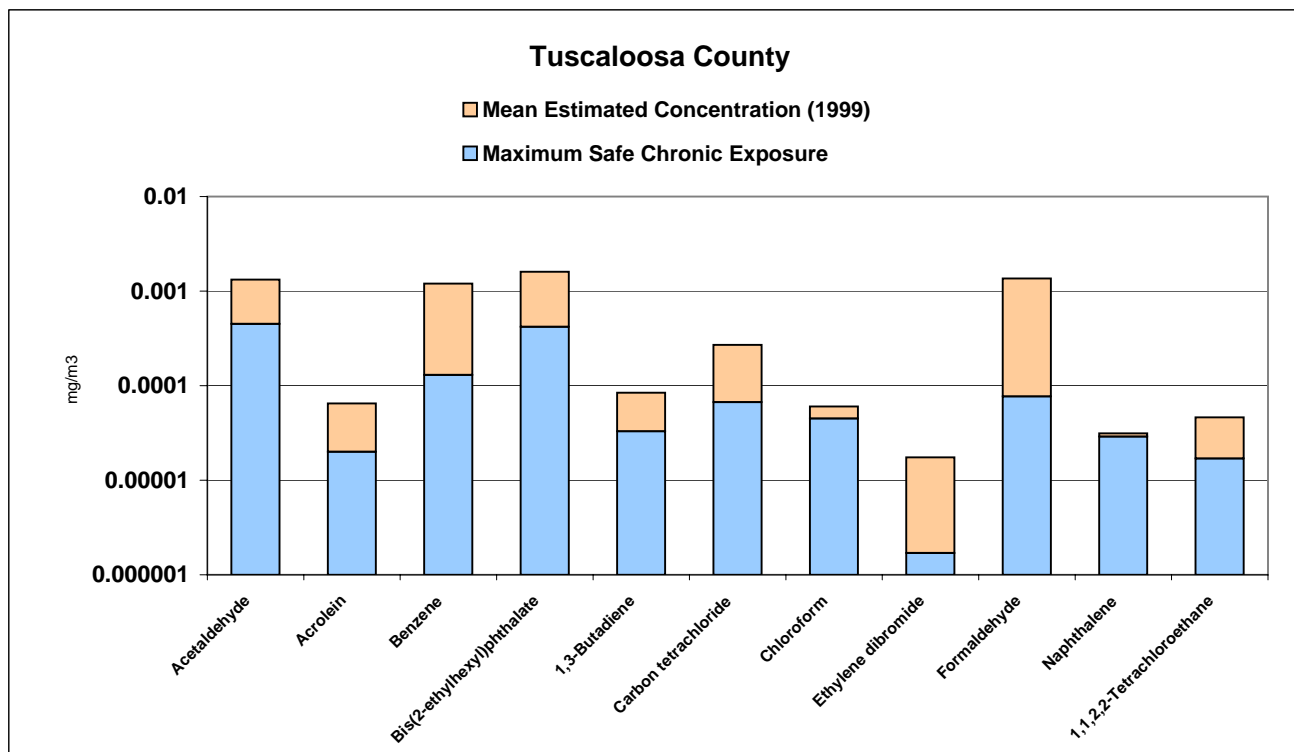


FIGURE 44



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m3)	Mean Est. Conc. (mg/m3) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0013260	195%
Acrolein	N	0.00002	0.0000650	225%
Benzene	C	0.00013	0.0012006	824%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016002	281%
1,3-Butadiene	C	0.000033	0.0000841	155%
Carbon tetrachloride	C	0.000067	0.0002704	304%
Chloroform	C	0.000045	0.0000603	34%
Ethylene dibromide	C	0.000017	0.0000174	926%
Formaldehyde	C	0.000077	0.0013623	1669%
Naphthalene	N	0.000029	0.0000313	8%
1,1,2,2-Tetrachloroethane	C	0.000017	0.0000462	172%

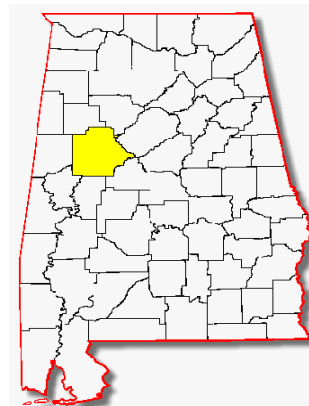
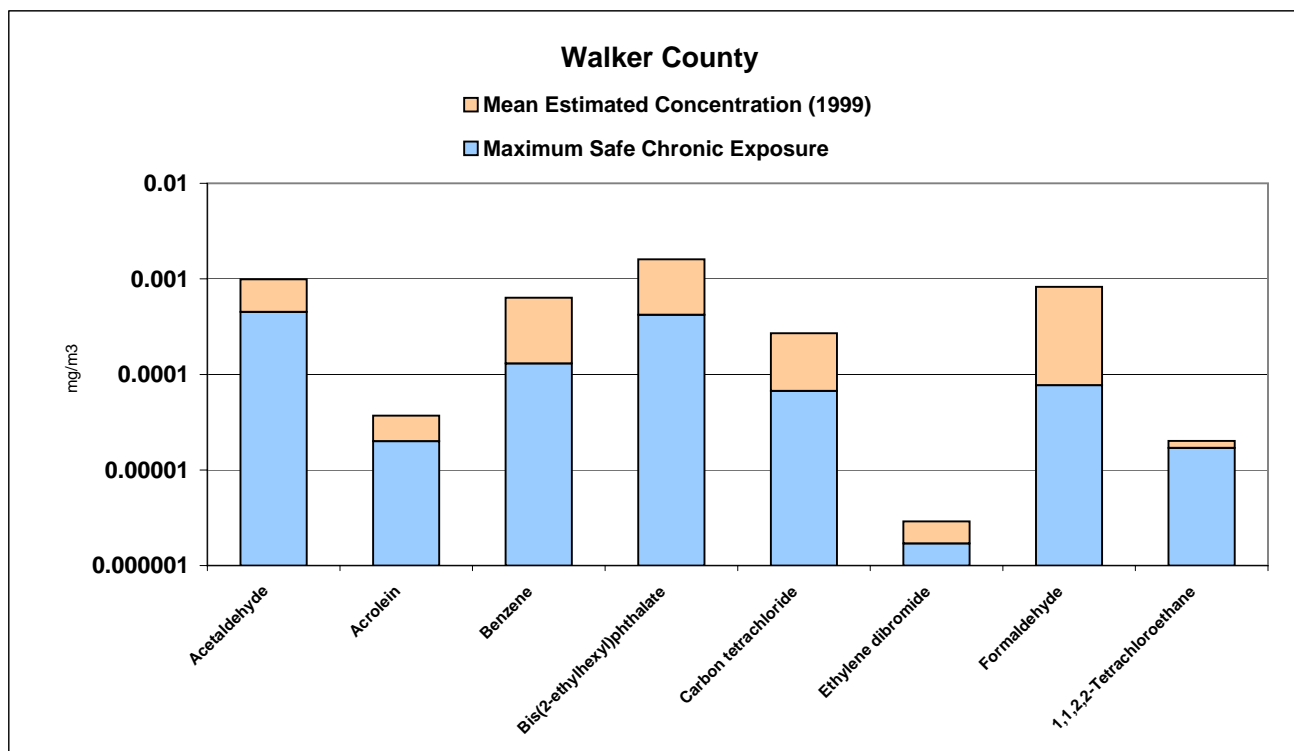


FIGURE 45



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0009890	120%
Acrolein	N	0.00002	0.0000370	85%
Benzene	C	0.00013	0.0006359	389%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.000067	0.0002701	303%
Ethylene dibromide	C	0.0000017	0.0000029	70%
Formaldehyde	C	0.000077	0.0008240	970%
1,1,2,2-Tetrachloroethane	C	0.000017	0.0000201	19%

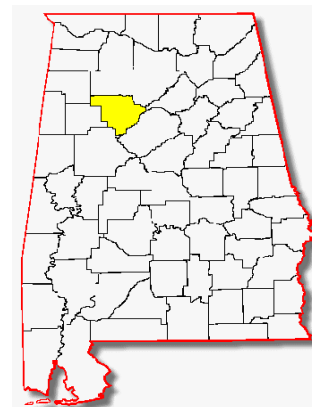
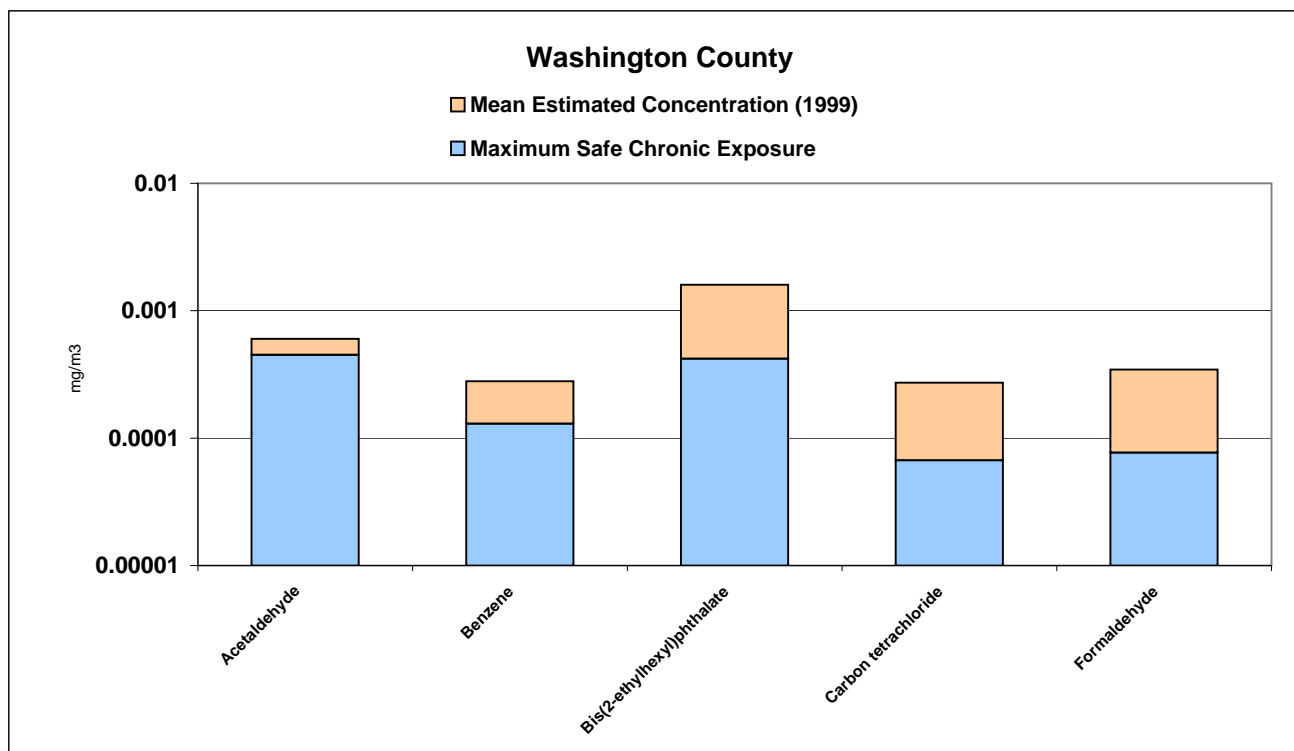


FIGURE 46



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0006020	34%
Benzene	C	0.00013	0.0002797	115%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.00067	0.0002722	306%
Formaldehyde	C	0.00077	0.0003452	348%

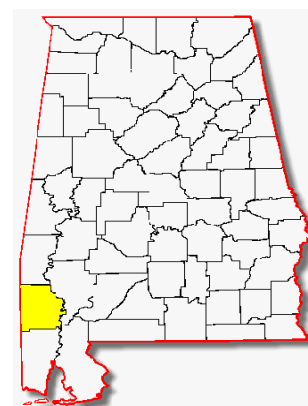
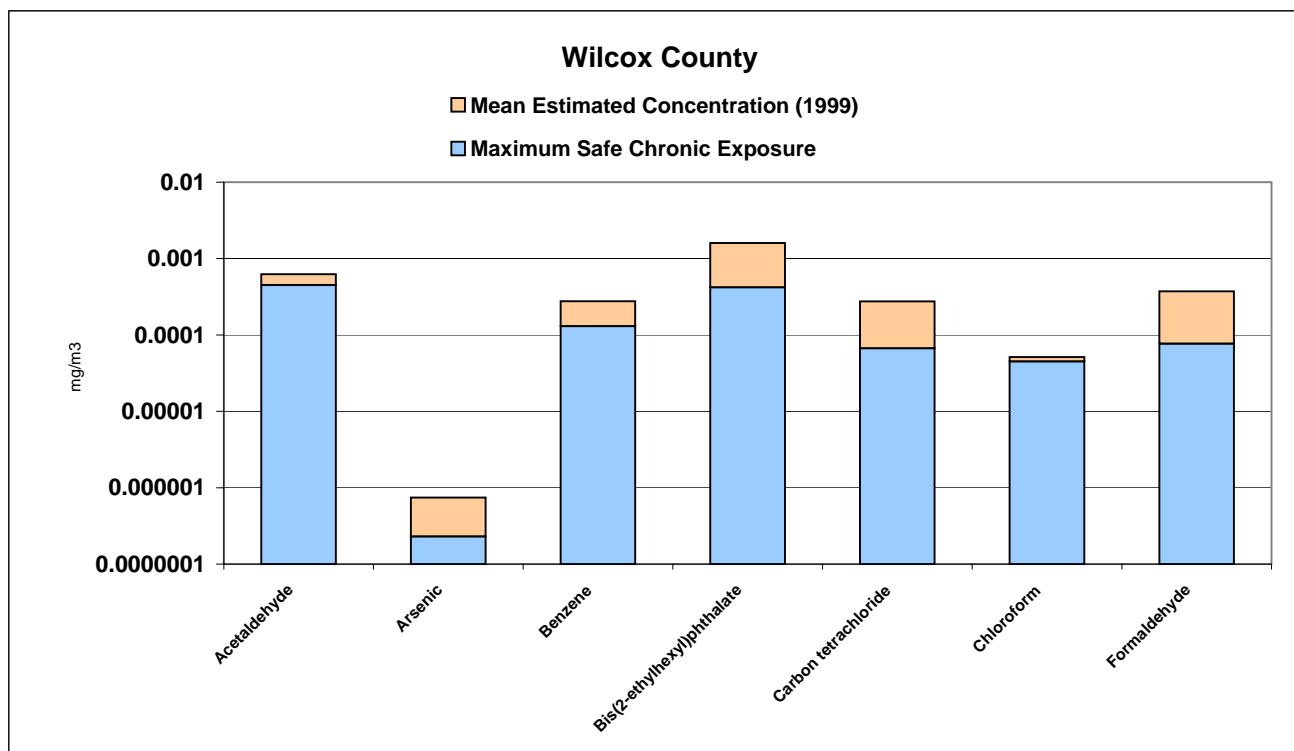
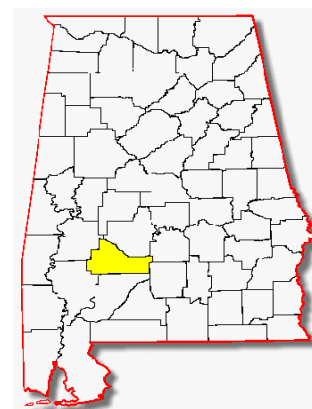


FIGURE 47



Toxic Pollutant	Type	Max Safe Chronic Exposure (mg/m ³)	Mean Est. Conc. (mg/m ³) (1999)	Percent Exceedance
Acetaldehyde	C	0.00045	0.0006260	39%
Arsenic	C	0.00000023	0.0000007	224%
Benzene	C	0.00013	0.0002769	113%
Bis(2-ethylhexyl)phthalate	C	0.00042	0.0016000	281%
Carbon tetrachloride	C	0.00067	0.0002748	310%
Chloroform	C	0.00045	0.0000514	14%
Formaldehyde	C	0.00077	0.0003733	385%



V. DEMOGRAPHIC DATA

Summary of Data

“[A]ll Americans deserve to be protected from pollution - not just those who can afford to live in the cleanest, safest communities. All Americans deserve clean air, pure water, land that is safe to live on, and food that is safe to eat. Protecting our environment means protecting our health - the health of our families, our neighborhoods, our economy, and our children.”

Carol Browner
Administrator of EPA (1993-2001)

The demographics of populations surrounding the monitoring sites identified in this report are provided below to demonstrate that real people of different ages, genders, races and incomes are being exposed to toxic air pollutants that exceed “maximum safe chronic exposure” concentrations.

Methodology

Monitoring site coordinates were obtained from the U.S. Environmental Protection Agency’s *AirData* website at <http://www.epa.gov/air/data/index.html> and Mobile County Air Quality Study *Raw Data Report*. Demographic data for the area within a 1.0 mile radius of a monitoring site’s coordinates were obtained using the U.S. Environmental Protection Agency’s Environmental Justice Geographic Assessment Tool at <http://www.epa.gov/enviro/ej/index.html>, accessed through a coordinate query on <http://www.enviro-lawyer.com/EJtools.html>.

All data are based on the U.S. Census for 2000.

Site Data

Demographic data describing populations surrounding the fourteen monitoring sites identified in Tables 2 through 4 are presented in Tables 6 through 19.

TABLE 6

437 County Road 8 – Clio, Barbour County (1.0 Mile Radius)

Overview					
Total Persons:	202	Land Area:	99.7%	Households in Area:	38
Population Density:	64.52 /sq mi	Water Area:	0.3%	Housing Units in Area:	47
Percent Minority:	59.1%	Persons Below Poverty Level:	39 (19.3%)	Households on Public Assistance:	2
Percent Urban:	0%	Housing Units Built <1970:	52%	Housing Units Built <1950:	21%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	83 (40.9%)	Child 5 years or less:	9 (4.4%)
African-American:	111 (54.7%)	Minors 17 years and younger:	27 (13.2%)
Hispanic-Origin:	4 (2.1%)	Adults 18 years and older:	175 (86.8%)
Asian/Pacific Islander:	0 (0.0%)	Seniors 65 years and older:	18 (8.8%)
American Indian:	2 (1.1%)	<i>This space intentionally left blank</i>	
Other Race:	3 (1.4%)		
Multiracial:	4 (1.9%)		

Gender	
Gender Breakdown	Persons (%)
Males:	150 (74.0%)
Females:	52 (26.0%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	24 (17.7%)
9th -12th grade:	42 (30.5%)
High School Diploma:	36 (26.4%)
Some College/2 yr:	30 (22.2%)
B.S./B.A. or more:	4 (3.2%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	17 (43.2%)
\$15,000 - \$25,000:	7 (18.4%)
\$25,000 - \$50,000:	8 (20.5%)
\$50,000 - \$75,000:	4 (9.4%)
Greater than \$75,000:	2 (5.7%)

TABLE 7

1801 Bruce Shaw Road – Providence (Adger), Jefferson County (1.0 Mile Radius)

Overview					
Total Persons:	69	Land Area:	95.1%	Households in Area:	29
Population Density:	22.95 /sq mi	Water Area:	4.9%	Housing Units in Area:	47
Percent Minority:	0%	Persons Below Poverty Level:	12 (17.4%)	Households on Public Assistance:	2
Percent Urban:	0%	Housing Units Built <1970:	58%	Housing Units Built <1950:	11%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	69 (100.0%)	Child 5 years or less:	7 (9.5%)
African-American:	0 (0.0%)	Minors 17 years and younger:	16 (23.1%)
Hispanic-Origin:	0 (0.0%)	Adults 18 years and older:	53 (76.9%)
Asian/Pacific Islander:	0 (0.0%)	Seniors 65 years and older:	10 (14.6%)
American Indian:	0 (0.0%)	<i>This space intentionally left blank</i>	
Other Race:	0 (0.0%)		
Multiracial:	0 (0.0%)		

Gender	
Gender Breakdown	Persons (%)
Males:	31 (45.4%)
Females:	37 (54.6%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	7 (14.5%)
9th -12th grade:	11 (24.3%)
High School Diploma:	16 (36.0%)
Some College/2 yr:	8 (18.2%)
B.S./B.A. or more:	3 (7.0%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	4 (14.5%)
\$15,000 - \$25,000:	5 (16.7%)
\$25,000 - \$50,000:	10 (35.8%)
\$50,000 - \$75,000:	5 (17.5%)
Greater than \$75,000:	2 (7.5%)

TABLE 8

841 Finley Avenue – East Thomas (Birmingham), Jefferson County (1.0 Mile Radius)

Overview					
Total Persons:	4477	Land Area:	99.5%	Households in Area:	1735
Population Density:	1431.85 /sq mi	Water Area:	0.5%	Housing Units in Area:	1930
Percent Minority:	91.9%	Persons Below Poverty Level:	990 (22.1%)	Households on Public Assistance:	60
Percent Urban:	0%	Housing Units Built <1970:	84%	Housing Units Built <1950:	34%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	404 (9.0%)	Child 5 years or less:	303 (6.8%)
African-American:	3956 (88.4%)	Minors 17 years and younger:	923 (20.6%)
Hispanic-Origin:	119 (2.7%)	Adults 18 years and older:	3554 (79.4%)
Asian/Pacific Islander:	16 (0.4%)	Seniors 65 years and older:	864 (19.3%)
American Indian:	7 (0.2%)	<i>This space intentionally left blank</i>	
Other Race:	60 (1.3%)		
Multiracial:	34 (0.8%)		

Gender	
Gender Breakdown	Persons (%)
Males:	2050 (45.8%)
Females:	2428 (54.2%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	306 (11.3%)
9th -12th grade:	469 (17.3%)
High School Diploma:	763 (28.1%)
Some College/2 yr:	619 (22.8%)
B.S./B.A. or more:	558 (20.5%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	599 (34.5%)
\$15,000 - \$25,000:	287 (16.6%)
\$25,000 - \$50,000:	542 (31.2%)
\$50,000 - \$75,000:	186 (10.7%)
Greater than \$75,000:	134 (7.7%)

TABLE 9

3009 28th Street North – North Birmingham (Birmingham) Jefferson County (1.0 Mile Radius)

Overview					
Total Persons:	7150	Land Area:	99.9%	Households in Area:	2778
Population Density:	2277.59 /sq mi	Water Area:	0.1%	Housing Units in Area:	3142
Percent Minority:	97.8%	Persons Below Poverty Level:	3045 (42.6%)	Households on Public Assistance:	190
Percent Urban:	0%	Housing Units Built <1970:	80%	Housing Units Built <1950:	30%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	158 (2.2%)	Child 5 years or less:	718 (10.0%)
African-American:	6944 (97.1%)	Minors 17 years and younger:	2059 (28.8%)
Hispanic-Origin:	6 (0.1%)	Adults 18 years and older:	5091 (71.2%)
Asian/Pacific Islander:	2 (0.0%)	Seniors 65 years and older:	1028 (14.4%)
American Indian:	0 (0.0%)	<i>This space intentionally left blank</i>	
Other Race:	2 (0.0%)		
Multiracial:	43 (0.6%)		

Gender	
Gender Breakdown	Persons (%)
Males:	3221 (45.1%)
Females:	3929 (54.9%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	594 (14.1%)
9th -12th grade:	1263 (30.0%)
High School Diploma:	1431 (34.0%)
Some College/2 yr:	679 (16.1%)
B.S./B.A. or more:	237 (5.6%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	1310 (47.2%)
\$15,000 - \$25,000:	550 (19.8%)
\$25,000 - \$50,000:	601 (21.6%)
\$50,000 - \$75,000:	168 (6.1%)
Greater than \$75,000:	96 (3.5%)

TABLE 10

4113 Shuttlesworth Drive – Birmingham, Jefferson County (1.0 Mile Radius)

Overview					
Total Persons:	4121	Land Area:	99.4%	Households in Area:	1625
Population Density:	1319.95 /sq mi	Water Area:	0.6%	Housing Units in Area:	1922
Percent Minority:	88.3%	Persons Below Poverty Level:	1602 (38.9%)	Households on Public Assistance:	84
Percent Urban:	0%	Housing Units Built <1970:	85%	Housing Units Built <1950:	37%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	494 (12.0%)	Child 5 years or less:	333 (8.1%)
African-American:	3575 (86.7%)	Minors 17 years and younger:	1220 (29.6%)
Hispanic-Origin:	13 (0.3%)	Adults 18 years and older:	2901 (70.4%)
Asian/Pacific Islander:	15 (0.4%)	Seniors 65 years and older:	670 (16.3%)
American Indian:	0 (0.0%)	<i>This space intentionally left blank</i>	
Other Race:	1 (0.0%)		
Multiracial:	36 (0.9%)		

Gender	
Gender Breakdown	Persons (%)
Males:	1881 (45.6%)
Females:	2241 (54.4%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	281 (11.5%)
9th -12th grade:	732 (29.9%)
High School Diploma:	883 (36.1%)
Some College/2 yr:	367 (15.0%)
B.S./B.A. or more:	181 (7.4%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	718 (44.2%)
\$15,000 - \$25,000:	312 (19.2%)
\$25,000 - \$50,000:	416 (25.6%)
\$50,000 - \$75,000:	122 (7.5%)
Greater than \$75,000:	38 (2.3%)

TABLE 11

1242 Jersey Street – Wylam (Birmingham), Jefferson County (1.0 Mile Radius)

Overview					
Total Persons:	3871	Land Area:	99.9%	Households in Area:	1367
Population Density:	1233.38 /sq mi	Water Area:	0.1%	Housing Units in Area:	1544
Percent Minority:	80.9%	Persons Below Poverty Level:	1076 (27.8%)	Households on Public Assistance:	66
Percent Urban:	0%	Housing Units Built <1970:	85%	Housing Units Built <1950:	53%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	742 (19.2%)	Child 5 years or less:	327 (8.4%)
African-American:	3026 (78.2%)	Minors 17 years and younger:	1190 (30.7%)
Hispanic-Origin:	73 (1.9%)	Adults 18 years and older:	2681 (69.3%)
Asian/Pacific Islander:	7 (0.2%)	Seniors 65 years and older:	420 (10.9%)
American Indian:	0 (0.0%)	<i>This space intentionally left blank</i>	
Other Race:	71 (1.8%)		
Multiracial:	25 (0.6%)		

Gender	
Gender Breakdown	Persons (%)
Males:	1749 (45.2%)
Females:	2122 (54.8%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	188 (8.8%)
9th -12th grade:	531 (24.9%)
High School Diploma:	722 (33.9%)
Some College/2 yr:	505 (23.7%)
B.S./B.A. or more:	186 (8.7%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	431 (31.5%)
\$15,000 - \$25,000:	289 (21.1%)
\$25,000 - \$50,000:	369 (27.0%)
\$50,000 - \$75,000:	156 (11.4%)
Greater than \$75,000:	121 (8.9%)

TABLE 12

2201 Airport Road – Huntsville, Madison County (1.0 Mile Radius)

Overview					
Total Persons:	5377	Land Area:	99.2%	Households in Area:	2832
Population Density:	1724.53 /sq mi	Water Area:	0.8%	Housing Units in Area:	3324
Percent Minority:	31.9%	Persons Below Poverty Level:	729 (13.6%)	Households on Public Assistance:	37
Percent Urban:	0%	Housing Units Built <1970:	32%	Housing Units Built <1950:	1%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	3717 (69.1%)	Child 5 years or less:	361 (6.7%)
African-American:	1192 (22.2%)	Minors 17 years and younger:	877 (16.3%)
Hispanic-Origin:	152 (2.8%)	Adults 18 years and older:	4500 (83.7%)
Asian/Pacific Islander:	190 (3.5%)	Seniors 65 years and older:	916 (17.0%)
American Indian:	43 (0.8%)	<i>This space intentionally left blank</i>	
Other Race:	97 (1.8%)		
Multiracial:	137 (2.6%)		

Gender	
Gender Breakdown	Persons (%)
Males:	2607 (48.5%)
Females:	2770 (51.5%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	99 (2.7%)
9th -12th grade:	452 (12.4%)
High School Diploma:	761 (20.9%)
Some College/2 yr:	1019 (27.9%)
B.S./B.A. or more:	1318 (36.1%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	660 (23.3%)
\$15,000 - \$25,000:	526 (18.6%)
\$25,000 - \$50,000:	890 (31.4%)
\$50,000 - \$75,000:	462 (16.3%)
Greater than \$75,000:	284 (10.0%)

TABLE 13

Iroquois Street and Azalea Drive – Chickasaw, Mobile County (1.0 Mile Radius)

Overview					
Total Persons:	5405	Land Area:	99.3%	Households in Area:	2300
Population Density:	1732.78 /sq mi	Water Area:	0.7%	Housing Units in Area:	2500
Percent Minority:	16.9%	Persons Below Poverty Level:	949 (17.6%)	Households on Public Assistance:	53
Percent Urban:	0%	Housing Units Built <1970:	86%	Housing Units Built <1950:	25%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	4504 (83.3%)	Child 5 years or less:	503 (9.3%)
African-American:	753 (13.9%)	Minors 17 years and younger:	1406 (26.0%)
Hispanic-Origin:	35 (0.6%)	Adults 18 years and older:	4000 (74.0%)
Asian/Pacific Islander:	30 (0.6%)	Seniors 65 years and older:	1052 (19.5%)
American Indian:	36 (0.7%)	<i>This space intentionally left blank</i>	
Other Race:	25 (0.5%)		
Multiracial:	57 (1.0%)		

Gender	
Gender Breakdown	Persons (%)
Males:	2503 (46.3%)
Females:	2902 (53.7%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	366 (10.8%)
9th -12th grade:	725 (21.5%)
High School Diploma:	1322 (39.2%)
Some College/2 yr:	663 (19.6%)
B.S./B.A. or more:	300 (8.9%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	628 (27.3%)
\$15,000 - \$25,000:	385 (16.8%)
\$25,000 - \$50,000:	774 (33.6%)
\$50,000 - \$75,000:	320 (13.9%)
Greater than \$75,000:	160 (6.9%)

TABLE 14

State Highway 43 – LeMoyne, Mobile County

Overview					
Total Persons:	200	Land Area:	96.1%	Households in Area:	70
Population Density:	66.38 /sq mi	Water Area:	3.9%	Housing Units in Area:	74
Percent Minority:	12.6%	Persons Below Poverty Level:	21 (10.5%)	Households on Public Assistance:	1
Percent Urban:	0%	Housing Units Built <1970:	18%	Housing Units Built <1950:	6%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	176 (87.7%)	Child 5 years or less:	19 (9.3%)
African-American:	20 (10.0%)	Minors 17 years and younger:	58 (29.0%)
Hispanic-Origin:	0 (0.2%)	Adults 18 years and older:	142 (71.0%)
Asian/Pacific Islander:	0 (0.1%)	Seniors 65 years and older:	17 (8.3%)
American Indian:	2 (1.0%)	<i>This space intentionally left blank</i>	
Other Race:	0 (0.0%)		
Multiracial:	2 (1.1%)		

Gender	
Gender Breakdown	Persons (%)
Males:	98 (49.1%)
Females:	102 (50.9%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	6 (4.8%)
9th -12th grade:	23 (19.6%)
High School Diploma:	48 (40.9%)
Some College/2 yr:	25 (21.0%)
B.S./B.A. or more:	16 (13.8%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	11 (15.7%)
\$15,000 - \$25,000:	6 (8.7%)
\$25,000 - \$50,000:	20 (28.6%)
\$50,000 - \$75,000:	18 (26.5%)
Greater than \$75,000:	14 (20.5%)

TABLE 15

650 St. Anthony Street - Mobile, Mobile County (1.0 Mile Radius)

Overview					
Total Persons:	4917	Land Area:	55.7%	Households in Area:	1727
Population Density:	2810.61 /sq mi	Water Area:	44.3%	Housing Units in Area:	1970
Percent Minority:	97.3%	Persons Below Poverty Level:	3156 (64.2%)	Households on Public Assistance:	179
Percent Urban:	0%	Housing Units Built <1970:	87%	Housing Units Built <1950:	39%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	133 (2.7%)	Child 5 years or less:	814 (16.6%)
African-American:	4744 (96.5%)	Minors 17 years and younger:	2096 (42.6%)
Hispanic-Origin:	36 (0.7%)	Adults 18 years and older:	2821 (57.4%)
Asian/Pacific Islander:	9 (0.2%)	Seniors 65 years and older:	441 (9.0%)
American Indian:	24 (0.5%)	<i>This space intentionally left blank</i>	
Other Race:	0 (0.0%)		
Multiracial:	7 (0.1%)		

Gender	
Gender Breakdown	Persons (%)
Males:	2101 (42.7%)
Females:	2816 (57.3%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	317 (15.0%)
9th -12th grade:	737 (34.9%)
High School Diploma:	611 (29.0%)
Some College/2 yr:	317 (15.0%)
B.S./B.A. or more:	127 (6.0%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	1170 (67.7%)
\$15,000 - \$25,000:	258 (15.0%)
\$25,000 - \$50,000:	188 (10.9%)
\$50,000 - \$75,000:	63 (3.7%)
Greater than \$75,000:	44 (2.5%)

TABLE 16

3650 Newman Road - Seven Hills, Mobile County

Overview					
Total Persons:	140	Land Area:	97.2%	Households in Area:	52
Population Density:	45.96 /sq mi	Water Area:	2.8%	Housing Units in Area:	55
Percent Minority:	1.8%	Persons Below Poverty Level:	10 (7.1%)	Households on Public Assistance:	0
Percent Urban:	0%	Housing Units Built <1970:	19%	Housing Units Built <1950:	4%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	139 (98.8%)	Child 5 years or less:	11 (7.7%)
African-American:	1 (0.6%)	Minors 17 years and younger:	31 (22.2%)
Hispanic-Origin:	1 (0.7%)	Adults 18 years and older:	109 (77.8%)
Asian/Pacific Islander:	0 (0.0%)	Seniors 65 years and older:	12 (8.8%)
American Indian:	1 (0.5%)	<i>This space intentionally left blank</i>	
Other Race:	0 (0.0%)		
Multiracial:	0 (0.0%)		

Gender	
Gender Breakdown	Persons (%)
Males:	70 (50.0%)
Females:	70 (50.0%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	4 (4.6%)
9th -12th grade:	12 (13.2%)
High School Diploma:	38 (41.2%)
Some College/2 yr:	21 (22.7%)
B.S./B.A. or more:	17 (18.4%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	6 (11.4%)
\$15,000 - \$25,000:	8 (14.7%)
\$25,000 - \$50,000:	16 (31.3%)
\$50,000 - \$75,000:	17 (33.0%)
Greater than \$75,000:	9 (16.8%)

TABLE 17

5325 Commerce Lane - Theodore, Mobile County

Overview					
Total Persons:	744	Land Area:	54.8%	Households in Area:	295
Population Density:	432.23 /sq mi	Water Area:	45.2%	Housing Units in Area:	324
Percent Minority:	5.4%	Persons Below Poverty Level:	55 (7.4%)	Households on Public Assistance:	3
Percent Urban:	0%	Housing Units Built <1970:	43%	Housing Units Built <1950:	5%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	706 (94.9%)	Child 5 years or less:	42 (5.6%)
African-American:	26 (3.4%)	Minors 17 years and younger:	158 (21.3%)
Hispanic-Origin:	5 (0.7%)	Adults 18 years and older:	586 (78.7%)
Asian/Pacific Islander:	0 (0.0%)	Seniors 65 years and older:	98 (13.2%)
American Indian:	4 (0.5%)	<i>This space intentionally left blank</i>	
Other Race:	0 (0.0%)		
Multiracial:	9 (1.1%)		

Gender	
Gender Breakdown	Persons (%)
Males:	388 (52.1%)
Females:	356 (47.9%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	12 (2.3%)
9th -12th grade:	54 (10.4%)
High School Diploma:	188 (36.2%)
Some College/2 yr:	127 (24.5%)
B.S./B.A. or more:	138 (26.6%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	33 (11.3%)
\$15,000 - \$25,000:	26 (8.7%)
\$25,000 - \$50,000:	76 (25.7%)
\$50,000 - \$75,000:	95 (32.3%)
Greater than \$75,000:	71 (24.0%)

TABLE 18

1350 Coliseum Boulevard – Montgomery, Montgomery County (1.0 Mile Radius)

Overview					
Total Persons:	4644	Land Area:	98.4%	Households in Area:	1710
Population Density:	1502.22 /sq mi	Water Area:	1.6%	Housing Units in Area:	1762
Percent Minority:	22.1%	Persons Below Poverty Level:	415 (8.9%)	Households on Public Assistance:	31
Percent Urban:	0%	Housing Units Built <1970:	51%	Housing Units Built <1950:	4%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	3620 (78.0%)	Child 5 years or less:	358 (7.7%)
African-American:	895 (19.3%)	Minors 17 years and younger:	1258 (27.1%)
Hispanic-Origin:	39 (0.8%)	Adults 18 years and older:	3385 (72.9%)
Asian/Pacific Islander:	72 (1.5%)	Seniors 65 years and older:	636 (13.7%)
American Indian:	1 (0.0%)	<i>This space intentionally left blank</i>	
Other Race:	19 (0.4%)		
Multiracial:	37 (0.8%)		

Gender	
Gender Breakdown	Persons (%)
Males:	2234 (48.1%)
Females:	2410 (51.9%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	96 (3.4%)
9th -12th grade:	242 (8.6%)
High School Diploma:	757 (26.9%)
Some College/2 yr:	713 (25.4%)
B.S./B.A. or more:	1002 (35.7%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	195 (11.4%)
\$15,000 - \$25,000:	213 (12.4%)
\$25,000 - \$50,000:	498 (29.1%)
\$50,000 - \$75,000:	460 (26.9%)
Greater than \$75,000:	338 (19.8%)

TABLE 19

1320 Broad Street – Phenix City, Russell County (1.0 Mile Radius)

Overview					
Total Persons:	6910	Land Area:	94.2%	Households in Area:	2961
Population Density:	2336.13 /sq mi	Water Area:	5.8%	Housing Units in Area:	3639
Percent Minority:	42.8%	Persons Below Poverty Level:	2504 (36.2%)	Households on Public Assistance:	275
Percent Urban:	100%	Housing Units Built <1970:	82%	Housing Units Built <1950:	40%

Race and Age			
Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	4015 (58.1%)	Child 5 years or less:	697 (10.1%)
African-American:	2686 (38.9%)	Minors 17 years and younger:	1998 (28.9%)
Hispanic-Origin:	121 (1.7%)	Adults 18 years and older:	4913 (71.1%)
Asian/Pacific Islander:	47 (0.7%)	Seniors 65 years and older:	1111 (16.1%)
American Indian:	40 (0.6%)	<i>This space intentionally left blank</i>	
Other Race:	62 (0.9%)		
Multiracial:	59 (0.9%)		

Gender	
Gender Breakdown	Persons (%)
Males:	3031 (43.9%)
Females:	3880 (56.1%)

Education	
Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	709 (17.4%)
9th -12th grade:	1065 (26.1%)
High School Diploma:	1305 (32.0%)
Some College/2 yr:	654 (16.1%)
B.S./B.A. or more:	343 (8.4%)

Income	
Income Breakdown	Households (%)
Less than \$15,000:	1402 (47.3%)
\$15,000 - \$25,000:	483 (16.3%)
\$25,000 - \$50,000:	727 (24.6%)
\$50,000 - \$75,000:	232 (7.8%)
Greater than \$75,000:	70 (2.4%)

VI. POLLUTANT CHARACTERIZATION

Summary of Data

Background information on the fifteen toxic air pollutants discussed in this report are presented below. This includes information on the hazards, uses, sources, health effects, and physical properties of the toxic air pollutants.

Methodology

Numerous sources of pollutant data are available on the internet.⁹ For purposes of this report, all data characterizing toxic air pollutants are from the U.S. Environmental Protection Agency's Health Effects Notebook for Hazardous Air Pollutants at <http://www.epa.gov/ttnatw01/hlthef/hapindex.html>. The Health Effects Notebook provides summary information on the hazards, uses, sources, health effects, and physical properties of numerous air pollutants.

Toxic Pollutant Characterization Data

Information on the fifteen toxic air pollutants discussed in this report are presented in pages 72 - 149, *infra*.

⁹ See e.g., the U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS) at <http://cfpub.epa.gov/ncea/iris/index.cfm>; the National Library of Medicine's Toxicology Data Network (TOXNET) at <http://toxnet.nlm.nih.gov/>; the Agency for Toxic Substances and Disease Registry's Toxicological Profiles at <http://www.atsdr.cdc.gov/toxpro2.html>; the U.S. Environmental Protection Agency's Toxicological Reviews at <http://cfpub.epa.gov/ncea/iris/index.cfm?fuseaction=iris.showToxDocs>; and the California Office of Environmental Health Hazard Assessment Toxicity Criteria Database at <http://www.oehha.ca.gov/risk/chemicalDB/start.asp>.



Technology Transfer Network Air Toxics Web Site

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Acetaldehyde

75-07-0

Hazard Summary-Created in April 1992; Revised in January 2000

Acetaldehyde is mainly used as an intermediate in the synthesis of other chemicals. It is ubiquitous in the environment and may be formed in the body from the breakdown of ethanol. Acute (short-term) exposure to acetaldehyde results in effects including irritation of the eyes, skin, and respiratory tract. Symptoms of chronic (long-term) intoxication of acetaldehyde resemble those of alcoholism. Acetaldehyde is considered a probable human carcinogen (Group B2) based on inadequate human cancer studies and animal studies that have shown nasal tumors in rats and laryngeal tumors in hamsters.

Please Note: The main sources of information for this fact sheet are EPA's *Health Assessment Document for Acetaldehyde* and the *Integrated Risk Information System (IRIS)*, which contains information on inhalation chronic toxicity of acetaldehyde and the *RfC*. Other secondary sources include the International Agency for Research on Cancer (IARC) *Monographs on Chemicals Carcinogenic to Humans*.

Uses

- The predominant use of acetaldehyde is as an intermediate in the synthesis of other chemicals. (1)
- Acetaldehyde is used in the production of perfumes, polyester resins, and basic dyes. Acetaldehyde is also used as a fruit and fish preservative, as a flavoring agent, and as a denaturant for alcohol, in fuel compositions, for hardening gelatin, and as a solvent in the rubber, tanning, and paper industries. (1,2)

Sources and Potential Exposure

- Acetaldehyde is ubiquitous in the ambient environment. It is an intermediate product of higher plant respiration and formed as a product of incomplete wood combustion in fireplaces and woodstoves, coffee roasting, burning of tobacco, vehicle exhaust fumes, and coal refining and waste processing. Hence, many individuals are exposed to acetaldehyde by breathing ambient air. It should be noted that residential fireplaces and woodstoves are the two highest sources of emissions, followed by various industrial emissions. (1)
- In Los Angeles, California, levels of acetaldehyde up to 32 parts per billion (ppb) have been measured in the ambient environment. (1)
- Exposure may also occur in individuals occupationally exposed to acetaldehyde during its manufacture and use. (1,2)
- In addition, acetaldehyde is formed in the body from the breakdown of ethanol; this would be a source of acetaldehyde among those who consume alcoholic beverages. (1)

Assessing Personal Exposure

- Acetaldehyde can be detected in the blood and breath to determine whether or not exposure has occurred. (12)

Health Hazard Information

Acute Effects:

- The primary acute effect of inhalation exposure to acetaldehyde is irritation of the eyes, skin, and respiratory tract in humans. At higher exposure levels, erythema, coughing, pulmonary edema, and necrosis may also occur. (1)
- Acute inhalation of acetaldehyde resulted in a depressed respiratory rate and elevated blood pressure in experimental animals. (1)
- Tests involving acute exposure of rats, rabbits, and hamsters have demonstrated acetaldehyde to have low acute toxicity from inhalation and moderate acute toxicity from oral or dermal exposure. (3)

Chronic Effects (Noncancer):

- Symptoms of chronic intoxication of acetaldehyde in humans resemble those of alcoholism. (5)
- In hamsters, chronic inhalation exposure to acetaldehyde has produced changes in the nasal mucosa and trachea, growth retardation, slight anemia, and increased kidney weight. (1,4)
- The Reference Concentration (RfC) for acetaldehyde is 0.009 milligrams per cubic meter (mg/m^3) based on degeneration of olfactory epithelium in rats. The RfC is an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups), that is likely to be without appreciable risk of deleterious noncancer effects during a lifetime. It is not a direct estimator of risk but rather a reference point to gauge the potential health effects. At exposures increasingly greater than the RfC, the potential for adverse health effects increases. Lifetime exposure above the RfC does not imply that an adverse health effect would necessarily occur. (4)
- EPA has medium confidence in the principal studies because appropriate histopathology was performed on an adequate number of animals and a no-observed-adverse-effect level (NOAEL) and a lowest-observed-adverse-effect level (LOAEL) were identified, but the duration was short and only one species was tested; low confidence in the database due to the lack of chronic data establishing NOAELs and due to the lack of reproductive and developmental toxicity data; and, consequently, low confidence in the RfC. (4)
- EPA has not established a Reference Dose (RfD) for acetaldehyde. (4)

Reproductive/Developmental Effects:

- No information is available on the reproductive or developmental effects of acetaldehyde in humans.
- Acetaldehyde has been shown, in animals, to cross the placenta to the fetus. (1,4)
- Data from animal studies suggest that acetaldehyde may be a potential developmental toxin. In one study, a high incidence of embryonic resorptions was observed in mice injected with acetaldehyde. In rats exposed to acetaldehyde by injection, skeletal malformations, reduced birth weight, and increased postnatal mortality have been reported. (1,6)

Cancer Risk:

- Human data regarding the carcinogenic effects of acetaldehyde are inadequate. Only one epidemiology study is available that has several limitations including short duration, small number of subjects, and concurrent exposure to other chemicals and cigarettes. (1,4,6)
- An increased incidence of nasal tumors in rats and laryngeal tumors in hamsters has been observed following inhalation exposure to acetaldehyde. (1,4,6)
- EPA has classified acetaldehyde as a Group B2, probable human carcinogen. (1,4)

- EPA uses mathematical models, based on human and animal studies, to estimate the probability of a person developing cancer from breathing air containing a specified concentration of a chemical. EPA calculated an inhalation unit risk of $2.2 \times 10^{-6} (\mu\text{g}/\text{m}^3)^{-1}$. EPA estimates that, if an individual were to continuously breathe air containing acetaldehyde at an average of $0.5 \mu\text{g}/\text{m}^3$ ($5 \times 10^{-4} \text{ mg}/\text{m}^3$) over his or her entire lifetime, that person would theoretically have no more than a one-in-a-million increased chance of developing cancer as a direct result of breathing air containing this chemical. Similarly, EPA estimates that breathing air containing $5.0 \mu\text{g}/\text{m}^3$ ($5 \times 10^{-3} \text{ mg}/\text{m}^3$) would result in not greater than a one-in-a-hundred thousand increased chance of developing cancer, and air containing $50.0 \mu\text{g}/\text{m}^3$ ($5 \times 10^{-2} \text{ mg}/\text{m}^3$) would result in not greater than a one-in-ten thousand increased chance of developing cancer. For a detailed discussion of confidence in the potency estimates, please see IRIS. (4)

Physical Properties

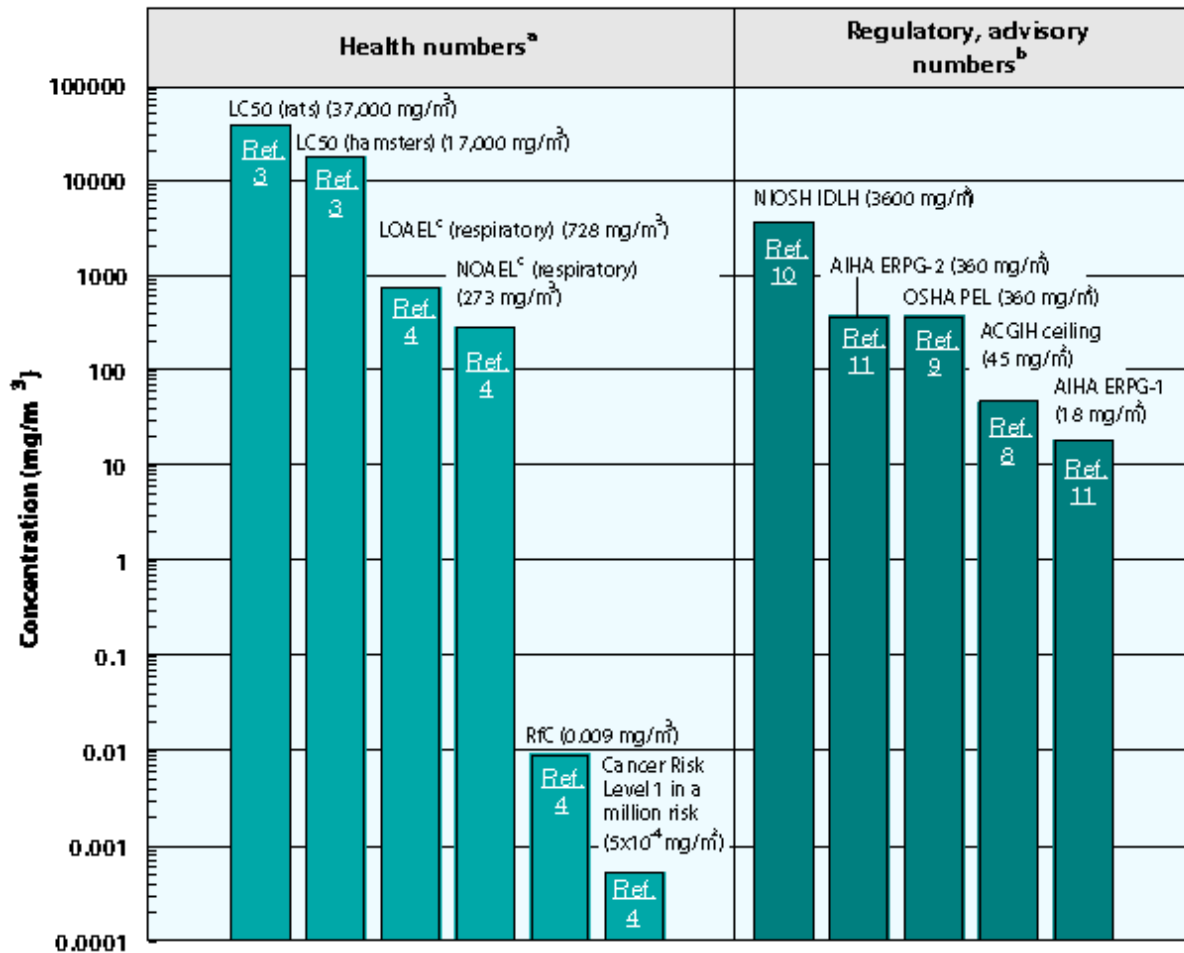
- The chemical formula for acetaldehyde is CH_3CHO , and it has a molecular weight of 44.06 g/mol. (1)
- Acetaldehyde is a colorless mobile liquid that is flammable and miscible with water. (1,6)
- Acetaldehyde has a pungent suffocating odor, but at dilute concentrations it has a fruity and pleasant odor. The odor threshold of acetaldehyde is 0.05 parts per million (ppm) ($0.09 \text{ mg}/\text{m}^3$). (1,7)
- The vapor pressure for acetaldehyde is 740 mm Hg at 20 °C, and it has a log octanol/water partition coefficient ($\log K_{ow}$) of 0.43. (1)

Conversion Factors (only for the gaseous form):

To convert concentrations in air (at 25°C) from ppm to mg/m^3 : $\text{mg}/\text{m}^3 = (\text{ppm}) \times (\text{molecular weight of the compound})/(24.45)$. For acetaldehyde: $1 \text{ ppm} = 1.8 \text{ mg}/\text{m}^3$. To convert concentrations in air from $\mu\text{g}/\text{m}^3$ to mg/m^3 : $\text{mg}/\text{m}^3 = (\mu\text{g}/\text{m}^3) \times (1 \text{ mg}/1,000 \mu\text{g})$.

Health Data from Inhalation Exposure

Acetaldehyde



AIHA ERPG--American Industrial Hygiene Association's emergency response planning guidelines. ERPG 1 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor; ERPG 2 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing or developing irreversible or other serious health effects that could impair their abilities to take protective action.

ACGIH ceiling--American Conference of Governmental and Industrial Hygienists' threshold limit value ceiling; the concentration of a substance that should not be exceeded during any part of the working exposure.

LC₅₀ (Lethal Concentration₅₀)--A calculated concentration of a chemical in air to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

NIOSH IDLH--National Institute of Occupational Safety and Health's immediately dangerous to life or health limit; NIOSH recommended exposure limit to ensure that a worker can escape from an exposure condition that is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from the environment.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

The health and regulatory values cited in this factsheet were obtained in December 1999.

^a Health Numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^b Regulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as advice. OSHA numbers are regulatory, whereas NIOSH, ACGIH, and AIHA numbers are advisory.

^c The LOAEL and NOAEL are from the critical study used as the basis for the EPA RfC.

References

1. U.S. Environmental Protection Agency. *Health Assessment Document for Acetaldehyde*. EPA/600/8-86-015A. Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, Office of Research and Development, Research Triangle Park, NC. 1987.
2. M. Sittig. *Handbook of Toxic and Hazardous Chemicals and Carcinogens*. 2nd ed. Noyes Publications, Park Ridge, NJ. 1985.
3. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
4. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Acetaldehyde*. National Center for Environmental Assessment, Office of Research and Development, Washington, D.C. 1999.
5. *The Merck Index. An Encyclopedia of Chemicals, Drugs, and Biologicals*. 11th ed. Ed. S. Budavari. Merck and Co. Inc., Rahway, NJ. 1989.
6. International Agency for Research on Cancer (IARC). *IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans: Allyl Compounds, Aldehydes, Epoxides and Peroxides*. Volume 36. World Health Organization, Lyon. 1985.
7. J.E. Amoores and E. Hautala. Odor as an aid to chemical safety: Odor thresholds compared with threshold limit values and volatilities for 214 industrial chemicals in air and water dilution. *Journal of Applied Toxicology*, 3(6):272-290. 1983.
8. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices*. Cincinnati, OH. 1999.
9. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations*. 29 CFR 1910.1000. 1998.
10. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.
11. American Industrial Hygiene Association (AIHA). *The AIHA 1998 Emergency Response Planning Guidelines and Workplace Environmental Exposure Level Guides Handbook*. 1998.
12. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.



Technology Transfer Network Air Toxics Web Site

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Acrolein

107-02-8

Hazard Summary-Created in April 1992; Revised in January 2000

Acrolein is primarily used as an intermediate in the manufacture of acrylic acid. It can be formed from the breakdown of certain pollutants in outdoor air or from burning tobacco or gasoline. It is extremely toxic to humans from inhalation and dermal exposure. Acute (short-term) inhalation exposure may result in upper respiratory tract irritation and congestion. No information is available on its reproductive, developmental, or carcinogenic effects in humans. The animal cancer data are limited, with one study reporting an increased incidence of adrenocortical tumors in rats exposed to acrolein in the drinking water. EPA considers acrolein data are inadequate for an assessment of human carcinogenic potential.

Please Note: The main sources of information for this fact sheet are EPA's [Integrated Risk Information System \(IRIS\)](#), which contains information on inhalation chronic toxicity of acrolein and the [RfC](#), and the Agency for Toxic Substances and Disease Registry's (ATSDR's) [Toxicological Profile for Acrolein](#).

Uses

- The largest use for acrolein is as an intermediate in the manufacture of acrylic acid (1)

Sources and Potential Exposure

- Acrolein can be formed from the breakdown of certain pollutants found in outdoor air, from burning tobacco, or from burning gasoline. (1)
- Airborne exposure to acrolein may occur from breathing contaminated air, from smoking tobacco or proximity to someone who is smoking, or from being near automobiles or oil or coal power plants. In several large cities, acrolein has been measured at 9 parts per billion (ppb). (1)
- Occupational exposure to acrolein could occur in industries that use acrolein to make other chemicals. (1)
- Small amounts of acrolein may be found in some foods, such as fried foods, cooking oils, and roasted coffee. (1)
- Acrolein has not been detected in drinking water, and is not commonly found in surface water. (1)

Assessing Personal Exposure

- There are currently no tests available to determine personal exposure to acrolein. (1)

Health Hazard Information

Acute Effects:

- Acute inhalation exposure to high levels (10 parts per million [ppm]) of acrolein in humans may result in death. Effects on the lung, such as upper respiratory tract irritation and congestion have been noted at acrolein levels ranging from 0.17 ppm to 0.43 ppm. (1-3)
- Acrolein is considered to have high acute toxicity, based on short-term animal tests in rats. (1,4)

Chronic Effects (Noncancer):

- The major effects from chronic (long-term) inhalation exposure to acrolein in humans consist of general respiratory congestion and eye, nose, and throat irritation. (1,2,5)
- Acrolein is a strong dermal irritant, causing skin burns in humans. (1,2,5)
- Animal studies have reported that the respiratory system is the major target organ for acrolein toxicity. (1,2,5)
- The Reference Concentration (RfC) for acrolein is 0.00002 milligrams per cubic meter (mg/m^3) based on squamous metaplasia and neutrophilic infiltration of nasal epithelium in rats. The RfC is an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious noncancer effects during a lifetime. It is not a direct estimator of risk but rather a reference point to gauge the potential effects. At exposures increasingly greater than the RfC, the potential for adverse health effects increases. Lifetime exposure above the RfC does not imply that an adverse health effect would necessarily occur. (3)
- EPA has high confidence in the studies on which the RfC was based because adequate numbers of animals were used, careful attention was paid to experimental protocol, and together they demonstrated a consistent profile of histopathological changes in the respiratory system; low to medium confidence in the database due to the lack of chronic data and adequately conducted reproductive or developmental studies; and, consequently, medium confidence in the RfC.
- EPA has not established a Reference Dose (RfD) for acrolein. (3)
- EPA has calculated a provisional RfD of 0.02 milligrams per kilogram body weight per day ($\text{mg}/\text{kg}/\text{d}$) for acrolein. The provisional RfD is a value that has had some form of Agency review, but it does not appear on IRIS. (6)

Reproductive/Developmental Effects:

- No information is available on the reproductive or developmental effects of acrolein in humans. (1)
- In the one available reproductive animal study, rats were exposed to acrolein by inhalation, with no effects observed on the number of pregnancies or the number and weights of the fetuses. (1)
- Acrolein has been reported to cause birth defects in rats when injected directly into the embryonic tissue. (1)

Cancer Risk:

- No information is available on the carcinogenic effects of acrolein in humans. (1,3)
- Limited animal cancer data are available; one inhalation study in rats reported no evidence of tumors in the respiratory tract or in other tissues and organs, while another study reported an increased incidence of adrenocortical tumors in female rats exposed to acrolein in drinking water. (1,3)
- EPA has classified acrolein as data are inadequate for an assessment of human carcinogenic potential based on limited evidence of carcinogenicity in animals, the structural similarity of acrolein to substances possibly carcinogenic to humans, the carcinogenic potential of one of its metabolites, and the lack of human data. (3)

Physical Properties

- Acrolein is a water-white or yellow liquid that burns easily and is easily volatilized. (1)

- Acrolein has a disagreeable odor and an odor threshold of 0.2 ppm. (1,8)
- The chemical formula for acrolein is C₃H₄O and the molecular weight is 56.06 g/mol. (1)
- The vapor pressure for acrolein is 220 mm Hg at 20 °C, and its log octanol/water partition coefficient (log K_{ow}) is -0.01. (1)

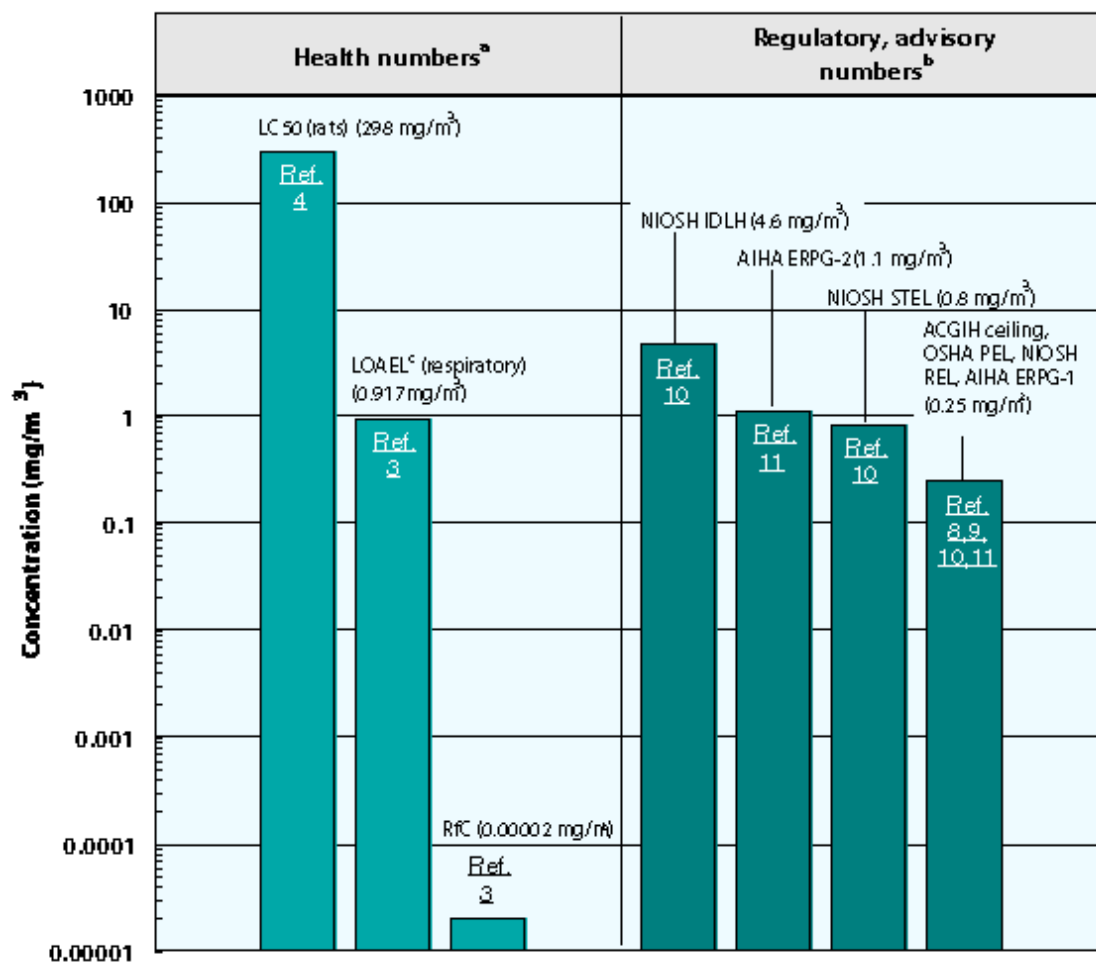
Conversion Factors:

To convert concentrations in air (at 25°C) from ppm to mg/m³: $mg/m^3 = (ppm) \times (\text{molecular weight of the compound}) / (24.45)$.

For acrolein: 1 ppm = 2.29 mg/m³.

Health Data from Inhalation Exposure

Acrolein



AIHA ERPG--American Industrial Hygiene Association's emergency response planning guidelines. ERPG 1 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor; ERPG 2 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing or developing irreversible or other serious health effects that could impair their abilities to take

protective action

ACGIH ceiling--American Conference of Governmental and Industrial Hygienists' threshold limit value ceiling; the concentration of a substance that should not be exceeded during any part of the working exposure.

LC₅₀ (Lethal Concentration₅₀)--A calculated concentration of a chemical in air to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

LOAEL--Lowest-observed-adverse-effect level.

NIOSH IDLH--National Institute of Occupational Safety and Health's immediately dangerous to life or health limit; NIOSH recommended exposure limit to ensure that a worker can escape from an exposure condition that is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from the environment.

NIOSH REL--NIOSH's recommended exposure limit; NIOSH recommended exposure limit for an 8- or 10-h time-weighted average exposure and/or ceiling.

NIOSH STEL--NIOSH's short term exposure limit; NIOSH recommended exposure limit for a 15-minute period.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

The health and regulatory values cited in this factsheet were obtained in December 1999.

^a Health numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^b Regulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as advice. OSHA numbers are regulatory, whereas NIOSH, ACGIH, and AIHA numbers are advisory.

^c This LOAEL is from the critical study used as the basis for the RfC.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for Acrolein*. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1990.
2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB, [online database](#)). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
3. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Acrolein*. National Center for Environmental Assessment, Office of Research and Development, Washington, D.C. 1999.
4. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
5. E.J. Calabrese and E.M. Kenyon. *Air Toxics and Risk Assessment*. Lewis Publishers, Chelsea, MI. 1991.
6. U.S. Environmental Protection Agency. *Health Effects Assessment Summary Tables. FY 1997 Update*. Solid Waste and Emergency Response, Office of Emergency and Remedial Response, Cincinnati, OH. EPA/540/R-97-036. 1997.
7. J.E. Amoores and E. Hautala. Odor as an aid to chemical safety: Odor thresholds compared with threshold limit values and volatilities for 214 industrial chemicals in air and water dilution. *Journal of Applied Toxicology*, 3(6):272-290. 1983.
8. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices*. Cincinnati, OH. 1999.
9. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations*. 29 CFR 1910.1000. 1998.

10. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.
 11. American Industrial Hygiene Association (AIHA). *The AIHA 1998 Emergency Response Planning Guidelines and Workplace Environmental Exposure Level Guides Handbook* 1998.
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Technology Transfer Network Air Toxics Web Site

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Arsenic Compounds

ARSENIC COMPOUNDS^(A) 107-02-8

Hazard Summary-Created in April 1992; Revised in January 2000

Arsenic, a naturally occurring element, is found throughout the environment; for most people, food is the major source of exposure. Acute (short-term) high-level inhalation exposure to arsenic dust or fumes has resulted in gastrointestinal effects (nausea, diarrhea, abdominal pain); central and peripheral nervous system disorders have occurred in workers acutely exposed to inorganic arsenic. Chronic (long-term) inhalation exposure to inorganic arsenic in humans is associated with irritation of the skin and mucous membranes. Chronic oral exposure has resulted in gastrointestinal effects, anemia, peripheral neuropathy, skin lesions, hyperpigmentation, and liver or kidney damage in humans. Inorganic arsenic exposure in humans, by the inhalation route, has been shown to be strongly associated with lung cancer, while ingestion of inorganic arsenic in humans has been linked to a form of skin cancer and also to bladder, liver, and lung cancer. EPA has classified inorganic arsenic as a Group A, human carcinogen.

Arsine is a gas consisting of arsenic and hydrogen. It is extremely toxic to humans, with headaches, vomiting, and abdominal pains occurring within a few hours of exposure. EPA has not classified arsine for carcinogenicity.

Please Note: The main sources of information for this fact sheet are EPA's [Integrated Risk Information System \(IRIS\)](#), which contains information on inhalation chronic toxicity and the [RfC](#) for arsine, oral chronic toxicity and the [RfD](#) for inorganic arsenic, and the carcinogenic effects of inorganic arsenic including the unit cancer risk for inhalation exposure, and the Agency for Toxic Substances and Disease Registry's (ATSDR's) [Toxicological Profile for Arsenic](#).

Uses

- The major use for inorganic arsenic is in wood preservation; arsine is used in the microelectronics industry and in semiconductor manufacture. (2)
- Until the 1940s, inorganic arsenic solutions were widely used in the treatment of various diseases, such as syphilis and psoriasis. Inorganic arsenic is still used as an antiparasitic agent in veterinary medicine and in homeopathic and folk remedies in the United States and other countries. (2)

Sources and Potential Exposure

- Inorganic arsenic is found throughout the environment; it is released into the air by volcanoes, the weathering of arsenic-containing minerals and ores, and by commercial or industrial processes. (1,2)
- For most people, food is the largest source of arsenic exposure (about 25 to 50 micrograms per day [$\mu\text{g}/\text{d}$]), with lower amounts coming from drinking water and air. Among foods, some of the highest levels are found in fish and shellfish; however, this arsenic exists primarily as organic compounds, which are essentially nontoxic. (1)
- Elevated levels of inorganic arsenic may be present in soil, either from natural mineral deposits or contamination from human activities, which may lead to dermal or ingestion exposure. (1)
- Workers in metal smelters and nearby residents may be exposed to above-average inorganic arsenic levels from arsenic released into the air. (1)
- Other sources of inorganic arsenic exposure include burning plywood treated with an arsenic wood preservative or dermal contact with wood treated with arsenic. (2)
- Most arsenic poisoning incidents in industry have involved the production of arsine, a short-lived, extremely toxic gas. (3)

Assessing Personal Exposure

- Measurement of inorganic arsenic in the urine is the best way to determine recent exposure (within the last 1 to 2 days), while measuring inorganic arsenic in hair or fingernails may be used to detect high-level exposures that occurred over the past 6-12 months. (1)

Health Hazard Information

Acute Effects:

Inorganic Arsenic

- Acute inhalation exposure of workers to high levels of arsenic dusts or fumes has resulted in gastrointestinal effects (nausea, diarrhea, abdominal pain), while acute exposure of workers to inorganic arsenic has also resulted in central and peripheral nervous system disorders. (1)
- Acute oral exposure to inorganic arsenic, at doses of approximately 600 micrograms per kilogram body weight per day ($\mu\text{g}/\text{kg}/\text{d}$) or higher in humans, has resulted in death. Oral exposure to lower levels of inorganic arsenic has resulted in effects on the gastrointestinal tract (nausea, vomiting), central nervous system (CNS) (headaches, weakness, delirium), cardiovascular system (hypotension, shock), liver, kidney, and blood (anemia, leukopenia). (1,2)
- Acute animal tests in rats and mice have shown inorganic arsenic to have moderate to high acute toxicity. (5)

Arsine

- Acute inhalation exposure to arsine by humans has resulted in death; it has been reported that a half-hour exposure to 25 to 50 parts per million (ppm) can be lethal. (4)
- The major effects from acute arsine exposure in humans include headaches, vomiting, abdominal pains, hemolytic anemia, hemoglobinuria, and jaundice; these effects can lead to kidney failure. (4,8)
- Arsine has been shown to have extreme acute toxicity from acute animal tests. (5)

Chronic Effects (Noncancer):

Inorganic arsenic

- Chronic inhalation exposure to inorganic arsenic in humans is associated with irritation of the skin and mucous membranes (dermatitis, conjunctivitis, pharyngitis, and rhinitis). (1,2)
- Chronic oral exposure to inorganic arsenic in humans has resulted in gastrointestinal effects, anemia, peripheral neuropathy, skin lesions, hyperpigmentation, gangrene of the extremities, vascular lesions, and liver or kidney damage. (1,2)
- No chronic inhalation exposure studies have been performed in animals for any inorganic arsenic compound. (1)
- Some studies have suggested that inorganic arsenic is an essential dietary nutrient in goats, chicks, and rats. However, no comparable data are available for humans. EPA has concluded that essentiality, although not rigorously established, is plausible. (1,6)
- EPA has not established a Reference Concentration (RfC) for inorganic arsenic. (6)
- The California Environmental Protection Agency (CalEPA) has established a chronic inhalation reference level of 0.00003 milligrams per cubic meter (mg/m³) based on developmental effects in mice. The CalEPA reference exposure level is a concentration at or below which adverse health effects are not likely to occur. It is not a direct estimator of risk, but rather a reference point to gauge the potential effects. At lifetime exposures increasingly greater than the reference exposure level, the potential for adverse health effects increases. (7)
- The Reference Dose (RfD) for inorganic arsenic is 0.0003 milligrams per kilogram body weight per day (mg/kg/d) based on hyperpigmentation, keratosis, and possible vascular complications in humans. The RfD is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily oral exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious noncancer effects during a lifetime. (6)
- EPA has medium confidence in the study on which the RfD for inorganic arsenic was based because, although an extremely large number of people were included in the assessment (>40,000), the doses were not well characterized and other contaminants were present. The supporting human toxicity database, while extensive, is somewhat flawed and, consequently, EPA has assigned medium confidence to the RfD. (6)

Arsine

- No information is available on the chronic effects of arsine in humans.
- The RfC for arsine is 0.00005 mg/m³ based on increased hemolysis, abnormal red blood cell morphology, and increased spleen weight in rats, mice, and hamsters. (4)
- EPA has medium confidence in the RfC based on: (1) high confidence in the studies on which the RfC for arsine was based because the sample sizes were adequate, statistical significance was reported, concentration dose-response relationships were documented, three species were investigated, and both a no-observed-adverse-effect level (NOAEL) and a lowest-observed-adverse-effect level (LOAEL) were identified, and (2) medium confidence in the database because while there were three inhalation animal studies and a developmental/reproductive study, there were no data available on human exposure. (4)

Reproductive/Developmental Effects:

Inorganic arsenic

- Several studies have suggested that women who work in, or live near, metal smelters may have higher than normal spontaneous abortion rates, and their children may exhibit lower than normal birthweights. However, these studies are limited because they were designed to evaluate the effects of smelter pollutants in general, and are not specific for inorganic arsenic. (1)
- Ingested inorganic arsenic can cross the placenta in humans, exposing the fetus to the chemical. (2)
- Oral animal studies have reported inorganic arsenic at very high doses to be fetotoxic and to cause birth defects. (1)

Arsine

- Human studies have indicated higher than expected spontaneous abortion rates in women in the microelectronics industry who were exposed to arsine. However, these studies have several limitations, including small sample size and exposure to other chemicals in addition to arsine. (4)

Cancer Risk:

Inorganic arsenic

- Human, inhalation studies have reported inorganic arsenic exposure to be strongly associated with lung cancer. (1,2,6)
- Ingestion of inorganic arsenic in humans has been associated with an increased risk of nonmelanoma skin cancer and also to an increased risk of bladder, liver, and lung cancer. (1,6)
- Animal studies have not associated inorganic arsenic exposure via the oral route with cancer, and no cancer inhalation studies have been performed in animals for inorganic arsenic. (1)
- EPA has classified inorganic arsenic as a Group A, human carcinogen. (6)
- EPA used a mathematical model, using data from an occupational study of arsenic-exposed copper smelter workers, to estimate the probability of a person developing cancer from continuously breathing air containing a specified concentration of inorganic arsenic. EPA calculated an inhalation unit risk estimate of $4.3 \times 10^{-3} (\mu\text{g}/\text{m}^3)^{-1}$. EPA estimates that, if an individual were to continuously breathe air containing inorganic arsenic at an average of $0.0002 \mu\text{g}/\text{m}^3$ ($2 \times 10^{-7} \text{mg}/\text{m}^3$) over his or her entire lifetime, that person would theoretically have no more than a one-in-a-million increased chance of developing cancer as a direct result of breathing air containing this chemical. Similarly, EPA estimates that continuously breathing air containing $0.002 \mu\text{g}/\text{m}^3$ ($2 \times 10^{-6} \text{mg}/\text{m}^3$) would result in not greater than a one-in-a-hundred thousand increased chance of developing cancer, and air containing $0.02 \mu\text{g}/\text{m}^3$ ($2 \times 10^{-5} \text{mg}/\text{m}^3$) would result in not greater than a one-in-ten thousand increased chance of developing cancer. For a detailed discussion of confidence in the potency estimates, please see IRIS. (6)
- EPA has calculated an oral cancer slope factor of $1.5 (\text{mg}/\text{kg}/\text{d})^{-1}$ for inorganic arsenic. (6)

Arsine

- No cancer inhalation studies in humans or animals are available for arsine. (1)
- EPA has not classified arsine for carcinogenicity. (4)

Physical Properties

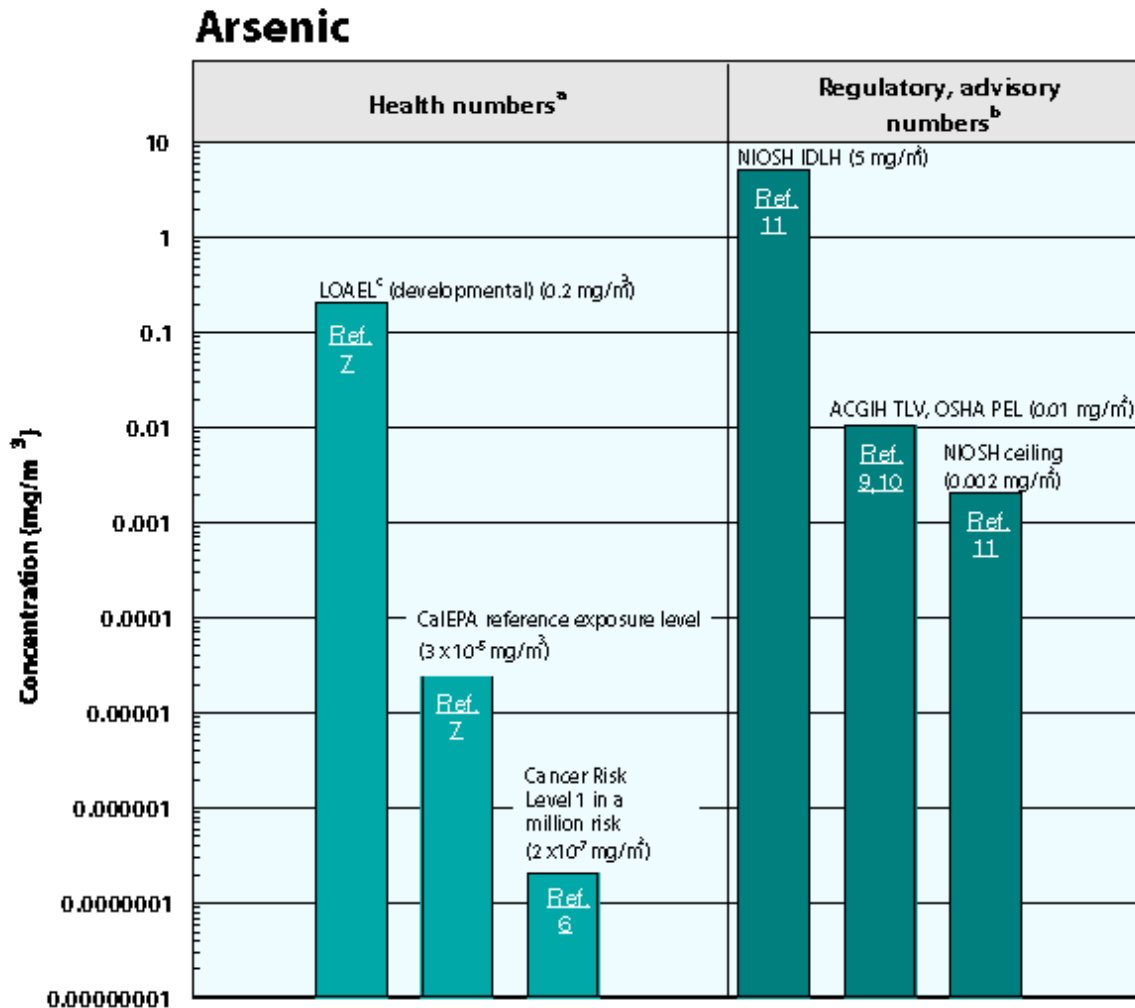
- Inorganic arsenic is a naturally occurring element in the earth's crust. (1)
- Pure inorganic arsenic is a gray-colored metal, but inorganic arsenic is usually found combined with other elements such as oxygen, chlorine, and sulfur. (1)

- The chemical symbol for inorganic arsenic is As, and it has an atomic weight of 74.92 g/mol. (3)
- The chemical formula for arsine is AsH₃, and it has a molecular weight of 77.95 g/mol. (8)
- Arsine is a colorless gas with a disagreeable garlic odor. (8)
- Arsenic combined with elements such as oxygen, chlorine, and sulfur forms inorganic arsenic; inorganic arsenic compounds include arsenic pentoxide, arsenic trioxide, and arsenic acid. Arsenic combined with carbon and hydrogen forms organic arsenic; organic arsenic compounds include arsanilic acid, arsenobetaine, and dimethylarsinic acid. (1)

Conversion Factors (only for the gaseous form):

To convert concentrations in air (at 25°C) from ppm to mg/m³: $mg/m^3 = (ppm) \times (\text{molecular weight of the compound}) / (24.45)$. For inorganic arsenic: 1 ppm = 3.06 mg/m³. For arsine: 1 ppm = 3.19 mg/m³. To convert concentrations in air from µg/m³ to mg/m³: $mg/m^3 = (\mu g/m^3) \times (1 \text{ mg} / 1,000 \mu g)$.

Health Data from Inhalation Exposure (Inorganic Arsenic)



ACGIH TLV--American Conference of Governmental and Industrial Hygienists' threshold limit

value expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effects.

NIOSH IDLH--National Institute of Occupational Safety and Health's immediately dangerous to life or health concentration; NIOSH recommended exposure limit to ensure that a worker can escape from an exposure condition that is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from the environment.

NIOSH REL ceiling value--NIOSH's recommended exposure limit ceiling; the concentration that should not be exceeded at any time.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

The health and regulatory values cited in this factsheet were obtained in December 1999.

^a Health numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^bRegulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as advice. OSHA numbers are regulatory, whereas NIOSH and ACGIH numbers are advisory.

^cThe LOAEL is from the critical study used as the basis for the CalEPA chronic reference exposure level.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for Arsenic* (Draft). U.S. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1998.
2. Agency for Toxic Substances and Disease Registry (ATSDR). *Case Studies in Environmental Medicine. Arsenic Toxicity*. U.S. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1990.
3. U.S. Environmental Protection Agency. *Health Assessment Document for Inorganic Arsenic*. EPA/540/1-86/020. Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, Office of Research and Development, Washington, DC. 1984.
4. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Arsine*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.
5. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
6. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Arsenic*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.
7. California Environmental Protection Agency (CalEPA). *Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels. Draft for Public Comment*. Office of Environmental Health Hazard Assessment, Berkeley, CA. 1997.
8. M. Windolz. *The Merck Index, An Encyclopedia of Chemicals, Drugs, and Biologicals*. 10th ed. Merck and Co., Rahway, NJ. 1983.
9. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents. Biological Exposure Indices*. Cincinnati, OH. 1999.
10. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations*. 29 CFR 1910.1000. 1998.
11. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.

A. * This fact sheet addresses the toxicity of the inorganic arsenic compounds as well as the toxicity of the gaseous arsenic trihydride: arsine.



Technology Transfer Network Air Toxics Web Site

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Benzene

71-43-2

Hazard Summary-Created in April 1992; Revised in January 2000

Benzene is found in the air from emissions from burning coal and oil, gasoline service stations, and motor vehicle exhaust. Acute (short-term) inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia, in occupational settings. Reproductive effects have been reported for women exposed by inhalation to high levels, and adverse effects on the developing fetus have been observed in animal tests. Increased incidence of leukemia (cancer of the tissues that form white blood cells) have been observed in humans occupationally exposed to benzene. EPA has classified benzene as a Group A, human carcinogen.

Please Note: The main sources of information for this fact sheet are the Agency for Toxic Substances and Disease Registry's (ATSDR's) *Toxicological Profile for Benzene* and EPA's *Integrated Risk Information System (IRIS)*, which contains information on the carcinogenic effects of benzene including the unit cancer risk for inhalation exposure.

Uses

- Benzene is used as a constituent in motor fuels; as a solvent for fats, waxes, resins, oils, inks, paints, plastics, and rubber; in the extraction of oils from seeds and nuts; and in photogravure printing. It is also used as a chemical intermediate. Benzene is also used in the manufacture of detergents, explosives, pharmaceuticals, and dyestuffs. (2,6)

Sources and Potential Exposure

- Individuals employed in industries that manufacture or use benzene may be exposed to the highest levels of benzene. (1)
- Benzene is found in emissions from burning coal and oil, motor vehicle exhaust, and evaporation from gasoline service stations and in industrial solvents. These sources contribute to elevated levels of benzene in the ambient air, which may subsequently be breathed by the public. (1)
- Tobacco smoke contains benzene and accounts for nearly half the national exposure to benzene. (1)
- Individuals may also be exposed to benzene by consuming contaminated water. (1)

Assessing Personal Exposure

- Measurement of benzene in an individual's breath or blood or the measurement of breakdown products in the urine (phenol) can estimate personal exposure. However, the tests must be done shortly after exposure and are not helpful for measuring low levels of benzene. (1)

Health Hazard Information

Acute Effects:

- Coexposure to benzene with ethanol (e.g., alcoholic beverages) can increase benzene toxicity in humans. (1)
- Neurological symptoms of inhalation exposure to benzene include drowsiness, dizziness, headaches, and unconsciousness in humans. Ingestion of large amounts of benzene may result in vomiting, dizziness, and convulsions in humans. (1)
- Exposure to liquid and vapor may irritate the skin, eyes, and upper respiratory tract in humans. Redness and blisters may result from dermal exposure to benzene. (1,2)
- Animal studies show neurologic, immunologic, and hematologic effects from inhalation and oral exposure to benzene. (1)
- Tests involving acute exposure of rats, mice, rabbits, and guinea pigs have demonstrated benzene to have low acute toxicity from inhalation, moderate acute toxicity from ingestion, and low or moderate acute toxicity from dermal exposure. (3)

Chronic Effects (Noncancer):

- Chronic inhalation of certain levels of benzene causes disorders in the blood in humans. Benzene specifically affects bone marrow (the tissues that produce blood cells). Aplastic anemia,⁽¹⁾ excessive bleeding, and damage to the immune system (by changes in blood levels of antibodies and loss of white blood cells) may develop. (1)
- In animals, chronic inhalation and oral exposure to benzene produces the same effects as seen in humans. (1)
- Benzene causes both structural and numerical chromosomal aberrations in humans. (1)
- EPA has not established a Reference Concentration (RfC) or a Reference Dose (RfD) for benzene. (4)
- The California Environmental Protection Agency (CalEPA) has established a chronic reference exposure level of 0.06 milligrams per cubic meter (0.06 mg/m³) for benzene based on hematological effects in humans. The CalEPA reference exposure level is a concentration at or below which adverse health effects are not likely to occur. It is not a direct estimator of risk, but rather a reference point to gauge the potential effects. At lifetime exposures increasingly greater than the reference exposure level, the potential for adverse health effects increases. (5)
- ATSDR has established an acute inhalation minimal risk level (MRL) of 0.2 mg/m³ (0.05 parts per million [ppm]) based on immunological effects in mice and an intermediate MRL of 0.01 mg/m³ (0.004 ppm) based on neurological effects in mice. The MRL is an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse noncancer health effects over a specified duration of exposure. (1)

Reproductive/Developmental Effects:

- Several occupational studies suggest that benzene may impair fertility in women exposed to high levels. However, these studies are limited due to lack of exposure history, simultaneous exposure to other substances, and lack of followup. (1)
- Available human data on the developmental effects of benzene are inconclusive due to concomitant exposure to other chemicals, inadequate sample size, and lack of quantitative exposure data. (1)
- Adverse effects on the fetus, including low birth weight, delayed bone formation, and bone marrow damage, have been observed where pregnant animals were exposed to benzene by inhalation. (1)

Cancer Risk:

- Increased incidence of leukemia (cancer of the tissues that form white blood cells) has been observed in humans occupationally exposed to benzene. (1,4)
- EPA has classified benzene as a Group A, known human carcinogen. (4)
- EPA uses mathematical models, based on human and animal studies, to estimate the

probability of a person developing cancer from breathing air containing a specified concentration of a chemical. EPA calculated a range of 2.2×10^{-6} to 7.8×10^{-6} as the increase in the lifetime risk of an individual who is continuously exposed to $1 \mu\text{g}/\text{m}^3$ of benzene in the air over their lifetime. EPA estimates that, if an individual were to continuously breathe air containing benzene at an average of 0.13 to $0.45 \mu\text{g}/\text{m}^3$ (1.3×10^{-4} to $4.5 \times 10^{-4} \text{mg}/\text{m}^3$) over his or her entire lifetime, that person would theoretically have no more than a one-in-a-million increased chance of developing cancer as a direct result of continuously breathing air containing this chemical. Similarly, EPA estimates that continuously breathing air containing 1.3 to $4.5 \mu\text{g}/\text{m}^3$ (1.3×10^{-3} to $4.5 \times 10^{-3} \text{mg}/\text{m}^3$) would result in not greater than a one-in-a-hundred thousand increased chance of developing cancer, and air containing 13 to $45 \mu\text{g}/\text{m}^3$ (1.3×10^{-2} to $4.5 \times 10^{-2} \text{mg}/\text{m}^3$) would result in not greater than a one-in-ten thousand increased chance of developing cancer. For a detailed discussion of confidence in the potency estimates, please see IRIS. (4)

- EPA has calculated an oral cancer slope factor ranging from 1.5×10^{-2} to $5.5 \times 10^{-2} (\text{mg}/\text{kg}/\text{d})^{-1}$ and is an extrapolation from inhalation dose-response data. (4)

Physical Properties

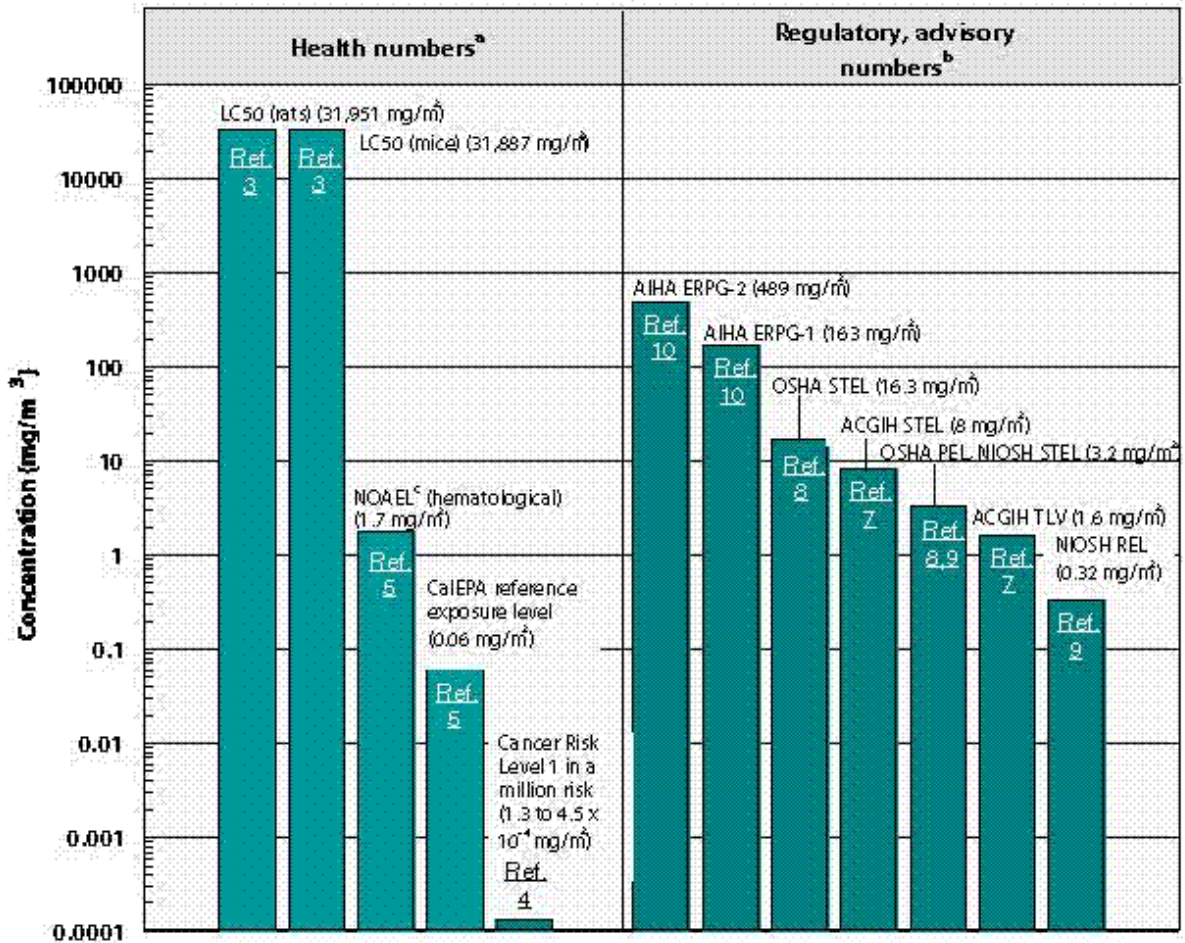
- The chemical formula for benzene is C_6H_6 , and it has a molecular weight of $78.11 \text{g}/\text{mol}$. (4)
- Benzene occurs as a volatile, colorless, highly flammable liquid that dissolves easily in water. (1,7)
- Benzene has a sweet odor with an ASTDR reported odor threshold of 1.5ppm ($5 \text{mg}/\text{m}^3$).
- The vapor pressure for benzene is 95.2mm Hg at 25°C , and it has a log octanol/water partition coefficient ($\log K_{ow}$) of 2.13 . (1)

Conversion Factors (only for the gaseous form):

To convert concentrations in air (at 25°C) from ppm to mg/m^3 : $\text{mg}/\text{m}^3 = (\text{ppm}) \times (\text{molecular weight of the compound})/(24.45)$. For benzene: $1 \text{ppm} = 3.19 \text{mg}/\text{m}^3$. To convert concentrations in air from $\mu\text{g}/\text{m}^3$ to mg/m^3 : $\text{mg}/\text{m}^3 = (\mu\text{g}/\text{m}^3) \times (1 \text{mg}/1,000 \mu\text{g})$.

Health Data from Inhalation Exposure

Benzene



ACGIH STEL--American Conference of Governmental and Industrial Hygienists' short-term exposure limit.

ACGIH TLV--American Conference of Governmental and Industrial Hygienists' threshold limit value expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effects.

AIHA ERPG--American Industrial Hygiene Association's emergency response planning guidelines. ERPG 1 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor; ERPG 2 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing or developing irreversible or other serious health effects that could impair their abilities to take protective action. The American Industrial Hygiene Association's detection and recognition odor thresholds for benzene are 61 ppm and 97 ppm, respectively.

LC₅₀ (Lethal Concentration₅₀)--A calculated concentration of a chemical in air to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

NIOSH REL--National Institute of Occupational Safety and Health's recommended exposure limit; NIOSH-recommended exposure limit for an 8- or 10-h time-weighted-average exposure and/or ceiling.

NIOSH STEL--NIOSH's short term exposure limit; NIOSH recommended exposure limit for a 15-minute period.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

OSHA STEL--Occupational Safety and Health Administration's short-term exposure limit.

The health and regulatory values cited in this graph were obtained in December 1999.

^aHealth numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^bRegulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as advice. OSHA numbers are regulatory, whereas NIOSH, ACGIH, and AIHA numbers are advisory.

^c The NOAEL is from the critical study used as the basis for the CalEPA chronic reference exposure level.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for Benzene* (Draft). U.S. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1997.
2. M. Sittig. *Handbook of Toxic and Hazardous Chemicals and Carcinogens*. 2nd ed. Noyes Publications, Park Ridge, NJ. 1985.
3. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
4. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Benzene*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 2002.
5. California Environmental Protection Agency (CalEPA). *Air Toxics Hot Spots Program Risk Assessment Guidelines: Part III. Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels. SRP Draft*. Office of Environmental Health Hazard Assessment, Berkeley, CA. 1999.
6. *The Merck Index. An Encyclopedia of Chemicals, Drugs, and Biologicals*. 11th ed. Ed. S. Budavari. Merck and Co. Inc., Rahway, NJ. 1989.
7. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents. Biological Exposure Indices*. Cincinnati, OH. 1999.
8. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations*. 29 CFR 1910.1000. 1998.
9. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.

1. * Aplastic anemia is a risk factor for developing acute nonlymphocytic leukemia.
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Technology Transfer Network Air Toxics Web Site

You are here: [EPA Home](#) [Air & Radiation](#) [TTN Web - Technology Transfer Network](#) [Air Toxics Web site](#) 1,3-Butadiene

1,3-Butadiene

106-99-0

Hazard Summary-Created in April 1992; Revised in January 2000

Motor vehicle exhaust is a constant source of 1,3-butadiene. Although 1,3-butadiene breaks down quickly in the atmosphere, it is usually found in ambient air at low levels in urban and suburban areas. Acute (short-term) exposure to 1,3-butadiene by inhalation in humans results in irritation of the eyes, nasal passages, throat, and lungs. Epidemiological studies have reported a possible association between 1,3-butadiene exposure and cardiovascular diseases. Epidemiological studies of workers in rubber plants have shown an association between 1,3-butadiene exposure and increased incidence of leukemia. Animal studies have reported tumors at various sites from 1,3-butadiene exposure. EPA has classified 1,3-butadiene as a Group B2, probable human carcinogen.

Please Note: The main sources of information for this fact sheet are EPA's [Integrated Risk Information System \(IRIS\)](#), which contains information on the carcinogenic effects of 1,3-butadiene including the unit cancer risk for inhalation exposure, and the Agency for Toxic Substances and Disease Registry's (ATSDR's) [Toxicological Profile for 1,3-Butadiene](#).

Uses

- 1,3-Butadiene is used in the production of rubber and plastics. It is also used in copolymers including acrylics. (1)

Sources and Potential Exposure

- Sources of 1,3-butadiene released into the air include motor vehicle exhaust, manufacturing and processing facilities, forest fires or other combustion, and cigarette smoke. (1)
- 1,3-Butadiene was detected in ambient air of cities and suburban areas from 1970 to 1982 at an average level of 0.3 parts per billion (ppb). (1)
- Higher levels of 1,3-butadiene may be found in highly industrialized cities or near oil refineries, chemical manufacturing plants, and plastic and rubber factories. (1)
- 1,3-Butadiene has been found in drinking water and in plastic or rubber food containers, but not in food samples. (1)
- Occupational exposure to 1,3-butadiene may occur in the rubber, plastics, and resins industries. (1)

Assessing Personal Exposure

- There is no reliable medical test available at this time to assess personal exposure to 1,3-butadiene. (1)

Health Hazard Information

Acute Effects:

- Acute exposure to 1,3-butadiene by inhalation in humans results in irritation of the eyes, nasal passages, throat, and lungs. Neurological effects, such as blurred vision, fatigue, headache, and vertigo, have also been reported at very high exposure levels. (1,3)
- Dermal exposure of humans to 1,3-butadiene causes a sensation of cold, followed by a burning sensation, which may lead to frostbite. (1)
- Tests involving acute exposure of animals in rats and mice have shown 1,3-butadiene to have low acute toxicity. (1,4)

Chronic Effects (Noncancer):

- One epidemiological study reported that chronic (long-term) exposure to 1,3-butadiene via inhalation resulted in an increase in cardiovascular diseases, such as rheumatic and arteriosclerotic heart diseases, while other human studies have reported effects on the blood. (1)
- Animal studies have reported effects on the respiratory and cardiovascular systems, blood, and liver from chronic, inhalation exposure to 1,3-butadiene. (1)
- EPA is currently developing a Reference Concentration (RfC) and a Reference Dose (RfD) for 1,3-butadiene. (5)
- The California Environmental Protection Agency (CalEPA) has established a chronic reference level of 0.008 milligrams per cubic meter (mg/m³) for 1,3-butadiene based on reproductive effects in mice. The CalEPA reference exposure level is a concentration at or below which adverse health effects are not likely to occur. It is not a direct estimator of risk, but rather a reference point to gauge the potential effects. At lifetime exposures increasingly greater than the reference exposure level, the potential for adverse health effects increases. (6)

Reproductive/Developmental Effects:

- No information is available on reproductive or developmental effects of 1,3-butadiene in humans. (1)
- Animal studies using mice have reported developmental effects, such as skeletal abnormalities and decreased fetal weights, and reproductive effects, including an increased incidence of ovarian atrophy and testicular atrophy from inhalation exposure to 1,3-butadiene. (1)

Cancer Risk:

- A large epidemiological study of synthetic rubber industry workers demonstrated a consistent association between 1,3-butadiene exposure and occurrence of leukemia (10, 11).
- Several epidemiological studies of workers in styrene-butadiene rubber factories have shown an increased incidence of respiratory, bladder, stomach, and lymphato-hematopoietic cancers. However, these studies are not sufficient to determine a causal association between 1,3-butadiene exposure and cancer due to possible exposure to other chemicals and other confounding factors. (1,5,6)
- Animal studies have reported tumors at a variety of sites from inhalation exposure to 1,3-butadiene. (1,5,6)
- 1,3-Butadiene is metabolized into genotoxic metabolites by experimental animals and humans. (1)
- EPA has classified 1,3-butadiene as a Group B2, probable human carcinogen. However, based on recently available human data, EPA is reevaluating the cancer classification. (5)
- EPA uses mathematical models, based on animal studies, to estimate the probability of a person developing cancer from continuously breathing air containing a specified concentration of a chemical. EPA is currently reevaluating their inhalation unit risk estimate of $2.8 \times 10^{-4} (\mu\text{g}/\text{m}^3)^{-1}$ that was derived in 1991. A revised unit risk estimate of $4 \times 10^{-6} (\mu\text{g}/\text{m}^3)^{-1}$ was presented to the Science Advisory Board (SAB) for review in 1998. As a result of SAB comments, the estimate will be revised. (12)

Physical Properties

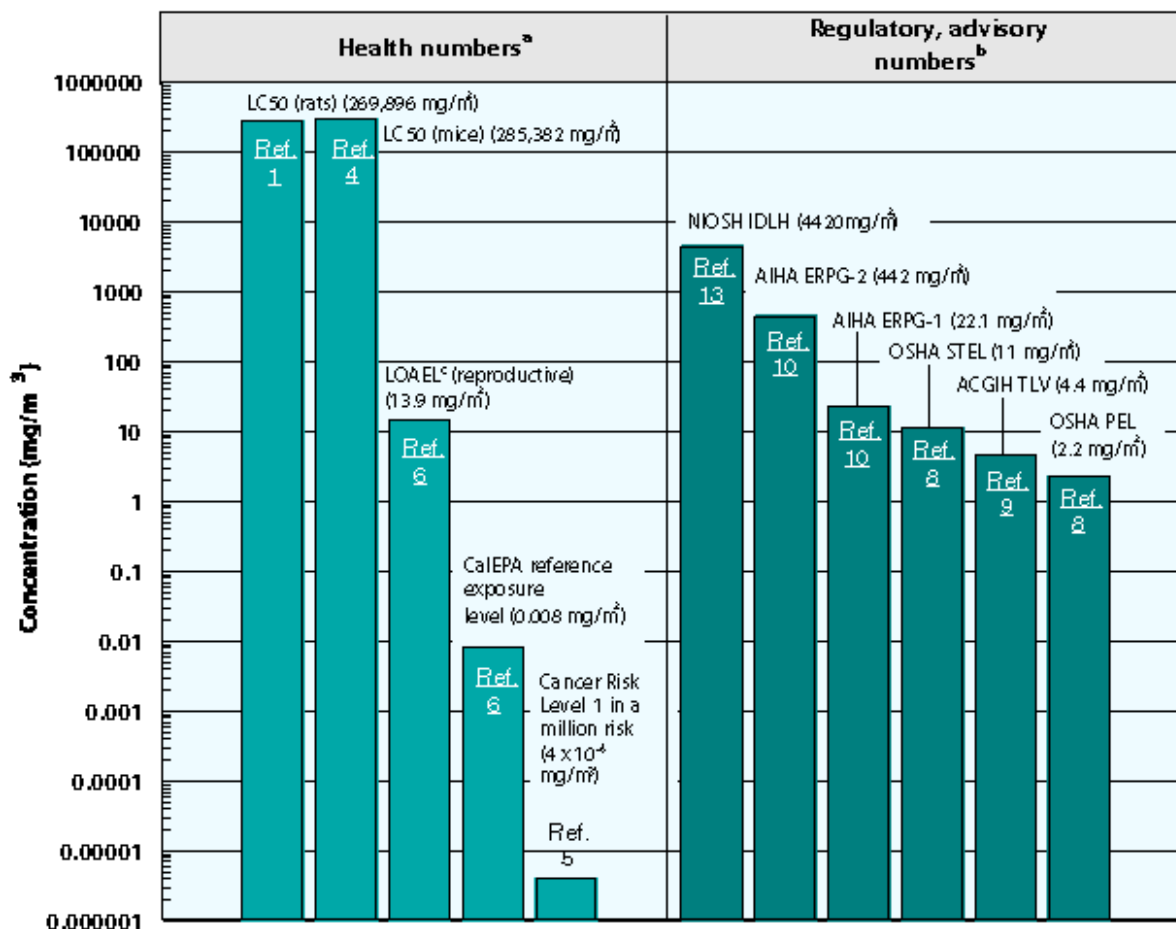
- 1,3-Butadiene is a colorless gas with a mild gasoline-like odor. (1)
- The odor threshold for 1,3-butadiene is 1.6 parts per million (ppm). (7)
- The chemical formula for 1,3-butadiene is C₄H₆, and the molecular weight is 54.09 g/mol. (1)
- The vapor pressure for 1,3-butadiene is 2100 mm Hg at 25 °C, and it has an octanol/water partition coefficient (log K_{ow}) of 1.99. (1)

Conversion Factors (only for the gaseous form):

To convert concentrations in air (at 25°C) from ppm to mg/m³: $mg/m^3 = (ppm) \times (\text{molecular weight of the compound}) / (24.45)$. For 1,3-butadiene: 1 ppm = 2.21 mg/m³. To convert concentrations in air from µg/m³ to mg/m³: $mg/m^3 = (\mu g/m^3) \times (1 \text{ mg} / 1,000 \mu g)$.

Health Data from Inhalation Exposure

1,3-Butadiene



ACGIH TLV--American Conference of Governmental and Industrial Hygienists' threshold limit value expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effects.

AIHA ERPG--American Industrial Hygiene Association's emergency response planning

guidelines. ERPG 1 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor; ERPG 2 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing or developing irreversible or other serious health effects that could impair their abilities to take protective action.

LC₅₀ (Lethal Concentration₅₀)--A calculated concentration of a chemical in air to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

NIOSH IDLH-- National Institute of Occupational Safety and Health's immediately dangerous to life or health concentration; NIOSH recommended exposure limit to ensure that a worker can escape from an exposure condition that is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from the environment.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

OSHA STEL--OSHA's short-term exposure limit.

The health and regulatory values cited in this factsheet were obtained in December 1999.

^aHealth numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^bRegulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as advice. OSHA numbers are regulatory, whereas NIOSH, ACGIH, and AIHA numbers are advisory.

^cThe LOAEL is from the critical study used as the basis for the CalEPA chronic reference exposure level.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for 1,3-Butadiene*. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1992.
2. E.J. Calabrese and E.M. Kenyon. *Air Toxics and Risk Assessment*. Lewis Publishers. 1991.
3. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
4. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
5. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on 1,3-Butadiene*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.
6. California Environmental Protection Agency (CalEPA). *Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels. Draft for Public Comment*. Office of Environmental Health Hazard Assessment, Berkeley, CA. 1997.
7. J.E. Amore and E. Hautala. Odor as an aid to chemical safety: Odor thresholds compared with threshold limit values and volatilities for 214 industrial chemicals in air and water dilution. *Journal of Applied Toxicology*, 3(6):272-290. 1983.
8. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations*. 29 CFR 1910.1000. 1998.
9. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents. Biological Exposure Indices*. Cincinnati, OH. 1999.
10. Delzell E, Sathiakumar N, Hovinga M, et al. A follow-up study of synthetic rubber workers. *Toxicology* 113:182-9. 1996.
11. Macaluso M, Larson R, Delzell E, et al. Leukemia and cumulative exposure to butadiene, styrene and benzene among workers in the synthetic rubber industry. *Toxicology*

- 113:190-202. 1996.
12. U.S. Environmental Protection Agency. *An SAB Report: Review of the Health Risk Assessment of 1,3-Butadiene*. Science Advisory Board, Washington, DC. EPA-SAB-EHC-99-003. 1998.
 13. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.
 14. American Industrial Hygiene Association (AIHA). *The AIHA 1998 Emergency Response Planning Guidelines and Workplace Environmental Exposure Level Guides Handbook*. 1998.



Technology Transfer Network Air Toxics Web Site

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Cadmium Compounds (A)

Hazard Summary-Created in April 1992; Revised in January 2000

The main sources of cadmium in the air are the burning of fossil fuels such as coal or oil and the incineration of municipal waste. The acute (short-term) effects of cadmium in humans through inhalation exposure consist mainly of effects on the lung, such as pulmonary irritation. Chronic (long-term) inhalation or oral exposure to cadmium leads to a build-up of cadmium in the kidneys that can cause kidney disease. Cadmium has been shown to be a developmental toxicant in animals, resulting in fetal malformations and other effects, but no conclusive evidence exists in humans. An association between cadmium exposure and an increased risk of lung cancer has been reported from human studies, but these studies are inconclusive due to confounding factors. Animal studies have demonstrated an increase in lung cancer from long-term inhalation exposure to cadmium. EPA has classified cadmium as a Group B1, probable human carcinogen.

Please Note: The main sources of information for this fact sheet are EPA's [Integrated Risk Information System \(IRIS\)](#), which contains information on oral chronic toxicity and the [RfD](#), and the carcinogenic effects of cadmium including the unit cancer risk for inhalation exposure, and the Agency for Toxic Substances and Disease Registry's (ATSDR's) [Toxicological Profile for Cadmium](#).

Uses

- Most cadmium used in the United States today is obtained as a byproduct from the smelting of zinc, lead, or copper ores. (1)
Cadmium is used to manufacture pigments and batteries and in the metal-plating and plastics industries. (1)

Sources and Potential Exposure

- The largest sources of airborne cadmium in the environment are the burning of fossil fuels such as coal or oil, and incineration of municipal waste materials. Cadmium may also be emitted into the air from zinc, lead, or copper smelters. (1)
- For nonsmokers, food is generally the largest source of cadmium exposure. Cadmium levels in some foods can be increased by the application of phosphate fertilizers or sewage sludge to farm fields. (1)
- Smoking is another important source of cadmium exposure. Smokers have about twice as much cadmium in their bodies as do nonsmokers. (1)

Assessing Personal Exposure

- The amount of cadmium present in blood or urine can be measured by atomic absorption spectrophotometry and used as an indication of cadmium exposure. (1)
- A more precise method, called neutron activation analysis, can be used to measure

cadmium concentrations in the liver or kidney. (1)

Health Hazard Information

Acute Effects:

- Acute inhalation exposure to high levels of cadmium in humans may result in effects on the lung, such as bronchial and pulmonary irritation. A single acute exposure to high levels of cadmium can result in long-lasting impairment of lung function. (1,3,4)
- Cadmium is considered to have high acute toxicity, based on short-term animal tests in rats. (5)

Chronic Effects (Noncancer):

- Chronic inhalation and oral exposure of humans to cadmium results in a build-up of cadmium in the kidneys that can cause kidney disease, including proteinuria, a decrease in glomerular filtration rate, and an increased frequency of kidney stone formation. (1,3,4)
- Other effects noted in occupational settings from chronic exposure of humans to cadmium in air are effects on the lung, including bronchiolitis and emphysema. (1,3,4)
- Chronic inhalation or oral exposure of animals to cadmium results in effects on the kidney, liver, lung, bone, immune system, blood, and nervous system. (1,3)
- The Reference Dose (RfD) for cadmium in drinking water is 0.0005 milligrams per kilogram per day (mg/kg/d) and the RfD for dietary exposure to cadmium is 0.001 mg/kg/d; both are based on significant proteinuria in humans. The RfD is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily oral exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious noncancer effects during a lifetime. It is not a direct estimator of risk, but rather a reference point to gauge the potential effects. At exposures increasingly greater than the RfD, the potential for adverse health effects increases. Lifetime exposure above the RfD does not imply that an adverse health effect would necessarily occur. (6)
- EPA has high confidence in both RfDs based primarily on a strong database for cadmium toxicity in humans and animals that also permits calculation of pharmacokinetic parameters of cadmium absorption, distribution, metabolism, and elimination. (6)
- EPA has not established a Reference Concentration (RfC) for cadmium. (6)
- The California Environmental Protection Agency (CalEPA) has established a chronic reference exposure level of 0.00001 milligrams per cubic meter (mg/m³) for cadmium based on kidney and respiratory effects in humans. The CalEPA reference exposure level is a concentration at or below which adverse health effects are not likely to occur. (7)

Reproductive/Developmental Effects:

- Limited evidence exists for an association between inhalation exposure and a reduction in sperm number and viability in humans. (1)
- Human developmental studies on cadmium are limited, although there is some evidence to suggest that maternal cadmium exposure may result in decreased birthweights. (1)
- Animal studies provide evidence that cadmium has developmental effects, such as low fetal weight, skeletal malformations, interference with fetal metabolism, and impaired neurological development, via inhalation and oral exposure. (1,3,4)
- Limited animal data are available, although some reproductive effects, such as decreased reproduction and testicular damage, have been noted following oral exposures. (1)

Cancer Risk:

- Several occupational studies have reported an excess risk of lung cancer in humans from exposure to inhaled cadmium. However, the evidence is limited rather than conclusive due to confounding factors. (1,3,6)
- Animal studies have reported cancer resulting from inhalation exposure to several forms of cadmium, while animal ingestion studies have not demonstrated cancer

- resulting from exposure to cadmium compounds. (1,3,6)
- EPA considers cadmium to be a probable human carcinogen (cancer-causing agent) and has classified it as a Group B1 carcinogen. (6)
 - EPA uses mathematical models, based on animal studies, to estimate the probability of a person developing cancer from breathing air containing a specified concentration of a chemical. EPA calculated an inhalation unit risk estimate of $1.8 \times 10^{-3}(\mu\text{g}/\text{m}^3)^{-1}$. EPA estimates that, if an individual were to continuously breathe air containing cadmium at an average of $0.0006 \mu\text{g}/\text{m}^3$ ($6 \times 10^{-7} \text{ mg}/\text{m}^3$) over his or her entire lifetime, that person would theoretically have no more than a one-in-a-million increased chance of developing cancer as a direct result of breathing air containing this chemical. Similarly, EPA estimates that continuously breathing air containing $0.006 \mu\text{g}/\text{m}^3$ ($6 \times 10^{-6} \text{ mg}/\text{m}^3$) would result in not greater than a one-in-a-hundred thousand increased chance of developing cancer, and air containing $0.06 \mu\text{g}/\text{m}^3$ ($6 \times 10^{-5} \text{ mg}/\text{m}^3$) would result in not greater than a one-in-ten thousand increased chance of developing cancer. For a detailed discussion of confidence in the potency estimates, please see IRIS. (6)

Physical Properties

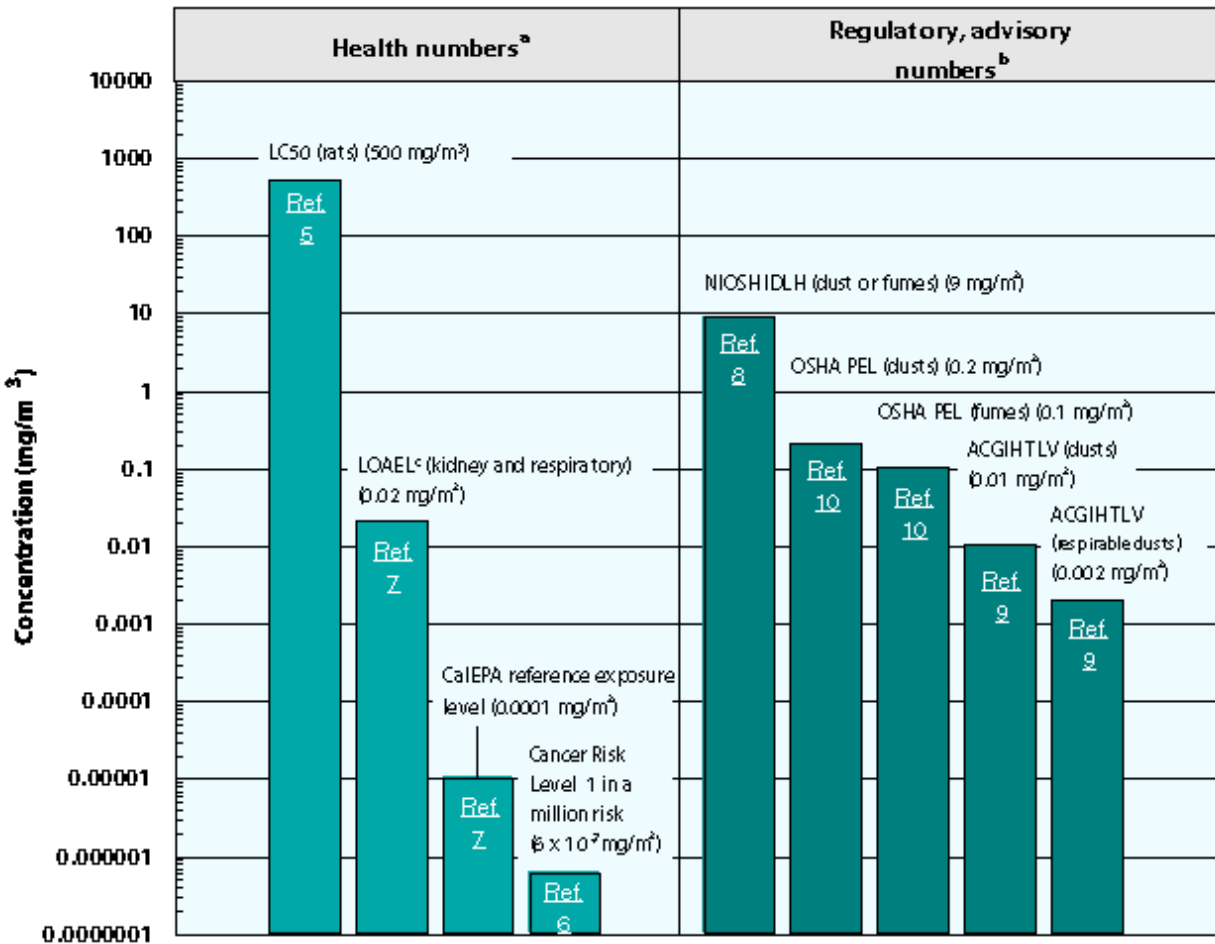
- Cadmium is a soft silver-white metal that is usually found in combination with other elements. (1)
- Cadmium compounds range in solubility in water from quite soluble to practically insoluble. (1)
- The chemical symbol for cadmium is Cd and the atomic weight is 112.41 g/mol. (1)

Conversion Factors (only for the gaseous form):

To convert concentrations in air (at 25°C) from ppm to mg/m³: $\text{mg}/\text{m}^3 = (\text{ppm}) \times (\text{molecular weight of the compound})/(24.45)$. For cadmium: $1 \text{ ppm} = 4.6 \text{ mg}/\text{m}^3$. To convert concentrations in air from $\mu\text{g}/\text{m}^3$ to mg/m^3 : $\text{mg}/\text{m}^3 = (\mu\text{g}/\text{m}^3) \times (1 \text{ mg}/1000 \mu\text{g})$.

Health Data from Inhalation Exposure

Cadmium



ACGIH TLV--American Conference of Governmental and Industrial Hygienists' threshold limit value expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effects.

LC₅₀ (Lethal Concentration₅₀)--A calculated concentration of a chemical in air to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

NIOSH IDLH--National Institute of Occupational Safety and Health's immediately dangerous to life and health; NIOSH concentration representing the maximum level of a pollutant from which an individual could escape within 30 minutes without escape-impairing symptoms or irreversible health effects.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

The health and regulatory values cited in this factsheet were obtained in December 1999.

^aHealth numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^bRegulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as

advice. OSHA numbers are regulatory, whereas NIOSH and ACGIH numbers are advisory.
°The LOAEL is from the critical study used as the basis for the CalEPA chronic reference exposure level.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for Cadmium*. Draft for Public Comment. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1997.
2. U.S. Environmental Protection Agency. *Deposition of Air Pollutants to the Great Waters. First Report to Congress*. EPA-453/R-93-055. Office of Air Quality Planning and Standards, Research Triangle Park, NC. 1994.
3. E.J. Calabrese and E.M. Kenyon. *Air Toxics and Risk Assessment*. Lewis Publishers, Chelsea, MI. 1991.
4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
5. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
6. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Cadmium*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.
7. California Environmental Protection Agency (CalEPA). *Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels. Draft for Public Comment*. Office of Environmental Health Hazard Assessment, Berkeley, CA. 1997.
8. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.
9. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents. Biological Exposure Indices*. Cincinnati, OH. 1999.
10. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations*. 29 CFR 1910.1000. 1998.

A. * This fact sheet discusses cadmium and cadmium compounds. Most of the information is on cadmium, except in those cases where there are differences in toxicity between cadmium and cadmium compounds. In these cases, information on the cadmium compound is presented.



Technology Transfer Network Air Toxics Web Site

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Carbon tetrachloride

56-23-5

Hazard Summary-Created in April 1992; Revised in January 2000

Carbon tetrachloride may be found in both ambient outdoor and indoor air. The primary effects of carbon tetrachloride in humans are on the liver, kidneys, and central nervous system (CNS). Human symptoms of acute (short-term) inhalation and oral exposures to carbon tetrachloride include headache, weakness, lethargy, nausea, and vomiting. Acute exposures to higher levels and chronic (long-term) inhalation or oral exposure to carbon tetrachloride produces liver and kidney damage in humans. Human data on the carcinogenic effects of carbon tetrachloride are limited. Studies in animals have shown that ingestion of carbon tetrachloride increases the risk of liver cancer. EPA has classified carbon tetrachloride as a Group B2, probable human carcinogen.

Please Note: The main sources of information for this fact sheet are EPA's [Integrated Risk Information System \(IRIS\)](#), which contains information on oral chronic toxicity of carbon tetrachloride and the [RfD](#), and the carcinogenic effects of carbon tetrachloride including the unit cancer risk for inhalation exposure, and the Agency for Toxic Substances and Disease Registry's (ATSDR's) [Toxicological Profile for Carbon tetrachloride](#).

Uses

- Carbon tetrachloride was produced in large quantities to make refrigerants and propellants for aerosol cans, as a solvent for oils, fats, lacquers, varnishes, rubber waxes, and resins, and as a grain fumigant and a dry cleaning agent. Consumer and fumigant uses have been discontinued and only industrial uses remain. (1)

Sources and Potential Exposure

- Individuals may be exposed to carbon tetrachloride in the air from accidental releases from production and uses, and from its disposal in landfills where it may evaporate into the air or leach into groundwater. (1)
- Carbon tetrachloride is also a common contaminant of indoor air; the sources of exposure appear to be building materials or products, such as cleaning agents, used in the home. (1)
- Workers directly involved in the manufacture or use of carbon tetrachloride are most likely to have significant exposures to carbon tetrachloride. (1)
- Individuals may also be exposed to carbon tetrachloride by drinking contaminated water. (1,2)

Assessing Personal Exposure

- Measurement of carbon tetrachloride in exhaled breath has been the most convenient method for determining exposure; measurements in blood, fat, or other tissues have also been used as indicators of exposure. However, these tests are not routinely available and cannot be used to predict whether any health effects will result. (1)

Health Hazard Information

Acute Effects:

- Acute inhalation and oral exposures to high levels of carbon tetrachloride have been observed primarily to damage the liver (swollen, tender liver, changes in enzyme levels, and jaundice) and kidneys (nephritis, nephrosis, proteinuria) of humans. Depression of the central nervous system has also been reported. Symptoms of acute exposure in humans include headache, weakness, lethargy, nausea, and vomiting. (1-6)
- Delayed pulmonary edema (fluid in lungs) has been observed in humans exposed to high levels of carbon tetrachloride by inhalation and ingestion, but this is believed to be due to injury to the kidney rather than direct action of carbon tetrachloride on the lung. (1)
- Acute animal exposure tests in rats, mice, rabbits, and guinea pigs have demonstrated carbon tetrachloride to have low toxicity from inhalation exposure, low-to-moderate toxicity from ingestion, and moderate toxicity from dermal exposure. (7)

Chronic Effects (Noncancer):

- Chronic inhalation or oral exposure to carbon tetrachloride produces liver and kidney damage in humans and animals. (1,3,6,8)
- EPA has not established a Reference Concentration (RfC) for carbon tetrachloride. (9)
- The California Environmental Protection Agency (CalEPA) has established a chronic reference exposure level of 0.04 milligrams per cubic meter (mg/m³) for carbon tetrachloride based on liver effects in guinea pigs. The CalEPA reference exposure level is a concentration at or below which adverse health effects are not likely to occur. It is not a direct estimator of risk, but rather a reference point to gauge the potential effects. At lifetime exposures increasingly greater than the reference exposure level, the potential for adverse health effects increases. (10)
- ATSDR has established an acute duration (1-14 days) inhalation minimal risk level (MRL) of 1.3 mg/m³ (0.2 parts per million [ppm]) based on liver effects in rats, and an intermediate duration (14-365 days) MRL of 0.3 mg/m³ (0.05 ppm) also based on liver effects in rats. The MRL is an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse noncancer health effects over a specified duration of exposure. (1)
- The Reference Dose (RfD) for carbon tetrachloride is 0.0007 milligrams per kilogram per day (mg/kg/d) based on the occurrence of liver lesions in rats. The RfD is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily oral exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious noncancer effects during a lifetime. (9)
- EPA has medium confidence in the RfD based on (1) high confidence in the principal study on which the RfD was based because the study was well conducted and good dose-response was observed in the liver, which is the target organ for carbon tetrachloride toxicity; and (2) medium confidence in the database because four additional subchronic studies support the RfD, but reproductive and teratology endpoints are not well investigated; and, consequently, medium confidence in the RfD. (9)

Reproductive/Developmental Effects:

- No information is available on the reproductive effects of carbon tetrachloride in humans. Limited epidemiological data have indicated a possible association between certain birth outcomes (e.g., birth weight, cleft palate) and drinking water exposure. However, as the water contained multiple chemicals, the role of carbon tetrachloride is unclear. (1)
- Decreased fertility and degenerative changes in the testes have been observed in animals exposed to carbon tetrachloride by inhalation. (1,6)

- Birth defects have not been observed in animals exposed to carbon tetrachloride by inhalation or ingestion. (1,2,8)

Cancer Risk:

- Occasional reports have noted the occurrence of liver cancer in workers who had been exposed to carbon tetrachloride by inhalation exposure; however, the data are not sufficient to establish a cause-and-effect relationship. (1,6,8,9,11,12)
- Liver tumors have developed in rats and mice exposed to carbon tetrachloride by gavage (experimentally placing the chemical in their stomachs). (1,4,6,8,9,11,12)
- EPA has classified carbon tetrachloride as a Group B2, probable human carcinogen. (8,9)
- EPA uses mathematical models, based on human and animal studies, to estimate the probability of a person developing cancer from continuously breathing air containing a specified concentration of a chemical. EPA calculated an inhalation unit risk of $1.5 \times 10^{-5} (\mu\text{g}/\text{m}^3)^{-1}$. EPA estimates that, if an individual were to continuously breathe air containing carbon tetrachloride at an average of $0.07 \mu\text{g}/\text{m}^3$ ($7 \times 10^{-5} \text{ mg}/\text{m}^3$) over his or her entire lifetime, that person would theoretically have no more than a one-in-a-million increased chance of developing cancer as a direct result of breathing air containing this chemical. Similarly, EPA estimates that continuously breathing air containing $0.7 \mu\text{g}/\text{m}^3$ ($7 \times 10^{-4} \text{ mg}/\text{m}^3$) would result in not greater than a one-in-a-hundred thousand increased chance of developing cancer, and air containing $7.0 \mu\text{g}/\text{m}^3$ ($7 \times 10^{-3} \text{ mg}/\text{m}^3$) would result in not greater than a one-in-a-ten thousand increased chance of developing cancer. (9)
- EPA has calculated an oral cancer slope factor of $1.3 \times 10^{-1} (\text{mg}/\text{kg}/\text{d})^{-1}$. For a detailed discussion of confidence in the potency estimates, please see IRIS. (9)

Physical Properties

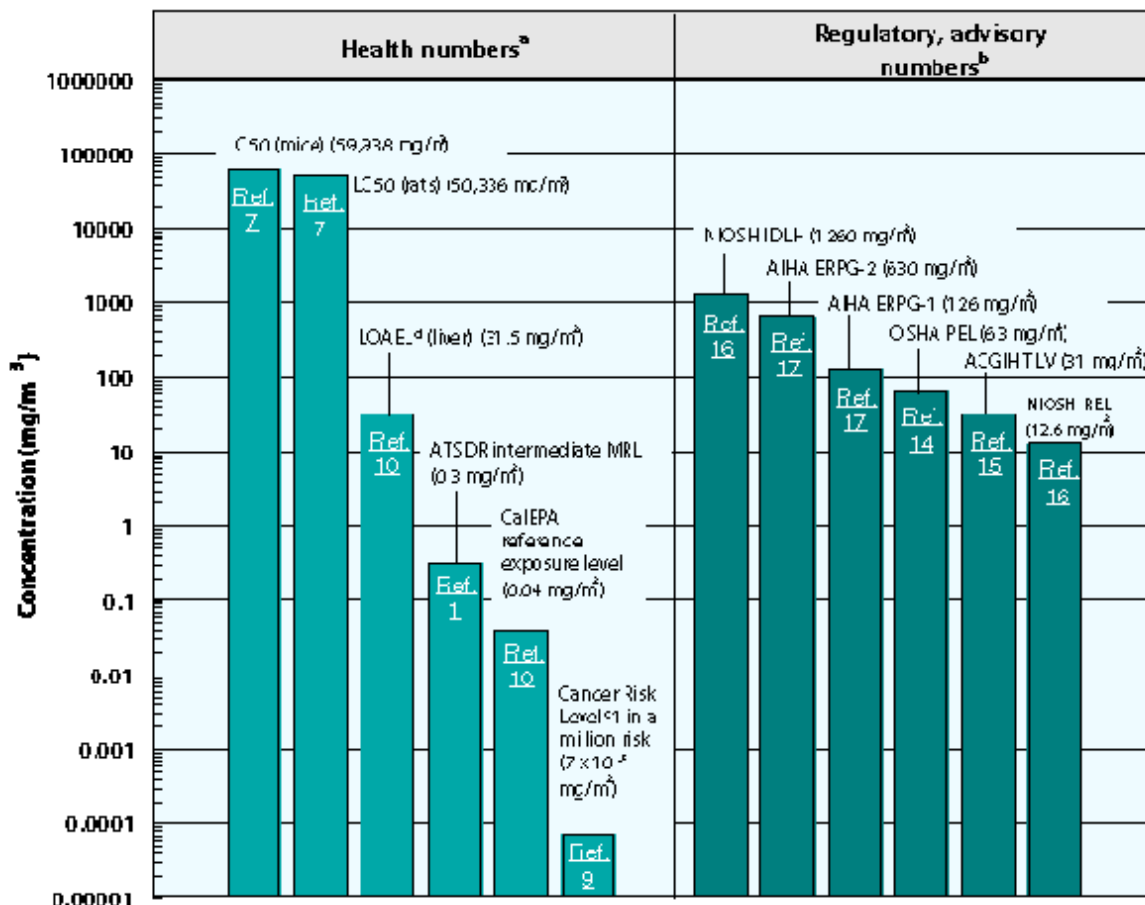
- The chemical formula for carbon tetrachloride is CCl_4 , and its molecular weight is 153.8 g/mol. (1,2)
- Carbon tetrachloride is a clear, nonflammable liquid which is almost insoluble in water. (1)
- Carbon tetrachloride has a sweet characteristic odor, with an odor threshold above 10 ppm. (1)
- The vapor pressure for carbon tetrachloride is 91.3 mm Hg at 20 C, and its log octanol/water partition coefficient ($\log K_{ow}$) is 2.64. (1)

Conversion Factors:

To convert concentrations in air (at 25°C) from ppm to mg/m³: $\text{mg}/\text{m}^3 = (\text{ppm}) \times (\text{molecular weight of the compound}) / (24.45)$. For carbon tetrachloride: 1 ppm = 6.3 mg/m³. To convert concentrations in air from μg/m³ to mg/m³: $\text{mg}/\text{m}^3 = (\mu\text{g}/\text{m}^3) \times (1 \text{ mg}/1,000 \mu\text{g})$.

Health Data from Inhalation Exposure

Carbon Tetrachloride



AIHA ERPG--American Industrial Hygiene Association's emergency response planning guidelines. ERPG 1 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor; ERPG 2 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing or developing irreversible or other serious health effects that could impair their abilities to take protective action.

ACGIH TLV--American Conference of Governmental and Industrial Hygienists' threshold limit value expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effects.

LC₅₀ (Lethal Concentration₅₀)--A calculated concentration of a chemical in air to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

NIOSH IDLH -- National Institute of Occupational Safety and Health's immediately dangerous to life or health concentration; NIOSH recommended exposure limit to ensure that a worker can escape from an exposure condition that is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from the environment.

NIOSH REL--NIOSH's recommended exposure limit; NIOSH-recommended exposure limit for an 8- or 10-h time-weighted-average exposure and/or ceiling.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

The health and regulatory values cited in this factsheet were obtained in December 1999.

^a Health numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^b Regulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as advice. OSHA numbers are regulatory, whereas NIOSH, ACGIH, and AIHA numbers are advisory.

^c These cancer risk estimates were derived from oral data and converted to provide the estimated inhalation risk.

^d The LOAEL is from the critical study used as the basis for the CalEPA chronic reference exposure level.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for Carbon tetrachloride (Update)*. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1994.
2. U.S. Environmental Protection Agency. *Carbon tetrachloride Health Advisory*. Office of Drinking Water, Washington, DC. 1987.
3. U.S. Department of Health and Human Services. Hazardous Substances Databank (HSDB, [online database](#)). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
4. International Agency for Research on Cancer (IARC). *IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans: Some Halogenated Hydrocarbons*. Volume 20. World Health Organization, Lyon. 1979.
5. M. Sittig. *Handbook of Toxic and Hazardous Chemicals and Carcinogens*. 2nd ed. Noyes Publications, Park Ridge, NJ. 1985.
6. U.S. Environmental Protection Agency. *Health Effects Document for Carbon tetrachloride*. EPA/600/8-82-001F. Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, Office of Research and Development, Cincinnati, OH. 1984.
7. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS, [online database](#)). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
8. U.S. Environmental Protection Agency. *Updated Health Effects Assessment for Carbon tetrachloride*. EPA/600/8-89/088. Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, Office of Research and Development, Cincinnati, OH. 1989.
9. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Carbon tetrachloride*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.
10. California Environmental Protection Agency (CalEPA). *Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels. Draft for Public Comment*. Office of Environmental Health Hazard Assessment, Berkeley, CA. 1997.
11. International Agency for Research on Cancer (IARC). *IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans: Chemicals, Industrial Processes and Industries Associated with Cancer in Humans*. Supplement 4. World Health Organization, Lyon. 1982.
12. International Agency for Research on Cancer (IARC). *IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man*. Volume 1. World Health Organization, Lyon. 1972.
13. *The Merck Index. An Encyclopedia of Chemicals, Drugs, and Biologicals*. 11th ed. Ed. S. Budavari. Merck and Co. Inc., Rahway, NJ. 1989.
14. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations*. 29 CFR 1910.1000. 1998.
15. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and*

- BEIs. Threshold Limit Values for Chemical Substances and Physical Agents. Biological Exposure Indices.* Cincinnati, OH. 1999.
16. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards.* U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.
 17. American Industrial Hygiene Association (AIHA). *The AIHA 1998 Emergency Response Planning Guidelines and Workplace Environmental Exposure Level Guides Handbook.* 1998.
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Chloroform

67-66-3

Hazard Summary-Created in April 1992; Revised in January 2000

Chloroform may be released to the air as a result of its formation in the chlorination of drinking water, wastewater and swimming pools. Other sources include pulp and paper mills, hazardous waste sites, and sanitary landfills. The major effect from acute (short-term) inhalation exposure to chloroform is central nervous system depression. Chronic (long-term) exposure to chloroform by inhalation in humans has resulted in effects on the liver, including hepatitis and jaundice, and central nervous system effects, such as depression and irritability. Chloroform has been shown to be carcinogenic in animals after oral exposure, resulting in an increase in kidney and liver tumors. EPA has classified chloroform as a Group B2, probable human carcinogen.

Please Note: The main sources of information for this fact sheet are [EPA's Integrated Risk Information System \(IRIS\)](#), which contains information on oral chronic toxicity and the [RfD](#), and the carcinogenic effects of chloroform including the unit cancer risk for inhalation exposure, and the Agency for Toxic Substances and Disease Registry's (ATSDR's) [Toxicological Profile for Chloroform](#).

Uses

- The vast majority of the chloroform produced in the United States is used to make HCFC-22. The rest is produced for export and for miscellaneous uses. (1)
- Chloroform was used in the past as an extraction solvent for fats, oils, greases, and other products; as a dry cleaning spot remover; in fire extinguishers; as a fumigant; and as an anesthetic. However, chloroform is no longer used in these products. (1)

Sources and Potential Exposure

- Chloroform may be released to the air from a large number of sources related to its manufacture and use, as well as its formation in the chlorination of drinking water, wastewater, and swimming pools. Pulp and paper mills, hazardous waste sites, and sanitary landfills are also sources of air emissions. The background level of chloroform in ambient air in the early 1990s was estimated at 0.00004 parts per million (ppm). (1)
- Human exposure to chloroform may occur through drinking water, where chloroform is formed as a result of the chlorination of naturally occurring organic materials found in raw water supplies. Measurements of chloroform in drinking water during the 1970s and 1980s ranged from 0.022 to 0.068 ppm. (1)
- Chloroform may also be found in some foods and beverages, largely from the use of

tap water during production processes. (1)

Assessing Personal Exposure

- Chloroform can be detected in blood, urine, and body tissues. However, these methods are not very reliable because chloroform is rapidly eliminated from the body, and the tests are not specific for chloroform. (1)

Health Hazard Information

Acute Effects:

- The major effect from acute inhalation exposure to chloroform in humans is central nervous system depression. At very high levels (40,000 ppm), chloroform exposure may result in death, with concentrations in the range of 1,500 to 30,000 ppm producing anesthesia, and lower concentrations (<1,500 ppm) resulting in dizziness, headache, tiredness, and other effects. (1,2)
- Effects noted in humans exposed to chloroform via anesthesia include changes in respiratory rate, cardiac effects, gastrointestinal effects, such as nausea and vomiting, and effects on the liver and kidney. Chloroform is not currently used as a surgical anesthetic. (1,2)
- In humans, a fatal oral dose of chloroform may be as low as 10 mL (14.8 g), with death due to respiratory or cardiac arrest. (1,2)
- Tests involving acute exposure of animals have shown chloroform to have low acute toxicity from inhalation exposure and moderate acute toxicity from oral exposure. (3)

Chronic Effects (Noncancer):

- Chronic exposure to chloroform by inhalation in humans is associated with effects on the liver, including hepatitis and jaundice, and central nervous system effects, such as depression and irritability. Inhalation exposures of animals have also resulted in effects on the kidney. (1,2)
- Chronic oral exposure to chloroform in humans has resulted in effects on the blood, liver, and kidney. (1,2)
- EPA has not established a Reference Concentration (RfC) for chloroform. (4)
- The California Environmental Protection Agency (CalEPA) has established a chronic reference exposure level of 0.3 milligrams per cubic meter (mg/m³) for chloroform based on exposures resulting in kidney and liver effects in rats. The CalEPA reference exposure level is a concentration at or below which adverse health effects are not likely to occur. It is not a direct estimator of risk, but rather a reference point to gauge the potential effects. At lifetime exposures increasingly greater than the reference exposure level, the potential for adverse health effects increases. (5)
- ATSDR has established an acute inhalation minimal risk level (MRL) of 0.5 mg/m³ (0.1 ppm) based on exposures resulting in liver effects in mice, an intermediate inhalation MRL of 0.2 mg/m³ (0.05 ppm) based on worker exposures resulting in liver effects in humans, and a chronic inhalation MRL of 0.1 mg/m³ (0.02 ppm) also based on liver effects in humans. The MRL is an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse noncancer health effects over a specified duration of exposure. (1)
- The Reference Dose (RfD) for chloroform is 0.01 milligrams per kilogram per day (mg/kg/d) based on exposures resulting in fatty cyst formation in the livers of dogs. The RfD is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily oral exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious noncancer effects during a lifetime. (4)
- EPA has medium to low confidence in the RfD due to: medium confidence in the critical study on which the RfD was based because only two treatment doses were used, and a no-observed-effect level (NOEL) was not determined; and medium to low confidence in the database because several studies support the choice of a lowest-observed-adverse-effect level (LOAEL), but a NOEL was not found. (4)

Reproductive/Developmental Effects:

- Little information is available on the reproductive or developmental effects of chloroform in humans, via any route of exposure. A possible association between certain birth outcomes (e.g., low birth weight, cleft palate) and consumption of contaminated drinking water was reported. However, because multiple contaminants were present, the role of chloroform is unclear. (1)
- Animal studies have demonstrated developmental effects, such as decreased fetal body weight, fetal resorptions, and malformations in the offspring of animals exposed to chloroform via inhalation. (1)
- Reproductive effects, such as decreased conception rates, decreased ability to maintain pregnancy, and an increase in the percentage of abnormal sperm were observed in animals exposed to chloroform through inhalation. (1)
- Animal studies have noted decreased fetal weight, increased fetal resorptions, but no evidence of birth defects, in animals orally exposed to chloroform. (1)

Cancer Risk:

- No information is available regarding cancer in humans or animals after inhalation exposure to chloroform. (1)
- Epidemiologic studies suggest an association between cancer of the large intestine, rectum, and/or bladder and the constituents of chlorinated drinking water, including chloroform. However, there are no epidemiologic studies of water containing only chloroform. (1)
- Chloroform has been shown to be carcinogenic in animals after oral exposure, resulting in an increase in kidney and liver tumors. (1)
- EPA considers chloroform to be a probable human carcinogen and has ranked it in EPA's Group B2. (4)
- EPA has determined that although chloroform is likely to be carcinogenic to humans by all routes of exposure under high-exposure conditions that lead to cell death and regrowth in susceptible tissues, chloroform is not likely to cause cancer in humans by any route of exposure under exposure conditions that do not cause cell death and regrowth. Therefore, EPA has not derived either an oral carcinogenic potency slope or an inhalation unit risk for chloroform.

Physical Properties

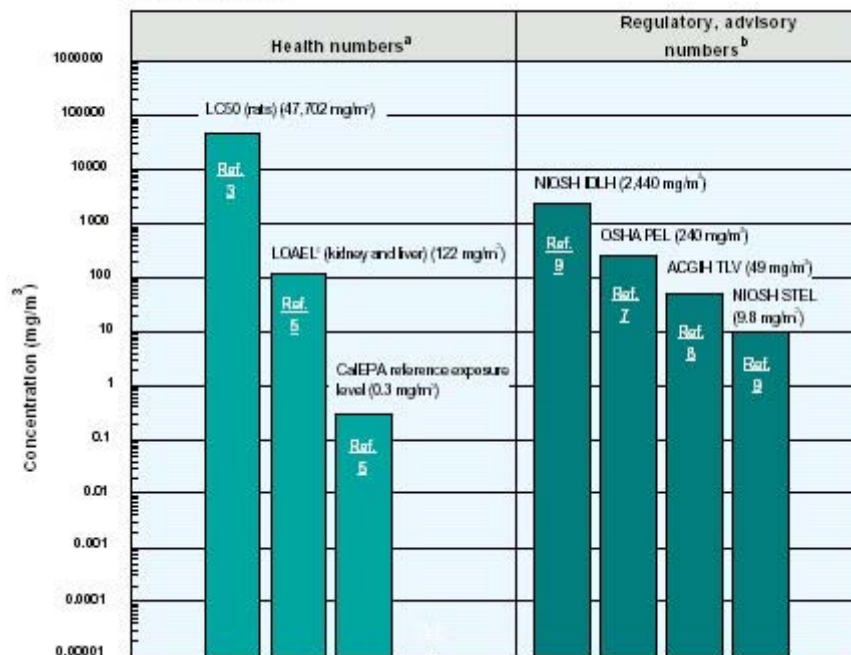
- Chloroform is a colorless liquid that is not very soluble in water and is very volatile. (1,6)
- Chloroform has a pleasant, nonirritating odor; the odor threshold is 85 ppm. (1)
- The chemical formula for chloroform is CHCl_3 , and it has a molecular weight of 119.38 g/mol. (1)
- The vapor pressure for chloroform is 159 mm Hg at 20 °C, and it has a log octanol/water partition coefficient ($\log K_{ow}$) of 1.97. (1)

Conversion Factors:

To convert concentrations in air (at 25°C) from ppm to mg/m³: $\text{mg/m}^3 = (\text{ppm}) \times (\text{molecular weight of the compound}) / (24.45)$. For chloroform: 1 ppm = 4.88 mg/m³. To convert concentrations in air from µg/m³ to mg/m³: $\text{mg/m}^3 = (\mu\text{g/m}^3) \times (1 \text{ mg}/1,000 \mu\text{g})$.

Health Data from Inhalation Exposure

Chloroform



ACGIH TLV--American Conference of Governmental and Industrial Hygienists' threshold limit value expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effects.

LC₅₀ (Lethal Concentration₅₀)--A calculated concentration of a chemical in air to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

NIOSH REL--National Institute of Occupational Safety and Health's recommended exposure limit; NIOSH-recommended exposure limit for an 8- or 10-h time-weighted-average exposure and/or ceiling.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

The health and regulatory values cited in this factsheet were obtained in December 1999.

^aHealth numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^bRegulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as advice. OSHA numbers are regulatory, whereas NIOSH and ACGIH numbers are advisory.

^cThese cancer risk estimates were derived from oral data and converted to provide the estimated inhalation risk.

^dThe LOAEL is from the critical study used as the basis for the CalEPA chronic reference exposure level.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for Chloroform*. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1997.

2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
 3. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
 4. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Chloroform*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.
 5. California Environmental Protection Agency (CalEPA). *Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels. Draft for Public Comment*. Office of Environmental Health Hazard Assessment, Berkeley, CA. 1997.
 6. *The Merck Index. An Encyclopedia of Chemicals, Drugs, and Biologicals*. 11th ed. Ed. S. Budavari. Merck and Co. Inc., Rahway, NJ. 1989.
 7. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations*. 29 CFR 1910.1000. 1998.
 8. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents. Biological Exposure Indices*. Cincinnati, OH. 1999.
 9. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.
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Ethylene Dibromide (Dibromoethane)

106-93-4

Hazard Summary-Created in April 1992; Revised in January 2000

Exposure to ethylene dibromide primarily occurs from its past use as an additive to leaded gasoline and as a fumigant. Ethylene dibromide is extremely toxic to humans. The chronic (long-term) effects of exposure to ethylene dibromide have not been well documented in humans. Animal studies indicate that chronic exposure to ethylene dibromide may result in toxic effects to the liver, kidney, and the testis, irrespective of the route of exposure. Limited data on men occupationally exposed to ethylene dibromide indicate that long-term exposure to ethylene dibromide can impair reproduction by damaging sperm cells in the testicles. Several animal studies indicate that long-term exposure to ethylene dibromide increases the incidences of a variety of tumors in rats and mice in both sexes by all routes of exposure. EPA has classified ethylene dibromide as a Group B2, probable human carcinogen.

Please Note: The main sources of information for this fact sheet are EPA's [Integrated Risk Information System \(IRIS\)](#), which contains information on the carcinogenic effects of ethylene dibromide including the unit cancer risk for inhalation exposure, and the Agency for Toxic Substances and Disease Registry's (ATSDR's) [Toxicological Profile for 1,2-Dibromoethane](#).

Uses

- Ethylene dibromide was used in the past as an additive to leaded gasoline; however, since leaded gasoline is now banned, it is no longer used for this purpose. (1)
- Ethylene dibromide was used as a fumigant to protect against insects, pests, and nematodes in citrus, vegetable, and grain crops, and as a fumigant for turf, particularly on golf courses. In 1984, EPA banned its use as a soil and grain fumigant. (1)
- Ethylene dibromide is currently used in the treatment of felled logs for bark beetles and termites, and control of wax moths in beehives. (1)
- Ethylene dibromide is also used as an intermediate for dyes, resins, waxes, and gums. (1)

Sources and Potential Exposure

- Possible sources of ethylene dibromide emissions to the ambient air are production and processing facilities. (1)
- Exposure could occur from inhalation of ambient air near industries that use ethylene dibromide or through the ingestion of contaminated drinking water. (1)

Assessing Personal Exposure

- There is no known reliable medical test to determine whether someone has been exposed to ethylene dibromide. (1)

Health Hazard Information

Acute Effects:

- Clinical signs in humans and animals related to acute inhalation exposure to ethylene dibromide are depression and collapse. Ethylene dibromide is a severe skin irritant that can cause blistering. (1,2)
- Exposure to high concentrations of ethylene dibromide through inhalation, ingestion, or skin contact can result in death. Changes in the liver and kidney are reported in humans who died from ingestion of ethylene dibromide. (1,2)
- Tests involving acute exposure of rats have shown ethylene dibromide to have high acute toxicity from oral exposure, while moderate acute toxicity resulted from inhalation exposure. (3)

Chronic Effects (Noncancer):

- The chronic effects of exposure to ethylene dibromide have not been extensively documented in humans. In one case in which a worker breathed ethylene dibromide for several years, he developed bronchitis, headache, and depression. His health improved after he stopped breathing air contaminated with ethylene dibromide. (1,2)
- Animal studies indicate that prolonged exposure to ethylene dibromide may result in toxic effects to the liver, kidney, and the testis whether by inhalation, ingestion, or skin contact. (1,2)
- EPA has not established a Reference Dose (RfD) or a Reference Concentration (RfC) for ethylene dibromide. (4)
- EPA has calculated a provisional RfC of 0.0002 milligrams per cubic meter (mg/m³) for ethylene dibromide based on reproductive effects in humans. The RfC is an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious noncancer effects during a lifetime. It is not a direct estimator of risk but rather a reference point to gauge the potential effects. At exposures increasingly greater than the RfC, the potential for adverse health effects increases. Lifetime exposure above the RfC does not imply that an adverse health effect would necessarily occur. The provisional RfC is a value that has had some form of Agency review, but it does not appear on IRIS. (5)

Reproductive Effects/Developmental:

- Developmental effects have not been documented in humans. Limited data on men occupationally exposed to ethylene dibromide indicate that long-term exposure to ethylene dibromide can impair reproduction by damaging sperm cells in the testicles. (1,2)
- Animals that breathed or ate food containing ethylene dibromide for short or long periods were less fertile than control animals or had abnormal sperm. Pregnant animals that were sick from exposure to ethylene dibromide have had pups with birth defects. (1,2)

Cancer Risk:

- Two cancer studies on workers exposed to ethylene dibromide have been carried out. Neither study reported a statistically significant increase in cancer mortality; however these studies are considered inadequate due to confounding factors. (4)
- Several animal studies indicate that long-term exposure to ethylene dibromide increases the incidences of a variety of tumors in rats and mice in both sexes by inhalation, by gavage (the placing of ethylene dibromide experimentally in the stomach), or by administration to the skin. (4)
- EPA has classified ethylene dibromide as a Group B2, probable human carcinogen. (4)

- EPA uses mathematical models, based on animal studies, to estimate the probability of a person developing cancer from breathing air containing a specified concentration of a chemical. EPA has calculated an inhalation unit risk estimate of $2.2 \times 10^{-4} (\mu\text{g}/\text{m}^3)^{-1}$. EPA estimates that, if an individual were to continuously breathe air containing ethylene dibromide at an average of $0.005 \mu\text{g}/\text{m}^3$ ($5 \times 10^{-6} \text{mg}/\text{m}^3$) over his or her entire lifetime, that person would theoretically have no more than a one-in-a-million increased chance of developing cancer as a direct result of breathing air containing this chemical. Similarly, EPA estimates that continuously breathing air containing $0.05 \mu\text{g}/\text{m}^3$ ($5 \times 10^{-5} \text{mg}/\text{m}^3$) would result in not greater than a one-in-hundred thousand increased chance of developing cancer, and air containing $0.5 \mu\text{g}/\text{m}^3$ ($5 \times 10^{-4} \text{mg}/\text{m}^3$) would result in not greater than a one-in-ten thousand increased chance of developing cancer in their lifetime. For a detailed discussion of confidence in the potency estimates, please see IRIS. (4)
- EPA has calculated an oral cancer slope factor of $85 (\text{mg}/\text{kg}/\text{d})^{-1}$. (4)

Physical Properties

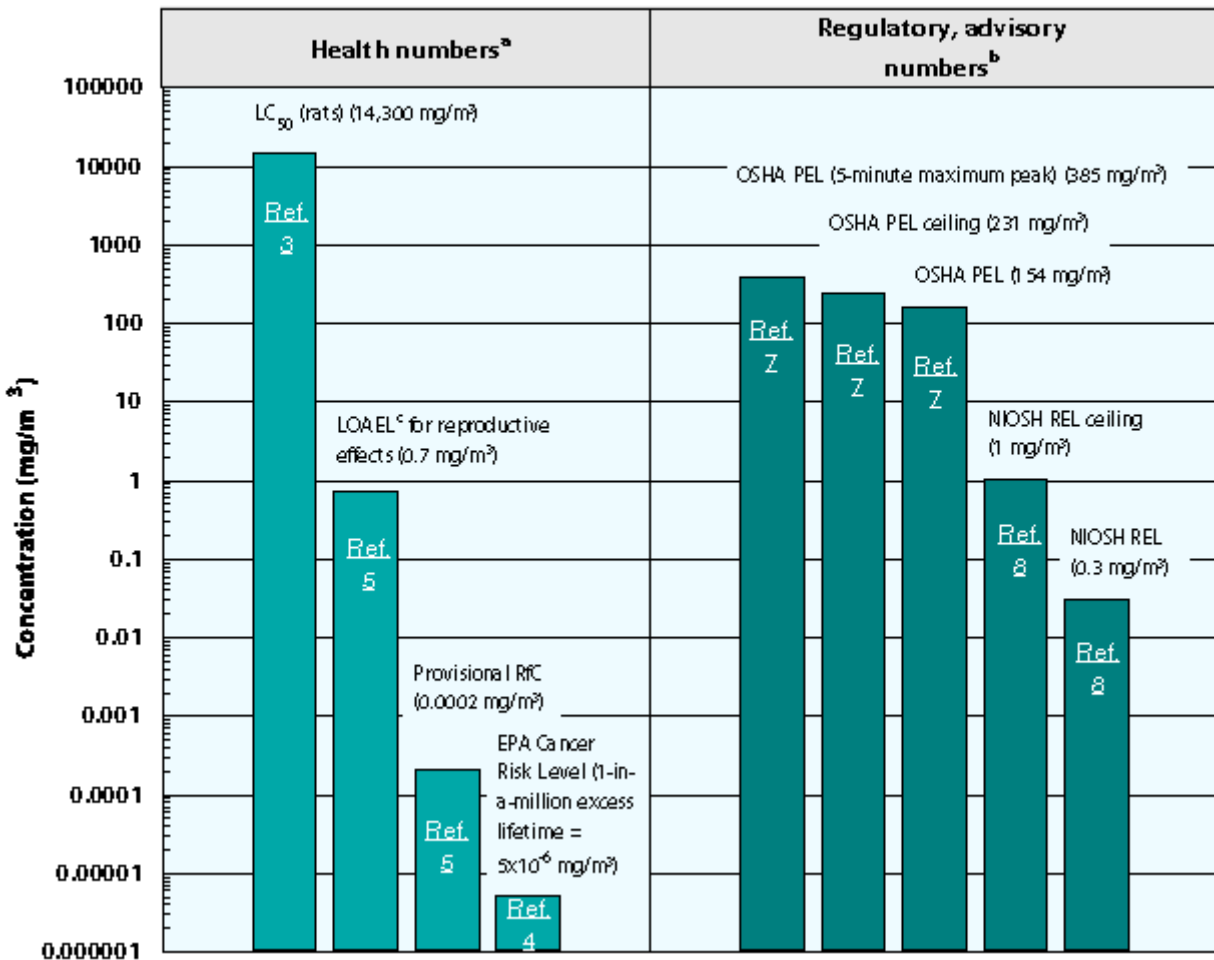
- Ethylene dibromide is a colorless liquid with a mild sweet odor, like chloroform. It is also known as 1,2-dibromomethane. (1,7)
- Ethylene dibromide is slightly soluble in water. (1,7)
- The chemical formula for ethylene dibromide is $\text{C}_2\text{H}_4\text{Br}_2$, and it has a molecular weight of $187.88 \text{g}/\text{mol}$. (1,7)
- The vapor pressure for ethylene dibromide is 11.0mm Hg at 25°C , and it has a log octanol/water partition coefficient ($\log K_{ow}$) of 86 . (1). Ethylene dibromide reacts with hydroxyl radicals in the atmosphere, with a half-life for this reaction of approximately 40 days. In water, its half-life ranges from 2.5 to 13.2 years, and in soil it was detected 19 years after it had been applied. (1)

Conversion Factors (only for the gaseous form):

To convert concentrations in air (at 25°C) from ppm to mg/m^3 : $\text{mg}/\text{m}^3 = (\text{ppm}) \times (\text{molecular weight of the compound})/(24.45)$. For ethylene dibromide: $1 \text{ppm} = 7.7 \text{mg}/\text{m}^3$.
 To convert concentrations in air from $\mu\text{g}/\text{m}^3$ to mg/m^3 : $\text{mg}/\text{m}^3 = (\mu\text{g}/\text{m}^3) \times (1 \text{mg}/1,000 \mu\text{g})$.

Health Data from Inhalation Exposure

Ethylene Dibromide



LC₅₀ (Lethal Concentration₅₀)--A calculated concentration of a chemical in air to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

NIOSH ceiling--National Institute of Occupational Safety and Health's ceiling limit; NIOSH--recommended 15-min exposure limit, which should not be exceeded.

NIOSH REL--NIOSH's recommended exposure limit; NIOSH-recommended exposure limit for an 8- or 10-h time-weighted-average exposure and/or ceiling.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

The health and regulatory values cited in this factsheet were obtained in December 1999.

^aHealth numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^bRegulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as advice. OSHA numbers are regulatory, whereas NIOSH numbers are advisory.

^cThe LOAEL is from the critical study used as the basis for the EPA provisional RfC.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for 1,2-Dibromoethane*. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1992.
 2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
 3. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
 4. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on 1,2-Dibromoethane*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.
 5. U.S. Environmental Protection Agency. *Health Effects Assessment Summary Tables. FY-1997 Update*. National Center for Environmental Assessment, Office of Research and Development, Office of Emergency and Remedial Response, Washington, DC. 1997.
 6. *The Merck Index. An Encyclopedia of Chemicals, Drugs, and Biologicals*. 11th ed. Ed. S. Budavari. Merck and Co. Inc., Rahway, NJ. 1989.
 7. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations*. 29 CFR 1910.1000. 1998.
 8. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.
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Ethylene Dichloride (1,2-Dichloroethane)

107-06-2

Hazard Summary-Created in April 1992; Revised in January 2000

Exposure to low levels of ethylene dichloride can occur from breathing ambient or workplace air. Inhalation of concentrated ethylene dichloride vapor can induce effects on the human nervous system, liver, and kidneys, as well as respiratory distress, cardiac arrhythmia, nausea, and vomiting. Chronic (long-term) inhalation exposure to ethylene dichloride produced effects on the liver and kidneys in animals. No information is available on the reproductive or developmental effects of ethylene dichloride in humans. Decreased fertility and increased embryo mortality have been observed in inhalation studies of rats. Epidemiological studies are not conclusive regarding the carcinogenic effects of ethylene dichloride, due to concomitant exposure to other chemicals. Following treatment by gavage (experimentally placing the chemical in the stomach), several tumor types were induced in rats and mice. EPA has classified ethylene dichloride as a Group B2, probable human carcinogen.

Please Note: Ethylene dichloride is also known as 1,2-dichloroethane. The main sources of information for this fact sheet are EPA's [Integrated Risk Information System \(IRIS\)](#), which contains information on the carcinogenic effects of ethylene dichloride including the unit cancer risk for inhalation exposure, and the Agency for Toxic Substances and Disease Registry's (ATSDR's) [Toxicological Profile for 1,2-Dichloroethane](#).

Uses

- Ethylene dichloride is primarily used in the production of vinyl chloride as well as other chemicals. It is used in solvents in closed systems for various extraction and cleaning purposes in organic synthesis. It is also added to leaded gasoline as a lead scavenger. (1)
- It is also used as a dispersant in rubber and plastics, as a wetting and penetrating agent. (1)
- It was formerly used in ore flotation, as a grain fumigant, as a metal degreaser, and in textile and PVC cleaning. (1)

Sources and Potential Exposure

- Inhalation of ethylene dichloride in the ambient or workplace air is generally the main route of human exposure. The compound may be released during its production, storage, use, transport, and disposal. (1)
- Exposure may also occur through the consumption of contaminated water. But usually ethylene dichloride will evaporate quickly into the air from the water or soil. (1)
- The average levels of ethylene dichloride in the air of seven urban locations in 1980-

1981 ranged from 0.1 to 1.5 parts per billion (ppb). (1)

Assessing Personal Exposure

- Breath samples may be used to determine whether or not someone has been recently exposed to ethylene dichloride. (1)

Health Hazard Information

Acute Effects:

- Acute inhalation exposure of humans to ethylene dichloride can affect the nervous system, with effects including narcosis, nausea, and vomiting. (1)
- An occupationally exposed man died from cardiac arrhythmia after acute (short-term) inhalation exposure to very high levels of ethylene dichloride. (1)
- Cardiac arrhythmia, pulmonary edema, bronchitis, hemorrhagic gastritis and colitis, depression, and changes in the brain tissue have been reported in humans that ingested large amounts of ethylene dichloride. (1)
- Effects reported in animals exposed by inhalation are similar to those for humans. (1)
- Clouding of the cornea and eye irritation have been observed in animals and are thought to be the result of vapor contact with the eyes. (1)
- Acute animal tests in rats, mice, and rabbits have demonstrated ethylene dichloride to have moderate acute toxicity from inhalation or dermal exposure and moderate to high acute toxicity from oral exposure. (2)

Chronic Effects (Noncancer):

- No information is available on the chronic effects of ethylene dichloride.
- Chronic inhalation exposure to ethylene dichloride produced effects on the liver and kidneys in animals. (1)
- Some studies have reported changes in the liver and kidneys and effects on the immune system and central nervous system in animals chronically exposed by ingestion. (1)
- EPA has not established a Reference Dose (RfD) or a Reference Concentration (RfC) for ethylene dichloride. (3)
- ATSDR has established an intermediate oral minimal risk level (MRL) of 0.2 milligram per kilogram body weight per day (mg/kg/d) based on kidney effects in animals. The MRL is an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse noncancer health effects over a specified duration of exposure. Exposure to a level above the MRL does not mean that adverse health effects will occur. The MRL is intended to serve as a screening tool. (1)
- ATSDR has established a chronic inhalation MRL of 0.8 milligrams per cubic meter (mg/m³) (0.2 parts per million [ppm]) based on liver effects in animals and an acute inhalation MRL of 0.8 mg/m³ (0.2 ppm) based on immunological effects in animals. (1)
- The California Environmental Protection Agency (CalEPA) has established a chronic reference exposure level of 0.4 mg/m³ for ethylene dichloride based on liver effects in rats. The CalEPA reference exposure level is a concentration at or below which adverse health effects are not likely to occur. (5)

Reproductive/Developmental Effects:

- No information is available on the reproductive or developmental effects of ethylene dichloride in humans.
- Decreased fertility and increased embryo mortality have been observed in inhalation studies of rats. (1)

Cancer Risk:

- Epidemiological occupational studies could not link exposure to ethylene dichloride specifically with excess cancer incidence. (1)
- An increased incidence of colon and rectal cancer in men over 55 years of age exposed to ethylene dichloride in the drinking water has been reported. However, the study population was concomitantly exposed to other chemicals. (1)
- Following treatment by gavage (experimentally placing the chemical in the stomach),

several tumor types (including increased incidences of forestomach squamous-cell carcinomas, circulatory system hemangiosarcomas, mammary adenocarcinoma, alveolar/bronchiolar adenomas, endometrial stromal polyps and sarcomas, and hepatocellular carcinomas) were induced in rats and mice. (1,3,4)

- An increased incidence of lung papillomas has been reported in mice after topical application. (1,3)
- EPA has classified ethylene dichloride as a Group B2, probable human carcinogen. (3)
- EPA uses mathematical models, based on human and animal studies, to estimate the probability of a person developing cancer from breathing air containing a specified concentration of a chemical. EPA calculated an inhalation unit cancer risk estimate of $2.6 \times 10^{-5} (\mu\text{g}/\text{m}^3)^{-1}$. EPA estimates that, if an individual were to continuously breathe air containing ethylene dichloride at an average of $0.04 \mu\text{g}/\text{m}^3$ ($4 \times 10^{-5} \text{mg}/\text{m}^3$) over his or her entire lifetime, that person would theoretically have no more than a one-in-a-million increased chance of developing cancer as a direct result of breathing air containing this chemical. Similarly, EPA estimates that breathing air containing $0.4 \mu\text{g}/\text{m}^3$ ($4 \times 10^{-4} \text{mg}/\text{m}^3$) would result in not greater than a one-in-a-hundred thousand increased chance of developing cancer, and air containing $4.0 \mu\text{g}/\text{m}^3$ ($4 \times 10^{-3} \text{mg}/\text{m}^3$) would result in not greater than a one-in-ten thousand increased chance of developing cancer. For a detailed discussion of confidence in the potency estimates, please see IRIS. (3)

Physical Properties

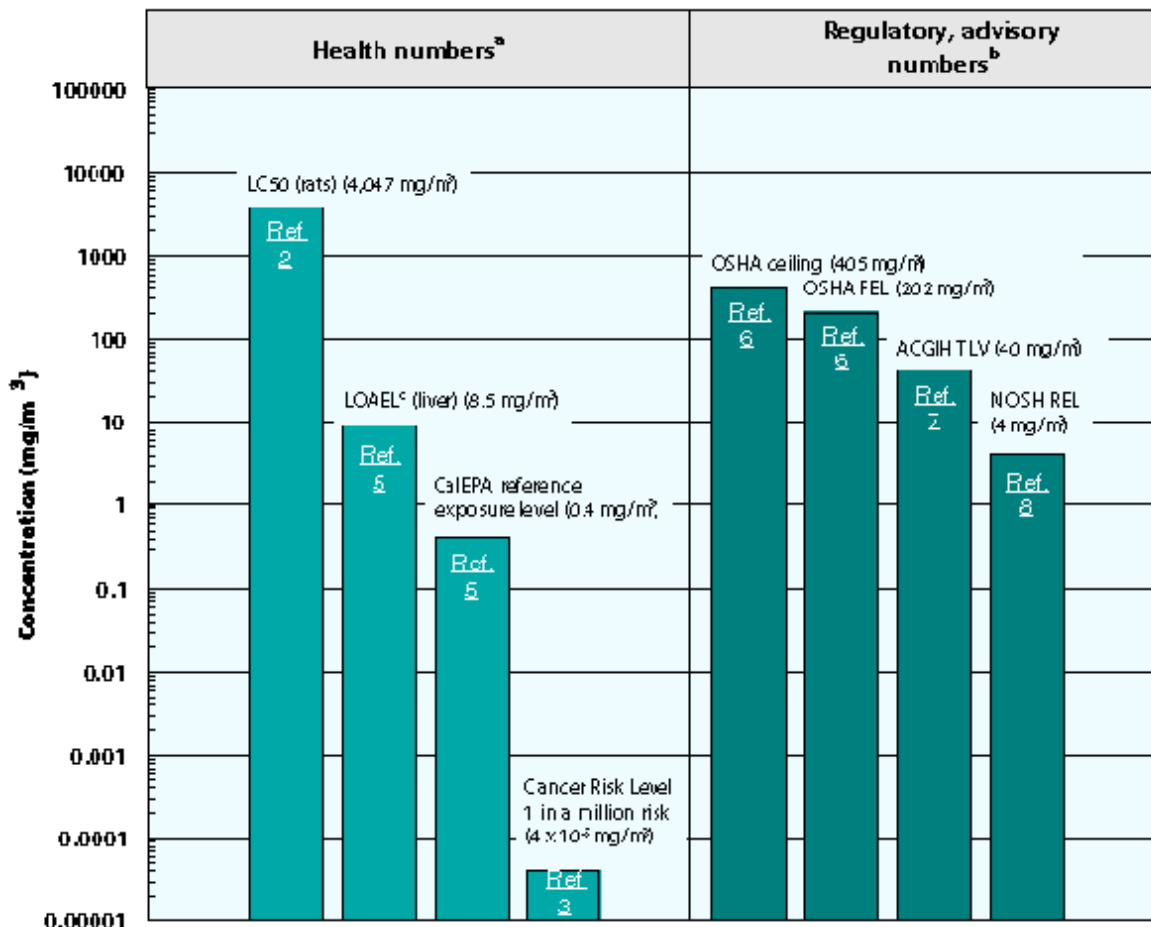
- 1,2-Dichloroethane is a common synonym for ethylene dichloride.
- The chemical formula for ethylene dichloride is $\text{C}_2\text{H}_4\text{Cl}_2$, and its molecular weight is 98.96 g/mol. (1)
- Ethylene dichloride occurs as a colorless, oily, heavy liquid that is slightly soluble in water. (1)
- Ethylene dichloride has a pleasant chloroform-like odor, with an odor threshold of 6-10 ppm. (1)
- The vapor pressure for ethylene dichloride is 64 mm Hg at 20 °C, and its log octanol/water partition coefficient ($\log K_{ow}$) is 1.48. (1)

Conversion Factors:

To convert concentrations in air (at 25°C) from ppm to mg/m^3 : $\text{mg}/\text{m}^3 = (\text{ppm}) \times (\text{molecular weight of the compound}) / (24.45)$. For ethylene dichloride: $1 \text{ ppm} = 4.05 \text{ mg}/\text{m}^3$. To convert concentrations in air from $\mu\text{g}/\text{m}^3$ to mg/m^3 : $\text{mg}/\text{m}^3 = (\mu\text{g}/\text{m}^3) \times (1 \text{ mg}/1,000 \mu\text{g})$.

Health Data from Inhalation Exposure

1,2-Dichloroethane



ACGIH TLV--American Conference of Governmental and Industrial Hygienists' threshold limit value expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effects.

LC₅₀ (Lethal Concentration₅₀)--A calculated concentration of a chemical in air to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

NIOSH REL--National Institute of Occupational Safety and Health recommended exposure limit; NIOSH-recommended exposure limit for an 8- or 10-h time-weighted-average exposure and/or ceiling.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

OSHA PEL ceiling value--OSHA's permissible exposure limit ceiling value; the concentration of a substance that should not be exceeded at any time.

The health and regulatory values cited in this factsheet were obtained in December 1999.

^aHealth numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^bRegulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as advice. OSHA numbers are regulatory, whereas NIOSH and ACGIH numbers are advisory.

^cThe NOAEL is from the critical study used as the basis for the CalEPA chronic reference exposure level.

^dThese cancer risk estimates were derived from oral data and converted to provide the

estimated inhalation risk.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for 1,2-Dichloroethane*. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1992.
2. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
3. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on 1,2-Dichloroethane*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.
4. U.S. Environmental Protection Agency. *Health Effects Assessment for 1,2-Dichloroethane*. EPA/540/1-86/002. Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, Office of Research and Development, Cincinnati, OH. 1986.
5. California Environmental Protection Agency (CalEPA). *Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels. Draft for Public Comment*. Office of Environmental Health Hazard Assessment, Berkeley, CA. 1997.
6. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations*. 29 CFR 1910.1000. 1998.
7. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents. Biological Exposure Indices*. Cincinnati, OH. 1999.
8. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.



Technology Transfer Network Air Toxics Web Site

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Formaldehyde

50-00-0

Hazard Summary-Created in April 1992; Revised in January 2000

Formaldehyde is used mainly to produce resins used in particleboard products and as an intermediate in the synthesis of other chemicals. Exposure to formaldehyde may occur by breathing contaminated indoor air, tobacco smoke, or ambient urban air. Acute (short-term) and chronic (long-term) inhalation exposure to formaldehyde in humans can result in respiratory symptoms, and eye, nose, and throat irritation. Limited human studies have reported an association between formaldehyde exposure and lung and nasopharyngeal cancer. Animal inhalation studies have reported an increased incidence of nasal squamous cell cancer. EPA considers formaldehyde a probable human carcinogen (Group B1).

Please Note: The main sources of information for this fact sheet are EPA's *Health and Environmental Effects Profile for Formaldehyde* and the *Integrated Risk Information System (IRIS)*, which contains information on oral chronic toxicity and the *RfD*, and the carcinogenic effects of formaldehyde including the unit cancer risk for inhalation exposure.

Uses

- Formaldehyde is used predominantly as a chemical intermediate. It also has minor uses in agriculture, as an analytical reagent, in concrete and plaster additives, cosmetics, disinfectants, fumigants, photography, and wood preservation. (1,2)
- One of the most common uses of formaldehyde in the U.S is manufacturing urea-formaldehyde resins, used in particleboard products. (7)
- Formaldehyde (as urea formaldehyde foam) was extensively used as an insulating material until 1982 when it was banned by the U.S. Consumer Product Safety Commission. (1,2)

Sources and Potential Exposure

- The highest levels of airborne formaldehyde have been detected in indoor air, where it is released from various consumer products such as building materials and home furnishings. One survey reported formaldehyde levels ranging from 0.10 to 3.68 parts per million (ppm) in homes. Higher levels have been found in new manufactured or mobile homes than in older conventional homes. (1)
- Formaldehyde has also been detected in ambient air; the average concentrations reported in U.S. urban areas were in the range of 11 to 20 parts per billion (ppb). The major sources appear to be power plants, manufacturing facilities, incinerators, and automobile exhaust emissions. (7)

- Smoking is another important source of formaldehyde. (1)
- Formaldehyde may also be present in food, either naturally or as a result of contamination. (1)

Assessing Personal Exposure

- Blood levels of formaldehyde can be measured. However, these measurements are only useful when exposure to relatively large amounts of formaldehyde has occurred. (2)

Health Hazard Information

Acute Effects:

- The major toxic effects caused by acute formaldehyde exposure via inhalation are eye, nose, and throat irritation and effects on the nasal cavity. Other effects seen from exposure to high levels of formaldehyde in humans are coughing, wheezing, chest pains, and bronchitis. (1,2)
- Ingestion exposure to formaldehyde in humans has resulted in corrosion of the gastrointestinal tract and inflammation and ulceration of the mouth, esophagus, and stomach. (1,2)
- Acute animal tests in rats and rabbits have shown formaldehyde to have high acute toxicity from inhalation, oral, and dermal exposure. (3)

Chronic Effects (Noncancer):

- Chronic exposure to formaldehyde by inhalation in humans has been associated with respiratory symptoms and eye, nose, and throat irritation. (1,2,4,5)
- Repeated contact with liquid solutions of formaldehyde has resulted in skin irritation and allergic contact dermatitis in humans. (5)
- Animal studies have reported effects on the nasal respiratory epithelium and lesions in the respiratory system from chronic inhalation exposure to formaldehyde. (1,2,4,5)
- The Reference Dose (RfD) for formaldehyde is 0.2 milligrams per kilogram body weight per day (mg/kg/d) based on a decrease in body weight gain and effects on the stomach in rats. The RfD is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily oral exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious noncancer effects during a lifetime. It is not a direct estimator of risk but rather a reference point to gauge the potential effects. At exposures increasingly greater than the RfD, the potential for adverse health effects increases. Lifetime exposure above the RfD does not imply that an adverse health effect would necessarily occur. (6)
- EPA has high confidence in the study on which the RfD was based since it consisted of an adequate number of animals of both sexes, as well as a thorough examination of toxicological and histological parameters; medium confidence in the database as several additional chronic bioassays and reproductive and developmental studies support the critical effect and study; and, consequently, medium confidence in the RfD. (6)
- EPA has not established a Reference Concentration (RfC) for formaldehyde. (6)
- The Agency for Toxic Substances and Disease Registry (ATSDR) has established a chronic inhalation minimal risk level (MRL) of 0.003 ppm (0.004 milligrams per cubic meter, mg/m³) based on respiratory effects in humans. The MRL is an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse noncancer health effects over a specified duration of exposure. (7)

Reproductive/Developmental Effects:

- An increased incidence of menstrual disorders were observed in female workers using urea-formaldehyde resins. However, possible confounding factors were not evaluated in this study. (1,2)
- A study of hospital equipment sterilizing workers did not report an association between formaldehyde exposure and increased spontaneous abortions. (1,2)
- Developmental effects, such as birth defects, have not been observed in animal studies with formaldehyde. (1,2)

Cancer Risk:

- Occupational studies have noted statistically significant associations between exposure to formaldehyde and increased incidence of lung and nasopharyngeal cancer. This evidence is considered to be "limited," rather than "sufficient," due to possible exposure to other agents that may have contributed to the excess cancers. (1,6)
- Animal studies have reported an increased incidence of nasal squamous cell carcinomas by inhalation exposure. (1,6)
- EPA considers formaldehyde to be a probable human carcinogen (cancer-causing agent) and has ranked it in EPA's Group B1. (6)
- EPA uses mathematical models, based on animal studies, to estimate the probability of a person developing cancer from breathing air containing a specified concentration of a chemical. EPA calculated an inhalation unit risk estimate of $1.3 \times 10^{-5} (\mu\text{g}/\text{m}^3)^{-1}$. EPA estimates that, if an individual were to continuously breathe air containing formaldehyde at an average of $0.08 \mu\text{g}/\text{m}^3$ ($8.0 \times 10^{-5} \text{mg}/\text{m}^3$) over his or her entire lifetime, that person would theoretically have no more than a one-in-a-million increased chance of developing cancer as a direct result of breathing air containing this chemical. Similarly, EPA estimates that breathing air containing $0.8 \mu\text{g}/\text{m}^3$ ($8.0 \times 10^{-4} \text{mg}/\text{m}^3$) would result in not greater than a one-in-a-hundred thousand increased chance of developing cancer, and air containing $8.0 \mu\text{g}/\text{m}^3$ ($8.0 \times 10^{-3} \text{mg}/\text{m}^3$) would result in not greater than a one-in-ten-thousand increased chance of developing cancer. For a detailed discussion of confidence in the potency estimates, please see IRIS. (6)

Physical Properties

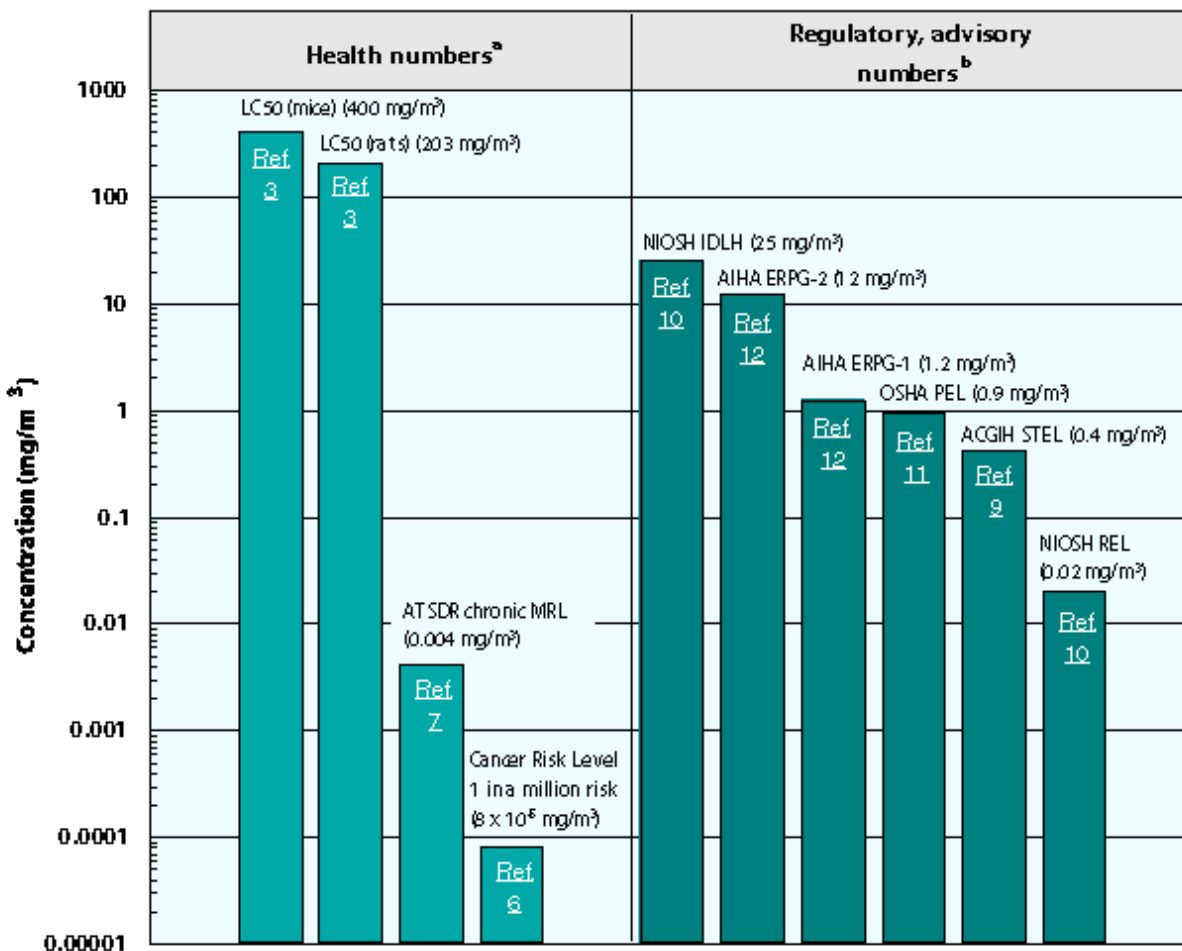
- The chemical formula for formaldehyde is CH_2O and the molecular weight is 30.03 g/mol. (1)
- The vapor pressure for formaldehyde is 10 mm Hg at -88°C , and its log octanol/water partition coefficient ($\log K_{ow}$) is -0.65. (1)
- Formaldehyde is a colorless gas with a pungent, suffocating odor at room temperature; the odor threshold for formaldehyde is 0.83 ppm. (1,8)
- Formaldehyde is readily soluble in water at room temperature. (1)
- Commercial formaldehyde is produced and sold as an aqueous solution containing 37 to 50 percent formaldehyde by weight. (1)

Conversion Factors:

To convert concentrations in air (at 25°C) from ppm to mg/m^3 : $\text{mg}/\text{m}^3 = (\text{ppm}) \times (\text{molecular weight of the compound})/(24.45)$. For formaldehyde: $1 \text{ ppm} = 1.23 \text{ mg}/\text{m}^3$.

Health Data from Inhalation Exposure

Formaldehyde



AIHA ERPG--American Industrial Hygiene Association's emergency response planning guidelines. ERPG 1 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor; ERPG 2 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing or developing irreversible or other serious health effects that could impair their abilities to take protective action.

ACGIH STEL--American Conference of Governmental and Industrial Hygienists' short-term exposure limit expressed as a time-weighted average exposure; the concentration of a substance which should not be exceeded at any time during a workday.

LC₅₀ (Lethal Concentration₅₀)--A calculated concentration of a chemical in air to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

NIOSH IDLH--National Institute of Occupational Safety and Health's immediately dangerous to life or health limit; NIOSH recommended exposure limit to ensure that a worker can escape from an exposure condition that is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from the environment.

NIOSH REL--NIOSH's recommended exposure limit; NIOSH recommended exposure limit for an 8- or 10-h time-weighted average exposure and/or ceiling.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

The health and regulatory values cited in this factsheet were obtained in 1999.

^aHealth numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^bRegulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as advice. OSHA numbers are regulatory, whereas NIOSH, ACGIH, and AIHA numbers are advisory.

References

1. U.S. Environmental Protection Agency. *Health and Environmental Effects Profile for Formaldehyde*. EPA/600/x-85/362. Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, Office of Research and Development, Cincinnati, OH. 1988.
 2. World Health Organization. *Environmental Health Criteria for Formaldehyde*. Volume 89. World Health Organization, Geneva, Switzerland. 1989.
 3. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
 4. E.J. Calabrese and E.M. Kenyon. *Air Toxics and Risk Assessment*. Lewis Publishers, Chelsea, MI. 1991.
 5. U.S. Department of Health and Human Services. Hazardous Substances Databank (HSDB, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
 6. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Formaldehyde*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.
 7. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for Formaldehyde* (Draft). Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1997.
 8. J.E. Amooore and E. Hautala. Odor as an aid to chemical safety: Odor thresholds compared with threshold limit values and volatilities for 214 industrial chemicals in air and water dilution. *Journal of Applied Toxicology*, 3(6):272-290. 1983.
 9. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices*. Cincinnati, OH. 1999.
 10. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.
 11. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations 29 CFR 1910.1048*. 1998.
 12. American Industrial Hygiene Association (AIHA). *The AIHA 1998 Emergency Response Planning Guidelines and Workplace Environmental Exposure Level Guides Handbook*. 1998.
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Technology Transfer Network Air Toxics Web Site

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Hexachlorobutadiene

87-68-3

Hazard Summary-Created in April 1992; Revised in January 2000

Hexachlorobutadiene is used mainly as an intermediate in the manufacture of rubber compounds. No information is available on the health effects of hexachlorobutadiene in humans. Animal studies have reported effects on the kidney and respiratory system from acute inhalation exposure, and effects on the kidney from chronic oral exposure to hexachlorobutadiene. Animal studies have not reported developmental or reproductive effects, other than a reduction in fetal body weights, from inhalation exposure to hexachlorobutadiene. One study reported kidney tumors in rats exposed to hexachlorobutadiene orally. EPA has classified hexachlorobutadiene as a Group C, possible human carcinogen.

Please Note: The main sources of information for this fact sheet are EPA's [Integrated Risk Information System \(IRIS\)](#), which contains information on the carcinogenic effects of hexachlorobutadiene including the unit cancer risk for inhalation exposure, and the Agency for Toxic Substances and Disease Registry's (ATSDR's) [Toxicological Profile for Hexachlorobutadiene](#).

Uses

- Hexachlorobutadiene is used mainly as an intermediate in the manufacture of rubber compounds. It is also used in the production of lubricants, as a fluid for gyroscopes, as a heat transfer liquid, and in hydraulic fluids. (1)

Sources and Potential Exposure

- Average concentrations of hexachlorobutadiene in ambient air were reported to be around 0.003 parts per billion (ppb), while much higher levels (0.022 to 43 ppb) were reported near industries where hexachlorobutadiene is formed or used. (1)
- Very small amounts of hexachlorobutadiene may be present in drinking water (<1 ppb). (1)
- Levels of hexachlorobutadiene ranging from 0.1 to 4.7 milligrams per kilogram (mg/kg) have been found in fish. (1)
- Persons working in industries where hexachlorobutadiene is formed or used may be exposed to the chemical. (1)

Assessing Personal Exposure

- Hexachlorobutadiene or its breakdown products can be measured in urine or fat for several days after the exposure has occurred. (1)

Health Hazard Information

Acute Effects:

- No information is available regarding the acute (short-term) effects of hexachlorobutadiene in humans from inhalation or oral exposure. (1)
- Animal studies have reported effects on the kidney and respiratory system from acute inhalation exposure, while oral animal studies have reported kidney effects. (1)
- Tests involving acute oral and inhalation exposures of rats and mice have shown hexachlorobutadiene to have high acute toxicity. (2)

Chronic Effects (Noncancer):

- No information is available regarding the chronic (long-term) effects of hexachlorobutadiene in humans from inhalation or oral exposure. (1)
- Animal studies have reported effects on the kidney and liver from chronic oral exposure to hexachlorobutadiene. (1)
- EPA has not established a Reference Concentration (RfC) for hexachlorobutadiene. (3)
- The California Environmental Protection Agency (CalEPA) has calculated a chronic inhalation reference exposure level of 0.09 milligrams per cubic meter (mg/m³) for hexachlorobutadiene. The CalEPA reference exposure level is a concentration at or below which adverse health effects are not likely to occur. It is not a direct estimator of risk but rather a reference point to gauge the potential effects. At lifetime exposures increasingly greater than the reference exposure level, the potential for adverse health effects increases. (6)
- The Reference Dose (RfD) for hexachlorobutadiene is under review by EPA. (3)
- EPA has calculated a provisional RfD of 0.0002 milligrams per kilogram body weight per day (mg/kg/d) based on kidney effects in mice. The provisional RfD is a value that has had some form of Agency review but is not on IRIS. The RfD is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily oral exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious noncancer effects during a lifetime. (4)

Reproductive/Developmental Effects:

- No information is available regarding the developmental or reproductive effects of hexachlorobutadiene in humans. (1)
- One study reported that the frequency of abnormal sperm morphology did not increase significantly over controls in mice exposed to hexachlorobutadiene via inhalation. A study in rats exposed via inhalation reported no embryotoxic effects, except for a reduction in fetal body weights. (1)
- Oral animal studies have reported reduced fertility, reduced fetal body weights, but no birth defects or other developmental effects from hexachlorobutadiene exposure. (1)

Cancer Risk:

- No information is available regarding the carcinogenic effects of hexachlorobutadiene in humans or animals from inhalation exposure. (1)
- One study reported kidney tumors in rats exposed to hexachlorobutadiene orally. (1,3)
- EPA has classified hexachlorobutadiene as a Group C, possible human carcinogen. (3)
- EPA uses mathematical models, based on animal studies, to estimate the probability of a person developing cancer from breathing air containing a specified concentration of a chemical. EPA calculated an inhalation unit risk estimate of $2.2 \times 10^{-5} (\mu\text{g}/\text{m}^3)^{-1}$. EPA estimates that, if an individual were to continuously breathe air containing hexachlorobutadiene at an average of $0.05 \mu\text{g}/\text{m}^3$ ($5 \times 10^{-5} \text{mg}/\text{m}^3$) over his or her entire lifetime, that person would theoretically have no more than a one-in-a-million increased chance of developing cancer as a direct result of breathing air containing this chemical. Similarly, EPA estimates that breathing air containing $0.5 \mu\text{g}/\text{m}^3$ ($5 \times 10^{-4} \text{mg}/\text{m}^3$) would result in not greater than a one-in-a-hundred thousand increased chance of developing cancer, and air containing $5.0 \mu\text{g}/\text{m}^3$ ($5 \times 10^{-3} \text{mg}/\text{m}^3$) would

result in not greater than a one-in-ten-thousand increased chance of developing cancer. For a detailed discussion of confidence in the potency estimates, please see IRIS. (3)

- EPA has calculated an oral cancer slope factor of $0.078 \text{ (mg/kg/d)}^{-1}$. (3)

Physical Properties

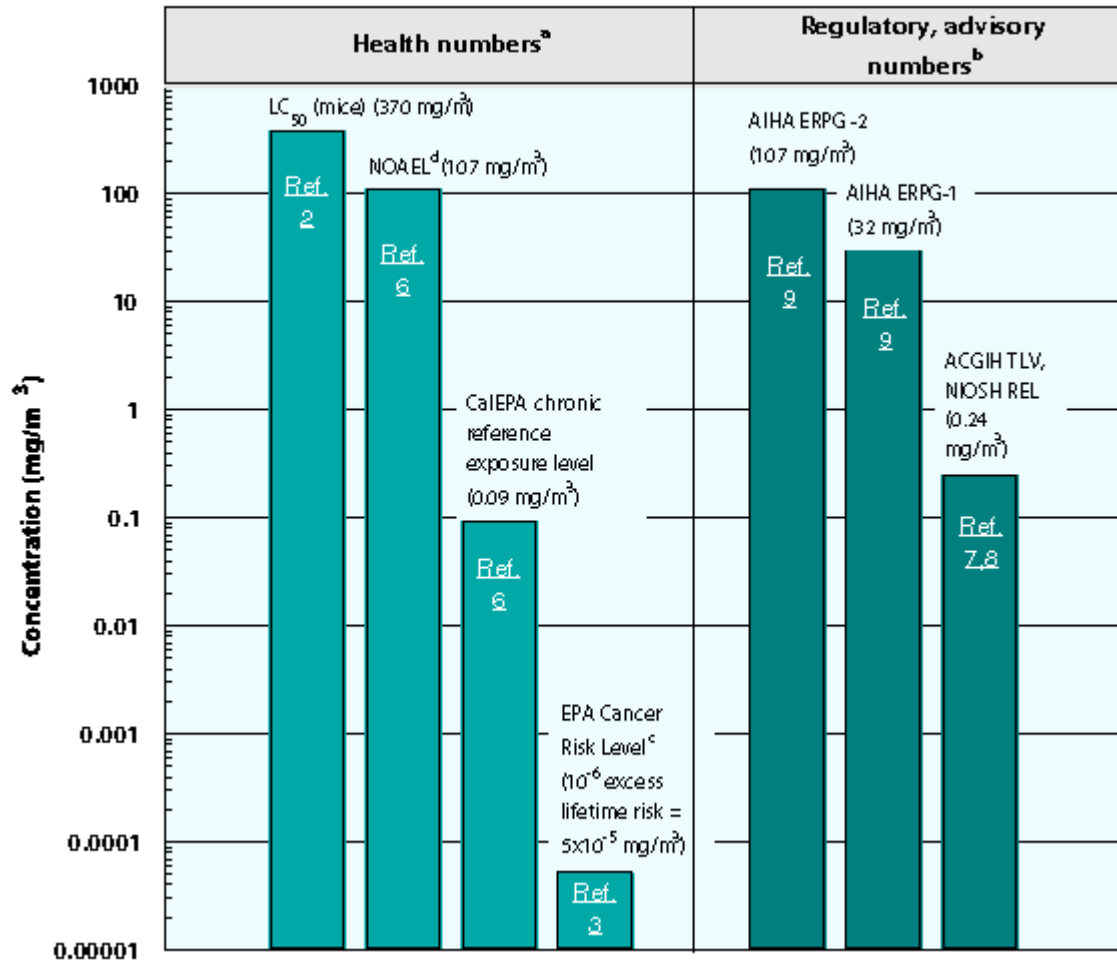
- Hexachlorobutadiene is a colorless liquid with a turpentine-like odor. (5)
- The odor threshold for hexachlorobutadiene is 1 part per million (ppm). (1)
- The chemical formula for hexachlorobutadiene is C_4Cl_6 , and the molecular weight is 260.76 g/mol. (1)
- The vapor pressure for hexachlorobutadiene is 0.15 mm Hg at 25 °C, and it has an octanol/water partition coefficient ($\log K_{ow}$) of 4.78. (1)

Conversion Factors (only for the gaseous form):

To convert concentrations in air (at 25 °C) from ppm to mg/m^3 : $\text{mg/m}^3 = (\text{ppm}) \times (\text{molecular weight of the compound}) / (24.45)$. For hexachlorobutadiene: $1 \text{ ppm} = 10.7 \text{ mg/m}^3$. To convert concentrations in air from $\mu\text{g/m}^3$ to mg/m^3 : $\text{mg/m}^3 = (\mu\text{g/m}^3) \times (1 \text{ mg} / 1,000 \mu\text{g})$.

Health Data from Inhalation Exposure

Hexachlorobutadiene



AIHA ERPG--American Industrial Hygiene Association's emergency response planning guidelines. ERPG 1 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor; ERPG 2 is the maximum airborne concentration below which it is believed nearly all individuals could be exposed up to one hour without experiencing or developing irreversible or other serious health effects that could impair their abilities to take protective action.

ACGIH TLV--American Conference of Governmental and Industrial Hygienists' threshold limit value expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect.

LC₅₀ (Lethal Concentration₅₀)--A calculated concentration of a chemical in air to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

NIOSH REL--National Institute of Occupational Safety and Health's recommended exposure limit; NIOSH-recommended exposure limit for an 8- or 10-h time-weighted-average exposure and/or ceiling.

The health and regulatory values cited in this factsheet were obtained in December 1999.

^a Health numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^b Regulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as advice. NIOSH, ACGIH, and AIHA numbers are advisory.

^c These cancer risk estimates were derived from oral data and converted to provide the estimated inhalation risk.

^d The NOAEL is from the critical study used as the basis for the CalEPA chronic reference exposure level.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for Hexachlorobutadiene*. U.S. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1994.
 2. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
 3. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Hexachlorobutadiene*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.
 4. U.S. Environmental Protection Agency. *Health Effects Assessment Summary Tables*. FY 1997 Update. Solid Waste and Emergency Response, Office of Emergency and Remedial Response, Cincinnati, OH. EPA/540/R-97-036. 1997.
 5. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
 6. California Environmental Protection Agency (CalEPA). *Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels*. Draft for Public Comment. Office of Environmental Health Hazard Assessment, Berkeley, CA. 1997.
 7. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents. Biological Exposure Indices*. Cincinnati, OH. 1999.
 8. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.
 9. American Industrial Hygiene Association (AIHA). *The AIHA 1998 Emergency Response Planning Guidelines and Workplace Environmental Exposure Level Guides Handbook*. 1998.
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Manganese Compounds

Hazard Summary-Created in April 1992; Revised in January 2000

Manganese is naturally ubiquitous in the environment. Manganese is essential for normal physiologic functioning in humans and animals, and exposure to low levels of manganese in the diet is considered to be nutritionally essential in humans. Chronic (long-term) exposure to high levels of manganese by inhalation in humans may result in central nervous system (CNS) effects. Visual reaction time, hand steadiness, and eye-hand coordination were affected in chronically-exposed workers. A syndrome named manganism may result from chronic exposure to higher levels; manganism is characterized by feelings of weakness and lethargy, tremors, a mask-like face, and psychological disturbances. Respiratory effects have also been noted in workers chronically exposed by inhalation. Impotence and loss of libido have been noted in male workers afflicted with manganism.

Please Note: The main sources of information for this fact sheet are EPA's [Integrated Risk Information System \(IRIS\)](#), which contains information on inhalation chronic toxicity of manganese and the [RfC](#), oral chronic toxicity and the [RfD](#), and the Agency for Toxic Substances and Disease Registry's (ATSDR's) [Toxicological Profile for Manganese](#).

Uses

- Metallic manganese is used primarily in steel production to improve hardness, stiffness, and strength. It is also used in carbon steel, stainless steel, and high-temperature steel, along with cast iron and superalloys. (1)
- Manganese compounds have a variety of uses. Manganese dioxide is used in the production of dry-cell batteries, matches, fireworks, and the production of other manganese compounds. (1)
- Manganese chloride is used as a catalyst in the chlorination of organic compounds, in animal feed, and in dry-cell batteries, while manganese sulfate is used as a fertilizer, livestock nutritional supplement, in glazes and varnishes, and in ceramics. (1)
- Potassium permanganate is used for water purification purposes in water and waste-treatment plants. (1)

Sources and Potential Exposure

- Manganese is a naturally occurring substance found in many types of rock and soil; it is ubiquitous in the environment and found in low levels in water air, soil, and food. (1)

- Manganese can also be released into the air by iron and steel production plants, power plants, and coke ovens. (1)
- The average manganese levels in various media are as follows: levels in drinking water are approximately 0.004 parts per million (ppm); average air levels are approximately 0.02 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$); levels in soil range from 40 to 900 ppm; the average daily intake from food ranges from 1 to 5 milligrams per day (mg/d). (1)
- People who work in factories where manganese metal is produced from manganese ore or where manganese compounds are used to make steel or other products are most likely to be exposed through inhalation to higher than normal levels of manganese. (1)

Assessing Personal Exposure

- Several tests are available for measuring manganese in blood, urine, hair, or feces. As manganese is naturally present in the body, some manganese is always found in these materials. In addition, excess manganese is usually removed from the body within a few days, making it difficult to measure past exposure to manganese. (1)

Health Hazard Information

Acute Effects:

- No reports of effects in humans following acute (short-term) effects of exposure to manganese are available.
- Effects to the lung have been reported following acute exposure of rats to manganese via inhalation. (1)
- Manganese is considered to have moderate acute toxicity based on short-term tests in rats. However, other animal tests in which manganese has been given orally have indicated that manganese has low acute oral toxicity. (1)

Chronic Effects (Noncancer):

- Chronic exposure to manganese at low levels is nutritionally essential in humans. The recommended daily intake of manganese is 2 to 5 mg/d for adults and adolescents. (1)
- No cases of manganese deficiency have been observed in the general population. However, manganese deficiency in animals has been associated with impaired growth, skeletal abnormalities, impaired reproductive function in females, and testicular degeneration in males. (1)
- Chronic inhalation exposure of humans to manganese results primarily in effects on the nervous system. Slower visual reaction time, poorer hand steadiness, and impaired eye-hand coordination were reported in several studies of workers occupationally exposed to manganese dust in air. (1,3)
- Chronic inhalation exposure of humans to high levels may result in a syndrome called manganism and typically begins with feelings of weakness and lethargy and progresses to other symptoms such as gait disturbances, clumsiness, tremors, speech disturbances, a mask-like facial expression, and psychological disturbances. (1,3)
- Other chronic effects reported in humans from inhalation exposure to manganese are respiratory effects such as an increased incidence of cough, bronchitis, dyspnea during exercise, and an increased susceptibility to infectious lung disease. (1,3)
- The Reference Concentration (RfC) for manganese is $0.00005 \text{ mg}/\text{m}^3$ based on impairment of neurobehavioral function in humans. The RfC is an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups)

that is likely to be without appreciable risk of deleterious noncancer effects during a lifetime. It is not a direct estimator of risk but rather a reference point to gauge the potential effects. At exposures increasingly greater than the RfC, the potential for adverse health effects increases. Lifetime exposure above the RfC does not imply that an adverse health effect would necessarily occur. (3)

- EPA has medium confidence in the RfC due to medium confidence in the principal studies on which the RfC was based and medium confidence in the database. Neither of the principal studies identified a no-observed-adverse-effect level (NOAEL) for neurobehavioral effects, nor did either study directly measure particle size or provide information on the particle size distribution. These limitations of the studies are mitigated by the fact that the principal studies found similar indications of neurobehavioral dysfunction, and these findings were consistent with the results of other human studies. EPA has medium confidence in the database because the duration of exposure was relatively limited in the principal and supporting studies, the majority of studies did not specify the species of manganese, and the reproductive and developmental effects have not been adequately studied. (3)
- EPA has established a Reference Dose (RfD) for manganese of 0.14 milligrams per kilogram body weight per day (mg/kg/d) based on CNS effects in humans. The RfD is estimated to be an intake for the general population that is not associated with adverse health effects; this is not meant to imply that intakes above the RfD are necessarily associated with toxicity. Some individuals may, in fact, consume a diet that contributes more than 10 mg Mn/day without any cause for concern. When assessing risk from manganese in drinking water or soil, a modified RfD of 0.05 mg/kg/d is recommended. (3)
- EPA has medium confidence in the RfD due to (1) medium confidence in the studies on which the RfD for manganese was based; and (2) medium confidence in the database. (3)

Reproductive/Developmental Effects:

- Reproductive effects, such as impotence and loss of libido, have been noted in male workers afflicted with manganism attributed to occupational exposure to high levels of manganese by inhalation. No information is available on developmental effects of manganese in humans. (1,3)
- Animal studies have reported degenerative changes in the seminiferous tubules leading to sterility from intratracheal instillation of high doses of manganese (experimentally delivering the manganese directly to the trachea). In young animals exposed to manganese orally, decreased testosterone production and retarded growth of the testes were reported. (1)
- Decreased activity levels and a decrease in average pup weight have been noted in the offspring of mice exposed to manganese by inhalation. (1)

Cancer Risk:

- No studies are available regarding carcinogenic effects in humans or animals from inhalation exposure to manganese. (1,3)
- No studies are available regarding cancer in humans from oral exposure to manganese. Oral animal studies on manganese sulfate are inadequate, with several studies reporting negative results, one study reporting an increased incidence of thyroid gland follicular cell adenomas and hyperplasia, and one study noting an increased incidence of pancreatic tumors. (1,3)
- EPA has classified manganese as a Group D, not classifiable as to carcinogenicity in humans. (3)

Physical Properties

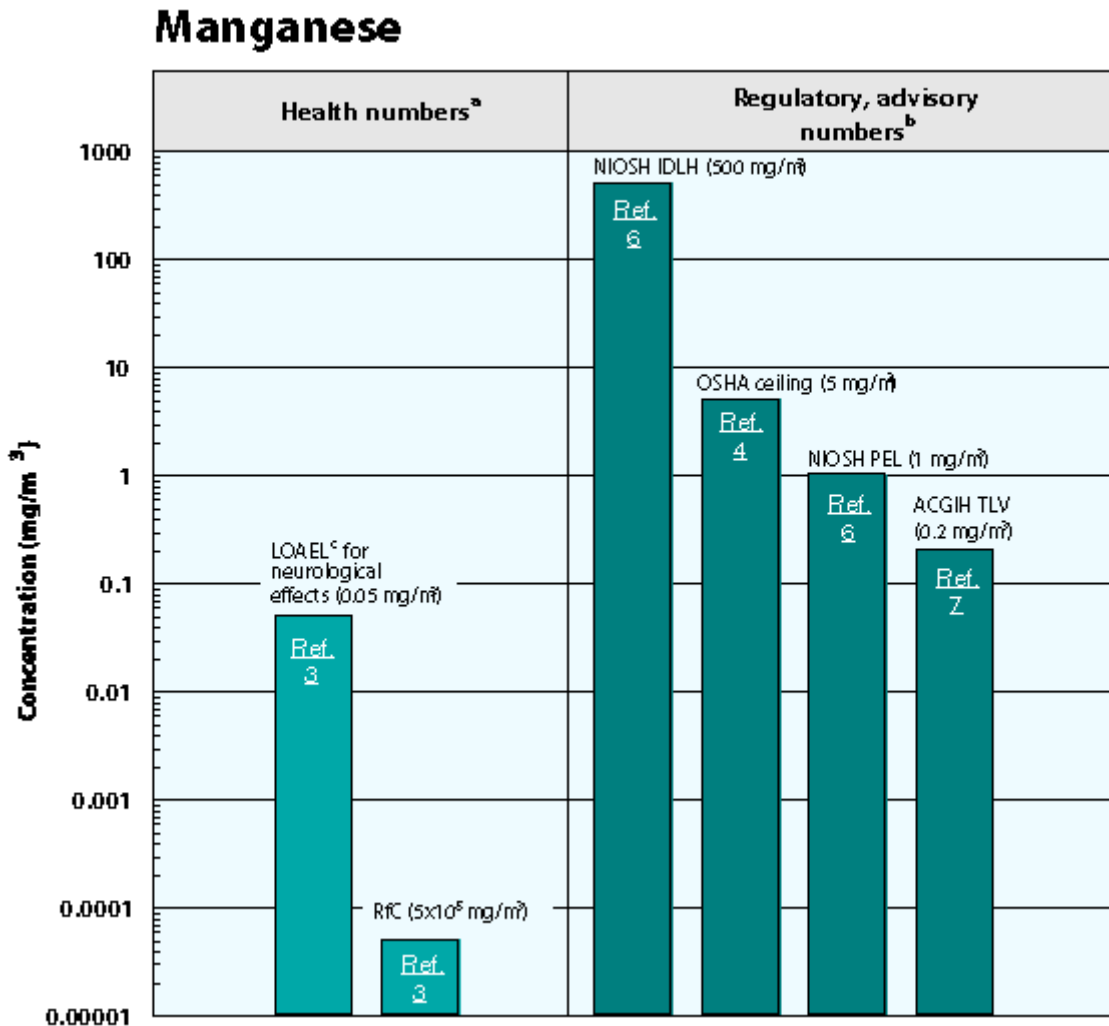
- Manganese is a silver-colored metal that forms compounds in the

- environment with chemicals such as oxygen, sulfur, and chlorine. (1)
- Manganese compounds are solids that do not evaporate; however, small dust particles can become suspended in air. (1)
 - Manganese can dissolve in water. (1)
 - The chemical symbol for manganese is Mn, and elemental manganese has an atomic weight of 54.94 g/mol. (1)
 - Some manganese compounds are: manganese dioxide (MnO₂), manganese tetraoxide (Mn₃O₄), manganese salts (chloride, sulfate, carbonate, and nitrate), manganese silicate, and potassium permanganate (KMnO₄).

Conversion Factors:

To convert concentrations in air (at 25°C) from ppm to mg/m³: $mg/m^3 = (ppm) \times (molecular\ weight\ of\ the\ compound) / (24.45)$. For manganese: 1 ppm = 2.25 mg/m³. To convert concentrations in air from µg/m³ to mg/m³: $mg/m^3 = (\mu g/m^3) \times (1\ mg / 1,000\ \mu g)$.

Health Data from Inhalation Exposure



ACGIH TLV--American Conference of Governmental and Industrial Hygienists' threshold limit value expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effects.

LOAEL--Lowest-observed-adverse-effect level.

NIOSH REL--National Institute of Occupational Safety and Health's recommended exposure limit; NIOSH-recommended exposure limit for an 8- or 10-h time-weighted-average exposure and/or ceiling.

NIOSH IDLH -- NIOSH's immediately dangerous to life or health concentration; NIOSH recommended exposure limit to ensure that a worker can escape from an exposure condition that is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from the environment.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

OSHA ceiling--OSHA's short-term exposure limit; 15-min time-weighted-average exposure that should not be exceeded at any time during a workday even if the 8-h time-weighted-average is within the threshold limit value.

The health and regulatory values cited in this factsheet were obtained in December 1999.

^aHealth numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^bRegulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as advice. OSHA numbers are regulatory, whereas NIOSH and ACGIH numbers are advisory.

^cThis LOAEL is from the critical study used as the basis for the EPA RfC.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for Manganese (Update)*. Draft for Public Comment. U.S. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1997.
 2. National Academy of Sciences. *Drinking Water and Health. Volume 3*. National Academy Press, Washington, DC. 1989.
 3. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Manganese*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.
 4. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations 29 CFR 1910.1000*. 1998.
 5. E.J. Calabrese and E.M. Kenyon. *Air Toxics and Risk Assessment*. Lewis Publishers, Chelsea, MI. 1991.
 6. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.
 7. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices*. Cincinnati, OH. 1999.
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Naphthalene

91-20-3

Hazard Summary-Created in April 1992; Revised in January 2000

Naphthalene is used in the production of phthalic anhydride; it is also used in mothballs. Acute (short-term) exposure of humans to naphthalene by inhalation, ingestion, and dermal contact is associated with hemolytic anemia, damage to the liver, and neurological damage. Cataracts have also been reported in workers acutely exposed to naphthalene by inhalation and ingestion. Chronic (long-term) exposure of workers and rodents to naphthalene has been reported to cause cataracts and damage to the retina. Hemolytic anemia has been reported in infants born to mothers who "sniffed" and ingested naphthalene (as mothballs) during pregnancy. Available data are inadequate to establish a causal relationship between exposure to naphthalene and cancer in humans. EPA has classified naphthalene as a Group C, possible human carcinogen.

Please Note: The main sources of information for this fact sheet are the EPA's *Toxicological Review of Naphthalene* and the Agency for Toxic Substances and Disease Registry's (ATSDR's) *Toxicological Profile for Naphthalene*.

Uses

- The primary use for naphthalene is in the production of phthalic anhydride. However, *o*-xylene is replacing naphthalene as the preferred raw material for phthalic anhydride production. (1)
- Other uses of naphthalene include carbamate insecticides, surface active agents and resins, as a dye intermediate, as a synthetic tanning agent, as a moth repellent, and in miscellaneous organic chemicals. (1,2)

Sources and Potential Exposure

- Individuals may be exposed to naphthalene through the use of mothballs. (1)
- Workers may be occupationally exposed to naphthalene during its manufacture and use, especially in coal-tar production, wood preserving, tanning, or ink and dye production. (1)
- Naphthalene is released to the air from the burning of coal and oil and from the use of mothballs. Coal tar production, wood preserving, and other industries release small amounts. (1)
- Typical air concentrations of naphthalene in cities are about 0.18 parts per billion (ppb). (1)
- Naphthalene has also been detected in tobacco smoke. (1)

Assessing Personal Exposure

- Naphthalene or its breakdown products can be measured in fat, urine, and feces. These tests cannot be used to find out how much exposure occurred and require special equipment not routinely available in a doctor's office. (1)

Health Hazard Information

Acute Effects:

- Acute exposure of humans to naphthalene by inhalation, ingestion, and dermal contact is associated with hemolytic anemia, damage to the liver, and, in infants, neurological damage. Symptoms of acute exposure include headache, nausea, vomiting, diarrhea, malaise, confusion, anemia, jaundice, convulsions, and coma. (1,2,6,7)
- Cataracts have been reported in humans acutely exposed to naphthalene by inhalation and ingestion. Cataracts have also been reported in animals following acute oral exposure. (6,7,9)
- Tests involving acute exposure of rats, mice, rabbits, and guinea pigs have demonstrated naphthalene to have moderate to high acute toxicity from ingestion and low to moderate acute toxicity from dermal exposure. (3)

Chronic Effects (Noncancer):

- Chronic exposure of workers to naphthalene has been reported to cause cataracts and retinal hemorrhage. (2,4,5,6,7)
- Chronic inflammation of the lung, chronic nasal inflammation, hyperplasia of the respiratory epithelium in the nose, and metaplasia of the olfactory epithelium were reported in mice chronically exposed to naphthalene via inhalation. (1,6,7)
- Rats, rabbits, and mice chronically exposed to naphthalene via ingestion have developed cataracts and degeneration of the retina. (2,5,6,7)
- Diarrhea, lethargy, hunched posture, rough coats, decreased body weight, and lesions in the kidneys and thymus were observed in rats and mice chronically exposed via gavage (experimentally placing the chemical in the stomach). (2,6,7)
- EPA has calculated a Reference Concentration (RfC) of 0.003 milligrams per cubic meter (mg/m^3) for naphthalene based on nasal effects in mice. The RfC is an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious noncancer effects during a lifetime. It is not a direct estimator of risk but rather a reference point to gauge the potential effects. At exposures increasingly greater than the RfC, the potential for adverse health effects increases. Lifetime exposure above the RfC does not imply that an adverse health effect would necessarily occur. (6,7)
- EPA has medium confidence in the RfC based on: 1) medium confidence in the principal study because adequate numbers of animals were used, severity of nasal effects increased at higher exposure concentrations, high mortality, and hematological evaluation not conducted beyond 14 days; and 2) low to medium confidence in the database because there are no chronic or subchronic inhalation studies in other animal species and there are no reproductive or developmental inhalation studies. (6,7)
- The Reference Dose (RfD) for naphthalene is 0.02 milligrams per kilogram body weight per day ($\text{mg}/\text{kg}/\text{d}$) based on decreased body weight in male rats. (6,7)
- EPA has low confidence in the RfD based on: 1) high confidence in the principal study because adequate numbers of animals were included and experimental protocols were adequately designed, conducted, and reported; and 2) low confidence in the database because of the lack of adequate chronic oral data, dose-response data for hemolytic anemia, and two-generation reproductive toxicological studies. (6,7)

Reproductive/Developmental Effects:

- Hemolytic anemia has been reported in infants born to mothers who "sniffed" and ingested naphthalene (as mothballs) during pregnancy. The mothers themselves

- were anemic, but to a lesser extent than the infants. (5,6,7)
- Signs of maternal toxicity (e.g., decreased body weight and lethargy) but no fetal effects were reported in rats and rabbits exposed to naphthalene via gavage. (6,7)
- Maternal toxicity (increased mortality and reduced weight gain) and fetotoxicity (reduced number of live pups per litter) were observed in mice exposed via gavage. (2,6,7)

Cancer Risk:

- Workers occupationally exposed to vapors of naphthalene and coal tar developed laryngeal carcinomas or neoplasms of the pylorus and cecum. However, this study is inadequate because there were no controls, exposure levels were not determined, and subjects were exposed to complex mixtures containing other demonstrated carcinogens. (2,5,6,7)
- Di-, tri-, and tetramethyl naphthalene contaminants of coal tar were found to be carcinogenic when applied to the skin of mice, but naphthalene alone was not. (2,5)
- An increased number of alveolar/bronchiolar adenomas and carcinomas were reported in female mice exposed by inhalation. (1,6,7)
- No carcinogenic responses were reported in rats exposed to naphthalene in their diet and by injection. (2,5,6)
- EPA has classified naphthalene as a Group C, possible human carcinogen. (6,7)

Physical Properties

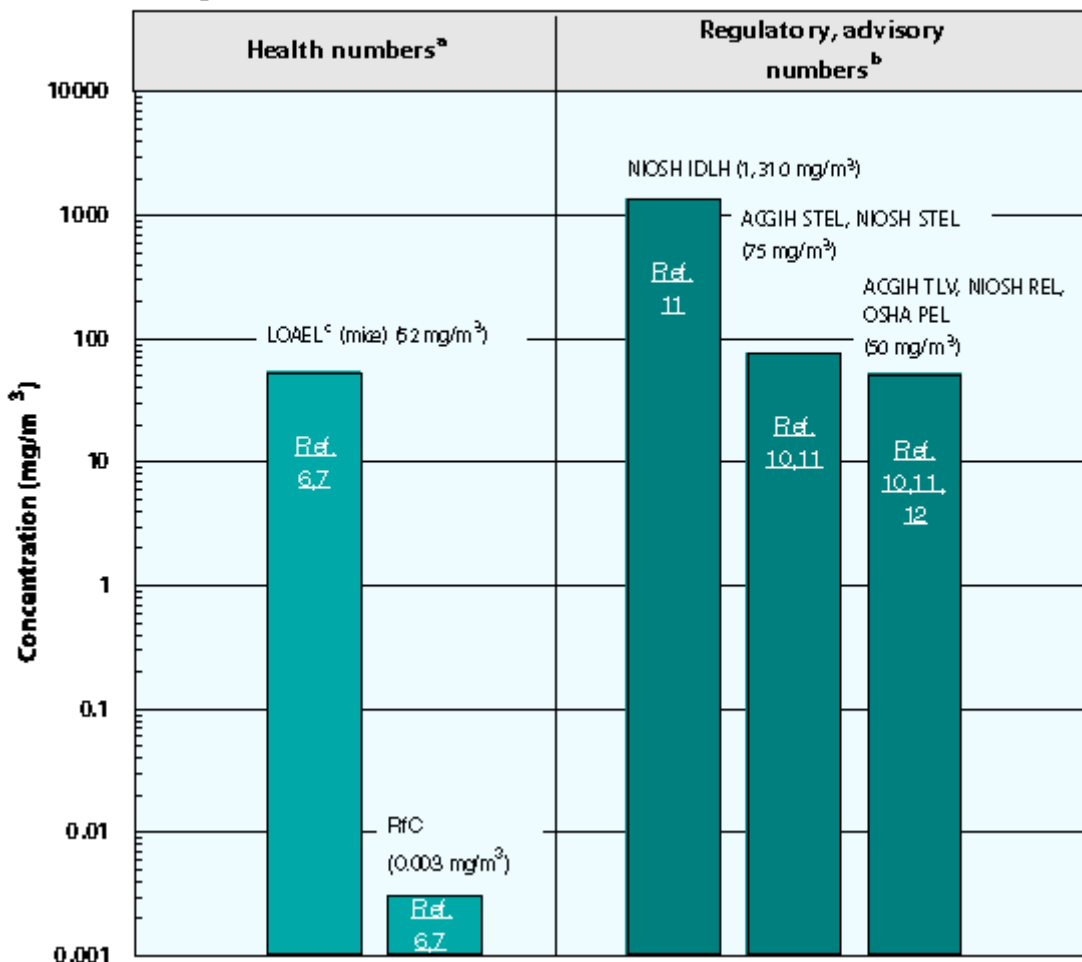
- The chemical formula for naphthalene is $C_{10}H_8$, and its molecular weight is 128.19 g/mol. (1)
- Naphthalene occurs as a white solid or powder that is insoluble in water. (1,8)
- Naphthalene has a strong, mothball odor, with an odor threshold of 0.44 mg/m^3 (0.084 parts per million, ppm). (1,9)
- The vapor pressure for naphthalene is 0.087 mm Hg at 25 °C, and its log octanol/water partition coefficient ($\log K_{ow}$) is 3.29. (1)

Conversion Factors:

To convert concentrations in air (at 25 °C) from ppm to mg/m^3 : $mg/m^3 = (ppm) \times (molecular\ weight\ of\ the\ compound)/(24.45)$. For naphthalene: $1\ ppm = 5.24\ mg/m^3$.

Health Data from Inhalation Exposure

Naphthalene



ACGIH TLV--American Conference of Governmental and Industrial Hygienists' threshold limit value expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effects.

ACGIH STEL--American Conference of Governmental and Industrial Hygienists' threshold limit value short-term exposure limit; a 15-minute TWA exposure which should not be exceeded at any time during a workday.

LOAEL--Lowest observed adverse effect level.

NIOSH REL--National Institute of Occupational Safety and Health's recommended exposure limit; NIOSH-recommended exposure limit for an 8- or 10-h time-weighted-average exposure and/or ceiling.

NIOSH IDLH -- NIOSH's immediately dangerous to life or health concentration; NIOSH recommended exposure limit to ensure that a worker can escape from an exposure condition that is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from the environment.

NIOSH STEL--NIOSH's recommended short-term exposure limit; a 15-minute TWA exposure which should not be exceeded at any time during a workday.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

The health and regulatory values cited in this factsheet were obtained in December 1999.

^a Health numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^b Regulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other groups as advice. OSHA numbers are regulatory, whereas NIOSH and ACGIH numbers are advisory.

^c This LOAEL is from the critical study used as the basis for the EPA RfC.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for Naphthalene* (Update). Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1995.
 2. U.S. Environmental Protection Agency. *Health and Environmental Effects Profile for Naphthalene*. EPA/600/x-86/241. Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, Office of Research and Development, Cincinnati, OH. 1986.
 3. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
 4. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
 5. U.S. Environmental Protection Agency. *Health Effects Assessment for Naphthalene*. EPA/540/1-86/014. Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, Office of Research and Development, Cincinnati, OH. 1986.
 6. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Naphthalene*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.
 7. U.S. Environmental Protection Agency. *Toxicological Review of Naphthalene (CAS No. 91-20-3) in Support of Summary Information on the Integrated Risk Information System (IRIS)*. National Center for Environmental Assessment, Cincinnati, OH. 1998.
 8. *The Merck Index. An Encyclopedia of Chemicals, Drugs, and Biologicals*. 11th ed. Ed. S. Budavari. Merck and Co. Inc., Rahway, NJ. 1989.
 9. J.E. Amooore and E. Hautala. Odor as an aid to chemical safety: Odor thresholds compared with threshold limit values and volatilities for 214 industrial chemicals in air and water dilution. *Journal of Applied Toxicology*, 3(6):272-290. 1983.
 10. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents. Biological Exposure Indices*. Cincinnati, OH. 1999.
 11. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.
 12. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations 29 CFR 1910.1000*. 1998.
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1,1,2,2-Tetrachloroethane

79-34-5

Hazard Summary-Created in April 1992; Revised in January 2000

As 1,1,2,2-tetrachloroethane is no longer used much in the United States, current air emissions predominantly result from its use as a chemical intermediate during the manufacture of other chemicals. Low levels have been detected in air. The main effects of 1,1,2,2-tetrachloroethane are liver and neurological effects. Acute (short-term) inhalation exposure to very high levels of 1,1,2,2-tetrachloroethane has resulted in effects on the liver and respiratory, central nervous, and gastrointestinal systems in humans. Chronic (long-term) inhalation exposure to 1,1,2,2-tetrachloroethane in humans results in jaundice and an enlarged liver, headaches, tremors, dizziness, numbness, and drowsiness. Animal studies have shown a significantly increased incidence of liver tumors in mice orally exposed to 1,1,2,2-tetrachloroethane. EPA has classified 1,1,2,2-tetrachloroethane as a Group C possible human carcinogen.

Please Note: The main sources of information for this fact sheet are EPA's [Integrated Risk Information System \(IRIS\)](#), which contains information on the carcinogenic effects of 1,1,2,2-tetrachloroethane, and the Agency for Toxic Substances and Disease Registry's (ATSDR's) [Toxicological Profile for 1,1,2,2-Tetrachloroethane](#).

Uses

- The production of 1,1,2,2-tetrachloroethane as an end-product has decreased significantly in the United States. (1)
- In the past, 1,1,2,2-tetrachloroethane was used in large amounts to produce trichloroethylene, tetrachloroethylene, and 1,2-dichloroethylene. (1)
- It was also used as a solvent, in cleaning and degreasing metals, in paint removers, varnishes and lacquers, in photographic films, as an extractant for oils and fats, and in pesticides. (1)

Sources and Potential Exposure

- As it is no longer widely used in the U.S. as an end-product, present sources of 1,1,2,2-tetrachloroethane are fugitive emissions or discharges when it is generated as a by-product and during chemical production activities in which it is an intermediate product. (1)
- Low levels of 1,1,2,2-tetrachloroethane can be present in both indoor and outdoor air. In the early 1980s, average ambient air concentrations were around 0.005 parts per billion (ppb), and average concentrations in the indoor air of several homes measured 1.8 ppb. (1)

- 1,1,2,2-Tetrachloroethane has been found, in trace amounts, in adhesives, oils, greases, and lubricants; these household products may contaminate indoor air. (1)
- Limited occupational exposure to 1,1,2,2-tetrachloroethane may occur through inhalation of the vapors or through skin contact due to spills or accidents in the workplace. (1)
- 1,1,2,2-Tetrachloroethane has been detected in surface water and groundwater; however, a nationwide survey of drinking water supplies in the 1980s did not find any supplies containing 1,1,2,2-tetrachloroethane. (1)
- 1,1,2,2-Tetrachloroethane has been found at many National Priority List (i.e., Superfund) sites. (1)

Assessing Personal Exposure

- No specific medical tests are available to determine exposure to 1,1,2,2-tetrachloroethane. (1)

Health Hazard Information

Acute Effects:

- Acute exposure to very high levels of 1,1,2,2-tetrachloroethane has caused severe liver destruction in humans. (1,2)
- Respiratory and eye irritation, dizziness, nausea, and vomiting have been noted in humans exposed to fumes at high levels in the workplace. (1)
- Animal studies have reported effects on the liver, eyes, and central nervous system from acute inhalation exposure to 1,1,2,2-tetrachloroethane. (1)
- Tests involving acute exposure of rats and mice have shown 1,1,2,2-tetrachloroethane to have moderate acute toxicity. (3)

Chronic Effects (Noncancer):

- Chronic exposure of humans to high levels of 1,1,2,2-tetrachloroethane results in effects on the liver (jaundice and an enlarged liver), central and peripheral nervous system (headaches, tremors, dizziness, and drowsiness), and gastrointestinal effects (pain, nausea, vomiting, and loss of appetite). (1)
- Liver effects (fatty degeneration, increased liver weight, inflammatory changes) have also been observed in animals exposed via inhalation. (1)
- EPA has not established a Reference Concentration (RfC) or Reference Dose (RfD) for 1,1,2,2-tetrachloroethane. (4)
- ATSDR has calculated an intermediate-duration inhalation minimal risk level (MRL) of 0.4 parts per million (ppm) (3 milligrams per cubic meter, mg/m³) for 1,1,2,2-tetrachloroethane based on liver effects in rats. The MRL is an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse noncancer health effects over a specified duration of exposure. Exposure to a level above the MRL does not mean that adverse health effects will occur. The MRL is intended to serve as a screening tool. (1)

Reproductive/Developmental Effects:

- No studies are available regarding developmental or reproductive effects in humans from inhalation or oral exposure to 1,1,2,2-tetrachloroethane. (1)
- Animal studies have not reported reproductive effects from inhalation exposure to 1,1,2,2-tetrachloroethane, while an oral study in rats reported histopathological changes in the testes. (1)
- No effects to the offspring of male rats exposed to 1,1,2,2-tetrachloroethane via inhalation were reported. (1)

Cancer Risk:

- Oral exposure to 1,1,2,2-tetrachloroethane in mice resulted in an increased incidence of hepatocellular carcinomas, while no increase in tumors was reported in rats. (1,4)
- EPA has classified 1,1,2,2-tetrachloroethane as a Group C possible human carcinogen. (4)

- EPA uses mathematical models, based on animal studies, to estimate the probability of a person developing cancer from breathing air containing a specified concentration of a chemical. EPA has calculated an inhalation unit risk estimate of $5.8 \times 10^{-5} (\mu\text{g}/\text{m}^3)^{-1}$ based on oral data in mice. EPA estimates that, if an individual were to continuously breathe air containing 1,1,2,2-tetrachloroethane at an average of $0.02 \mu\text{g}/\text{m}^3$ ($2.0 \times 10^{-5} \text{mg}/\text{m}^3$) over his or her entire lifetime, that person would theoretically have no more than a one-in-a-million increased chance of developing cancer as a direct result of breathing air containing this chemical. Similarly, EPA estimates that continuously breathing air containing $0.2 \mu\text{g}/\text{m}^3$ ($2.0 \times 10^{-4} \text{mg}/\text{m}^3$) would result in not greater than a one-in-a-hundred thousand increased chance of developing cancer over a lifetime, and air containing $2.0 \mu\text{g}/\text{m}^3$ ($2.0 \times 10^{-3} \text{mg}/\text{m}^3$) would result in not greater than a one-in-ten thousand increased chance of developing cancer. For a detailed discussion of confidence in the potency estimates, please see IRIS. (4)
- EPA has also calculated an oral cancer slope factor of $0.2 (\text{mg}/\text{kg}/\text{d})^{-1}$. (4)

Physical Properties

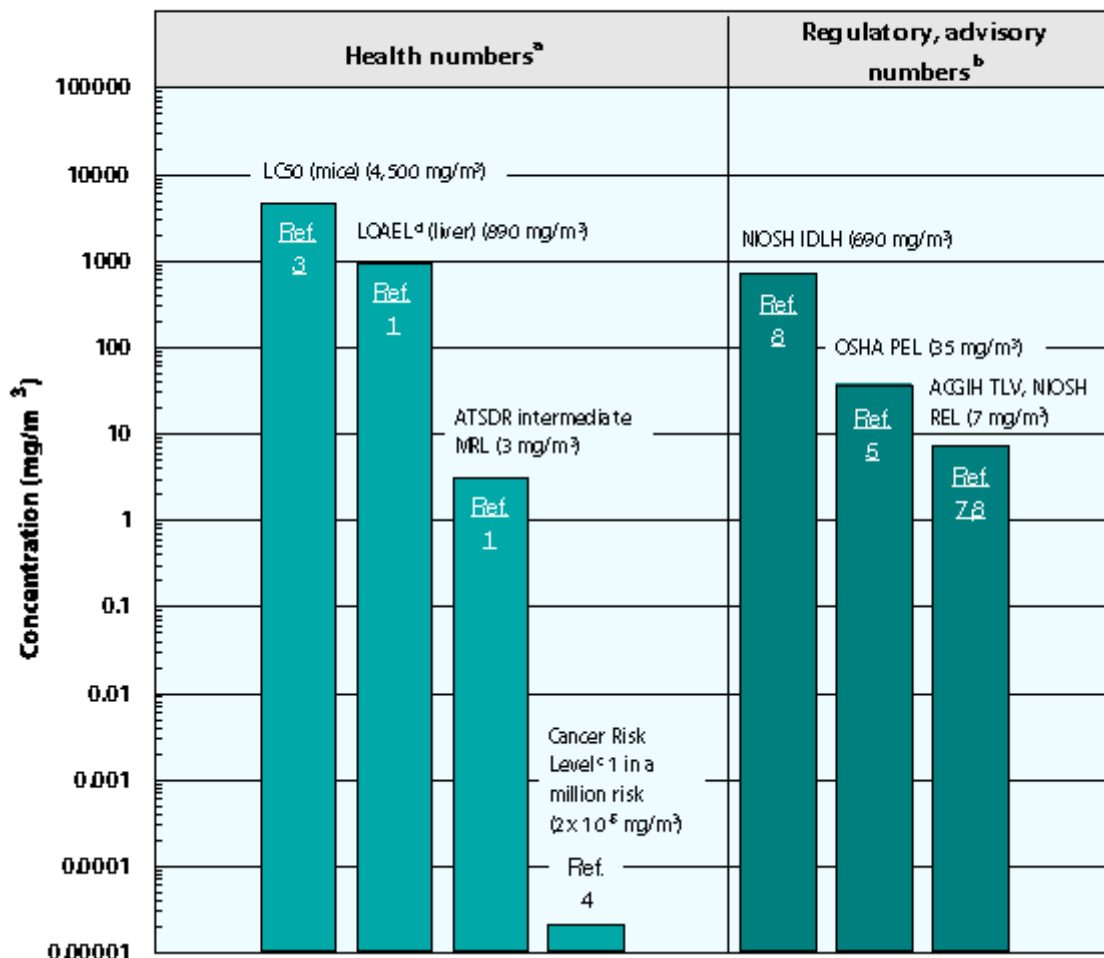
- 1,1,2,2-Tetrachloroethane is a colorless, dense liquid that has a sweet, chloroform like odor. (1,6)
- The odor threshold for 1,1,2,2-tetrachloroethane is 1.5 ppm. (6)
- The chemical formula for 1,1,2,2-tetrachloroethane is $\text{C}_2\text{H}_2\text{Cl}_4$, and the molecular weight is 167.85 g/mol. (1,2)
- The vapor pressure for 1,1,2,2-tetrachloroethane is 5.95 mm Hg at 25 °C, and it has a log octanol/water partition coefficient ($\log K_{ow}$) of 2.39. (1)
- The half-life in air is about 60 days. (1)

Conversion Factors:

To convert concentrations in air (at 25°C) from ppm to mg/m^3 : $\text{mg}/\text{m}^3 = (\text{ppm}) \times (\text{molecular weight of the compound})/(24.45)$. For 1,1,2,2-tetrachloroethane: $1 \text{ ppm} = 6.86 \text{ mg}/\text{m}^3$. To convert concentrations in air from $\mu\text{g}/\text{m}^3$ to mg/m^3 : $\text{mg}/\text{m}^3 = (\mu\text{g}/\text{m}^3) \times (1 \text{ mg}/1,000 \mu\text{g})$.

Health Data from Inhalation Exposure

1,1,2,2-Tetrachloroethane



ACGIH TLV--American Conference of Governmental and Industrial Hygienists' threshold limit value expressed as a time-weighted average; the concentration of a substance to which most workers can be exposed without adverse effects.

LC₅₀ (Lethal Concentration₅₀)--A calculated concentration of a chemical in air to which exposure for a specific length of time is expected to cause death in 50% of a defined experimental animal population.

NIOSH REL--National Institute of Occupational Safety and Health's recommended exposure limit; NIOSH-recommended exposure limit for an 8- or 10-h time-weighted-average exposure and/or ceiling.

NIOSH IDLH -- NIOSH's immediately dangerous to life or health concentration; NIOSH recommended exposure limit to ensure that a worker can escape from an exposure condition that is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from the environment.

OSHA PEL--Occupational Safety and Health Administration's permissible exposure limit expressed as a time-weighted average: the concentration of a substance to which most workers can be exposed without adverse effect averaged over a normal 8-h workday or a 40-h workweek.

The health and regulatory values cited in this factsheet were obtained in December 1999.

^aHealth numbers are toxicological numbers from animal testing or risk assessment values developed by EPA.

^bRegulatory numbers are values that have been incorporated in Government regulations, while advisory numbers are nonregulatory values provided by the Government or other

groups as advice. OSHA numbers are regulatory, whereas NIOSH and ACGIH numbers are advisory.

^cThese cancer risk estimates were derived from oral data and converted to provide the estimated inhalation risk.

^dThe LOAEL is from the critical study used as the basis for the ATSDR intermediate MRL.

References

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile for 1,1,2,2-Tetrachloroethane (Update)*. U.S. Public Health Service, U.S. Department of Health and Human Services, Atlanta, GA. 1996.
2. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB, [online database](#)). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
3. U.S. Department of Health and Human Services. Registry of Toxic Effects of Chemical Substances (RTECS, [online database](#)). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
4. U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on 1,1,2,2-Tetrachloroethane*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.
5. Occupational Safety and Health Administration (OSHA). Occupational Safety and Health Standards, Toxic and Hazardous Substances. *Code of Federal Regulations 29 CFR 1910.1000*. 1998.
6. J.E. Amoore and E. Hautala. Odor as an aid to chemical safety: Odor thresholds compared with threshold limit values and volatilities for 214 industrial chemicals in air and water dilution. *Journal of Applied Toxicology*, 3(6):272-290. 1983.
7. American Conference of Governmental Industrial Hygienists (ACGIH). *1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices*. Cincinnati, OH. 1999.
8. National Institute for Occupational Safety and Health (NIOSH). *Pocket Guide to Chemical Hazards*. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention. Cincinnati, OH. 1997.

VII. SOURCE CHARACTERIZATION

Summary of Data

What are the sources of the toxic air pollutants of concern? The answer to this question may determine whether the Alabama Department of Environmental Management can lawfully restrict emissions of the toxic air pollutants of concern.¹⁰ The Department has authority to regulate emissions from stationary sources, but does not have authority to regulate emissions from mobile sources.

In 1999, the U.S. Environmental Protection Agency estimated the emissions of many toxic air pollutants from “major sources,” “area and other sources,” “on-road mobile sources,” and “non-road mobile sources” in Alabama. “Major sources” are defined as those stationary facilities that emit or have the potential to emit 10 or more tons of any one toxic air pollutant or 25 or more tons of more than one toxic air pollutant per year. “Area sources” include stationary facilities that have air toxics emissions below these “major source” thresholds.

The data from the ten counties with the most emissions of fifteen toxic chemicals demonstrate that “major sources,” *i.e.* major stationary sources over which ADEM has regulatory jurisdiction, contribute a significant

¹⁰ ADEM suggests that “mobile sources are responsible for at least half of air toxics emissions” and “[i]ndustrial sources are responsible for one-third or less of air toxics emissions in the State.” Memorandum from Onis “Trey” Glenn to Commissioner Kathleen J. Felker (August 8, 2008) (Appendix C). While this generalization may be true, each toxic air pollutant must be evaluated *individually* to determine whether (1) ambient concentrations exceed “safe” health-based concentrations in any area; and (2) the reduction of emissions from stationary sources in any area would lower health risk appreciably.

or substantial percentage of the total emissions of most of those chemicals. See Table 20. The three obvious exceptions are Benzene (13.35% from major sources), 1,3-Butadiene (2.33% from major sources), and Hexachlorobutadiene (0% from major sources).¹¹

Tables 21 through 35 illustrate the relative contribution of air toxics from “major sources,” “area and other sources,” “on-road mobile sources,” and “non-road mobile sources” in Alabama. Tables 36 through 52 show the U.S. Environmental Protection Agency’s published estimates of the emissions of fifteen toxic air pollutants from individual stationary sources (sorted by county) in 1999.

Methodology

Periodically, the U.S. Environmental Protection Agency compiles a national emissions inventory of air toxics emissions from outdoor sources. EPA measures or estimates emissions data reported by sources, states, and others. EPA also estimates mobile source emissions and other emissions using models, measurements, and a quality-control process. This compilation of information is called the National Emissions Inventory (NEI). The types of emissions sources in the inventory include major stationary sources (*e.g.*, large waste incinerators and factories), area and other sources (*e.g.*, dry cleaners, small manufacturers, wildfires), and both on-road and non-road mobile sources (*e.g.*, cars, trucks, boats). For more information on the National Emissions Inventory, see <http://www.epa.gov/ttn/chief/net/1999inventory.html>.

¹¹ 100% of Hexachlorobutadiene emissions are from “area and other sources,” some of which may be subject to ADEM’s regulatory jurisdiction.

All data in Tables 21 through 35 are derived from U.S. Environmental Protection Agency's *AirData* website, County Emissions Report - Hazardous Air Pollutants webpage at <http://www.epa.gov/air/data/ntisumm.html?st~AL~Alabama>. Aggregate emission estimates for each of eighteen toxic air pollutants were generated for every county. The ten counties with the largest emission estimates for each pollutant were identified and listed in Tables 21 through 35 along with the emission estimates from "major sources," "area and other sources," "on-road mobile sources," and "non-road mobile sources." The report's data are for 1999.

All data in Tables 36 through 52 are from the U.S. Environmental Protection Agency's *AirData* website, Facility Emissions Report - Hazardous Air Pollutants webpage at <http://www.epa.gov/air/data/ntiemis.html?st~AL~Alabama>. The report includes all facilities, both "large" (major sources) and "small" (area sources). The report's data are for 1999.

EPA provides the following terminology descriptions:

Major sources: Defined by the Clean Air Act as those stationary facilities that emit or have the potential to emit 10 [or more] tons of any one toxic air pollutant or 25 [or more] tons of more than one toxic air pollutant per year.

Area and other sources: Include sources that generally have smaller emissions on an individual basis than "major sources" and are often too small or ubiquitous in nature to be inventoried as individual sources. "Area sources" include facilities that have air toxics emissions below the major source threshold as defined in the air toxics sections of the Clean Air

Act and thus emit less than 10 tons of a single toxic air pollutant or less than 25 tons of multiple toxic air pollutants in any one year. Area sources include smaller facilities, such as dry cleaners. "Other sources" include sources such as wildfires and prescribed burnings that may be more appropriately addressed by other programs rather than through regulations developed under certain air toxics provisions (section 112 or 129) in the Clean Air Act. For example, wildfires and prescribed burning are being addressed through the burning policy agreed to by the Interim Federal Wildland Policy.

On-road mobile sources: Vehicles found on roads and highways (e.g., cars, trucks, buses).

Non-road mobile sources: Mobile sources not found on roads and highways (e.g., airplanes, trains, lawn mowers, construction vehicles, farm machinery).

Source Data

Tables 21 through 35 illustrate the relative contribution of air toxics from "major sources," "area and other sources," "on-road mobile sources," and "non-road mobile sources" in Alabama.

Tables 36 through 50 show the U.S. Environmental Protection Agency's published estimates of the emissions of fifteen toxic air pollutants from individual stationary sources (sorted by county) in 1999.

TABLE 20	
Toxic Air Pollutant	Contribution from Major Sources
Acetaldehyde	43.09%
Acrolein	24.29%
Arsenic	82.17%
Benzene	13.35%
1,3-Butadiene	2.33%
Cadmium	91.11%
Carbon tetrachloride	99.84%
Chloroform	94.25%
Ethylene dibromide	29.27%
Ethylene dichloride	98.94%
Formaldehyde	23.10%
Hexachlorobutadiene	0%
Manganese	47.59%
Naphthalene	32.42%
1,1,2,2-Tetrachloroethane	66.49%

TABLE 21						
SOURCES OF ACETALDEHYDE EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Mobile	311,180	10.6	112,900	15,600	76,360	106,300
Jefferson	235,360	8.02	5,220	10,520	164,160	55,420
Russell	161,260	5.49	137,680	5,300	14,460	3,800
Autauga	102,420	3.49	84,700	5,060	9,160	3,460
Morgan	101,680	3.46	59,560	3,660	26,800	11,620
Tuscaloosa	95,520	3.25	340	35,680	45,280	14,180
Jackson	91,940	3.13	58,060	7,880	15,140	10,840
Talladega	88,760	3.02	63,960	5,120	14,220	5,440
Escambia	86,300	2.94	62,140	9,260	10,360	4,520
Madison	82,140	2.8	0	4,560	50,060	27,480
TOTAL	1,356,560	46.2	584,560	102,640	426,000	243,060
Source: 1999 National Emission Inventory (EPA) http://www.epa.gov/air/data/ntisumm.html?st=AL~Alabama						

TABLE 22						
SOURCES OF ACROLEIN EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Jefferson	51,320	6.63	2,620	15,840	25,300	7,540
Mobile	46,200	5.97	11,800	13,600	11,780	8,980
Russell	32,620	4.21	24,000	5,960	2,260	360
Choctaw	29,080	3.76	18,580	9,720	480	280
Tuscaloosa	25,000	3.23	180	16,260	6,880	1,640
Baldwin	22,900	2.96	0	13,760	4,640	4,480
Clarke	20,060	2.59	4,820	13,880	840	500
Madison	18,300	2.36	0	6,820	7,820	3,620
Monroe	16,940	2.19	5,840	10,140	660	280
Montgomery	16,840	2.17	0	6,420	7,980	2,400
TOTAL	279,260	36.07	67,840	112,400	68,640	30,080
Source: 1999 National Emission Inventory (EPA) http://www.epa.gov/air/data/ntisumm.html?st=AL~Alabama						

TABLE 23						
SOURCES OF ARSENIC EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Jefferson	3,740	16.55	3,720	20	0	0
Morgan	3,020	13.37	3,020	8.75	0	0
Mobile	2,700	11.95	2,680	20	0	0
Jackson	2,160	9.56	2,160	1.11	0	0
Walker	1,860	8.23	1,840	20	0	0
Shelby	1,840	8.14	14.8	1,820	0	0
Colbert	1,580	6.99	0	1,580	0	0
Etowah	1,040	4.6	1,040	2.14	0	0
Washington	800	3.54	800	1.21	0	0
Greene	700	3.1	700	0.105	0	0
TOTAL	19,440	86.03	15,974.8	3,473.315	0	0
Source: 1999 National Emission Inventory (EPA) http://www.epa.gov/air/data/ntisumm.html?st=AL -Alabama						

TABLE 24						
SOURCES OF BENZENE EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Jefferson	1,661,660	11.98	79,220	146,360	1,232,360	203,680
Mobile	1,073,320	7.74	81,000	73,100	571,420	347,780
Jackson	865,340	6.24	657,420	51,400	114,060	42,460
Baldwin	654,920	4.72	0	91,240	247,740	315,940
Tuscaloosa	571,300	4.12	53,240	103,700	341,960	72,360
Madison	530,860	3.83	400	62,380	368,300	99,760
Montgomery	490,860	3.54	0	29,040	385,280	76,520
Calhoun	375,400	2.71	220	71,340	253,480	50,320
Shelby	372,360	2.68	21,600	64,180	204,660	81,900
Morgan	307,360	2.22	28,160	38,020	199,200	41,940
TOTAL	6,903,380	49.78	921,260	730,760	3,918,460	1,332,660
Source: 1999 National Emission Inventory (EPA) http://www.epa.gov/air/data/ntisumm.html?st=AL -Alabama						

TABLE 25						
SOURCES OF 1,3-BUTADIENE EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Jefferson	202,560	11.81	0	8,920	160,140	33,480
Mobile	131,440	7.66	12,860	9,240	74,340	34,960
Baldwin	74,040	4.31	0	11,860	32,100	30,060
Tuscaloosa	68,040	3.97	1,900	12,040	44,560	9,500
Madison	67,940	3.96	0	3,740	48,080	16,100
Montgomery	65,920	3.84	0	4,100	50,180	11,620
Shelby	45,180	2.63	0	6,740	26,640	11,780
Calhoun	44,860	2.61	0	4,740	32,960	7,140
Morgan	38,340	2.23	3,220	3,360	25,940	5,780
Etowah	32,320	1.88	0	3,660	25,180	3,480
TOTAL	770,640	44.9	17,980	68,400	520,120	163,900

Source: 1999 National Emission Inventory (EPA) <http://www.epa.gov/air/data/ntisumm.html?st=AL~Alabama>

TABLE 26						
SOURCES OF CADMIUM EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Talladega	4,400	38.32	4,400	3.87	0	0.707
Morgan	3,200	27.87	3,200	7.08	0	0.569
Jefferson	1,220	10.62	680	540	0	2.91
Pike	500	4.35	500	0.254	0	0.263
Mobile	400	3.48	400	4.67	0	4.02
Jackson	260	2.26	260	0.621	0	1.1
Shelby	240	2.09	1.84	220	0	1.52
Walker	220	1.92	220	3.16	0	0.657
Colbert	180	1.57	0	180	0	0.662
Washington	120	1.04	120	0.379	0	0.119
TOTAL	10,740	93.52	9,781.84	960.034	0	12.527

Source: 1999 National Emission Inventory (EPA) <http://www.epa.gov/air/data/ntisumm.html?st=AL~Alabama>

TABLE 27						
SOURCES OF CARBON TETRACHLORIDE EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Mobile	113,880	28.84	113,540	320	0	0
Escambia	57,440	14.55	57,400	20	0	0
Talladega	53,160	13.46	53,100	60	0	0
Monroe	40,280	10.2	40,260	20	0	0
Marengo	30,600	7.75	30,580	20	0	0
Clarke	22,220	5.63	22,200	20	0	0
Lawrence	21,220	5.37	21,200	20	0	0
Russell	20,840	5.28	20,780	40	0	0
Wilcox	13,220	3.35	13,220	11.3	0	0
Choctaw	8,560	2.17	8,540	13.3	0	0
TOTAL	381,420	96.6	380,820	544.6	0	0

Source: 1999 National Emission Inventory (EPA) <http://www.epa.gov/air/data/ntisumm.html?st-AL-Alabama>

TABLE 28						
SOURCES OF CHLOROFORM EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Mobile	768,300	55.58	750,780	17,520	0	0
Escambia	104,220	7.54	101,180	3,020	0	0
Clarke	82,560	5.97	81,900	660	0	0
Lawrence	72,340	5.23	71,660	680	0	0
Wilcox	68,640	4.97	68,040	600	0	0
Choctaw	64,860	4.69	64,240	600	0	0
Monroe	44,580	3.23	43,920	640	0	0
Jefferson	31,460	2.28	20	31,420	0	0
Madison	16,380	1.18	0	16,380	0	0
Jackson	16,140	1.17	14,800	1,320	0	0
TOTAL	1,269,480	91.84	1,196,540	72,840	0	0

Source: 1999 National Emission Inventory (EPA) <http://www.epa.gov/air/data/ntisumm.html?st-AL-Alabama>

TABLE 29						
SOURCES OF ETHYLENE DIBROMIDE EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Jefferson	2.39	26.62	1.64	0.749	0	0
Morgan	1.13	12.54	0	1.13	0	0
Mobile	0.602	6.7	0	0.602	0	0
Covington	0.536	5.97	0	0.536	0	0
Calhoun	0.406	4.52	0	0.406	0	0
St. Clair	0.348	3.87	0.27	0.0776	0	0
Jackson	0.32	3.57	0	0.32	0	0
Madison	0.307	3.42	0	0.307	0	0
Montgomery	0.282	3.14	0	0.282	0	0
Lee	0.204	2.27	0	0.204	0	0
TOTAL	6.525	72.62	1.91	4.6136	0	0

Source: 1999 National Emission Inventory (EPA) <http://www.epa.gov/air/data/ntisumm.html?st=AL-Alabama>

TABLE 30						
SOURCES OF ETHYLENE DICHLORIDE EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Mobile	10,640	24.02	10,300	320	0	0
Escambia	5,120	11.56	5,100	19.9	0	0
Talladega	4,740	10.7	4,720	14.2	0	0
Autauga	3,860	8.71	3,840	0.842	0	0
Monroe	3,580	8.08	3,580	8.48	0	0
Dallas	3,080	6.95	3,080	7.49	0	0
Marengo	2,720	6.14	2,720	3.59	0	0
Clarke	1,980	4.47	1,960	5.38	0	0
Choctaw	1,920	4.33	1,920	13.9	0	0
Lawrence	1,880	4.24	1,880	3.51	0	0
TOTAL	39,520	89.2	39,100	397.292	0	0

Source: 1999 National Emission Inventory (EPA) <http://www.epa.gov/air/data/ntisumm.html?st=AL-Alabama>

TABLE 31						
SOURCES OF FORMALDEHYDE EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Mobile	838,400	9.87	293,320	95,720	227,560	221,740
Jefferson	735,220	8.65	23,960	84,160	489,060	138,000
Jackson	499,740	5.88	381,780	49,640	45,100	23,180
Tuscaloosa	401,980	4.73	74,820	158,380	134,720	34,020
Madison	246,420	2.9	380	28,340	149,480	68,200
Baldwin	234,740	2.76	0	76,180	93,760	64,780
Montgomery	226,120	2.66	0	28,280	154,020	43,800
Morgan	224,420	2.64	94,800	22,880	80,000	26,720
Calhoun	185,180	2.18	6.88	34,000	102,780	48,360
Shelby	170,480	2.01	300	51,380	80,440	38,320
TOTAL	3,762,700	44.28	869,366.9	628,960	1,556,920	707,120
Source: 1999 National Emission Inventory (EPA) http://www.epa.gov/air/data/ntisumm.html?st=AL-Alabama						

TABLE 32						
SOURCES OF HEXACHLOROBUTADIENE EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Jefferson	0.241	15.04	0	0.241	0	0
Mobile	0.147	9.14	0	0.147	0	0
Madison	0.103	6.42	0	0.103	0	0
Montgomery	0.0791	4.94	0	0.0791	0	0
Tuscaloosa	0.0592	3.69	0	0.0592	0	0
Shelby	0.0537	3.35	0	0.0537	0	0
Baldwin	0.0498	3.11	0	0.0498	0	0
Calhoun	0.0427	2.67	0	0.0427	0	0
Morgan	0.0403	2.51	0	0.0403	0	0
Etowah	0.0379	2.37	0	0.0379	0	0
TOTAL	0.8537	53.24	0	0.8537	0	0
Source: 1999 National Emission Inventory (EPA) http://www.epa.gov/air/data/ntisumm.html?st=AL-Alabama						

TABLE 33						
SOURCES OF MANGANESE EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Jefferson	22,600	13.47	14,520	8,040	20	2.22
Colbert	19,820	11.81	0	19,820	2.26	0.69
Shelby	13,520	8.06	80	13,420	4.87	0.855
Lamar	10,200	6.08	10,200	1.44	0.72	0.0476
Mobile	7,380	4.4	6,400	920	13	20
Dallas	7,360	4.39	7,200	160	1.34	0.212
Jackson	7,140	4.26	7,140	3.99	2.61	1.06
Tuscaloosa	6,080	3.62	60	6,000	8.17	0.777
Monroe	5,960	3.55	4,740	1,200	0.79	0.111
Tallapoosa	5,740	3.42	5.33	5,740	1.66	0.205
TOTAL	105,800	63.06	50,345.33	55,305.43	55.42	26.1776
Source: 1999 National Emission Inventory (EPA) http://www.epa.gov/air/data/ntisumm.html?st=AL-Alabama						

TABLE 34						
SOURCES OF NAPHTHALENE EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Jefferson	116,380	17.57	37,840	47,760	26,380	4,400
Mobile	57,940	8.75	16,640	24,900	12,240	4,140
Montgomery	31,620	4.77	0	22,080	8,240	1,300
Etowah	31,580	4.77	20,920	6,160	4,080	380
Calhoun	30,120	4.55	15,180	8,840	5,280	780
Morgan	27,460	4.15	16,200	6,460	4,240	540
Madison	25,280	3.82	0	15,480	7,780	2,020
Shelby	24,700	3.73	11,080	8,160	4,480	940
Tuscaloosa	24,340	3.68	7,000	8,980	7,480	840
Baldwin	15,760	2.38	0	8,740	5,620	1,360
TOTAL	385,180	58.17	124,860	157,560	85,820	16,700
Source: 1999 National Emission Inventory (EPA) http://www.epa.gov/air/data/ntisumm.html?st=AL-Alabama						

TABLE 35						
SOURCES OF 1,1,2,2-TETRACHLOROETHANE EMISSIONS IN TOP TEN COUNTIES						
County	Total (lbs/yr)	Percent of State Total	Major Sources	Area & Other Sources	On-Road Mobile Sources	Non-Road Mobile Sources
Madison	3,400	37.49	3,120	280	0	0
Jefferson	2,120	23.38	1,620	500	0	0
Mobile	580	6.4	0	580	0	0
Calhoun	360	3.97	0	360	0	0
St. Clair	320	3.53	260	40	0	0
Montgomery	240	2.65	0	240	0	0
Lee	160	1.76	0	160	0	0
Morgan	120	1.32	0	120	0	0
Marshall	120	1.32	0	120	0	0
Etowah	100	1.1	0	100	0	0
TOTAL	7,520	82.92	5,000	2,500	0	0
Source: 1999 National Emission Inventory (EPA) http://www.epa.gov/air/data/ntisumm.html?st=AL -Alabama						



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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: Acetaldehyde

Year: 1999

Emissions in Pounds Per Year

177 Rows

See [Disclaimer](#)

Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT									
1	AL	Autauga Co	Urban	International Paper Company Prattville Mill	NTI8560	84,720	8.81	49	See All HAPs
2	AL	Baldwin Co	Urban	Baldwin Dinettes (Ceased) Loxley	NTI18325	6.21	< 0.01	39	See All HAPs
3	AL	Barbour Co	Rural	Louisiana-Pacific Corporation, Clayton Mdf Mill	NTI8439	453	0.05	9	See All HAPs
4	AL	Bibb Co	Rural	Olon Belcher Lumber	NTIAL10149	60.0	0.01	15	See All HAPs
5	AL	Bibb Co	Rural	Cahaba Veneer Inc	NTI18328	484	0.05	39	See All HAPs
6	AL	Bibb Co	Rural	Cahaba Pressure Treated Forest Products	NTI18327	60.0	0.01	16	See All HAPs
7	AL	Butler Co	Rural	International Paper Co.	NTI56713	5,355	0.56	23	See All HAPs
8	AL	Calhoun Co	Rural	National Gypsum Company	NTI18330	12.4	< 0.01	37	See All HAPs
9	AL	Calhoun Co	Rural	Fort McClellan	NTIAL0101500	0.181	< 0.01	11	See All HAPs
10	AL	Calhoun Co	Rural	Anniston Army Depot	NTI18329	3.92	< 0.01	45	See All HAPs
11	AL	Chambers Co	Urban	West Point Stevens - Lanett Mill	NTI18332	1.86	< 0.01	37	See All HAPs
12	AL	Chambers Co	Urban	East Alabama Lumber Inc	NTIAL017S003	80.0	0.01	6	See All HAPs
13	AL	Chambers Co	Urban	West Point Stevens - Fairfax Plant	NTI18331	5.40	< 0.01	37	See All HAPs
14	AL	Chilton Co	Rural	Transco Billingsley Station	NTIAL0102100	268	0.03	4	See All HAPs
15	AL	Chilton Co	Rural	Union Camp Corporation - Thorsby, Al Facility	NTIAL021S006	2,375	0.25	10	See All HAPs
16	AL	Chilton Co	Rural	International Paper Company Maplesville	NTIAL021S005	16,080	1.67	14	See All HAPs
17	AL	Chilton Co	Rural	International Paper Maplesville	NTI18333	12.4	< 0.01	36	See All HAPs

18	AL	Choctaw Co	Rural	Pruet Production Co	NTIAL0102300	597	0.06	4	See All HAPs
19	AL	Choctaw Co	Rural	Fort James Corporation Naheola Mill	NTI18334	31,620	3.29	49	See All HAPs
20	AL	Clarke Co	Rural	Hamilton Woods Veneer Company	NTIRALWP-272	743	0.08	5	See All HAPs
21	AL	Clarke Co	Rural	Scotch Lumber	NTIAL025S006	18,216	1.89	23	See All HAPs
22	AL	Clarke Co	Rural	Boise Cascade	NTI8601	32,100	3.34	40	See All HAPs
23	AL	Clay Co	Rural	Wellborn Cabinets Inc Ashland	NTI8574	10.3	< 0.01	38	See All HAPs
24	AL	Cleburne Co	Rural	Southern Natural Gas Bell Mills	NTIAL0290002	120	0.01	6	See All HAPs
25	AL	Coffee Co	Urban	Conagra Inc	NTIAL0103100	0.915	< 0.01	37	See All HAPs
26	AL	Colbert Co	Urban	Texas Eastern	NTIAL10153	64.0	0.01	3	See All HAPs
27	AL	Colbert Co	Urban	Al-Tennessee Natural Gas Co	NTIAL10154	115	0.01	4	See All HAPs
28	AL	Colbert Co	Urban	Safco	NTIAL10155	218	0.02	4	See All HAPs
29	AL	Colbert Co	Urban	Tva Colbert	NTI11769	2,252	0.23	35	See All HAPs
30	AL	Coosa Co	Rural	Us Alliance	NTIAL037S005	40.0	< 0.01	6	See All HAPs
31	AL	Covington Co	Rural	McWilliams	NTI12259	0.0725	< 0.01	36	See All HAPs
32	AL	Crenshaw Co	Rural	H.E. Browder Veneer, Incorporated	NTIRALWP-271	4.33	< 0.01	3	See All HAPs
33	AL	Cullman Co	Rural	Alabama Feed Products Inc	NTIAL0104300	4.10	< 0.01	37	See All HAPs
34	AL	Cullman Co	Rural	Louisiana-Pacific - Hanceville Osb	NTIAL0430027	1,988	0.21	13	See All HAPs
35	AL	Cullman Co	Rural	Dcp-Lohja, Inc.	NTI8449	6.21	< 0.01	38	See All HAPs
36	AL	Dale Co	Rural	Fort Rucker	NTIAL0450008	20.0	< 0.01	21	See All HAPs
37	AL	Dallas Co	Rural	International Paper Company Riverdale Mill	NTI18335	6,600	0.69	41	See All HAPs
38	AL	Dallas Co	Rural	Southern Natural Gas Selma	NTIAL10157	990	0.10	3	See All HAPs
39	AL	Elmore Co	Urban	Alagasco Coosada Liquid Natural Gas Plant	NTIAL0105100	221	0.02	5	See All HAPs
40	AL	Elmore Co	Urban	Southern Natural Gas Elmore Area	NTIAL0510006	600	0.06	6	See All HAPs
41	AL	Escambia Co	Rural	Pruet Production Co	NTIAL10160	436	0.05	4	See All HAPs
42	AL	Escambia Co	Rural	Exxonmobil Production Company Big Escambia Creek G	NTIAL0530007	278	0.03	6	See All HAPs
43	AL	Escambia Co	Rural	Jsc Brewton, Inc.	NTI18338	61,920	6.44	48	See All HAPs
44	AL	Escambia Co	Rural	Vintage Petroleum Inc Flomaton O&G Production & Tr	NTIAL0530005	221	0.02	7	See All HAPs

45	AL	Etowah Co	Urban	Goodyear Tire & Rubber Co.	NTI56716	120	0.01	24	See All HAPs
46	AL	Etowah Co	Urban	Alabama Power Company Gadsden	NTI12788	164	0.02	37	See All HAPs
47	AL	Fayette Co	Rural	Sng Intrastate Co St Hwy 18 Fayette	NTIAL10165	518	0.05	4	See All HAPs
48	AL	Fayette Co	Rural	Pan Energy Field Services Inc	NTIAL10163	202	0.02	4	See All HAPs
49	AL	Fayette Co	Rural	Pan Energy Field Services Inc	NTIAL10164	313	0.03	4	See All HAPs
50	AL	Greene Co	Rural	Alabama Power Company Greene County	NTI6495	1,043	0.11	37	See All HAPs
51	AL	Hale Co	Rural	Gulf States Paper Moundville Sawmill	NTIAL065S003	220	0.02	7	See All HAPs
52	AL	Hale Co	Rural	Southern Natural Gas Gallion	NTIAL0650003	560	0.06	6	See All HAPs
53	AL	Henry Co	Rural	Franklin Hardwood, Incorporated	NTIRALWP-221	73.1	0.01	3	See All HAPs
54	AL	Henry Co	Rural	Saf Baker'S Yeast	NTIALES1101f	25,400	2.64	1	See All HAPs
55	AL	Houston Co	Urban	Howell Plywood Inc	NTI18346	290	0.03	16	See All HAPs
56	AL	Houston Co	Urban	Ansell Inc	NTI18345	1.25	< 0.01	38	See All HAPs
57	AL	Jackson Co	Rural	Acordis Industrial Fibers	NTI8528	55,100	5.73	8	See All HAPs
58	AL	Jackson Co	Rural	Tva Widows Creek	NTI12080	2,972	0.31	38	See All HAPs
59	AL	Jefferson Co	Urban	Taurus Exploration Inc. 0540	NTIAL10168	443	0.05	4	See All HAPs
60	AL	Jefferson Co	Urban	Taurus Exploration Inc. 0538	NTIAL10167	221	0.02	4	See All HAPs
61	AL	Jefferson Co	Urban	Taurus Exploration Inc. 0537	NTIAL10166	443	0.05	4	See All HAPs
62	AL	Jefferson Co	Urban	Alabama Power Company (Miller Power Plant)	NTI12519	5,236	0.54	37	See All HAPs
63	AL	Jefferson Co	Urban	Ang Birmingham	NTIAL01073F0	0.0730	< 0.01	11	See All HAPs
64	AL	Jefferson Co	Urban	Southern Natural Gas Corp.	NTIAL0107302	231	0.02	4	See All HAPs
65	AL	Lamar Co	Rural	Associated Nat Gas Millport-Mcgee Site	NTIAL10171	313	0.03	4	See All HAPs
66	AL	Lamar Co	Rural	Pruet Production Company	NTIAL10170	133	0.01	4	See All HAPs
67	AL	Lamar Co	Rural	Associated Nat Gas Vernon/Fayette	NTIAL10169	171	0.02	4	See All HAPs
68	AL	Lamar Co	Rural	Weyerhaeuser Company	NTI18354	3,692	0.38	24	See All HAPs
69	AL	Lauderdale Co	Rural	Tennessee River, Inc	NTI18356	0.720	< 0.01	37	See All HAPs
70	AL	Lauderdale Co	Rural	Lexington Fabrics Inc	NTI18355	0.553	< 0.01	37	See All HAPs
71	AL	Lawrence Co	Rural	International Paper Company Courtland Mill	NTI18357	61,140	6.36	51	See All HAPs
72	AL	Lee Co	Urban	Southern Natural Gas Auburn	NTIAL0810021	990	0.10	4	See All HAPs
				Westpoint Stevens -					See All

73	AL	Lee Co	Urban	Opelika Plant	NTI8620	180	0.02	44	HAPs
74	AL	Limestone Co	Urban	Brown'S Ferry Nuclear Plant	NTIAL0108300	0.0354	< 0.01	12	See All HAPs
75	AL	Limestone Co	Urban	Delphi Saginaw Steering Systems	NTI18358	18.6	< 0.01	37	See All HAPs
76	AL	Madison Co	Urban	Giles & Kendall, Inc.	NTIAL089S001	707	0.07	15	See All HAPs
77	AL	Marengo Co	Rural	Wallace Wood Products	NTIALRPCWP-3	261	0.03	5	See All HAPs
78	AL	Marengo Co	Rural	Transcontinental Gas	NTIAL10175	2,240	0.23	4	See All HAPs
79	AL	Marion Co	Rural	Harden Mfg. Corp. Plant No.3	NTI18366	6.21	< 0.01	35	See All HAPs
80	AL	Marion Co	Rural	Harden Manufacturing Corporation Plant No. 1; Bear	NTI18365	6.21	< 0.01	38	See All HAPs
81	AL	Marion Co	Rural	3m Company Guin	NTI8495	6.21	< 0.01	42	See All HAPs
82	AL	Marion Co	Rural	Craftwood Design (Caldwell Chair) Haleyville	NTI18364	6.21	< 0.01	38	See All HAPs
83	AL	Marion Co	Rural	Tennessee Gas Pipeline Staion 550-Hamilton	NTIAL0109300	862	0.09	3	See All HAPs
84	AL	Marion Co	Rural	Colby Furniture Co Hamilton	NTI8500	6.21	< 0.01	41	See All HAPs
85	AL	Mobile Co	Urban	Martin Marietta Aggregates	NTIAL0109780	4.10	< 0.01	37	See All HAPs
86	AL	Mobile Co	Urban	Callon Offshore	NTIAL10191	0.0354	< 0.01	11	See All HAPs
87	AL	Mobile Co	Urban	Unocal Corp - Chunchula Gas Treating Fac	NTIAL10190	10,586	1.10	4	See All HAPs
88	AL	Mobile Co	Urban	Moepsi	NTIAL10189	0.0354	< 0.01	11	See All HAPs
89	AL	Mobile Co	Urban	Transcontinental G.P.	NTIAL10185	21.2	< 0.01	4	See All HAPs
90	AL	Mobile Co	Urban	Union Expl Partners	NTIAL10182	179	0.02	11	See All HAPs
91	AL	Mobile Co	Urban	Shell Yellowhammer Platform & Dril.Eng.	NTIAL10180	222	0.02	11	See All HAPs
92	AL	Mobile Co	Urban	Exxonmobil Production Company Bon Secour Bay Produ	NTIAL0012	1.12	< 0.01	11	See All HAPs
93	AL	Mobile Co	Urban	Exxonmobil Production Company North Central Gulf P	NTIAL0970025	2,204	0.23	11	See All HAPs
94	AL	Mobile Co	Urban	Exxonmobil Production Company Northwest Gulf Prod	NTIAL0970013	3,306	0.34	11	See All HAPs
95	AL	Mobile Co	Urban	Mobil Oil Exploration & Production S E Mary Ann Ga	NTIAL0970010	222	0.02	11	See All HAPs
96	AL	Mobile Co	Urban	Shell Offshore Inc Yellowhammer Gas Treating & Pro	NTIAL4017	57.2	0.01	8	See All HAPs
97	AL	Mobile Co	Urban	Exxonmobil Production Company Mobile Bay Onshore G	NTIAL4011	16.3	< 0.01	6	See All HAPs

98	AL	Mobile Co	Urban	Four Star Oil & Gas Company Hatter'S Pond O&G Trea	NTIAL4004	8,328	0.87	5	See All HAPs
99	AL	Mobile Co	Urban	Florida Gas Transmission Company Mt. Vernon Statio	NTIAL3028	3,320	0.35	5	See All HAPs
100	AL	Mobile Co	Urban	Coastal Mobile Refining Company Mobile Petroleum R	NTI8612	11.0	< 0.01	31	See All HAPs
101	AL	Mobile Co	Urban	S D Warren	NTI8611	11,980	1.25	38	See All HAPs
102	AL	Mobile Co	Urban	Mobile Energy Services Company	NTI8610	1,340	0.14	30	See All HAPs
103	AL	Mobile Co	Urban	Degussa-Huls Corporation	NTI8603	2.00	< 0.01	16	See All HAPs
104	AL	Mobile Co	Urban	Alabama Power Company Barry	NTI7966	2,804	0.29	37	See All HAPs
105	AL	Mobile Co	Urban	Shell Oil Products Co.	NTI18372	72.8	0.01	36	See All HAPs
106	AL	Mobile Co	Urban	Kimberly-Clark Tissue	NTI18371	400	0.04	40	See All HAPs
107	AL	Mobile Co	Urban	International Paper Company Siebert Station	NTI18369	74,060	7.70	47	See All HAPs
108	AL	Mobile Co	Urban	Huls America Inc	NTI18368	6.21	< 0.01	41	See All HAPs
109	AL	Mobile Co	Urban	Chickasaw	NTI12030	0.0101	< 0.01	15	See All HAPs
110	AL	Monroe Co	Rural	Torch Operating Company North Frisco	NTIAL10194	221	0.02	3	See All HAPs
111	AL	Monroe Co	Rural	Exxon-North Central	NTIAL10193	221	0.02	4	See All HAPs
112	AL	Monroe Co	Rural	Georgia Pacific Corp	NTI8590	6,081	0.63	22	See All HAPs
113	AL	Monroe Co	Rural	Temple-Inland - Monroeville Particleboard	NTI8589	2,011	0.21	24	See All HAPs
114	AL	Monroe Co	Rural	Alabama River Pulp Co Inc	NTI18373	44,340	4.61	47	See All HAPs
115	AL	Montgomery Co	Urban	Maxwell Afb/Gunter Annex	NTIAL01101F0	0.797	< 0.01	11	See All HAPs
116	AL	Montgomery Co	Urban	Capital Veneer Works Bx 8278 Montg, Al	NTI18376	436	0.05	16	See All HAPs
117	AL	Morgan Co	Urban	Alabama Tennessee Natural Gas	NTIAL10197	115	0.01	4	See All HAPs
118	AL	Morgan Co	Urban	American Maize-Products Decatur Inc.	NTIAL10196	4.10	< 0.01	37	See All HAPs
119	AL	Morgan Co	Urban	Conagra	NTIAL10195	4.10	< 0.01	37	See All HAPs
120	AL	Morgan Co	Urban	3m Company Decatur Plant	NTI8510	59,340	6.17	52	See All HAPs
121	AL	Morgan Co	Urban	Bp Amoco Chemicals	NTI8507	63.7	0.01	40	See All HAPs
122	AL	Morgan Co	Urban	Solutia, Inc Decatur Plant	NTI18381	172	0.02	45	See All HAPs
123	AL	Pickens Co	Rural	Meridian Oil	NTIAL10199	91.4	0.01	4	See All HAPs
124	AL	Pickens Co	Rural	Southern Natural Gas Reform	NTIAL1070009	80.0	0.01	5	See All HAPs

125	AL	Pickens Co	Rural	Samson Resources Company	NTIAL10198	194	0.02	4	See All HAPs
126	AL	Randolph Co	Rural	Transco Wadley Station	NTIAL0111100	279	0.03	4	See All HAPs
127	AL	Russell Co	Urban	Mead Coated Board Inc	NTI46931	137,680	14.32	44	See All HAPs
128	AL	Russell Co	Urban	Southern Natural Gas Company Holy Trinity	NTIAL1130023	100	0.01	5	See All HAPs
129	AL	Shelby Co	Urban	Dravo Lime Co	NTI18387	6.21	< 0.01	37	See All HAPs
130	AL	Shelby Co	Urban	Cheney Lime & Cement Co	NTI18386	12.4	< 0.01	37	See All HAPs
131	AL	Shelby Co	Urban	Ala Power Co E.C. Gaston	NTI7744	2,514	0.26	35	See All HAPs
132	AL	Shelby Co	Urban	Seaman Timber Co	NTIAL117S001	8.20	< 0.01	37	See All HAPs
133	AL	St. Clair Co	Urban	Southern Natural Gas	NTIAL0111500	14.2	< 0.01	3	See All HAPs
134	AL	Sumter Co	Rural	Southern Natural Gas York	NTIAL0111900	990	0.10	4	See All HAPs
135	AL	Sumter Co	Rural	Mannington Wood Floors	NTI18388	653	0.07	16	See All HAPs
136	AL	Talladega Co	Rural	Alliance Forest Products, U.S. Corporation	NTI18390	57,780	6.01	51	See All HAPs
137	AL	Talladega Co	Rural	Georgia-Pacific Corp.	NTI8458	6,196	0.64	12	See All HAPs
138	AL	Tallapoosa Co	Rural	Wellborn Forest Products Alex City	NTI18392	6.21	< 0.01	40	See All HAPs
139	AL	Tuscaloosa Co	Urban	Amoco Production	NTIAL10223	168	0.02	4	See All HAPs
140	AL	Tuscaloosa Co	Urban	Amoco Production Co Station No 3	NTIAL10222	168	0.02	4	See All HAPs
141	AL	Tuscaloosa Co	Urban	Associated Nat Gas Windham Springs	NTIAL10220	381	0.04	4	See All HAPs
142	AL	Tuscaloosa Co	Urban	River Gas Corp Source 1	NTIAL10215	221	0.02	4	See All HAPs
143	AL	Tuscaloosa Co	Urban	Taurus Exploration (Station #2)	NTIAL10214	165	0.02	4	See All HAPs
144	AL	Tuscaloosa Co	Urban	River Gas Corp Source 11	NTIAL10213	221	0.02	4	See All HAPs
145	AL	Tuscaloosa Co	Urban	River Gas Corp Source 5	NTIAL10212	221	0.02	4	See All HAPs
146	AL	Tuscaloosa Co	Urban	Taurus Exploration (Station #6)	NTIAL10211	333	0.03	4	See All HAPs
147	AL	Tuscaloosa Co	Urban	Hunt Refining Co.	NTI18394	40.4	< 0.01	37	See All HAPs
148	AL	Tuscaloosa Co	Urban	River Gas Corp Source 4	NTIAL10209	221	0.02	4	See All HAPs
149	AL	Tuscaloosa Co	Urban	River Gas Corp Source 3	NTIAL10208	221	0.02	4	See All HAPs
150	AL	Tuscaloosa Co	Urban	River Gas Corp Source 2	NTIAL10207	221	0.02	4	See All HAPs
151	AL	Tuscaloosa Co	Urban	River Gas Corp Source 13	NTIAL10206	221	0.02	4	See All HAPs
152	AL	Tuscaloosa Co	Urban	River Gas Corp Source 12	NTIAL10205	221	0.02	4	See All HAPs
153	AL	Tuscaloosa Co	Urban	Magnolia Pipeline	NTIAL10203	4.20	< 0.01	4	See All HAPs

154	AL	Tuscaloosa Co	Urban	Sonat Intrastate - Alabama White Oak Station No. 1	NTIAL0077	460	0.05	6	See All HAPs
155	AL	Tuscaloosa Co	Urban	Sonat Intrastate - Alabama White Oak Station No. 2	NTIAL0067	580	0.06	6	See All HAPs
156	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Stations 1	NTIAL0043	360	0.04	6	See All HAPs
157	AL	Tuscaloosa Co	Urban	Southern Natural Gas Company Duncanville Station	NTIAL1250078	80.0	0.01	6	See All HAPs
158	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Station 5	NTIAL1250046	120	0.01	5	See All HAPs
159	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Station 4	NTIAL1250045	860	0.09	6	See All HAPs
160	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Station 3 A	NTIAL1250044	1,080	0.11	6	See All HAPs
161	AL	Tuscaloosa Co	Urban	Uniroyal Goodrich Tire Co Tuscaloosa Plant	NTI8487	300	0.03	47	See All HAPs
162	AL	Tuscaloosa Co	Urban	River Gas Corp Source 10	NTIAL10224	221	0.02	4	See All HAPs
163	AL	Tuscaloosa Co	Urban	International Paper Company Tuscaloosa Sawmill	NTIALS011	16,440	1.71	14	See All HAPs
164	AL	Tuscaloosa Co	Urban	Kykenkee Inc	NTIALS012	80.0	0.01	6	See All HAPs
165	AL	Tuscaloosa Co	Urban	River Gas Corp Source 9	NTIAL10210	221	0.02	4	See All HAPs
166	AL	Walker Co	Rural	Alabama Power Company Gorgas	NTI13104	2,555	0.27	37	See All HAPs
167	AL	Washington Co	Rural	Mcintosh Power Plant	NTIAL10227	57.2	0.01	4	See All HAPs
168	AL	Washington Co	Rural	Phillips Petroleum Corp Chatom Gas Treating & Proc	NTIAL1290009	2,831	0.29	5	See All HAPs
169	AL	Washington Co	Rural	Olin Chemical Corp Po Box28mcintosh36553	NTI18400	13.8	< 0.01	38	See All HAPs
170	AL	Washington Co	Rural	Collet Ventures Inc	NTIAL10228	199	0.02	4	See All HAPs
171	AL	Washington Co	Rural	Ciba Specialty Chemicals Corporation	NTI18398	62.1	0.01	53	See All HAPs
172	AL	Washington Co	Rural	Alabama Electric Cooperative Lowman	NTI12377	1,026	0.11	37	See All HAPs
173	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI8619	6,806	0.71	40	See All HAPs
174	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI18379	51,614	5.37	22	See All HAPs
175	AL	Winston Co	Rural	Harden Mfg. Corp. Plant No.2	NTI8498	6.21	< 0.01	36	See All HAPs
176	AL	Winston Co	Rural	Houston Wood Products Arley	NTI18402	6.21	< 0.01	39	See All HAPs
177	AL	Winston Co	Rural	Dover Furniture Arley	NTI18401	12.4	< 0.01	41	See All HAPs

Grand Total	961,436
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Page 1 of 1

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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: Acrolein

Year: 1999

Emissions in Pounds Per Year

88 Rows

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Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT									
1	AL	Autauga Co	Urban	International Paper Company Prattville Mill	NTI8560	6,280	6.43	49	See All HAPs
2	AL	Baldwin Co	Urban	Baldwin Dinettes (Ceased) Loxley	NTI18325	3.16	< 0.01	39	See All HAPs
3	AL	Barbour Co	Rural	Louisiana-Pacific Corporation, Clayton Mdf Mill	NTI8439	9.94	0.01	9	See All HAPs
4	AL	Bibb Co	Rural	Cahaba Veneer Inc	NTI18328	3.16	< 0.01	39	See All HAPs
5	AL	Butler Co	Rural	International Paper Co.	NTI56713	153	0.16	23	See All HAPs
6	AL	Calhoun Co	Rural	National Gypsum Company	NTI18330	6.31	0.01	37	See All HAPs
7	AL	Calhoun Co	Rural	Anniston Army Depot	NTI18329	2.00	< 0.01	45	See All HAPs
8	AL	Chambers Co	Urban	West Point Stevens - Lanett Mill	NTI18332	0.943	< 0.01	37	See All HAPs
9	AL	Chambers Co	Urban	West Point Stevens - Fairfax Plant	NTI18331	2.75	< 0.01	37	See All HAPs
10	AL	Chilton Co	Rural	Union Camp Corporation - Thorsby, Al Facility	NTIAL021S006	117	0.12	10	See All HAPs
11	AL	Chilton Co	Rural	International Paper Maplesville	NTI18333	6.31	0.01	36	See All HAPs
12	AL	Choctaw Co	Rural	Fort James Corporation Naheola Mill	NTI18334	18,580	19.02	49	See All HAPs
13	AL	Clarke Co	Rural	Scotch Lumber	NTIAL025S006	1,980	2.03	23	See All HAPs
14	AL	Clarke Co	Rural	Boise Cascade	NTI8601	2,852	2.92	40	See All HAPs
15	AL	Clay Co	Rural	Wellborn Cabinets Inc Ashland	NTI8574	5.24	0.01	38	See All HAPs
16	AL	Cleburne Co	Rural	Southern Natural Gas Bell Mills	NTIAL0290002	80.0	0.08	6	See All HAPs
17	AL	Coffee Co	Urban	Conagra Inc	NTIAL0103100	0.465	< 0.01	37	See All HAPs

18	AL	Colbert Co	Urban	Tva Colbert	NTI11769	1,116	1.14	35	See All HAPs
19	AL	Covington Co	Rural	McWilliams	NTI12259	0.0344	< 0.01	36	See All HAPs
20	AL	Cullman Co	Rural	Alabama Feed Products Inc	NTIAL0104300	2.08	< 0.01	37	See All HAPs
21	AL	Cullman Co	Rural	Dcp-Lohja, Inc.	NTI8449	3.16	< 0.01	38	See All HAPs
22	AL	Cullman Co	Rural	Louisiana-Pacific - Hanceville Osb	NTIAL0430027	1,170	1.20	13	See All HAPs
23	AL	Dallas Co	Rural	International Paper Company Riverdale Mill	NTI18335	4,451	4.56	41	See All HAPs
24	AL	Elmore Co	Urban	Southern Natural Gas Elmore Area	NTIAL0510006	400	0.41	6	See All HAPs
25	AL	Escambia Co	Rural	Jsc Brewton, Inc.	NTI18338	1,680	1.72	48	See All HAPs
26	AL	Etowah Co	Urban	Alabama Power Company Gadsden	NTI12788	83.3	0.09	37	See All HAPs
27	AL	Greene Co	Rural	Alabama Power Company Greene County	NTI6495	501	0.51	37	See All HAPs
28	AL	Hale Co	Rural	Southern Natural Gas Gallion	NTIAL0650003	380	0.39	6	See All HAPs
29	AL	Houston Co	Urban	Ansell Inc	NTI18345	0.636	< 0.01	38	See All HAPs
30	AL	Jackson Co	Rural	Mead Containerboard	NTI18347	126	0.13	31	See All HAPs
31	AL	Jackson Co	Rural	Tva Widows Creek	NTI12080	1,512	1.55	38	See All HAPs
32	AL	Jefferson Co	Urban	Alabama Power Company (Miller Power Plant)	NTI12519	2,635	2.70	37	See All HAPs
33	AL	Lamar Co	Rural	Weyerhaeuser Company	NTI18354	36.6	0.04	24	See All HAPs
34	AL	Lauderdale Co	Rural	Tennessee River, Inc	NTI18356	0.366	< 0.01	37	See All HAPs
35	AL	Lauderdale Co	Rural	Lexington Fabrics Inc	NTI18355	0.282	< 0.01	37	See All HAPs
36	AL	Lawrence Co	Rural	International Paper Company Courtland Mill	NTI18357	40.0	0.04	51	See All HAPs
37	AL	Lee Co	Urban	Westpoint Stevens - Opelika Plant	NTI8620	6.31	0.01	44	See All HAPs
38	AL	Limestone Co	Urban	Delphi Saginaw Steering Systems	NTI18358	9.47	0.01	37	See All HAPs
39	AL	Madison Co	Urban	Giles & Kendall, Inc.	NTIAL089S001	130	0.13	15	See All HAPs
40	AL	Marengo Co	Rural	Gulf States Paper Corporation	NTI45474	3,942	4.04	37	See All HAPs
41	AL	Marion Co	Rural	Colby Furniture Co Hamilton	NTI8500	3.16	< 0.01	41	See All HAPs
42	AL	Marion Co	Rural	3m Company Guin	NTI8495	3.16	< 0.01	42	See All HAPs
43	AL	Marion Co	Rural	Harden Mfg. Corp. Plant No.3	NTI18366	3.16	< 0.01	35	See All HAPs
44	AL	Marion Co	Rural	Harden Manufacturing Corporation Plant No. 1; Bear	NTI18365	3.16	< 0.01	38	See All HAPs

45	AL	Marion Co	Rural	Craftwood Design (Caldwell Chair) Haleyville	NTI18364	3.16	< 0.01	38	See All HAPs
46	AL	Mobile Co	Urban	S D Warren	NTI8611	9,398	9.62	38	See All HAPs
47	AL	Mobile Co	Urban	Martin Marietta Aggregates	NTIAL0109780	2.08	< 0.01	37	See All HAPs
48	AL	Mobile Co	Urban	Mobile Energy Services Company	NTI8610	60.0	0.06	30	See All HAPs
49	AL	Mobile Co	Urban	Degussa-Huls Corporation	NTI8603	18.0	0.02	16	See All HAPs
50	AL	Mobile Co	Urban	Alabama Power Company Barry	NTI7966	1,427	1.46	37	See All HAPs
51	AL	Mobile Co	Urban	Kimberly-Clark Tissue	NTI18371	3.16	< 0.01	40	See All HAPs
52	AL	Mobile Co	Urban	International Paper Company Siebert Station	NTI18369	920	0.94	47	See All HAPs
53	AL	Mobile Co	Urban	Huls America Inc	NTI18368	3.16	< 0.01	41	See All HAPs
54	AL	Monroe Co	Rural	Georgia Pacific Corp	NTI8590	20.9	0.02	22	See All HAPs
55	AL	Monroe Co	Rural	Temple-Inland - Monroeville Particleboard	NTI8589	648	0.66	24	See All HAPs
56	AL	Monroe Co	Rural	Alabama River Pulp Co Inc	NTI18373	5,172	5.30	47	See All HAPs
57	AL	Morgan Co	Urban	American Maize- Products Decatur Inc.	NTIAL10196	2.08	< 0.01	37	See All HAPs
58	AL	Morgan Co	Urban	Conagra	NTIAL10195	2.08	< 0.01	37	See All HAPs
59	AL	Morgan Co	Urban	3m Company Decatur Plant	NTI8510	15.8	0.02	52	See All HAPs
60	AL	Morgan Co	Urban	Bp Amoco Chemicals	NTI8507	32.4	0.03	40	See All HAPs
61	AL	Morgan Co	Urban	Solutia, Inc Decatur Plant	NTI18381	87.4	0.09	45	See All HAPs
62	AL	Pickens Co	Rural	Southern Natural Gas Reform	NTIAL1070009	60.0	0.06	5	See All HAPs
63	AL	Russell Co	Urban	Southern Natural Gas Company Holy Trinity	NTIAL1130023	80.0	0.08	5	See All HAPs
64	AL	Russell Co	Urban	Mead Coated Board Inc	NTI46931	24,020	24.59	44	See All HAPs
65	AL	Shelby Co	Urban	Ala Power Co E.C. Gaston	NTI7744	1,250	1.28	35	See All HAPs
66	AL	Shelby Co	Urban	Seaman Timber Co	NTIAL117S001	4.17	< 0.01	37	See All HAPs
67	AL	Shelby Co	Urban	Dravo Lime Co	NTI18387	3.16	< 0.01	37	See All HAPs
68	AL	Shelby Co	Urban	Cheney Lime & Cement Co	NTI18386	6.31	0.01	37	See All HAPs
69	AL	Talladega Co	Rural	Alliance Forest Products, U.S. Corporation	NTI18390	20.0	0.02	51	See All HAPs
70	AL	Talladega Co	Rural	Georgia-Pacific Corp.	NTI8458	21.3	0.02	12	See All HAPs
71	AL	Tallapoosa Co	Rural	Wellborn Forest Products Alex City	NTI18392	3.16	< 0.01	40	See All HAPs
72	AL	Tuscaloosa Co	Urban	Southern Natural Gas Company Duncanville	NTIAL1250078	80.0	0.08	6	See All HAPs

				Station						
73	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Station 5	NTIAL1250046	40.0	0.04	5	See All HAPs	
74	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Station 4	NTIAL1250045	380	0.39	6	See All HAPs	
75	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Stations 1	NTIAL0043	160	0.16	6	See All HAPs	
76	AL	Tuscaloosa Co	Urban	Sonat Intrastate - Alabama White Oak Station No. 2	NTIAL0067	500	0.51	6	See All HAPs	
77	AL	Tuscaloosa Co	Urban	Sonat Intrastate - Alabama White Oak Station No. 1	NTIAL0077	400	0.41	6	See All HAPs	
78	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Station 3 A	NTIAL1250044	500	0.51	6	See All HAPs	
79	AL	Tuscaloosa Co	Urban	Uniroyal Goodrich Tire Co Tuscaloosa Plant	NTI8487	200	0.20	47	See All HAPs	
80	AL	Walker Co	Rural	Alabama Power Company Gorgas	NTI13104	1,300	1.33	37	See All HAPs	
81	AL	Washington Co	Rural	Olin Chemical Corp Po Box28mcintosh36553	NTI18400	7.02	0.01	38	See All HAPs	
82	AL	Washington Co	Rural	Ciba Specialty Chemicals Corporation	NTI18398	31.6	0.03	53	See All HAPs	
83	AL	Washington Co	Rural	Alabama Electric Cooperative Lowman	NTI12377	522	0.53	37	See All HAPs	
84	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI8619	233	0.24	40	See All HAPs	
85	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI18379	1,698	1.74	22	See All HAPs	
86	AL	Winston Co	Rural	Harden Mfg. Corp. Plant No.2	NTI8498	3.16	< 0.01	36	See All HAPs	
87	AL	Winston Co	Rural	Houston Wood Products Arley	NTI18402	3.16	< 0.01	39	See All HAPs	
88	AL	Winston Co	Rural	Dover Furniture Arley	NTI18401	6.31	0.01	41	See All HAPs	
Grand Total						97,668				

Page 1 of 1

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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: Arsenic Compounds (inorganic including Arsine)

Year: 1999

Emissions in Pounds Per Year

137 Rows

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Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT									
1	AL	Autauga Co	Urban	International Paper Company Prattville Mill	NTI8560	293	1.29	49	See All HAPs
2	AL	Baldwin Co	Urban	Baldwin Dinettes (Ceased) Loxley	NTI18325	4.45	0.02	39	See All HAPs
3	AL	Barbour Co	Rural	Louisiana-Pacific Corporation	NTI54363	29.2	0.13	11	See All HAPs
4	AL	Barbour Co	Rural	M C Dixon Lumber Co	NTI18326	7.39	0.03	12	See All HAPs
5	AL	Bibb Co	Rural	Olon Belcher Lumber	NTIAL10149	7.39	0.03	15	See All HAPs
6	AL	Bibb Co	Rural	Centreville Lumber Co	NTIAL10148	7.39	0.03	12	See All HAPs
7	AL	Bibb Co	Rural	Cahaba Veneer Inc	NTI18328	4.45	0.02	39	See All HAPs
8	AL	Bibb Co	Rural	Cahaba Pressure Treated Forest Products	NTI18327	7.39	0.03	16	See All HAPs
9	AL	Butler Co	Rural	International Paper Co.	NTI56713	22.2	0.10	23	See All HAPs
10	AL	Calhoun Co	Rural	Fort McClellan	NTIAL0101500	0.0029	< 0.01	11	See All HAPs
11	AL	Calhoun Co	Rural	National Gypsum Company	NTI18330	8.91	0.04	37	See All HAPs
12	AL	Calhoun Co	Rural	Anniston Army Depot	NTI18329	2.84	0.01	45	See All HAPs
13	AL	Chambers Co	Urban	West Point Stevens - Lanett Mill	NTI18332	1.33	0.01	37	See All HAPs
14	AL	Chambers Co	Urban	West Point Stevens - Fairfax Plant	NTI18331	3.88	0.02	37	See All HAPs
15	AL	Chilton Co	Rural	International Paper Bx 63 Maplesville	NTIAL0102190	7.39	0.03	8	See All HAPs
16	AL	Chilton Co	Rural	International Paper Maplesville	NTI18333	8.91	0.04	36	See All HAPs
17	AL	Choctaw Co	Rural	J W Lassiter Lbr Co	NTIAL0102390	0.740	< 0.01	13	See All HAPs
18	AL	Choctaw Co	Rural	Fort James Corporation Naheola	NTI18334	306	1.35	49	See All

				Mill					HAPs
19	AL	Clarke Co	Rural	Coastal Lumber Co	NTIAL10150	0.817	< 0.01	12	See All HAPs
20	AL	Clarke Co	Rural	Scotch Lumber	NTIAL025S006	5.65	0.02	23	See All HAPs
21	AL	Clarke Co	Rural	Boise Cascade	NTI8601	107	0.47	40	See All HAPs
22	AL	Clay Co	Rural	Wellborn Cabinets Inc Ashland	NTI8574	7.66	0.03	38	See All HAPs
23	AL	Coffee Co	Urban	Dura-Cast Inc.	NTIALT\$4671	2.00	0.01	3	See All HAPs
24	AL	Coffee Co	Urban	Conagra Inc	NTIAL0103100	0.657	< 0.01	37	See All HAPs
25	AL	Colbert Co	Urban	Mckinney Lumber	NTIAL0103390	1.02	< 0.01	12	See All HAPs
26	AL	Colbert Co	Urban	Tva Colbert	NTI11769	1,580	6.95	35	See All HAPs
27	AL	Conecuh Co	Rural	Louisiana Pacific	NTIAL0103590	2.25	0.01	11	See All HAPs
28	AL	Covington Co	Rural	McWilliams	NTI12259	0.0486	< 0.01	36	See All HAPs
29	AL	Cullman Co	Rural	Alabama Feed Products Inc	NTIAL0104300	2.94	0.01	37	See All HAPs
30	AL	Cullman Co	Rural	Dcp-Lohja, Inc.	NTI8449	4.45	0.02	38	See All HAPs
31	AL	Dale Co	Rural	Fort Rucker	NTIAL0450008	0.0029	< 0.01	21	See All HAPs
32	AL	Dallas Co	Rural	Pilliod Of Alabama Inc Pilliod Furniture, Inc.	NTI18337	9.74	0.04	14	See All HAPs
33	AL	Dallas Co	Rural	Miller & Co #1	NTI18336	1.05	< 0.01	12	See All HAPs
34	AL	Dallas Co	Rural	International Paper Company Riverdale Mill	NTI18335	239	1.05	41	See All HAPs
35	AL	DeKalb Co	Rural	Cagle'S Inc.	NTIAL0104900	7.39	0.03	12	See All HAPs
36	AL	Escambia Co	Rural	Swift Lumber Co.	NTIAL10161	1.98	0.01	12	See All HAPs
37	AL	Escambia Co	Rural	T R Miller Mill Co	NTI18340	2.46	0.01	13	See All HAPs
38	AL	Escambia Co	Rural	Huxford Pole & Timber Co. Inc.	NTI18339	0.442	< 0.01	13	See All HAPs
39	AL	Escambia Co	Rural	Jsc Brewton, Inc.	NTI18338	169	0.75	48	See All HAPs
40	AL	Etowah Co	Urban	Gulf States Steel Inc	NTI18341	940	4.14	20	See All HAPs
41	AL	Etowah Co	Urban	Alabama Power Company Gadsden	NTI12788	118	0.52	37	See All HAPs
42	AL	Fayette Co	Rural	Georgia Pacific-Belk	NTIAL0105790	7.39	0.03	12	See All HAPs
43	AL	Greene Co	Rural	Alabama Power Company Greene County	NTI6495	709	3.12	37	See All HAPs
44	AL	Henry Co	Rural	U. S. Forest Industries	NTI18344	7.39	0.03	13	See All HAPs
45	AL	Houston Co	Urban	Ansell Inc	NTI18345	0.901	< 0.01	38	See All HAPs
46	AL	Houston Co	Urban	Howell Plywood Inc	NTI18346	10.1	0.04	16	See All HAPs

47	AL	Jackson Co	Rural	Tva Widows Creek	NTI12080	2,139	9.41	38	See All HAPs
48	AL	Jackson Co	Rural	Mead Containerboard	NTI18347	25.0	0.11	31	See All HAPs
49	AL	Jefferson Co	Urban	Sloss Ind. Corp. Chemical Plant	NTI8467	0.400	< 0.01	16	See All HAPs
50	AL	Jefferson Co	Urban	Rock Wool Manufacturing Company	NTI8456	0.160	< 0.01	14	See All HAPs
51	AL	Jefferson Co	Urban	Alabama Power Company (Miller Power Plant)	NTI12519	3,726	16.39	37	See All HAPs
52	AL	Jefferson Co	Urban	Allied Corporation	NTIALT\$4502	12.1	0.05	20	See All HAPs
53	AL	Jefferson Co	Urban	Ang Birmingham	NTIAL01073F0	0.0012	< 0.01	11	See All HAPs
54	AL	Lamar Co	Rural	Weyerhaeuser Company	NTI18354	10.6	0.05	24	See All HAPs
55	AL	Lauderdale Co	Rural	Tennessee River, Inc	NTI18356	0.518	< 0.01	37	See All HAPs
56	AL	Lauderdale Co	Rural	Lexington Fabrics Inc	NTI18355	0.398	< 0.01	37	See All HAPs
57	AL	Lawrence Co	Rural	International Paper Company Courtland Mill	NTI18357	60.0	0.26	51	See All HAPs
58	AL	Lee Co	Urban	Dudley Lumber Co Inc	NTIAL10173	7.39	0.03	12	See All HAPs
59	AL	Lee Co	Urban	Westpoint Stevens - Opelika Plant	NTI8620	8.91	0.04	44	See All HAPs
60	AL	Lee Co	Urban	Union Camp	NTIAL10172	22.2	0.10	12	See All HAPs
61	AL	Limestone Co	Urban	Brown'S Ferry Nuclear Plant	NTIAL0108300	0.0006	< 0.01	12	See All HAPs
62	AL	Limestone Co	Urban	Delphi Saginaw Steering Systems	NTI18358	13.4	0.06	37	See All HAPs
63	AL	Madison Co	Urban	Huntsville Refuse-Fired Steam Fac.	NTI18361	9.73	0.04	10	See All HAPs
64	AL	Marengo Co	Rural	Linden Lumber Co	NTI18362	3.04	0.01	14	See All HAPs
65	AL	Marengo Co	Rural	Gulf States Paper Corporation	NTI45474	179	0.79	37	See All HAPs
66	AL	Marengo Co	Rural	Miller & Co #3	NTIAL10176	0.899	< 0.01	12	See All HAPs
67	AL	Marengo Co	Rural	Medusa Cement Company	NTIAL321	1.73	0.01	13	See All HAPs
68	AL	Marion Co	Rural	Colby Furniture Co Hamilton	NTI8500	4.45	0.02	41	See All HAPs
69	AL	Marion Co	Rural	3m Company Guin	NTI8495	4.45	0.02	42	See All HAPs
70	AL	Marion Co	Rural	Harden Mfg. Corp. Plant No.3	NTI18366	4.45	0.02	35	See All HAPs
71	AL	Marion Co	Rural	Harden Manufacturing Corporation Plant No. 1; Bear	NTI18365	4.45	0.02	38	See All HAPs
72	AL	Marion Co	Rural	Craftwood Design (Caldwell Chair) Haleyville	NTI18364	4.45	0.02	38	See All HAPs
73	AL	Marshall Co	Rural	Bowater Lumber Co	NTIAL0109590	2.62	0.01	12	See All HAPs

74	AL	Mobile Co	Urban	Martin Marietta Aggregates	NTIAL0109780	2.94	0.01	37	See All HAPs
75	AL	Mobile Co	Urban	Chickasaw	NTI12030	0.0673	< 0.01	15	See All HAPs
76	AL	Mobile Co	Urban	Huls America Inc	NTI18368	4.45	0.02	41	See All HAPs
77	AL	Mobile Co	Urban	International Paper Company Siebert Station	NTI18369	318	1.40	47	See All HAPs
78	AL	Mobile Co	Urban	Kimberly-Clark Tissue	NTI18371	14.2	0.06	40	See All HAPs
79	AL	Mobile Co	Urban	Shell Oil Products Co.	NTI18372	10.5	0.05	36	See All HAPs
80	AL	Mobile Co	Urban	Alabama Power Company Barry	NTI7966	2,017	8.87	37	See All HAPs
81	AL	Mobile Co	Urban	Mobile Energy Services Company	NTI8610	9.74	0.04	30	See All HAPs
82	AL	Mobile Co	Urban	S D Warren	NTI8611	308	1.35	38	See All HAPs
83	AL	Mobile Co	Urban	Coastal Mobile Refining Company Mobile Petroleum R	NTI8612	1.73	0.01	31	See All HAPs
84	AL	Mobile Co	Urban	Holnam Inc	NTIAL8026	20.0	0.09	18	See All HAPs
85	AL	Mobile Co	Urban	Mobil Oil Exploration & Production S E Mary Ann Ga	NTIAL0970010	0.0011	< 0.01	11	See All HAPs
86	AL	Mobile Co	Urban	Exxonmobil Production Company Northwest Gulf Prod	NTIAL0970013	0.0006	< 0.01	11	See All HAPs
87	AL	Mobile Co	Urban	Exxonmobil Production Company North Central Gulf P	NTIAL0970025	0.0006	< 0.01	11	See All HAPs
88	AL	Mobile Co	Urban	Callon Offshore	NTIAL10191	0.0006	< 0.01	11	See All HAPs
89	AL	Mobile Co	Urban	Moepsi	NTIAL10189	0.0006	< 0.01	11	See All HAPs
90	AL	Mobile Co	Urban	Gulf Lumber Co	NTIAL10183	1.80	0.01	12	See All HAPs
91	AL	Mobile Co	Urban	Union Expl Partners	NTIAL10182	0.0125	< 0.01	11	See All HAPs
92	AL	Mobile Co	Urban	Shell Yellowhammer Platform & Dril.Eng.	NTIAL10180	0.0006	< 0.01	11	See All HAPs
93	AL	Mobile Co	Urban	Exxonmobil Production Company Bon Secour Bay Produ	NTIAL0012	0.0180	< 0.01	11	See All HAPs
94	AL	Monroe Co	Rural	Georgia Pacific Corp	NTI8590	15.7	0.07	22	See All HAPs
95	AL	Monroe Co	Rural	Temple-Inland - Monroeville Particleboard	NTI8589	11.3	0.05	24	See All HAPs
96	AL	Monroe Co	Rural	Stallworth Timber Co	NTI18375	1.33	0.01	13	See All HAPs
97	AL	Monroe Co	Rural	Scotch Plywood Co	NTI18374	6.50	0.03	12	See All HAPs
98	AL	Monroe Co	Rural	Alabama River Pulp Co Inc	NTI18373	439	1.93	47	See All HAPs
99	AL	Montgomery Co	Urban	Coca-Cola Bottling Co	NTI18377	1.47	0.01	12	See All HAPs
		Montgomery		Capital Veneer Works					See All

100	AL	Co	Urban	Bx 8278 Montg, Al	NTI18376	2.68	0.01	16	HAPs
101	AL	Montgomery Co	Urban	Maxwell Afb/Gunter Annex	NTIAL01101F0	0.0128	< 0.01	11	See All HAPs
102	AL	Montgomery Co	Urban	Koppers Industries, Inc.	NTI18378	4.03	0.02	16	See All HAPs
103	AL	Morgan Co	Urban	Conagra	NTIAL10195	2.94	0.01	37	See All HAPs
104	AL	Morgan Co	Urban	American Maize-Products Decatur Inc.	NTIAL10196	2.94	0.01	37	See All HAPs
105	AL	Morgan Co	Urban	3m Company Decatur Plant	NTI8510	22.3	0.10	52	See All HAPs
106	AL	Morgan Co	Urban	Bp Amoco Chemicals	NTI8507	45.8	0.20	40	See All HAPs
107	AL	Morgan Co	Urban	Solutia, Inc Decatur Plant	NTI18381	2,960	13.02	45	See All HAPs
108	AL	Pickens Co	Rural	Lewis Brothers Lumber Company, Inc.	NTIAL10200	14.8	0.07	14	See All HAPs
109	AL	Pike Co	Rural	Sanders Lead Co	NTI18383	500	2.20	5	See All HAPs
110	AL	Russell Co	Urban	Mead Coated Board Inc	NTI46931	20.0	0.09	44	See All HAPs
111	AL	Russell Co	Urban	Owens Corning	NTI8627	0.160	< 0.01	16	See All HAPs
112	AL	Shelby Co	Urban	Seaman Timber Co	NTIAL117S001	5.88	0.03	37	See All HAPs
113	AL	Shelby Co	Urban	Ala Power Co E.C. Gaston	NTI7744	1,768	7.78	35	See All HAPs
114	AL	Shelby Co	Urban	Dravo Lime Co	NTI18387	4.45	0.02	37	See All HAPs
115	AL	Shelby Co	Urban	Cheney Lime & Cement Co	NTI18386	8.91	0.04	37	See All HAPs
116	AL	Sumter Co	Rural	Chemical Waste Management	NTIALT\$4520	10.0	0.04	18	See All HAPs
117	AL	Sumter Co	Rural	Mannington Wood Floors	NTI18388	9.74	0.04	16	See All HAPs
118	AL	Talladega Co	Rural	Georgia Pacific Plywood, Talladega	NTI54340	13.1	0.06	11	See All HAPs
119	AL	Talladega Co	Rural	Alliance Forest Products, U.S. Corporation	NTI18390	217	0.96	51	See All HAPs
120	AL	Tallapoosa Co	Rural	Wellborn Forest Products Alex City	NTI18392	4.45	0.02	40	See All HAPs
121	AL	Tallapoosa Co	Rural	Russell Corporation	NTI18391	37.5	0.16	25	See All HAPs
122	AL	Tuscaloosa Co	Urban	International Paper Company Tuskalusa Sawmill	NTIALS011	22.2	0.10	14	See All HAPs
123	AL	Tuscaloosa Co	Urban	Vance Lumber Co	NTIAL10225	7.39	0.03	12	See All HAPs
124	AL	Tuscaloosa Co	Urban	Empire Coke Co	NTI8489	80.0	0.35	17	See All HAPs
125	AL	Tuscaloosa Co	Urban	Hunt Refining Co.	NTI18394	5.76	0.03	37	See All HAPs
126	AL	Walker Co	Rural	Southeast Wood	NTIALT\$4539	10.0	0.04	2	See All HAPs
127	AL	Walker Co	Rural	Murphy Furniture Manufacturing Co Inc	NTI18397	10.0	0.04	12	See All HAPs
128	AL	Walker Co	Rural	Dover Furniture Carbon Hill	NTI18396	10.4	0.05	16	See All HAPs

129	AL	Walker Co	Rural	Alabama Power Company Gorgas	NTI13104	1,838	8.09	37	See All HAPs
130	AL	Washington Co	Rural	Olin Chemical Corp Po Box28mcintosh36553	NTI18400	9.92	0.04	38	See All HAPs
131	AL	Washington Co	Rural	Hooks Lake Pole Yard	NTI18399	0.889	< 0.01	12	See All HAPs
132	AL	Washington Co	Rural	Alabama Electric Cooperative Lowman	NTI12377	738	3.25	37	See All HAPs
133	AL	Washington Co	Rural	Ciba Specialty Chemicals Corporation	NTI18398	68.0	0.30	53	See All HAPs
134	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI8619	165	0.72	40	See All HAPs
135	AL	Winston Co	Rural	Houston Wood Products Arley	NTI18402	4.45	0.02	39	See All HAPs
136	AL	Winston Co	Rural	Harden Mfg. Corp. Plant No.2	NTI8498	4.45	0.02	36	See All HAPs
137	AL	Winston Co	Rural	Dover Furniture Arley	NTI18401	8.91	0.04	41	See All HAPs
Grand Total						22,729			

Page 1 of 1

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Consistency: The NEI is a composite of emission estimates generated by state and local regulatory agencies, industry, and EPA. Because the estimates originated from a variety of sources and estimation methods, as well as differing purposes, they vary in quality, level of detail, and geographic coverage. However, this compilation of emissions estimates represents the best available information to date.

Variability in quality and accuracy of emission estimation methods in the NEI: The accuracy of emission estimation techniques vary with pollutants and source categories. In some cases, an estimate may be based on a few or only one emission measurement at a similar sources. The techniques used and quality of the estimates will vary between source categories (e.g., some have been better studied than others) and between major, area and other, and mobile source sectors.

Readers are cautioned not to infer a qualitative ranking order of geographic areas based on AirData reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the prevailing air quality of a county or urban area. Pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the source is complying with applicable regulations.



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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: Benzene (includes benzene from gasoline)

Year: 1999

Emissions in Pounds Per Year

365 Rows

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Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT									
1	AL	Autauga Co	Urban	International Paper Company Prattville Mill	NTI8560	5,360	0.45	49	See All HAPs
2	AL	Autauga Co	Urban	Crystal Lake Mfg. Landfill	NTIALLF9971	9.74	< 0.01	28	See All HAPs
3	AL	Baldwin Co	Urban	Magnolia Sanitary Landfill	NTIALLF9941	438	0.04	28	See All HAPs
4	AL	Baldwin Co	Urban	Airport Landfill	NTIALLF9942	14.4	< 0.01	28	See All HAPs
5	AL	Baldwin Co	Urban	Red Hills Sanitary Landfill	NTIALLF9940	8.60	< 0.01	28	See All HAPs
6	AL	Baldwin Co	Urban	Baldwin Dinettes (Ceased) Loxley	NTI18325	14.1	< 0.01	39	See All HAPs
7	AL	Barbour Co	Rural	Clio Sanitary Landfill	NTIALLF9921	6.69	< 0.01	28	See All HAPs
8	AL	Bibb Co	Rural	Bibb County Sanitary Landfill & Ts	NTIALLF9704	19.7	< 0.01	28	See All HAPs
9	AL	Bibb Co	Rural	Centreville Landfill	NTIALLF9705	16.8	< 0.01	28	See All HAPs
10	AL	Bibb Co	Rural	Olon Belcher Lumber	NTIAL10149	340	0.03	15	See All HAPs
11	AL	Bibb Co	Rural	Cahaba Pressure Treated Forest Products	NTI18327	280	0.02	16	See All HAPs
12	AL	Bibb Co	Rural	Cahaba Veneer Inc	NTI18328	14.1	< 0.01	39	See All HAPs
13	AL	Blount Co	Urban	Blount County/Nectar/Hayden Lf & Ts	NTIALLF9680	92.8	0.01	28	See All HAPs
14	AL	Blount Co	Urban	Blount County/Fridays Crossing Sanitary Landfill	NTIALLF9679	9.33	< 0.01	28	See All HAPs
15	AL	Bullock Co	Rural	Union Springs Sanitary Landfill	NTIALLF9446	174	0.01	28	See All HAPs
16	AL	Butler Co	Rural	Butler County Sif (Georgiana)	NTIALLF9420	75.9	0.01	28	See All HAPs
17	AL	Butler Co	Rural	Greenville Sanitary Landfill	NTIALLF9421	12.3	< 0.01	28	See All HAPs
18	AL	Butler Co	Rural	International Paper	NTI56713	69.6	0.01	23	See All

				Co.					HAPs
19	AL	Calhoun Co	Rural	Fort McClellan Sanitary Landfill	NTIALLF9341	61.8	0.01	28	See All HAPs
20	AL	Calhoun Co	Rural	Mt. Liberty Baptist Church Landfill	NTIALLF9342	9.38	< 0.01	28	See All HAPs
21	AL	Calhoun Co	Rural	Anniston Army Depot	NTI18329	200	0.02	45	See All HAPs
22	AL	Calhoun Co	Rural	National Gypsum Company	NTI18330	28.3	< 0.01	37	See All HAPs
23	AL	Calhoun Co	Rural	U S Castings Company	NTI8570	20.0	< 0.01	7	See All HAPs
24	AL	Calhoun Co	Rural	Fort McClellan	NTIAL0101500	0.623	< 0.01	11	See All HAPs
25	AL	Calhoun Co	Rural	Solutia Inc.	NTIALT\$4646	4,211	0.35	4	See All HAPs
26	AL	Calhoun Co	Rural	Fair Landfill	NTIALLF9336	14.4	< 0.01	28	See All HAPs
27	AL	Calhoun Co	Rural	Ann M. & H. C. Holland Fs	NTIALLF9337	77.5	0.01	28	See All HAPs
28	AL	Calhoun Co	Rural	Anniston Army Depot Sanitary Landfill	NTIALLF9338	571	0.05	28	See All HAPs
29	AL	Calhoun Co	Rural	Anniston Sanitary Landfill	NTIALLF9339	15.6	< 0.01	28	See All HAPs
30	AL	Calhoun Co	Rural	Brown Borthers / Lagarde Avenue Ts	NTIALLF9340	393	0.03	28	See All HAPs
31	AL	Calhoun Co	Rural	Stewart Landfill	NTIALLF9343	571	0.05	28	See All HAPs
32	AL	Chambers Co	Urban	West Point Stevens - Lanett Mill	NTI18332	4.23	< 0.01	37	See All HAPs
33	AL	Chambers Co	Urban	East Alabama Lumber Inc	NTIAL017S003	380	0.03	6	See All HAPs
34	AL	Chambers Co	Urban	West Point Stevens - Fairfax Plant	NTI18331	12.3	< 0.01	37	See All HAPs
35	AL	Cherokee Co	Rural	Cherokee County Sanitary Landfill	NTIALLF9079	12.3	< 0.01	28	See All HAPs
36	AL	Chilton Co	Rural	International Paper Company Maplesville	NTIAL021S005	100	0.01	14	See All HAPs
37	AL	Chilton Co	Rural	International Paper Maplesville	NTI18333	28.3	< 0.01	36	See All HAPs
38	AL	Chilton Co	Rural	Union Camp Corporation - Thorsby, AI Facility	NTIAL021S006	53.3	< 0.01	10	See All HAPs
39	AL	Chilton Co	Rural	Chilton County Sanitary Landfill	NTIALLF9038	97.6	0.01	28	See All HAPs
40	AL	Chilton Co	Rural	Transco Billingsley Station	NTIAL0102100	94.2	0.01	4	See All HAPs
41	AL	Choctaw Co	Rural	Hunt Refining Co. A Corp.	NTIALT\$4750	84.0	0.01	1	See All HAPs
42	AL	Choctaw Co	Rural	Pruet Production Co	NTIAL0102300	243	0.02	4	See All HAPs
43	AL	Choctaw Co	Rural	Choctaw County Sanitary Landfill	NTIALLF9000	294	0.02	28	See All HAPs
44	AL	Choctaw Co	Rural	Fort James Corporation Naheola Mill	NTI18334	6,260	0.52	49	See All HAPs
45	AL	Clarke Co	Rural	Scotch Lumber	NTIAL025S006	1,254	0.10	23	See All HAPs
46	AL	Clarke Co	Rural	Clarke County Sanitary Landfill	NTIALLF8929	55.8	< 0.01	28	See All HAPs
47	AL	Clarke Co	Rural	Thomasville Sanitary	NTIALLF8930	56.7	< 0.01	28	See All

				Landfill					HAPs
48	AL	Clarke Co	Rural	Boise Cascade	NTI8601	12,608	1.05	40	See All HAPs
49	AL	Clay Co	Rural	Wellborn Cabinets Inc Ashland	NTI8574	23.5	< 0.01	38	See All HAPs
50	AL	Clay Co	Rural	Clay County Sanitary Landfill	NTIALLF8914	9.74	< 0.01	28	See All HAPs
51	AL	Cleburne Co	Rural	Cleburne County Sanitary Landfill	NTIALLF8892	9.74	< 0.01	28	See All HAPs
52	AL	Cleburne Co	Rural	Southern Natural Gas Bell Mills	NTIAL0290002	300	0.03	6	See All HAPs
53	AL	Coffee Co	Urban	Coffee County Sanitary Landfill	NTIALLF8798	126	0.01	28	See All HAPs
54	AL	Coffee Co	Urban	Elba Landfill	NTIALLF8799	248	0.02	28	See All HAPs
55	AL	Coffee Co	Urban	Johnson Landfill	NTIALLF8797	13.3	< 0.01	28	See All HAPs
56	AL	Coffee Co	Urban	Conagra Inc	NTIAL0103100	2.08	< 0.01	37	See All HAPs
57	AL	Coffee Co	Urban	Enterprise Landfill	NTIALLF8796	12.3	< 0.01	28	See All HAPs
58	AL	Colbert Co	Urban	Colbert Fossil Plant Landfill	NTIALLF8791	136	0.01	28	See All HAPs
59	AL	Colbert Co	Urban	Safco	NTIAL10155	88.5	0.01	4	See All HAPs
60	AL	Colbert Co	Urban	Texas Eastern	NTIAL10153	5.82	< 0.01	3	See All HAPs
61	AL	Colbert Co	Urban	Al-Tennessee Natural Gas Co	NTIAL10154	46.7	< 0.01	4	See All HAPs
62	AL	Colbert Co	Urban	Tva Colbert	NTI11769	5,011	0.42	35	See All HAPs
63	AL	Conecuh Co	Rural	Conecuh County Sanitary Landfill	NTIALLF8719	11.2	< 0.01	28	See All HAPs
64	AL	Coosa Co	Rural	Us Alliance	NTIAL037S005	120	0.01	6	See All HAPs
65	AL	Covington Co	Rural	Lockhart Sanitary Landfill	NTIALLF8588	12.3	< 0.01	28	See All HAPs
66	AL	Covington Co	Rural	Floralia Sanitary Landfill	NTIALLF8587	56.7	< 0.01	28	See All HAPs
67	AL	Covington Co	Rural	Brantley Landfill	NTIALLF8586	37.1	< 0.01	28	See All HAPs
68	AL	Covington Co	Rural	Opp Sanitary Landfill	NTIALLF8585	12.3	< 0.01	28	See All HAPs
69	AL	Covington Co	Rural	Andalusia Sanitary Landfill	NTIALLF8590	12.3	< 0.01	28	See All HAPs
70	AL	Covington Co	Rural	Mcwilliams	NTI12259	0.912	< 0.01	36	See All HAPs
71	AL	Crenshaw Co	Rural	Crenshaw County Sanitary Landfill	NTIALLF8548	45.0	< 0.01	28	See All HAPs
72	AL	Cullman Co	Rural	Cullman Enviromental Sanitary Landfill	NTIALLF8531	57.6	< 0.01	28	See All HAPs
73	AL	Cullman Co	Rural	Cullman County Sanitary Landfill	NTIALLF8530	136	0.01	28	See All HAPs
74	AL	Cullman Co	Rural	Cullman City Sanitary Landfill	NTIALLF8529	51.7	< 0.01	28	See All HAPs
75	AL	Cullman Co	Rural	Alabama Feed Products Inc	NTIAL0104300	9.34	< 0.01	37	See All HAPs
76	AL	Cullman Co	Rural	Louisiana-Pacific - Hanceville Osb	NTIAL0430027	109	0.01	13	See All HAPs
									See All

77	AL	Cullman Co	Rural	Dcp-Lohja, Inc.	NTI8449	14.1	< 0.01	38	<u>HAPs</u>
78	AL	Dale Co	Rural	Fort Rucker Sanitary Landfill	NTIALLF8470	13.5	< 0.01	28	<u>See All HAPs</u>
79	AL	Dale Co	Rural	Fort Rucker	NTIAL0450008	220	0.02	21	<u>See All HAPs</u>
80	AL	Dallas Co	Rural	Dallas County / Pea Ridge Slf	NTIALLF8453	130	0.01	28	<u>See All HAPs</u>
81	AL	Dallas Co	Rural	Southern Natural Gas Selma	NTIAL10157	402	0.03	3	<u>See All HAPs</u>
82	AL	Dallas Co	Rural	International Paper Company Riverdale Mill	NTI18335	12,723	1.06	41	<u>See All HAPs</u>
83	AL	Dallas Co	Rural	Raytheon Aerospace Company	NTIAL0470022	100.0	0.01	7	<u>See All HAPs</u>
84	AL	DeKalb Co	Rural	Dekalb County (Fyffe) Sanitary Landfill	NTIALLF8406	5.16	< 0.01	28	<u>See All HAPs</u>
85	AL	DeKalb Co	Rural	Downers / Waste Care Inc Sanitary Landfill	NTIALLF8404	61.8	0.01	28	<u>See All HAPs</u>
86	AL	Elmore Co	Urban	Alagasco Coosada Liquid Natural Gas Plant	NTIAL0105100	90.0	0.01	5	<u>See All HAPs</u>
87	AL	Elmore Co	Urban	Central Sanitary Landfill	NTIALLF8007	248	0.02	28	<u>See All HAPs</u>
88	AL	Elmore Co	Urban	Speigner Sanitary Landfill	NTIALLF8008	27.8	< 0.01	28	<u>See All HAPs</u>
89	AL	Elmore Co	Urban	Wetumpka (Hwy 9) Sanitary Landfill	NTIALLF8009	171	0.01	28	<u>See All HAPs</u>
90	AL	Elmore Co	Urban	Southern Natural Gas Elmore Area	NTIAL0510006	1,500	0.13	6	<u>See All HAPs</u>
91	AL	Escambia Co	Rural	Pruet Production Co	NTIAL10160	177	0.01	4	<u>See All HAPs</u>
92	AL	Escambia Co	Rural	East Brewton Sanitary Landfill	NTIALLF7939	228	0.02	28	<u>See All HAPs</u>
93	AL	Escambia Co	Rural	T R Miller Mill Co. Inc	NTIALLF7940	7.50	< 0.01	28	<u>See All HAPs</u>
94	AL	Escambia Co	Rural	Wawbeek Sanitary Landfill	NTIALLF7942	31.5	< 0.01	28	<u>See All HAPs</u>
95	AL	Escambia Co	Rural	Timberlands Landfill	NTIAL0530080	139	0.01	28	<u>See All HAPs</u>
96	AL	Escambia Co	Rural	Jsc Brewton, Inc.	NTI18338	760	0.06	48	<u>See All HAPs</u>
97	AL	Escambia Co	Rural	Vintage Petroleum Inc Flomaton O&G Production & Tr	NTIAL0530005	88,000	7.33	7	<u>See All HAPs</u>
98	AL	Escambia Co	Rural	Exxonmobil Production Company Big Escambia Creek G	NTIAL0530007	400	0.03	6	<u>See All HAPs</u>
99	AL	Escambia Co	Rural	Alabama Ductile Casting Co	NTIAL0530011	3,260	0.27	7	<u>See All HAPs</u>
100	AL	Etowah Co	Urban	Gulf States Steel Inc	NTI18341	3,020	0.25	20	<u>See All HAPs</u>
101	AL	Etowah Co	Urban	Glencoe Trash Site Landfill	NTIALLF7878	14.4	< 0.01	28	<u>See All HAPs</u>
102	AL	Etowah Co	Urban	City Of Gadsden Sanitary Landfill	NTIALLF7879	261	0.02	28	<u>See All HAPs</u>
103	AL	Etowah Co	Urban	Etowah County Sanitary Landfill	NTIALLF7880	245	0.02	28	<u>See All HAPs</u>
104	AL	Etowah Co	Urban	Alabama Power Company Gadsden	NTI12788	374	0.03	37	<u>See All HAPs</u>
105	AL	Fayette Co	Rural	Belk Landfill	NTIALLF7842	40.4	< 0.01	28	<u>See All HAPs</u>

106	AL	Fayette Co	Rural	Fayette County Sanitary Landfill	NTIALLF7841	11.2	< 0.01	28	See All HAPs
107	AL	Fayette Co	Rural	Sng Intrastate Co St Hwy 18 Fayette	NTIAL10165	210	0.02	4	See All HAPs
108	AL	Fayette Co	Rural	Pan Energy Field Services Inc	NTIAL10164	127	0.01	4	See All HAPs
109	AL	Fayette Co	Rural	Pan Energy Field Services Inc	NTIAL10163	82.0	0.01	4	See All HAPs
110	AL	Franklin Co	Rural	Russellville Landfill	NTIALLF7778	153	0.01	28	See All HAPs
111	AL	Franklin Co	Rural	Franklin County Inert Landfill & Ts	NTIALLF7777	84.7	0.01	28	See All HAPs
112	AL	Geneva Co	Rural	Samson Landfill	NTIALLF7489	153	0.01	28	See All HAPs
113	AL	Geneva Co	Rural	West Geneva Sanitary Landfill	NTIALLF7488	294	0.02	28	See All HAPs
114	AL	Geneva Co	Rural	East Geneva Sanitary Landfill	NTIALLF7486	51.7	< 0.01	28	See All HAPs
115	AL	Geneva Co	Rural	Slocomb Landfill	NTIALLF7485	5.16	< 0.01	28	See All HAPs
116	AL	Greene Co	Rural	Greene County (Eutaw) Sanitary Landfill	NTIALLF7280	130	0.01	28	See All HAPs
117	AL	Greene Co	Rural	Alabama Power Company Greene County	NTI6495	2,253	0.19	37	See All HAPs
118	AL	Hale Co	Rural	Hale County (Greensboro) Sanitary Landfill	NTIALLF7184	55.8	< 0.01	28	See All HAPs
119	AL	Hale Co	Rural	Gulf States Paper Moundville Sawmill	NTIAL065S003	260	0.02	7	See All HAPs
120	AL	Hale Co	Rural	Southern Natural Gas Gallion	NTIAL0650003	1,400	0.12	6	See All HAPs
121	AL	Henry Co	Rural	Headland Sanitary Landfill	NTIALLF6927	12.3	< 0.01	28	See All HAPs
122	AL	Henry Co	Rural	U. S. Forest Industries	NTI18344	800	0.07	13	See All HAPs
123	AL	Henry Co	Rural	Abbeville Sanitary Landfill	NTIALLF6926	40.5	< 0.01	28	See All HAPs
124	AL	Houston Co	Urban	Dothan Sanitary Landfill	NTIALLF6800	144	0.01	28	See All HAPs
125	AL	Houston Co	Urban	Ansell Inc	NTI18345	2.85	< 0.01	38	See All HAPs
126	AL	Jackson Co	Rural	Valley View Sanitary Landfill	NTIALLF6477	107	0.01	28	See All HAPs
127	AL	Jackson Co	Rural	Scottsboro Balefill Sanitary Landfill	NTIALLF6478	131	0.01	28	See All HAPs
128	AL	Jackson Co	Rural	Tva Widows Creek	NTI12080	6,778	0.56	38	See All HAPs
129	AL	Jackson Co	Rural	Mead Containerboard	NTI18347	650,648	54.22	31	See All HAPs
130	AL	Jackson Co	Rural	Bridgeport Sanitary Landfill	NTIALLF6474	189	0.02	28	See All HAPs
131	AL	Jackson Co	Rural	Tva / Widows Creek Landfill	NTIALLF6476	40.4	< 0.01	28	See All HAPs
132	AL	Jefferson Co	Urban	Simmons Machinery Company Inc Landfill	NTIALLF6397	47.6	< 0.01	28	See All HAPs
133	AL	Jefferson Co	Urban	Us Steel Mining (Oak Grove) Landfill	NTIALLF6396	47.6	< 0.01	28	See All HAPs
134	AL	Jefferson Co	Urban	U.S. Steel Mining Co.,Llc - Concord	NTIALLF6395	168	0.01	29	See All HAPs

135	AL	Jefferson Co	Urban	Mount Olive Sanitary Landfill	NTIALLF6394	122	0.01	28	See All HAPs
136	AL	Jefferson Co	Urban	Mitchell / Ab Foundry	NTIALLF6393	1,378	0.11	28	See All HAPs
137	AL	Jefferson Co	Urban	Turkey Creek Sanitary Landfill	NTIALLF6392	97.4	0.01	28	See All HAPs
138	AL	Jefferson Co	Urban	Peabody Sanitary Landfill	NTIALLF6391	1,378	0.11	28	See All HAPs
139	AL	Jefferson Co	Urban	Alabama Power Company (Miller Power Plant)	NTI12519	790	0.07	37	See All HAPs
140	AL	Jefferson Co	Urban	Holsomback Landfill	NTIALLF6389	1,378	0.11	28	See All HAPs
141	AL	Jefferson Co	Urban	Gaston Steam Plant Landfill	NTIALLF6388	168	0.01	28	See All HAPs
142	AL	Jefferson Co	Urban	Shannon Sanitary Landfill	NTIALLF6387	1,799	0.15	28	See All HAPs
143	AL	Jefferson Co	Urban	Partridge Sanitary Landfill	NTIALLF6386	154	0.01	28	See All HAPs
144	AL	Jefferson Co	Urban	Mcdonald Hollow Landfill	NTIALLF6385	154	0.01	28	See All HAPs
145	AL	Jefferson Co	Urban	New Georgia Sanitary Landfill	NTIALLF6383	1,005	0.08	28	See All HAPs
146	AL	Jefferson Co	Urban	Eastern Area Sanitary Landfill	NTIALLF6382	1,647	0.14	28	See All HAPs
147	AL	Jefferson Co	Urban	Salser Landfill	NTIALLF6381	168	0.01	28	See All HAPs
148	AL	Jefferson Co	Urban	John'S Sanitary Landfill	NTIALLF6320	47.6	< 0.01	28	See All HAPs
149	AL	Jefferson Co	Urban	Ang Birmingham	NTIAL01073F0	0.251	< 0.01	11	See All HAPs
150	AL	Jefferson Co	Urban	Southern Natural Gas Corp.	NTIAL0107302	93.7	0.01	4	See All HAPs
151	AL	Jefferson Co	Urban	Taurus Exploration Inc. 0540	NTIAL10168	180	0.01	4	See All HAPs
152	AL	Jefferson Co	Urban	Taurus Exploration Inc. 0538	NTIAL10167	90.0	0.01	4	See All HAPs
153	AL	Jefferson Co	Urban	Taurus Exploration Inc. 0537	NTIAL10166	180	0.01	4	See All HAPs
154	AL	Jefferson Co	Urban	Sloss Ind. Corp. Chemical Plant	NTI8467	132	0.01	16	See All HAPs
155	AL	Jefferson Co	Urban	American Cast Iron Pipe Company	NTI8464	5,680	0.47	9	See All HAPs
156	AL	Jefferson Co	Urban	Mcwane Cast Iron Pipe Co.	NTI8461	1,340	0.11	8	See All HAPs
157	AL	Jefferson Co	Urban	Abc Coke (Drummond Company)	NTI18349	58,139	4.85	10	See All HAPs
158	AL	Jefferson Co	Urban	Koppers Inds. Inc. Woodward Tar Plant	NTIALT\$4441	5,570	0.46	7	See All HAPs
159	AL	Jefferson Co	Urban	Chevron Prods. Co. Birmingham Terminal	NTIALT\$4482	514	0.04	5	See All HAPs
160	AL	Jefferson Co	Urban	Crown Central Petroleum Corp.	NTIALT\$4483	500	0.04	5	See All HAPs
161	AL	Jefferson Co	Urban	Allworth, Inc.	NTIALT\$4494	1,180	0.10	11	See All HAPs
162	AL	Jefferson Co	Urban	Motiva Birmingham Terminal	NTIALT\$4498	956	0.08	5	See All HAPs
163	AL	Jefferson Co	Urban	Allied Corporation	NTIALT\$4502	1,900	0.16	20	See All HAPs
164	AL	Jefferson Co	Urban	Oscar Kent Landfill	NTIALLF6390	168	0.01	28	See All

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165	AL	Lamar Co	Rural	Sulligent Landfill	NTIALLF5841	12.3	< 0.01	28	See All HAPs
166	AL	Lamar Co	Rural	City Of Sulligent	NTIALLF5840	6.88	< 0.01	28	See All HAPs
167	AL	Lamar Co	Rural	Lamar County Sanitary Landfill (South)	NTIALLF5839	12.3	< 0.01	28	See All HAPs
168	AL	Lamar Co	Rural	Associated Nat Gas Millport-Mcgee Site	NTIAL10171	127	0.01	4	See All HAPs
169	AL	Lamar Co	Rural	Pruet Production Company	NTIAL10170	54.2	< 0.01	4	See All HAPs
170	AL	Lamar Co	Rural	Associated Nat Gas Vernon/Fayette	NTIAL10169	69.6	0.01	4	See All HAPs
171	AL	Lamar Co	Rural	Weyerhaeuser Company	NTI18354	22.3	< 0.01	24	See All HAPs
172	AL	Lauderdale Co	Rural	Lexington Sanitary Landfill	NTIALLF5719	40.4	< 0.01	28	See All HAPs
173	AL	Lauderdale Co	Rural	Lexington Fabrics Inc	NTI18355	1.26	< 0.01	37	See All HAPs
174	AL	Lauderdale Co	Rural	Tennessee River, Inc	NTI18356	1.64	< 0.01	37	See All HAPs
175	AL	Lauderdale Co	Rural	Underwood (Lauderdale County) Landfill & Ts	NTIALLF5722	115	0.01	28	See All HAPs
176	AL	Lauderdale Co	Rural	Threet Landfill	NTIALLF5721	40.4	< 0.01	28	See All HAPs
177	AL	Lawrence Co	Rural	Lawrence County Sanitary Landfill	NTIALLF5704	50.7	< 0.01	28	See All HAPs
178	AL	Lawrence Co	Rural	Morris Landfill	NTIALLF5705	12.3	< 0.01	28	See All HAPs
179	AL	Lawrence Co	Rural	International Paper Company Courtland Mill	NTI18357	4,820	0.40	51	See All HAPs
180	AL	Lee Co	Urban	Salem Waste Disposal Inc Landfill	NTIALLF5688	808	0.07	28	See All HAPs
181	AL	Lee Co	Urban	Kent Landfill / City Of Auburn	NTIALLF5687	27.8	< 0.01	28	See All HAPs
182	AL	Lee Co	Urban	Southern Natural Gas Auburn	NTIAL0810021	402	0.03	4	See All HAPs
183	AL	Lee Co	Urban	Westpoint Stevens - Opelika Plant	NTI8620	28.3	< 0.01	44	See All HAPs
184	AL	Limestone Co	Urban	Athens / Limestone Co Sanitary Landfill	NTIALLF5595	187	0.02	28	See All HAPs
185	AL	Limestone Co	Urban	Brown'S Ferry Nuclear Plant	NTIAL0108300	0.122	< 0.01	12	See All HAPs
186	AL	Limestone Co	Urban	Delphi Saginaw Steering Systems	NTI18358	42.4	< 0.01	37	See All HAPs
187	AL	Lowndes Co	Rural	Lowndes County Sanitary Landfill	NTIALLF5156	6.69	< 0.01	28	See All HAPs
188	AL	Macon Co	Urban	Tuskegee Landfill	NTIALLF5070	223	0.02	28	See All HAPs
189	AL	Madison Co	Urban	Madison Oaks Development Landfill	NTIALLF5030	538	0.04	28	See All HAPs
190	AL	Madison Co	Urban	Madison County / New Hope School	NTIALLF5029	133	0.01	28	See All HAPs
191	AL	Madison Co	Urban	Wild Boys Landfill	NTIALLF5031	36.7	< 0.01	28	See All HAPs
192	AL	Madison Co	Urban	Huntsville Sanitary Landfill	NTIALLF5028	618	0.05	28	See All HAPs
193	AL	Madison Co	Urban	Redstone Arsenal	NTIAL0890007	400	0.03	13	See All

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194	AL	Madison Co	Urban	Giles & Kendall, Inc.	NTIAL089S001	54.4	< 0.01	15	See All HAPs
195	AL	Marengo Co	Rural	Transcontinental Gas	NTIAL10175	891	0.07	4	See All HAPs
196	AL	Marengo Co	Rural	Marengo County Sanitary Landfill	NTIALLF4963	61.8	0.01	28	See All HAPs
197	AL	Marengo Co	Rural	Southdown, Inc.	NTIAL0910002	2,640	0.22	4	See All HAPs
198	AL	Marion Co	Rural	Guin Landfill	NTIALLF4832	33.8	< 0.01	28	See All HAPs
199	AL	Marion Co	Rural	Hamilton Missionary Baptist Church	NTIALLF4833	248	0.02	28	See All HAPs
200	AL	Marion Co	Rural	Indies House Inc	NTIALLF4831	40.4	< 0.01	28	See All HAPs
201	AL	Marion Co	Rural	Craftwood Design (Caldwell Chair) Haleyville	NTI18364	14.1	< 0.01	38	See All HAPs
202	AL	Marion Co	Rural	Harden Manufacturing Corporation Plant No. 1; Bear	NTI18365	14.1	< 0.01	38	See All HAPs
203	AL	Marion Co	Rural	Harden Mfg. Corp. Plant No.3	NTI18366	14.1	< 0.01	35	See All HAPs
204	AL	Marion Co	Rural	South Marion County Sanitary Landfill	NTIALLF4835	56.7	< 0.01	28	See All HAPs
205	AL	Marion Co	Rural	North Marion County Sanitary Landfill	NTIALLF4834	56.7	< 0.01	28	See All HAPs
206	AL	Marion Co	Rural	Ballard Landfill	NTIALLF4830	40.4	< 0.01	28	See All HAPs
207	AL	Marion Co	Rural	Tennessee Gas Pipeline Station 550-Hamilton	NTIAL0109300	343	0.03	3	See All HAPs
208	AL	Marion Co	Rural	Colby Furniture Co Hamilton	NTI8500	14.1	< 0.01	41	See All HAPs
209	AL	Marion Co	Rural	3m Company Guin	NTI8495	14.1	< 0.01	42	See All HAPs
210	AL	Marshall Co	Rural	Boaz Sanitary Landfill	NTIALLF4760	22.2	< 0.01	28	See All HAPs
211	AL	Marshall Co	Rural	Albertville Sanitary Landfill	NTIALLF4761	58.5	< 0.01	28	See All HAPs
212	AL	Marshall Co	Rural	Bishop Sanitary Landfill	NTIALLF4762	483	0.04	28	See All HAPs
213	AL	Marshall Co	Rural	Mueller Co	NTI8539	1,200	0.10	13	See All HAPs
214	AL	Mobile Co	Urban	Chickasaw	NTI12030	1.64	< 0.01	15	See All HAPs
215	AL	Mobile Co	Urban	Shell Chemical Co., Blakeley Island Terminal Wharf	NTIALRR3	1,290	0.11	5	See All HAPs
216	AL	Mobile Co	Urban	Saraland Sanitary Landfill	NTIALLF4404	45.0	< 0.01	28	See All HAPs
217	AL	Mobile Co	Urban	Courtaulds North America Inc Landfill	NTIALLF4401	31.5	< 0.01	27	See All HAPs
218	AL	Mobile Co	Urban	Irvington Sanitary Landfill (Mobile County)	NTIALLF4400	833	0.07	28	See All HAPs
219	AL	Mobile Co	Urban	Brunson Construction Landfill	NTIALLF4403	182	0.02	28	See All HAPs
220	AL	Mobile Co	Urban	Prichard Landfill (Bellcase Road)	NTIALLF4402	182	0.02	28	See All HAPs
221	AL	Mobile Co	Urban	Chunchula Sanitary Landfill	NTIALLF4399	125	0.01	28	See All HAPs

222	AL	Mobile Co	Urban	Addsco Landfill	NTIALLF4397	833	0.07	28	See All HAPs
223	AL	Mobile Co	Urban	Chastang Sanitary Landfill	NTIALLF4396	366	0.03	28	See All HAPs
224	AL	Mobile Co	Urban	Midstream Fuel Service, Mobile Wharf.	NTIALT\$4708	54.0	< 0.01	5	See All HAPs
225	AL	Mobile Co	Urban	Martin Marietta Aggregates	NTIAL0109780	9.34	< 0.01	37	See All HAPs
226	AL	Mobile Co	Urban	Callon Offshore	NTIAL10191	0.122	< 0.01	11	See All HAPs
227	AL	Mobile Co	Urban	Unocal Corp - Chunchula Gas Treating Fac	NTIAL10190	4,286	0.36	4	See All HAPs
228	AL	Mobile Co	Urban	Moepsi	NTIAL10189	0.122	< 0.01	11	See All HAPs
229	AL	Mobile Co	Urban	Transcontinental G.P.	NTIAL10185	1.92	< 0.01	4	See All HAPs
230	AL	Mobile Co	Urban	Union Expl Partners	NTIAL10182	75.1	0.01	11	See All HAPs
231	AL	Mobile Co	Urban	Shell Yellowhammer Platform & Drill.Eng.	NTIAL10180	90.1	0.01	11	See All HAPs
232	AL	Mobile Co	Urban	Exxonmobil Production Company Bon Secour Bay Produ	NTIAL0012	3.86	< 0.01	11	See All HAPs
233	AL	Mobile Co	Urban	Exxonmobil Production Company North Central Gulf P	NTIAL0970025	896	0.07	11	See All HAPs
234	AL	Mobile Co	Urban	Mobil Oil Exploration & Production S E Mary Ann_82	NTIAL0970014	2,600	0.22	5	See All HAPs
235	AL	Mobile Co	Urban	Exxonmobil Production Company Northwest Gulf Prod	NTIAL0970013	1,343	0.11	11	See All HAPs
236	AL	Mobile Co	Urban	Mobil Oil Exploration & Production S E Mary Ann Ga	NTIAL0970010	2,200	0.18	11	See All HAPs
237	AL	Mobile Co	Urban	Holnam Inc	NTIAL8026	40.0	< 0.01	18	See All HAPs
238	AL	Mobile Co	Urban	Shell Offshore Inc Yellowhammer Gas Treating & Pro	NTIAL4017	5,800	0.48	8	See All HAPs
239	AL	Mobile Co	Urban	Exxonmobil Production Company Mobile Bay Onshore G	NTIAL4011	200	0.02	6	See All HAPs
240	AL	Mobile Co	Urban	Four Star Oil & Gas Company Hatter'S Pond O&G Trea	NTIAL4004	3,383	0.28	5	See All HAPs
241	AL	Mobile Co	Urban	Florida Gas Transmission Company Mt. Vernon Statio	NTIAL3028	940	0.08	5	See All HAPs
242	AL	Mobile Co	Urban	Eott Energy Operating Lp Mobile Terminal	NTIAL3013	380	0.03	6	See All HAPs
243	AL	Mobile Co	Urban	Hickory Street Sanitary Landfill / City Of Mobile	NTIALLF4395	182	0.02	28	See All HAPs
244	AL	Mobile Co	Urban	Coastal Mobile Refining Company Mobile Petroleum R	NTI8612	9,849	0.82	31	See All HAPs
245	AL	Mobile Co	Urban	S D Warren	NTI8611	19,578	1.63	38	See All HAPs
246	AL	Mobile Co	Urban	Mobile Energy Services Company	NTI8610	800	0.07	30	See All HAPs

247	AL	Mobile Co	Urban	E I Dupont De Nemours & Co. Mobile Plant	NTI8596	1,380	0.12	16	See All HAPs
248	AL	Mobile Co	Urban	Alabama Power Company Barry	NTI7966	6,397	0.53	37	See All HAPs
249	AL	Mobile Co	Urban	Shell Oil Products Co.	NTI18372	32,668	2.72	36	See All HAPs
250	AL	Mobile Co	Urban	Kimberly-Clark Tissue	NTI18371	14.1	< 0.01	40	See All HAPs
251	AL	Mobile Co	Urban	International Paper Company Siebert Station	NTI18369	1,700	0.14	47	See All HAPs
252	AL	Mobile Co	Urban	Huls America Inc	NTI18368	14.1	< 0.01	41	See All HAPs
253	AL	Monroe Co	Rural	Torch Operating Company Frisco City Facility	NTIAL0990030	160	0.01	5	See All HAPs
254	AL	Monroe Co	Rural	Exxon-North Central	NTIAL10193	90.0	0.01	4	See All HAPs
255	AL	Monroe Co	Rural	Monroe County Sanitary Landfill	NTIALLF4329	168	0.01	28	See All HAPs
256	AL	Monroe Co	Rural	Georgia Pacific Corp	NTI8590	9.51	< 0.01	22	See All HAPs
257	AL	Monroe Co	Rural	Temple-Inland - Monroeville Particleboard	NTI8589	64.5	0.01	24	See All HAPs
258	AL	Monroe Co	Rural	Alabama River Pulp Co Inc	NTI18373	26,336	2.19	47	See All HAPs
259	AL	Montgomery Co	Urban	Maxwell Afb Sanitary Landfill	NTIALLF4213	6.47	< 0.01	28	See All HAPs
260	AL	Montgomery Co	Urban	Maxwell Afb/Gunter Annex	NTIAL01101F0	2.74	< 0.01	11	See All HAPs
261	AL	Montgomery Co	Urban	Sullivan Landfill	NTIALLF4212	36.7	< 0.01	28	See All HAPs
262	AL	Montgomery Co	Urban	North Montgomery Sanitary Landfill	NTIALLF4210	1,124	0.09	28	See All HAPs
263	AL	Montgomery Co	Urban	Ramer Sanitary Landfill	NTIALLF4211	36.7	< 0.01	28	See All HAPs
264	AL	Morgan Co	Urban	Decatur / Morgan Sanitary Landfill	NTIALLF4142	637	0.05	28	See All HAPs
265	AL	Morgan Co	Urban	Alabama Tennessee Natural Gas	NTIAL10197	46.7	< 0.01	4	See All HAPs
266	AL	Morgan Co	Urban	American Maize-Products Decatur Inc.	NTIAL10196	9.34	< 0.01	37	See All HAPs
267	AL	Morgan Co	Urban	Conagra	NTIAL10195	9.34	< 0.01	37	See All HAPs
268	AL	Morgan Co	Urban	Bp Amoco Chemicals	NTI8507	18,020	1.50	40	See All HAPs
269	AL	Morgan Co	Urban	3m Company Decatur Plant	NTI8510	70.7	0.01	52	See All HAPs
270	AL	Morgan Co	Urban	Solutia, Inc Decatur Plant	NTI18381	10,080	0.84	45	See All HAPs
271	AL	Perry Co	Rural	Perry County Sanitary Landfill	NTIALLF3271	13.5	< 0.01	28	See All HAPs
272	AL	Perry Co	Rural	Central Alabama Swda Sanitary Landfill	NTIALLF3270	248	0.02	28	See All HAPs
273	AL	Pickens Co	Rural	Meridian Oil	NTIAL10199	37.1	< 0.01	4	See All HAPs
274	AL	Pickens Co	Rural	Samson Resources Company	NTIAL10198	78.7	0.01	4	See All HAPs
				Southern Natural Gas					See All

275	AL	Pickens Co	Rural	Reform	NTIAL1070009	220	0.02	5	<u>HAPs</u>
276	AL	Pike Co	Rural	Brundidge Sanitary Landfill (Pike County)	NTIALLF3227	28.8	< 0.01	28	<u>See All HAPs</u>
277	AL	Pike Co	Rural	Brundidge Waste Disposal Center	NTIALLF3226	40.4	< 0.01	28	<u>See All HAPs</u>
278	AL	Randolph Co	Rural	Transco Wadley Station	NTIAL0111100	95.2	0.01	4	<u>See All HAPs</u>
279	AL	Randolph Co	Rural	Roanoke Sanitary Landfill	NTIALLF2869	46.6	< 0.01	28	<u>See All HAPs</u>
280	AL	Randolph Co	Rural	Randolph County Demolition Lf	NTIALLF2870	13.9	< 0.01	28	<u>See All HAPs</u>
281	AL	Russell Co	Urban	Owens Corning	NTI8627	2,000	0.17	16	<u>See All HAPs</u>
282	AL	Russell Co	Urban	Southern Natural Gas Company Holy Trinity	NTIAL1130023	260	0.02	5	<u>See All HAPs</u>
283	AL	Russell Co	Urban	Esco Landfill #2	NTIALLF2611	40.4	< 0.01	28	<u>See All HAPs</u>
284	AL	Russell Co	Urban	Mead Coated Board Inc	NTI46931	12,040	1.00	44	<u>See All HAPs</u>
285	AL	Russell Co	Urban	Johnston Foundry Sand Landfill	NTIALLF2612	40.4	< 0.01	28	<u>See All HAPs</u>
286	AL	Shelby Co	Urban	Dravo Lime Co	NTI18387	14.1	< 0.01	37	<u>See All HAPs</u>
287	AL	Shelby Co	Urban	Ala Power Co E.C. Gaston	NTI7744	5,609	0.47	35	<u>See All HAPs</u>
288	AL	Shelby Co	Urban	Cheney Lime & Cement Co	NTI18386	28.3	< 0.01	37	<u>See All HAPs</u>
289	AL	Shelby Co	Urban	Highway 70 Sanitary Landfill	NTIALLF1698	197	0.02	28	<u>See All HAPs</u>
290	AL	Shelby Co	Urban	Blue Circle Cement Inc	NTIAL1170004	9,980	0.83	9	<u>See All HAPs</u>
291	AL	Shelby Co	Urban	Seaman Timber Co	NTIAL117S001	18.7	< 0.01	37	<u>See All HAPs</u>
292	AL	Shelby Co	Urban	Citation Foam Casting	NTIAL1170031	11,580	0.97	4	<u>See All HAPs</u>
293	AL	Shelby Co	Urban	Colonial Pipeline Company Pelham Junction	NTIAL1170030	3,460	0.29	1	<u>See All HAPs</u>
294	AL	Shelby Co	Urban	Westover Sanitary Landfill	NTIALLF1697	13.2	< 0.01	28	<u>See All HAPs</u>
295	AL	St. Clair Co	Urban	Southern Natural Gas	NTIAL0111500	1.29	< 0.01	3	<u>See All HAPs</u>
296	AL	St. Clair Co	Urban	Superior Cedar Hill Landfill	NTIALLF1442	265	0.02	26	<u>See All HAPs</u>
297	AL	St. Clair Co	Urban	Superior Star Ridge Landfill	NTIAL1150023	1,248	0.10	28	<u>See All HAPs</u>
298	AL	Sumter Co	Rural	Sumter County Sanitary Landfill	NTIALLF1178	13.3	< 0.01	28	<u>See All HAPs</u>
299	AL	Sumter Co	Rural	Livingston Landfill	NTIALLF1177	37.1	< 0.01	28	<u>See All HAPs</u>
300	AL	Sumter Co	Rural	Southern Natural Gas York	NTIAL0111900	402	0.03	4	<u>See All HAPs</u>
301	AL	Talladega Co	Rural	American Foam Cast	NTIAL1210044	40.0	< 0.01	5	<u>See All HAPs</u>
302	AL	Talladega Co	Rural	Odena, District 4, Sanitary Landfill	NTIALLF1124	199	0.02	28	<u>See All HAPs</u>
303	AL	Talladega Co	Rural	Brecon Sanitary Landfill	NTIALLF1123	7.50	< 0.01	28	<u>See All HAPs</u>
304	AL	Talladega Co	Rural	Georgia-Pacific Corp.	NTI8458	9.67	< 0.01	12	<u>See All HAPs</u>

305	AL	Talladega Co	Rural	Alliance Forest Products, U.S. Corporation	NTI18390	6,560	0.55	51	See All HAPs
306	AL	Tallapoosa Co	Rural	Wellborn Forest Products Alex City	NTI18392	14.1	< 0.01	40	See All HAPs
307	AL	Tallapoosa Co	Rural	Alexander City Casting Co	NTI8438	560	0.05	5	See All HAPs
308	AL	Tallapoosa Co	Rural	Tallassee Waste Disposal Center	NTIALLF1122	135	0.01	28	See All HAPs
309	AL	Tallapoosa Co	Rural	Tallapoosa County Sanitary Landfill	NTIALLF1120	40.4	< 0.01	28	See All HAPs
310	AL	Tuscaloosa Co	Urban	Associated Nat Gas Windham Springs	NTIAL10220	155	0.01	4	See All HAPs
311	AL	Tuscaloosa Co	Urban	River Gas Corp Source 1	NTIAL10215	90.0	0.01	4	See All HAPs
312	AL	Tuscaloosa Co	Urban	Taurus Exploration (Station #2)	NTIAL10214	67.2	0.01	4	See All HAPs
313	AL	Tuscaloosa Co	Urban	Hunt Refining Co.	NTI18394	25,557	2.13	37	See All HAPs
314	AL	Tuscaloosa Co	Urban	River Gas Corp Source 5	NTIAL10212	90.0	0.01	4	See All HAPs
315	AL	Tuscaloosa Co	Urban	Taurus Exploration (Station #6)	NTIAL10211	135	0.01	4	See All HAPs
316	AL	Tuscaloosa Co	Urban	River Gas Corp Source 9	NTIAL10210	90.0	0.01	4	See All HAPs
317	AL	Tuscaloosa Co	Urban	River Gas Corp Source 4	NTIAL10209	90.0	0.01	4	See All HAPs
318	AL	Tuscaloosa Co	Urban	River Gas Corp Source 3	NTIAL10208	90.0	0.01	4	See All HAPs
319	AL	Tuscaloosa Co	Urban	River Gas Corp Source 2	NTIAL10207	90.0	0.01	4	See All HAPs
320	AL	Tuscaloosa Co	Urban	River Gas Corp Source 13	NTIAL10206	90.0	0.01	4	See All HAPs
321	AL	Tuscaloosa Co	Urban	River Gas Corp Source 12	NTIAL10205	90.0	0.01	4	See All HAPs
322	AL	Tuscaloosa Co	Urban	Magnolia Pipeline	NTIAL10203	0.382	< 0.01	4	See All HAPs
323	AL	Tuscaloosa Co	Urban	Sonat Intrastate - Alabama White Oak Station No. 1	NTIAL0077	540	0.05	6	See All HAPs
324	AL	Tuscaloosa Co	Urban	Sonat Intrastate - Alabama White Oak Station No. 2	NTIAL0067	680	0.06	6	See All HAPs
325	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Stations 1	NTIAL0043	100	0.01	6	See All HAPs
326	AL	Tuscaloosa Co	Urban	Lawter International	NTIAL0036	720	0.06	16	See All HAPs
327	AL	Tuscaloosa Co	Urban	Mercedes-Benz Project Inc Vance	NTIAL0034	250	0.02	10	See All HAPs
328	AL	Tuscaloosa Co	Urban	Southern Natural Gas Company Duncanville Station	NTIAL1250078	100	0.01	6	See All HAPs
329	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Station 5	NTIAL1250046	40.0	< 0.01	5	See All HAPs
330	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Station 4	NTIAL1250045	240	0.02	6	See All HAPs
331	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Station 3	NTIAL1250044	620	0.05	6	See All HAPs

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332	AL	Tuscaloosa Co	Urban	Warrior Roofing Manufacturing Co	NTIAL1250023	127	0.01	6	See All HAPs
333	AL	Tuscaloosa Co	Urban	Empire Coke Co	NTI8489	26,440	2.20	17	See All HAPs
334	AL	Tuscaloosa Co	Urban	Uniroyal Goodrich Tire Co Tuscaloosa Plant	NTI8487	280	0.02	47	See All HAPs
335	AL	Tuscaloosa Co	Urban	Amoco Production Co Station No 3	NTIAL10222	68.1	0.01	4	See All HAPs
336	AL	Tuscaloosa Co	Urban	Amoco Production	NTIAL10223	68.1	0.01	4	See All HAPs
337	AL	Tuscaloosa Co	Urban	River Gas Corp Source 10	NTIAL10224	90.0	0.01	4	See All HAPs
338	AL	Tuscaloosa Co	Urban	Kykenkee Inc	NTIALS012	100	0.01	6	See All HAPs
339	AL	Tuscaloosa Co	Urban	Superior Eagle Bluff Landfill	NTIALLF885	23.4	< 0.01	28	See All HAPs
340	AL	Tuscaloosa Co	Urban	Eley Landfill	NTIALLF886	14.4	< 0.01	28	See All HAPs
341	AL	Tuscaloosa Co	Urban	Harris (Jerusalem Heights) Landfill	NTIALLF887	10.9	< 0.01	28	See All HAPs
342	AL	Tuscaloosa Co	Urban	Harris Landfill (K / Mart)	NTIALLF888	10.9	< 0.01	28	See All HAPs
343	AL	Tuscaloosa Co	Urban	Trash Site Landfill	NTIALLF889	13.2	< 0.01	28	See All HAPs
344	AL	Tuscaloosa Co	Urban	River Gas Corp Source 11	NTIAL10213	90.0	0.01	4	See All HAPs
345	AL	Walker Co	Rural	Argo Sanitary Landfill	NTIALLF611	45.0	< 0.01	28	See All HAPs
346	AL	Walker Co	Rural	Lost Creek Coal County Sanitary Landfill	NTIALLF612	12.3	< 0.01	28	See All HAPs
347	AL	Walker Co	Rural	Alabama Power Company Gorgas	NTI13104	5,827	0.49	37	See All HAPs
348	AL	Walker Co	Rural	Pine View Sanitary Landfill	NTIALLF610	97.0	0.01	28	See All HAPs
349	AL	Washington Co	Rural	Olin Chemical Corp Po Box28mcintosh36553	NTI18400	31.4	< 0.01	38	See All HAPs
350	AL	Washington Co	Rural	Ciba Specialty Chemicals Corporation	NTI18398	141	0.01	53	See All HAPs
351	AL	Washington Co	Rural	Phillips Petroleum Corp Chatom Gas Treating & Proc	NTIAL1290009	1,150	0.10	5	See All HAPs
352	AL	Washington Co	Rural	Mcintosh Power Plant	NTIAL10227	5.20	< 0.01	4	See All HAPs
353	AL	Washington Co	Rural	Collet Ventures Inc	NTIAL10228	80.9	0.01	4	See All HAPs
354	AL	Washington Co	Rural	Washington County Sanitary Landfill	NTIALLF523	98.1	0.01	28	See All HAPs
355	AL	Washington Co	Rural	Alabama Electric Cooperative Lowman	NTI12377	2,341	0.20	37	See All HAPs
356	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI8619	119	0.01	40	See All HAPs
357	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI18379	284	0.02	22	See All HAPs
358	AL	Winston Co	Rural	Dover Furniture Arley	NTI18401	28.3	< 0.01	41	See All HAPs
359	AL	Winston Co	Rural	Powell Landfill (Mobile Home)	NTIALLF225	7.50	< 0.01	28	See All HAPs
360	AL	Winston Co	Rural	Hood Landfill (Mobile	NTIALLF223	248	0.02	28	See All

				Home)					HAPs
361	AL	Winston Co	Rural	Harden Mfg. Corp. Plant No.2	NTI8498	14.1	< 0.01	36	See All HAPs
362	AL	Winston Co	Rural	Houston Wood Products Arley	NTI18402	14.1	< 0.01	39	See All HAPs
363	AL	Winston Co	Rural	Three Star Manufacturing Company Landfill	NTIALLF227	7.50	< 0.01	28	See All HAPs
364	AL	Winston Co	Rural	Haleyville Regional Landfill	NTIALLF228	185	0.02	28	See All HAPs
365	AL	Winston Co	Rural	Winston County Sanitary Landfill	NTIALLF226	6.28	< 0.01	28	See All HAPs
Grand Total						1,199,926			

Page 1 of 1

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Disclaimer: This AirData report was produced using data extracted from the National Emissions Inventory (NEI) database final version 3 (February 2004) of the Hazardous Air Pollutant (HAP) emissions for year 1999. EPA compiles the NEI using various sources of data, described in extensive [NEI documentation](#). The five primary data sources are: (1) emissions inventories developed by state and local air pollution control agencies, (2) databases related to EPA's Maximum Achievable Control Technology programs to reduce HAP emissions, (3) [Toxic Release Inventory](#) data, (4) emissions estimated by using mobile source methodology developed by experts in EPA's Office of Transportation and Air Quality, and (5) area source emission estimates generated using emission factors and activity data. Although the NEI is based partially on emission data obtained from state and local agencies, it is not a database of official state emissions data. Please contact the appropriate [state agency](#) to obtain information on a state's official emission inventory. Please [contact EPA](#) to report errors.

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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: 1,3-Butadiene

Year: 1999

Emissions in Pounds Per Year

8 Rows

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Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT	▲ ▼	▲ ▼	▲ ▼	▲ ▼	▲ ▼	▲ ▼	▲ ▼	▲ ▼	▲ ▼
1	AL	Dale Co	Rural	Fort Rucker	NTIAL0450008	60.0	0.28	21	See All HAPs
2	AL	Jackson Co	Rural	Acordis Industrial Fibers	NTI8528	3,200	15.04	8	See All HAPs
3	AL	Mobile Co	Urban	Coastal Mobile Refining Company Mobile Petroleum R	NTI8612	802	3.77	31	See All HAPs
4	AL	Mobile Co	Urban	Atofina Chemicals, Inc.	NTI43296	8,660	40.69	9	See All HAPs
5	AL	Mobile Co	Urban	Shell Oil Products Co.	NTI18372	3,410	16.02	36	See All HAPs
6	AL	Morgan Co	Urban	Bp Amoco Chemicals	NTI8507	3,235	15.20	40	See All HAPs
7	AL	Tuscaloosa Co	Urban	Uniroyal Goodrich Tire Co Tuscaloosa Plant	NTI8487	180	0.85	47	See All HAPs
8	AL	Tuscaloosa Co	Urban	Hunt Refining Co.	NTI18394	1,733	8.14	37	See All HAPs
Grand Total						21,280			

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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: Cadmium Compounds

Year: 1999

Emissions in Pounds Per Year

138 Rows

See [Disclaimer](#)

Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT									
1	AL	Autauga Co	Urban	International Paper Company Prattville Mill	NTI8560	63.5	0.55	49	See All HAPs
2	AL	Baldwin Co	Urban	Baldwin Dinettes (Ceased) Loxley	NTI18325	0.555	< 0.01	39	See All HAPs
3	AL	Barbour Co	Rural	Louisiana-Pacific Corporation	NTI54363	7.23	0.06	11	See All HAPs
4	AL	Barbour Co	Rural	M C Dixon Lumber Co	NTI18326	1.83	0.02	12	See All HAPs
5	AL	Bibb Co	Rural	Olon Belcher Lumber	NTIAL10149	1.83	0.02	15	See All HAPs
6	AL	Bibb Co	Rural	Centreville Lumber Co	NTIAL10148	1.83	0.02	12	See All HAPs
7	AL	Bibb Co	Rural	Cahaba Veneer Inc	NTI18328	0.555	< 0.01	39	See All HAPs
8	AL	Bibb Co	Rural	Cahaba Pressure Treated Forest Products	NTI18327	1.83	0.02	16	See All HAPs
9	AL	Butler Co	Rural	International Paper Co.	NTI56713	5.49	0.05	23	See All HAPs
10	AL	Calhoun Co	Rural	Fort McClellan	NTIAL0101500	0.0021	< 0.01	11	See All HAPs
11	AL	Calhoun Co	Rural	National Gypsum Company	NTI18330	1.11	0.01	37	See All HAPs
12	AL	Calhoun Co	Rural	Anniston Army Depot	NTI18329	0.446	< 0.01	45	See All HAPs
13	AL	Chambers Co	Urban	West Point Stevens - Lanett Mill	NTI18332	0.166	< 0.01	37	See All HAPs
14	AL	Chambers Co	Urban	West Point Stevens - Fairfax Plant	NTI18331	0.484	< 0.01	37	See All HAPs
15	AL	Chilton Co	Rural	International Paper Bx 63 Maplesville	NTIAL0102190	1.83	0.02	8	See All HAPs
16	AL	Chilton Co	Rural	International Paper Maplesville	NTI18333	1.11	0.01	36	See All HAPs
17	AL	Choctaw Co	Rural	J W Lassiter Lbr Co	NTIAL0102390	0.183	< 0.01	13	See All HAPs
18	AL	Choctaw Co	Rural	Fort James Corporation Naheola	NTI18334	62.2	0.54	49	See All

				Mill					HAPs
19	AL	Clarke Co	Rural	Coastal Lumber Co	NTIAL10150	0.202	< 0.01	12	See All HAPs
20	AL	Clarke Co	Rural	Boise Cascade	NTI8601	24.7	0.21	40	See All HAPs
21	AL	Clarke Co	Rural	Scotch Lumber	NTIAL025S006	1.40	0.01	23	See All HAPs
22	AL	Clay Co	Rural	Wellborn Cabinets Inc Ashland	NTI8574	0.987	0.01	38	See All HAPs
23	AL	Coffee Co	Urban	Conagra Inc	NTIAL0103100	0.0818	< 0.01	37	See All HAPs
24	AL	Colbert Co	Urban	Mckinney Lumber	NTIAL0103390	0.253	< 0.01	12	See All HAPs
25	AL	Colbert Co	Urban	Tva Colbert	NTI11769	198	1.70	35	See All HAPs
26	AL	Conecuh Co	Rural	Louisiana Pacific	NTIAL0103590	0.556	< 0.01	11	See All HAPs
27	AL	Covington Co	Rural	McWilliams	NTI12259	0.0060	< 0.01	36	See All HAPs
28	AL	Cullman Co	Rural	Alabama Feed Products Inc	NTIAL0104300	0.367	< 0.01	37	See All HAPs
29	AL	Cullman Co	Rural	Dcp-Lohja, Inc.	NTI8449	0.555	< 0.01	38	See All HAPs
30	AL	Dale Co	Rural	Fort Rucker	NTIAL0450008	0.0022	< 0.01	21	See All HAPs
31	AL	Dallas Co	Rural	Pilliod Of Alabama Inc Pilliod Furniture, Inc.	NTI18337	2.41	0.02	14	See All HAPs
32	AL	Dallas Co	Rural	Miller & Co #1	NTI18336	0.260	< 0.01	12	See All HAPs
33	AL	Dallas Co	Rural	International Paper Company Riverdale Mill	NTI18335	62.2	0.54	41	See All HAPs
34	AL	DeKalb Co	Rural	Cagle'S Inc.	NTIAL0104900	1.83	0.02	12	See All HAPs
35	AL	Escambia Co	Rural	Swift Lumber Co.	NTIAL10161	0.491	< 0.01	12	See All HAPs
36	AL	Escambia Co	Rural	T R Miller Mill Co	NTI18340	0.608	0.01	13	See All HAPs
37	AL	Escambia Co	Rural	Huxford Pole & Timber Co. Inc.	NTI18339	0.109	< 0.01	13	See All HAPs
38	AL	Escambia Co	Rural	Jsc Brewton, Inc.	NTI18338	27.4	0.24	48	See All HAPs
39	AL	Etowah Co	Urban	Gulf States Steel Inc	NTI18341	100.0	0.86	20	See All HAPs
40	AL	Etowah Co	Urban	Alabama Power Company Gadsden	NTI12788	14.7	0.13	37	See All HAPs
41	AL	Fayette Co	Rural	Georgia Pacific-Belk	NTIAL0105790	1.83	0.02	12	See All HAPs
42	AL	Greene Co	Rural	Alabama Power Company Greene County	NTI6495	88.4	0.76	37	See All HAPs
43	AL	Henry Co	Rural	U. S. Forest Industries	NTI18344	1.83	0.02	13	See All HAPs
44	AL	Houston Co	Urban	Ansell Inc	NTI18345	0.112	< 0.01	38	See All HAPs
45	AL	Houston Co	Urban	Howell Plywood Inc	NTI18346	2.51	0.02	16	See All HAPs
46	AL	Jackson Co	Rural	Tva Widows Creek	NTI12080	267	2.30	38	See All HAPs

47	AL	Jackson Co	Rural	Mead Containerboard	NTI18347	6.19	0.05	31	See All HAPs
48	AL	Jefferson Co	Urban	Alabama Power Company (Miller Power Plant)	NTI12519	464	4.00	37	See All HAPs
49	AL	Jefferson Co	Urban	Sloss Ind. Corp. Chemical Plant	NTI8467	0.650	0.01	16	See All HAPs
50	AL	Jefferson Co	Urban	Mcwane Cast Iron Pipe Co.	NTI8461	220	1.89	8	See All HAPs
51	AL	Jefferson Co	Urban	Rock Wool Manufacturing Company	NTI8456	0.260	< 0.01	14	See All HAPs
52	AL	Jefferson Co	Urban	Allied Corporation	NTIALT\$4502	7.26	0.06	20	See All HAPs
53	AL	Jefferson Co	Urban	Birmingham Steel Corp. Birmingham Al Steel Div.	NTIALT\$4504	532	4.58	4	See All HAPs
54	AL	Jefferson Co	Urban	Ang Birmingham	NTIAL01073FO	0.0009	< 0.01	11	See All HAPs
55	AL	Lamar Co	Rural	Weyerhaeuser Company	NTI18354	2.63	0.02	24	See All HAPs
56	AL	Lauderdale Co	Rural	Tennessee River, Inc	NTI18356	0.0645	< 0.01	37	See All HAPs
57	AL	Lauderdale Co	Rural	Lexington Fabrics Inc	NTI18355	0.0496	< 0.01	37	See All HAPs
58	AL	Lawrence Co	Rural	International Paper Company Courtland Mill	NTI18357	20.0	0.17	51	See All HAPs
59	AL	Lee Co	Urban	Dudley Lumber Co Inc	NTIAL10173	1.83	0.02	12	See All HAPs
60	AL	Lee Co	Urban	Westpoint Stevens - Opelika Plant	NTI8620	1.11	0.01	44	See All HAPs
61	AL	Lee Co	Urban	Union Camp	NTIAL10172	5.49	0.05	12	See All HAPs
62	AL	Limestone Co	Urban	Brown'S Ferry Nuclear Plant	NTIAL0108300	0.0004	< 0.01	12	See All HAPs
63	AL	Limestone Co	Urban	Delphi Saginaw Steering Systems	NTI18358	1.67	0.01	37	See All HAPs
64	AL	Madison Co	Urban	Huntsville Refuse-Fired Steam Fac.	NTI18361	2.22	0.02	10	See All HAPs
65	AL	Marengo Co	Rural	Linden Lumber Co	NTI18362	0.752	0.01	14	See All HAPs
66	AL	Marengo Co	Rural	Gulf States Paper Corporation	NTI45474	39.5	0.34	37	See All HAPs
67	AL	Marengo Co	Rural	Miller & Co #3	NTIAL10176	0.222	< 0.01	12	See All HAPs
68	AL	Marengo Co	Rural	Medusa Cement Company	NTIAL321	1.65	0.01	13	See All HAPs
69	AL	Marion Co	Rural	Colby Furniture Co Hamilton	NTI8500	0.555	< 0.01	41	See All HAPs
70	AL	Marion Co	Rural	3m Company Guin	NTI8495	0.555	< 0.01	42	See All HAPs
71	AL	Marion Co	Rural	Harden Mfg. Corp. Plant No.3	NTI18366	0.555	< 0.01	35	See All HAPs
72	AL	Marion Co	Rural	Harden Manufacturing Corporation Plant No. 1; Bear	NTI18365	0.555	< 0.01	38	See All HAPs
73	AL	Marion Co	Rural	Craftwood Design (Caldwell Chair) Haleyville	NTI18364	0.555	< 0.01	38	See All HAPs

74	AL	Marshall Co	Rural	Bowater Lumber Co	NTIAL0109590	0.648	0.01	12	See All HAPs
75	AL	Mobile Co	Urban	Martin Marietta Aggregates	NTIAL0109780	0.367	< 0.01	37	See All HAPs
76	AL	Mobile Co	Urban	Chickasaw	NTI12030	0.0201	< 0.01	15	See All HAPs
77	AL	Mobile Co	Urban	Huls America Inc	NTI18368	0.555	< 0.01	41	See All HAPs
78	AL	Mobile Co	Urban	International Paper Company Siebert Station	NTI18369	64.3	0.55	47	See All HAPs
79	AL	Mobile Co	Urban	Kimberly-Clark Tissue	NTI18371	2.97	0.03	40	See All HAPs
80	AL	Mobile Co	Urban	Shell Oil Products Co.	NTI18372	14.8	0.13	36	See All HAPs
81	AL	Mobile Co	Urban	Alabama Power Company Barry	NTI7966	251	2.16	37	See All HAPs
82	AL	Mobile Co	Urban	Mobile Energy Services Company	NTI8610	2.41	0.02	30	See All HAPs
83	AL	Mobile Co	Urban	S D Warren	NTI8611	69.7	0.60	38	See All HAPs
84	AL	Mobile Co	Urban	Coastal Mobile Refining Company Mobile Petroleum R	NTI8612	2.75	0.02	31	See All HAPs
85	AL	Mobile Co	Urban	Mobil Oil Exploration & Production S E Mary Ann Ga	NTIAL0970010	0.0008	< 0.01	11	See All HAPs
86	AL	Mobile Co	Urban	Exxonmobil Production Company Northwest Gulf Prod	NTIAL0970013	0.0004	< 0.01	11	See All HAPs
87	AL	Mobile Co	Urban	Exxonmobil Production Company North Central Gulf P	NTIAL0970025	0.0004	< 0.01	11	See All HAPs
88	AL	Mobile Co	Urban	Exxonmobil Production Company Bon Secour Bay Produ	NTIAL0012	0.0133	< 0.01	11	See All HAPs
89	AL	Mobile Co	Urban	Shell Yellowhammer Platform & Dril.Eng.	NTIAL10180	0.0004	< 0.01	11	See All HAPs
90	AL	Mobile Co	Urban	Callon Offshore	NTIAL10191	0.0004	< 0.01	11	See All HAPs
91	AL	Mobile Co	Urban	Moepsi	NTIAL10189	0.0004	< 0.01	11	See All HAPs
92	AL	Mobile Co	Urban	Gulf Lumber Co	NTIAL10183	0.445	< 0.01	12	See All HAPs
93	AL	Mobile Co	Urban	Union Expl Partners	NTIAL10182	0.0092	< 0.01	11	See All HAPs
94	AL	Monroe Co	Rural	Stallworth Timber Co	NTI18375	0.329	< 0.01	13	See All HAPs
95	AL	Monroe Co	Rural	Scotch Plywood Co	NTI18374	1.61	0.01	12	See All HAPs
96	AL	Monroe Co	Rural	Alabama River Pulp Co Inc	NTI18373	74.3	0.64	47	See All HAPs
97	AL	Monroe Co	Rural	Temple-Inland - Monroeville Particleboard	NTI8589	2.79	0.02	24	See All HAPs
98	AL	Monroe Co	Rural	Georgia Pacific Corp	NTI8590	3.88	0.03	22	See All HAPs
99	AL	Montgomery Co	Urban	Maxwell Afb/Gunter Annex	NTIAL01101F0	0.0095	< 0.01	11	See All HAPs
		Montgomery		Koppers Industries,					See All

100	AL	Co	Urban	Inc.	NTI18378	0.996	0.01	16	HAPs
101	AL	Montgomery Co	Urban	Coca-Cola Bottling Co	NTI18377	0.365	< 0.01	12	See All HAPs
102	AL	Montgomery Co	Urban	Capital Veneer Works Bx 8278 Montg, Al	NTI18376	0.662	0.01	16	See All HAPs
103	AL	Morgan Co	Urban	American Maize-Products Decatur Inc.	NTIAL10196	0.367	< 0.01	37	See All HAPs
104	AL	Morgan Co	Urban	Bp Amoco Chemicals	NTI8507	5.69	0.05	40	See All HAPs
105	AL	Morgan Co	Urban	3m Company Decatur Plant	NTI8510	2.78	0.02	52	See All HAPs
106	AL	Morgan Co	Urban	Trico Steel Co Llc	NTIAL0037	5.00	0.04	5	See All HAPs
107	AL	Morgan Co	Urban	Conagra	NTIAL10195	0.367	< 0.01	37	See All HAPs
108	AL	Morgan Co	Urban	Solutia, Inc Decatur Plant	NTI18381	3,200	27.56	45	See All HAPs
109	AL	Pickens Co	Rural	Lewis Brothers Lumber Company, Inc.	NTIAL10200	3.66	0.03	14	See All HAPs
110	AL	Pike Co	Rural	Sanders Lead Co	NTI18383	500	4.31	5	See All HAPs
111	AL	Russell Co	Urban	Mead Coated Board Inc	NTI46931	40.0	0.34	44	See All HAPs
112	AL	Russell Co	Urban	Owens Corning	NTI8627	0.260	< 0.01	16	See All HAPs
113	AL	Shelby Co	Urban	Seaman Timber Co	NTIAL117S001	0.733	0.01	37	See All HAPs
114	AL	Shelby Co	Urban	Ala Power Co E.C. Gaston	NTI7744	220	1.90	35	See All HAPs
115	AL	Shelby Co	Urban	Dravo Lime Co	NTI18387	0.555	< 0.01	37	See All HAPs
116	AL	Shelby Co	Urban	Cheney Lime & Cement Co	NTI18386	1.11	0.01	37	See All HAPs
117	AL	Sumter Co	Rural	Chemical Waste Management	NTIALT\$4520	10.0	0.09	18	See All HAPs
118	AL	Sumter Co	Rural	Mannington Wood Floors	NTI18388	2.41	0.02	16	See All HAPs
119	AL	Talladega Co	Rural	Alliance Forest Products, U.S. Corporation	NTI18390	4,400	37.90	51	See All HAPs
120	AL	Talladega Co	Rural	Georgia Pacific Plywood, Talladega	NTI54340	3.25	0.03	11	See All HAPs
121	AL	Tallapoosa Co	Rural	Russell Corporation	NTI18391	9.28	0.08	25	See All HAPs
122	AL	Tallapoosa Co	Rural	Wellborn Forest Products Alex City	NTI18392	0.555	< 0.01	40	See All HAPs
123	AL	Tuscaloosa Co	Urban	Empire Coke Co	NTI8489	20.0	0.17	17	See All HAPs
124	AL	Tuscaloosa Co	Urban	Corus Tuscaloosa	NTIAL1250033	2.00	0.02	5	See All HAPs
125	AL	Tuscaloosa Co	Urban	Vance Lumber Co	NTIAL10225	1.83	0.02	12	See All HAPs
126	AL	Tuscaloosa Co	Urban	Hunt Refining Co.	NTI18394	7.92	0.07	37	See All HAPs
127	AL	Tuscaloosa Co	Urban	International Paper Company Tuskalusa Sawmill	NTIALS011	5.49	0.05	14	See All HAPs
128	AL	Walker Co	Rural	Dover Furniture Carbon Hill	NTI18396	2.58	0.02	16	See All HAPs

129	AL	Walker Co	Rural	Murphy Furniture Manufacturing Co Inc	NTI18397	2.47	0.02	12	See All HAPs
130	AL	Walker Co	Rural	Alabama Power Company Gorgas	NTI13104	229	1.97	37	See All HAPs
131	AL	Washington Co	Rural	Hooks Lake Pole Yard	NTI18399	0.220	< 0.01	12	See All HAPs
132	AL	Washington Co	Rural	Olin Chemical Corp Po Box28mcintosh36553	NTI18400	1.23	0.01	38	See All HAPs
133	AL	Washington Co	Rural	Ciba Specialty Chemicals Corporation	NTI18398	44.3	0.38	53	See All HAPs
134	AL	Washington Co	Rural	Alabama Electric Cooperative Lowman	NTI12377	92.0	0.79	37	See All HAPs
135	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI8619	36.4	0.31	40	See All HAPs
136	AL	Winston Co	Rural	Harden Mfg. Corp. Plant No.2	NTI8498	0.555	< 0.01	36	See All HAPs
137	AL	Winston Co	Rural	Houston Wood Products Arley	NTI18402	0.555	< 0.01	39	See All HAPs
138	AL	Winston Co	Rural	Dover Furniture Arley	NTI18401	1.11	0.01	41	See All HAPs
Grand Total						11,610			

Page 1 of 1

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Consistency: The NEI is a composite of emission estimates generated by state and local regulatory agencies, industry, and EPA. Because the estimates originated from a variety of sources and estimation methods, as well as differing purposes, they vary in quality, level of detail, and geographic coverage. However, this compilation of emissions estimates represents the best available information to date.

Variability in quality and accuracy of emission estimation methods in the NEI: The accuracy of emission estimation techniques vary with pollutants and source categories. In some cases, an estimate may be based on a few or only one emission measurement at a similar sources. The techniques used and quality of the estimates will vary between source categories (e.g., some have been better studied than others) and between major, area and other, and mobile source sectors.

Readers are cautioned not to infer a qualitative ranking order of geographic areas based on AirData reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the prevailing air quality of a county or urban area. Pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the source is complying with applicable regulations.



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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: Carbon Tetrachloride

Year: 1999

Emissions in Pounds Per Year

180 Rows

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Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT									
1	AL	Autauga Co	Urban	International Paper Company Prattville Mill	NTI8560	60.0	0.02	49	See All HAPs
2	AL	Autauga Co	Urban	Crystal Lake Mfg. Landfill	NTIALLF9971	0.0069	< 0.01	28	See All HAPs
3	AL	Baldwin Co	Urban	Airport Landfill	NTIALLF9942	0.0102	< 0.01	28	See All HAPs
4	AL	Baldwin Co	Urban	Magnolia Sanitary Landfill	NTIALLF9941	0.311	< 0.01	28	See All HAPs
5	AL	Baldwin Co	Urban	Red Hills Sanitary Landfill	NTIALLF9940	0.0061	< 0.01	28	See All HAPs
6	AL	Barbour Co	Rural	Clio Sanitary Landfill	NTIALLF9921	0.0047	< 0.01	28	See All HAPs
7	AL	Bibb Co	Rural	Centreville Landfill	NTIALLF9705	0.0119	< 0.01	28	See All HAPs
8	AL	Bibb Co	Rural	Bibb County Sanitary Landfill & Ts	NTIALLF9704	0.0140	< 0.01	28	See All HAPs
9	AL	Blount Co	Urban	Blount County/Nectar/Hayden Lf & Ts	NTIALLF9680	0.0659	< 0.01	28	See All HAPs
10	AL	Blount Co	Urban	Blount County/Fridays Crossing Sanitary Landfill	NTIALLF9679	0.0066	< 0.01	28	See All HAPs
11	AL	Bullock Co	Rural	Union Springs Sanitary Landfill	NTIALLF9446	0.123	< 0.01	28	See All HAPs
12	AL	Butler Co	Rural	Greenville Sanitary Landfill	NTIALLF9421	0.0087	< 0.01	28	See All HAPs
13	AL	Butler Co	Rural	Butler County Sif (Georgiana)	NTIALLF9420	0.0539	< 0.01	28	See All HAPs
14	AL	Calhoun Co	Rural	Stewart Landfill	NTIALLF9343	0.405	< 0.01	28	See All HAPs
15	AL	Calhoun Co	Rural	Mt. Liberty Baptist Church Landfill	NTIALLF9342	0.0067	< 0.01	28	See All HAPs
16	AL	Calhoun Co	Rural	Fair Landfill	NTIALLF9336	0.0102	< 0.01	28	See All HAPs
17	AL	Calhoun Co	Rural	Ann M. & H. C. Holland Fs	NTIALLF9337	0.0550	< 0.01	28	See All HAPs
18	AL	Calhoun Co	Rural	Anniston Army Depot Sanitary Landfill	NTIALLF9338	0.405	< 0.01	28	See All HAPs

19	AL	Calhoun Co	Rural	Anniston Sanitary Landfill	NTIALLF9339	0.0111	< 0.01	28	See All HAPs
20	AL	Calhoun Co	Rural	Brown Borthers / Lagarde Avenue Ts	NTIALLF9340	0.279	< 0.01	28	See All HAPs
21	AL	Calhoun Co	Rural	Fort McClellan Sanitary Landfill	NTIALLF9341	0.0439	< 0.01	28	See All HAPs
22	AL	Cherokee Co	Rural	Cherokee County Sanitary Landfill	NTIALLF9079	0.0087	< 0.01	28	See All HAPs
23	AL	Chilton Co	Rural	Chilton County Sanitary Landfill	NTIALLF9038	0.0693	< 0.01	28	See All HAPs
24	AL	Choctaw Co	Rural	Fort James Corporation Naheola Mill	NTI18334	8,560	2.19	49	See All HAPs
25	AL	Choctaw Co	Rural	Choctaw County Sanitary Landfill	NTIALLF9000	0.209	< 0.01	28	See All HAPs
26	AL	Clarke Co	Rural	Clarke County Sanitary Landfill	NTIALLF8929	0.0396	< 0.01	28	See All HAPs
27	AL	Clarke Co	Rural	Thomasville Sanitary Landfill	NTIALLF8930	0.0402	< 0.01	28	See All HAPs
28	AL	Clarke Co	Rural	Boise Cascade	NTI8601	22,214	5.67	40	See All HAPs
29	AL	Clay Co	Rural	Clay County Sanitary Landfill	NTIALLF8914	0.0069	< 0.01	28	See All HAPs
30	AL	Cleburne Co	Rural	Cleburne County Sanitary Landfill	NTIALLF8892	0.0069	< 0.01	28	See All HAPs
31	AL	Coffee Co	Urban	Elba Landfill	NTIALLF8799	0.176	< 0.01	28	See All HAPs
32	AL	Coffee Co	Urban	Coffee County Sanitary Landfill	NTIALLF8798	0.0897	< 0.01	28	See All HAPs
33	AL	Coffee Co	Urban	Johnson Landfill	NTIALLF8797	0.0095	< 0.01	28	See All HAPs
34	AL	Coffee Co	Urban	Enterprise Landfill	NTIALLF8796	0.0087	< 0.01	28	See All HAPs
35	AL	Colbert Co	Urban	Colbert Fossil Plant Landfill	NTIALLF8791	0.0967	< 0.01	28	See All HAPs
36	AL	Conecuh Co	Rural	Conecuh County Sanitary Landfill	NTIALLF8719	0.0080	< 0.01	28	See All HAPs
37	AL	Covington Co	Rural	Andalusia Sanitary Landfill	NTIALLF8590	0.0087	< 0.01	28	See All HAPs
38	AL	Covington Co	Rural	Opp Sanitary Landfill	NTIALLF8585	0.0087	< 0.01	28	See All HAPs
39	AL	Covington Co	Rural	Brantley Landfill	NTIALLF8586	0.0263	< 0.01	28	See All HAPs
40	AL	Covington Co	Rural	Floralia Sanitary Landfill	NTIALLF8587	0.0402	< 0.01	28	See All HAPs
41	AL	Covington Co	Rural	Lockhart Sanitary Landfill	NTIALLF8588	0.0087	< 0.01	28	See All HAPs
42	AL	Crenshaw Co	Rural	Crenshaw County Sanitary Landfill	NTIALLF8548	0.0319	< 0.01	28	See All HAPs
43	AL	Cullman Co	Rural	Cullman Environmental Sanitary Landfill	NTIALLF8531	0.0409	< 0.01	28	See All HAPs
44	AL	Cullman Co	Rural	Cullman County Sanitary Landfill	NTIALLF8530	0.0967	< 0.01	28	See All HAPs
45	AL	Cullman Co	Rural	Cullman City Sanitary Landfill	NTIALLF8529	0.0367	< 0.01	28	See All HAPs
46	AL	Dale Co	Rural	Fort Rucker Sanitary Landfill	NTIALLF8470	0.0096	< 0.01	28	See All HAPs
47	AL	Dallas Co	Rural	Dallas County / Pea Ridge Sif	NTIALLF8453	0.0924	< 0.01	28	See All HAPs
				International Paper					See All

48	AL	Dallas Co	Rural	Company Riverdale Mill	NTI18335	8,000	2.04	41	<u>HAPs</u>
49	AL	DeKalb Co	Rural	Dekalb County (Fyffe) Sanitary Landfill	NTIALLF8406	0.0037	< 0.01	28	<u>See All HAPs</u>
50	AL	DeKalb Co	Rural	Downers / Waste Care Inc Sanitary Landfill	NTIALLF8404	0.0439	< 0.01	28	<u>See All HAPs</u>
51	AL	Elmore Co	Urban	Speigner Sanitary Landfill	NTIALLF8008	0.0197	< 0.01	28	<u>See All HAPs</u>
52	AL	Elmore Co	Urban	Wetumpka (Hwy 9) Sanitary Landfill	NTIALLF8009	0.121	< 0.01	28	<u>See All HAPs</u>
53	AL	Elmore Co	Urban	Central Sanitary Landfill	NTIALLF8007	0.176	< 0.01	28	<u>See All HAPs</u>
54	AL	Escambia Co	Rural	T R Miller Mill Co. Inc	NTIALLF7940	0.0053	< 0.01	28	<u>See All HAPs</u>
55	AL	Escambia Co	Rural	Wawbeek Sanitary Landfill	NTIALLF7942	0.0223	< 0.01	28	<u>See All HAPs</u>
56	AL	Escambia Co	Rural	East Brewton Sanitary Landfill	NTIALLF7939	0.162	< 0.01	28	<u>See All HAPs</u>
57	AL	Escambia Co	Rural	Jsc Brewton, Inc.	NTI18338	57,409	14.66	48	<u>See All HAPs</u>
58	AL	Escambia Co	Rural	Timberlands Landfill	NTIAL0530080	0.0988	< 0.01	28	<u>See All HAPs</u>
59	AL	Etowah Co	Urban	City Of Gadsden Sanitary Landfill	NTIALLF7879	0.185	< 0.01	28	<u>See All HAPs</u>
60	AL	Etowah Co	Urban	Etowah County Sanitary Landfill	NTIALLF7880	0.174	< 0.01	28	<u>See All HAPs</u>
61	AL	Etowah Co	Urban	Glencoe Trash Site Landfill	NTIALLF7878	0.0102	< 0.01	28	<u>See All HAPs</u>
62	AL	Fayette Co	Rural	Belk Landfill	NTIALLF7842	0.0287	< 0.01	28	<u>See All HAPs</u>
63	AL	Fayette Co	Rural	Fayette County Sanitary Landfill	NTIALLF7841	0.0080	< 0.01	28	<u>See All HAPs</u>
64	AL	Franklin Co	Rural	Russellville Landfill	NTIALLF7778	0.109	< 0.01	28	<u>See All HAPs</u>
65	AL	Franklin Co	Rural	Franklin County Inert Landfill & Ts	NTIALLF7777	0.0601	< 0.01	28	<u>See All HAPs</u>
66	AL	Geneva Co	Rural	West Geneva Sanitary Landfill	NTIALLF7488	0.209	< 0.01	28	<u>See All HAPs</u>
67	AL	Geneva Co	Rural	East Geneva Sanitary Landfill	NTIALLF7486	0.0367	< 0.01	28	<u>See All HAPs</u>
68	AL	Geneva Co	Rural	Slocomb Landfill	NTIALLF7485	0.0037	< 0.01	28	<u>See All HAPs</u>
69	AL	Geneva Co	Rural	Samson Landfill	NTIALLF7489	0.109	< 0.01	28	<u>See All HAPs</u>
70	AL	Greene Co	Rural	Greene County (Eutaw) Sanitary Landfill	NTIALLF7280	0.0924	< 0.01	28	<u>See All HAPs</u>
71	AL	Hale Co	Rural	Hale County (Greensboro) Sanitary Landfill	NTIALLF7184	0.0396	< 0.01	28	<u>See All HAPs</u>
72	AL	Henry Co	Rural	Headland Sanitary Landfill	NTIALLF6927	0.0087	< 0.01	28	<u>See All HAPs</u>
73	AL	Henry Co	Rural	Abbeville Sanitary Landfill	NTIALLF6926	0.0287	< 0.01	28	<u>See All HAPs</u>
74	AL	Houston Co	Urban	Dothan Sanitary Landfill	NTIALLF6800	0.102	< 0.01	28	<u>See All HAPs</u>
75	AL	Jackson Co	Rural	Scottsboro Balefill Sanitary Landfill	NTIALLF6478	0.0927	< 0.01	28	<u>See All HAPs</u>
76	AL	Jackson Co	Rural	Valley View Sanitary Landfill	NTIALLF6477	0.0756	< 0.01	28	<u>See All HAPs</u>

77	AL	Jackson Co	Rural	Mead Containerboard	NTI18347	2,511	0.64	31	See All HAPs
78	AL	Jackson Co	Rural	Bridgeport Sanitary Landfill	NTIALLF6474	0.134	< 0.01	28	See All HAPs
79	AL	Jackson Co	Rural	Tva / Widows Creek Landfill	NTIALLF6476	0.0287	< 0.01	28	See All HAPs
80	AL	Jefferson Co	Urban	Simmons Machinery Company Inc Landfill	NTIALLF6397	0.0338	< 0.01	28	See All HAPs
81	AL	Jefferson Co	Urban	Us Steel Mining (Oak Grove) Landfill	NTIALLF6396	0.0338	< 0.01	28	See All HAPs
82	AL	Jefferson Co	Urban	U.S. Steel Mining Co.,Llc - Concord	NTIALLF6395	0.119	< 0.01	29	See All HAPs
83	AL	Jefferson Co	Urban	Mount Olive Sanitary Landfill	NTIALLF6394	0.0864	< 0.01	28	See All HAPs
84	AL	Jefferson Co	Urban	Mitchell / Ab Foundry	NTIALLF6393	0.978	< 0.01	28	See All HAPs
85	AL	Jefferson Co	Urban	Turkey Creek Sanitary Landfill	NTIALLF6392	0.0691	< 0.01	28	See All HAPs
86	AL	Jefferson Co	Urban	Peabody Sanitary Landfill	NTIALLF6391	0.978	< 0.01	28	See All HAPs
87	AL	Jefferson Co	Urban	Oscar Kent Landfill	NTIALLF6390	0.119	< 0.01	28	See All HAPs
88	AL	Jefferson Co	Urban	Holsomback Landfill	NTIALLF6389	0.978	< 0.01	28	See All HAPs
89	AL	Jefferson Co	Urban	Gaston Steam Plant Landfill	NTIALLF6388	0.119	< 0.01	28	See All HAPs
90	AL	Jefferson Co	Urban	Shannon Sanitary Landfill	NTIALLF6387	1.28	< 0.01	28	See All HAPs
91	AL	Jefferson Co	Urban	Partridge Sanitary Landfill	NTIALLF6386	0.109	< 0.01	28	See All HAPs
92	AL	Jefferson Co	Urban	Mcdonald Hollow Landfill	NTIALLF6385	0.109	< 0.01	28	See All HAPs
93	AL	Jefferson Co	Urban	New Georgia Sanitary Landfill	NTIALLF6383	0.713	< 0.01	28	See All HAPs
94	AL	Jefferson Co	Urban	Eastern Area Sanitary Landfill	NTIALLF6382	1.17	< 0.01	28	See All HAPs
95	AL	Jefferson Co	Urban	Salser Landfill	NTIALLF6381	0.119	< 0.01	28	See All HAPs
96	AL	Jefferson Co	Urban	John'S Sanitary Landfill	NTIALLF6320	0.0338	< 0.01	28	See All HAPs
97	AL	Lamar Co	Rural	Sulligent Landfill	NTIALLF5841	0.0087	< 0.01	28	See All HAPs
98	AL	Lamar Co	Rural	City Of Sulligent	NTIALLF5840	0.0049	< 0.01	28	See All HAPs
99	AL	Lamar Co	Rural	Lamar County Sanitary Landfill (South)	NTIALLF5839	0.0087	< 0.01	28	See All HAPs
100	AL	Lauderdale Co	Rural	Lexington Sanitary Landfill	NTIALLF5719	0.0287	< 0.01	28	See All HAPs
101	AL	Lauderdale Co	Rural	Underwood (Lauderdale County) Landfill & Ts	NTIALLF5722	0.0816	< 0.01	28	See All HAPs
102	AL	Lauderdale Co	Rural	Threet Landfill	NTIALLF5721	0.0287	< 0.01	28	See All HAPs
103	AL	Lawrence Co	Rural	Morris Landfill	NTIALLF5705	0.0087	< 0.01	28	See All HAPs
104	AL	Lawrence Co	Rural	International Paper Company Courtland Mill	NTI18357	21,205	5.42	51	See All HAPs
105	AL	Lawrence Co	Rural	Lawrence County Sanitary Landfill	NTIALLF5704	0.0360	< 0.01	28	See All HAPs

106	AL	Lee Co	Urban	Salem Waste Disposal Inc Landfill	NTIALLF5688	0.574	< 0.01	28	See All HAPs
107	AL	Lee Co	Urban	Kent Landfill / City Of Auburn	NTIALLF5687	0.0197	< 0.01	28	See All HAPs
108	AL	Limestone Co	Urban	Athens / Limestone Co Sanitary Landfill	NTIALLF5595	0.133	< 0.01	28	See All HAPs
109	AL	Lowndes Co	Rural	Lowndes County Sanitary Landfill	NTIALLF5156	0.0047	< 0.01	28	See All HAPs
110	AL	Lowndes Co	Rural	General Electric Co	NTI18360	5.00	< 0.01	14	See All HAPs
111	AL	Macon Co	Urban	Tuskegee Landfill	NTIALLF5070	0.159	< 0.01	28	See All HAPs
112	AL	Madison Co	Urban	Wild Boys Landfill	NTIALLF5031	0.0260	< 0.01	28	See All HAPs
113	AL	Madison Co	Urban	Madison Oaks Development Landfill	NTIALLF5030	0.382	< 0.01	28	See All HAPs
114	AL	Madison Co	Urban	Madison County / New Hope School	NTIALLF5029	0.0942	< 0.01	28	See All HAPs
115	AL	Madison Co	Urban	Huntsville Sanitary Landfill	NTIALLF5028	0.438	< 0.01	28	See All HAPs
116	AL	Marengo Co	Rural	Marengo County Sanitary Landfill	NTIALLF4963	0.0439	< 0.01	28	See All HAPs
117	AL	Marengo Co	Rural	Gulf States Paper Corporation	NTI45474	30,590	7.81	37	See All HAPs
118	AL	Marion Co	Rural	Hamilton Missionary Baptist Church	NTIALLF4833	0.176	< 0.01	28	See All HAPs
119	AL	Marion Co	Rural	Ballard Landfill	NTIALLF4830	0.0287	< 0.01	28	See All HAPs
120	AL	Marion Co	Rural	North Marion County Sanitary Landfill	NTIALLF4834	0.0402	< 0.01	28	See All HAPs
121	AL	Marion Co	Rural	Guin Landfill	NTIALLF4832	0.0240	< 0.01	28	See All HAPs
122	AL	Marion Co	Rural	Indies House Inc	NTIALLF4831	0.0287	< 0.01	28	See All HAPs
123	AL	Marion Co	Rural	South Marion County Sanitary Landfill	NTIALLF4835	0.0402	< 0.01	28	See All HAPs
124	AL	Marshall Co	Rural	Bishop Sanitary Landfill	NTIALLF4762	0.343	< 0.01	28	See All HAPs
125	AL	Marshall Co	Rural	Albertville Sanitary Landfill	NTIALLF4761	0.0415	< 0.01	28	See All HAPs
126	AL	Marshall Co	Rural	Boaz Sanitary Landfill	NTIALLF4760	0.0157	< 0.01	28	See All HAPs
127	AL	Mobile Co	Urban	Saraland Sanitary Landfill	NTIALLF4404	0.0319	< 0.01	28	See All HAPs
128	AL	Mobile Co	Urban	International Paper Company Siebert Station	NTI18369	40,349	10.30	47	See All HAPs
129	AL	Mobile Co	Urban	S D Warren	NTI8611	73,198	18.69	38	See All HAPs
130	AL	Mobile Co	Urban	Hickory Street Sanitary Landfill / City Of Mobile	NTIALLF4395	0.129	< 0.01	28	See All HAPs
131	AL	Mobile Co	Urban	Chastang Sanitary Landfill	NTIALLF4396	0.260	< 0.01	28	See All HAPs
132	AL	Mobile Co	Urban	Addsco Landfill	NTIALLF4397	0.591	< 0.01	28	See All HAPs
133	AL	Mobile Co	Urban	Churchula Sanitary Landfill	NTIALLF4399	0.0887	< 0.01	28	See All HAPs
134	AL	Mobile Co	Urban	Courtaulds North America Inc Landfill	NTIALLF4401	0.0224	< 0.01	27	See All HAPs

135	AL	Mobile Co	Urban	Irvington Sanitary Landfill (Mobile County)	NTIALLF4400	0.591	< 0.01	28	See All HAPs
136	AL	Mobile Co	Urban	Brunson Construction Landfill	NTIALLF4403	0.129	< 0.01	28	See All HAPs
137	AL	Mobile Co	Urban	Prichard Landfill (Bellcase Road)	NTIALLF4402	0.129	< 0.01	28	See All HAPs
138	AL	Monroe Co	Rural	Alabama River Pulp Co Inc	NTI18373	40,261	10.28	47	See All HAPs
139	AL	Monroe Co	Rural	Monroe County Sanitary Landfill	NTIALLF4329	0.119	< 0.01	28	See All HAPs
140	AL	Montgomery Co	Urban	North Montgomery Sanitary Landfill	NTIALLF4210	0.798	< 0.01	28	See All HAPs
141	AL	Montgomery Co	Urban	Ramer Sanitary Landfill	NTIALLF4211	0.0260	< 0.01	28	See All HAPs
142	AL	Montgomery Co	Urban	Sullivan Landfill	NTIALLF4212	0.0260	< 0.01	28	See All HAPs
143	AL	Montgomery Co	Urban	Maxwell Afb Sanitary Landfill	NTIALLF4213	0.0046	< 0.01	28	See All HAPs
144	AL	Morgan Co	Urban	Decatur / Morgan Sanitary Landfill	NTIALLF4142	0.452	< 0.01	28	See All HAPs
145	AL	Perry Co	Rural	Perry County Sanitary Landfill	NTIALLF3271	0.0096	< 0.01	28	See All HAPs
146	AL	Perry Co	Rural	Central Alabama Swda Sanitary Landfill	NTIALLF3270	0.176	< 0.01	28	See All HAPs
147	AL	Pike Co	Rural	Brundidge Sanitary Landfill (Pike County)	NTIALLF3227	0.0204	< 0.01	28	See All HAPs
148	AL	Pike Co	Rural	Brundidge Waste Disposal Center	NTIALLF3226	0.0287	< 0.01	28	See All HAPs
149	AL	Randolph Co	Rural	Roanoke Sanitary Landfill	NTIALLF2869	0.0331	< 0.01	28	See All HAPs
150	AL	Randolph Co	Rural	Randolph County Demolition Lf	NTIALLF2870	0.0099	< 0.01	28	See All HAPs
151	AL	Russell Co	Urban	Esco Landfill #2	NTIALLF2611	0.0287	< 0.01	28	See All HAPs
152	AL	Russell Co	Urban	Mead Coated Board Inc	NTI46931	20,800	5.31	44	See All HAPs
153	AL	Russell Co	Urban	Johnston Foundry Sand Landfill	NTIALLF2612	0.0287	< 0.01	28	See All HAPs
154	AL	Shelby Co	Urban	Highway 70 Sanitary Landfill	NTIALLF1698	0.140	< 0.01	28	See All HAPs
155	AL	Shelby Co	Urban	Westover Sanitary Landfill	NTIALLF1697	0.0094	< 0.01	28	See All HAPs
156	AL	St. Clair Co	Urban	Superior Star Ridge Landfill	NTIAL1150023	0.886	< 0.01	28	See All HAPs
157	AL	St. Clair Co	Urban	Superior Cedar Hill Landfill	NTIALLF1442	0.188	< 0.01	26	See All HAPs
158	AL	Sumter Co	Rural	Livingston Landfill	NTIALLF1177	0.0263	< 0.01	28	See All HAPs
159	AL	Sumter Co	Rural	Sumter County Sanitary Landfill	NTIALLF1178	0.0095	< 0.01	28	See All HAPs
160	AL	Talladega Co	Rural	Alliance Forest Products, U.S. Corporation	NTI18390	53,111	13.56	51	See All HAPs
161	AL	Talladega Co	Rural	Brecon Sanitary Landfill	NTIALLF1123	0.0053	< 0.01	28	See All HAPs
162	AL	Talladega Co	Rural	Odena, District 4, Sanitary Landfill	NTIALLF1124	0.141	< 0.01	28	See All HAPs
163	AL	Tallapoosa Co	Rural	Tallapoosa County Sanitary Landfill	NTIALLF1120	0.0287	< 0.01	28	See All HAPs

164	AL	Tallapoosa Co	Rural	Tallassee Waste Disposal Center	NTIALLF1122	0.0957	< 0.01	28	See All HAPs	
165	AL	Tuscaloosa Co	Urban	Superior Eagle Bluff Landfill	NTIALLF885	0.0166	< 0.01	28	See All HAPs	
166	AL	Tuscaloosa Co	Urban	Eley Landfill	NTIALLF886	0.0102	< 0.01	28	See All HAPs	
167	AL	Tuscaloosa Co	Urban	Harris (Jerusalem Heights) Landfill	NTIALLF887	0.0078	< 0.01	28	See All HAPs	
168	AL	Tuscaloosa Co	Urban	Harris Landfill (K / Mart)	NTIALLF888	0.0078	< 0.01	28	See All HAPs	
169	AL	Tuscaloosa Co	Urban	Uniroyal Goodrich Tire Co Tuscaloosa Plant	NTI8487	40.0	0.01	47	See All HAPs	
170	AL	Tuscaloosa Co	Urban	Trash Site Landfill	NTIALLF889	0.0094	< 0.01	28	See All HAPs	
171	AL	Walker Co	Rural	Lost Creek Coal County Sanitary Landfill	NTIALLF612	0.0087	< 0.01	28	See All HAPs	
172	AL	Walker Co	Rural	Argo Sanitary Landfill	NTIALLF611	0.0319	< 0.01	28	See All HAPs	
173	AL	Walker Co	Rural	Pine View Sanitary Landfill	NTIALLF610	0.0688	< 0.01	28	See All HAPs	
174	AL	Washington Co	Rural	Washington County Sanitary Landfill	NTIALLF523	0.0696	< 0.01	28	See All HAPs	
175	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI18379	13,223	3.38	22	See All HAPs	
176	AL	Winston Co	Rural	Haleyville Regional Landfill	NTIALLF228	0.131	< 0.01	28	See All HAPs	
177	AL	Winston Co	Rural	Three Star Manufacturing Company Landfill	NTIALLF227	0.0053	< 0.01	28	See All HAPs	
178	AL	Winston Co	Rural	Winston County Sanitary Landfill	NTIALLF226	0.0045	< 0.01	28	See All HAPs	
179	AL	Winston Co	Rural	Powell Landfill (Mobile Home)	NTIALLF225	0.0053	< 0.01	28	See All HAPs	
180	AL	Winston Co	Rural	Hood Landfill (Mobile Home)	NTIALLF223	0.176	< 0.01	28	See All HAPs	
Grand Total						391,557				

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Disclaimer: This AirData report was produced using data extracted from the National Emissions Inventory (NEI) database final version 3 (February 2004) of the Hazardous Air Pollutant (HAP) emissions for year 1999. EPA compiles the NEI using various sources of data, described in extensive [NEI documentation](#). The five primary data sources are: (1) emissions inventories developed by state and local air pollution control agencies, (2) databases related to EPA's Maximum Achievable Control Technology [programs to reduce HAP emissions](#), (3) [Toxic Release Inventory](#) data, (4) emissions estimated by using mobile source methodology developed by experts in EPA's Office of Transportation and Air Quality, and (5) area source emission estimates generated using emission factors and activity data. Although the NEI is based partially on emission data obtained from state and local agencies, it is not a database of official state emissions data. Please contact the appropriate [state agency](#) to obtain information on a state's official emission inventory. Please [contact EPA](#) to report errors.

Consistency: The NEI is a composite of emission estimates generated by state and local regulatory agencies, industry, and EPA. Because the estimates originated from a variety of sources and estimation methods, as

well as differing purposes, they vary in quality, level of detail, and geographic coverage. However, this compilation of emissions estimates represents the best available information to date.

Variability in quality and accuracy of emission estimation methods in the NEI: The accuracy of emission estimation techniques vary with pollutants and source categories. In some cases, an estimate may be based on a few or only one emission measurement at a similar sources. The techniques used and quality of the estimates will vary between source categories (e.g., some have been better studied than others) and between major, area and other, and mobile source sectors.

Readers are cautioned not to infer a qualitative ranking order of geographic areas based on AirData reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the prevailing air quality of a county or urban area. Pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the source is complying with applicable regulations.



AirData

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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: Chloroform

Year: 1999

Emissions in Pounds Per Year

183 Rows

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Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT									
1	AL	Autauga Co	Urban	Crystal Lake Mfg. Landfill	NTIALLF9971	0.0402	< 0.01	28	See All HAPs
2	AL	Autauga Co	Urban	International Paper Company Prattville Mill	NTI8560	40.0	< 0.01	49	See All HAPs
3	AL	Baldwin Co	Urban	Airport Landfill	NTIALLF9942	0.0596	< 0.01	28	See All HAPs
4	AL	Baldwin Co	Urban	Magnolia Sanitary Landfill	NTIALLF9941	1.81	< 0.01	28	See All HAPs
5	AL	Baldwin Co	Urban	Red Hills Sanitary Landfill	NTIALLF9940	0.0355	< 0.01	28	See All HAPs
6	AL	Barbour Co	Rural	Clio Sanitary Landfill	NTIALLF9921	0.0276	< 0.01	28	See All HAPs
7	AL	Bibb Co	Rural	Centreville Landfill	NTIALLF9705	0.0693	< 0.01	28	See All HAPs
8	AL	Bibb Co	Rural	Bibb County Sanitary Landfill & Ts	NTIALLF9704	0.0815	< 0.01	28	See All HAPs
9	AL	Blount Co	Urban	Blount County/Nectar/Hayden Lf & Ts	NTIALLF9680	0.383	< 0.01	28	See All HAPs
10	AL	Blount Co	Urban	Blount County/Fridays Crossing Sanitary Landfill	NTIALLF9679	0.0385	< 0.01	28	See All HAPs
11	AL	Bullock Co	Rural	Union Springs Sanitary Landfill	NTIALLF9446	0.718	< 0.01	28	See All HAPs
12	AL	Butler Co	Rural	Greenville Sanitary Landfill	NTIALLF9421	0.0506	< 0.01	28	See All HAPs
13	AL	Butler Co	Rural	Butler County Sif (Georgiana)	NTIALLF9420	0.313	< 0.01	28	See All HAPs
14	AL	Calhoun Co	Rural	Stewart Landfill	NTIALLF9343	2.36	< 0.01	28	See All HAPs
15	AL	Calhoun Co	Rural	Mt. Liberty Baptist Church Landfill	NTIALLF9342	0.0388	< 0.01	28	See All HAPs
16	AL	Calhoun Co	Rural	Fort McClellan Sanitary Landfill	NTIALLF9341	0.255	< 0.01	28	See All HAPs
17	AL	Calhoun Co	Rural	Brown Borthers / Lagarde Avenue Ts	NTIALLF9340	1.62	< 0.01	28	See All HAPs
18	AL	Calhoun Co	Rural	Anniston Sanitary Landfill	NTIALLF9339	0.0645	< 0.01	28	See All HAPs

19	AL	Calhoun Co	Rural	Anniston Army Depot Sanitary Landfill	NTIALLF9338	2.36	< 0.01	28	See All HAPs
20	AL	Calhoun Co	Rural	Ann M. & H. C. Holland Fs	NTIALLF9337	0.320	< 0.01	28	See All HAPs
21	AL	Calhoun Co	Rural	Fair Landfill	NTIALLF9336	0.0594	< 0.01	28	See All HAPs
22	AL	Cherokee Co	Rural	Cherokee County Sanitary Landfill	NTIALLF9079	0.0506	< 0.01	28	See All HAPs
23	AL	Chilton Co	Rural	Chilton County Sanitary Landfill	NTIALLF9038	0.403	< 0.01	28	See All HAPs
24	AL	Choctaw Co	Rural	Choctaw County Sanitary Landfill	NTIALLF9000	1.22	< 0.01	28	See All HAPs
25	AL	Choctaw Co	Rural	Fort James Corporation Naheola Mill	NTI18334	64,260	5.30	49	See All HAPs
26	AL	Clarke Co	Rural	Thomasville Sanitary Landfill	NTIALLF8930	0.234	< 0.01	28	See All HAPs
27	AL	Clarke Co	Rural	Clarke County Sanitary Landfill	NTIALLF8929	0.230	< 0.01	28	See All HAPs
28	AL	Clarke Co	Rural	Boise Cascade	NTI8601	81,900	6.76	40	See All HAPs
29	AL	Clay Co	Rural	Clay County Sanitary Landfill	NTIALLF8914	0.0402	< 0.01	28	See All HAPs
30	AL	Cleburne Co	Rural	Cleburne County Sanitary Landfill	NTIALLF8892	0.0402	< 0.01	28	See All HAPs
31	AL	Coffee Co	Urban	Elba Landfill	NTIALLF8799	1.03	< 0.01	28	See All HAPs
32	AL	Coffee Co	Urban	Coffee County Sanitary Landfill	NTIALLF8798	0.522	< 0.01	28	See All HAPs
33	AL	Coffee Co	Urban	Johnson Landfill	NTIALLF8797	0.0550	< 0.01	28	See All HAPs
34	AL	Coffee Co	Urban	Enterprise Landfill	NTIALLF8796	0.0506	< 0.01	28	See All HAPs
35	AL	Colbert Co	Urban	Colbert Fossil Plant Landfill	NTIALLF8791	0.563	< 0.01	28	See All HAPs
36	AL	Conecuh Co	Rural	Conecuh County Sanitary Landfill	NTIALLF8719	0.0464	< 0.01	28	See All HAPs
37	AL	Covington Co	Rural	Andalusia Sanitary Landfill	NTIALLF8590	0.0506	< 0.01	28	See All HAPs
38	AL	Covington Co	Rural	Lockhart Sanitary Landfill	NTIALLF8588	0.0506	< 0.01	28	See All HAPs
39	AL	Covington Co	Rural	Floralia Sanitary Landfill	NTIALLF8587	0.234	< 0.01	28	See All HAPs
40	AL	Covington Co	Rural	Brantley Landfill	NTIALLF8586	0.153	< 0.01	28	See All HAPs
41	AL	Covington Co	Rural	Opp Sanitary Landfill	NTIALLF8585	0.0506	< 0.01	28	See All HAPs
42	AL	Crenshaw Co	Rural	Crenshaw County Sanitary Landfill	NTIALLF8548	0.186	< 0.01	28	See All HAPs
43	AL	Cullman Co	Rural	Cullman Environmental Sanitary Landfill	NTIALLF8531	0.238	< 0.01	28	See All HAPs
44	AL	Cullman Co	Rural	Cullman County Sanitary Landfill	NTIALLF8530	0.563	< 0.01	28	See All HAPs
45	AL	Cullman Co	Rural	Cullman City Sanitary Landfill	NTIALLF8529	0.214	< 0.01	28	See All HAPs
46	AL	Dale Co	Rural	Fort Rucker Sanitary Landfill	NTIALLF8470	0.0556	< 0.01	28	See All HAPs
47	AL	Dallas Co	Rural	Dallas County / Pea Ridge Sif	NTIALLF8453	0.538	< 0.01	28	See All HAPs
				International Paper					See All

48	AL	Dallas Co	Rural	Company Riverdale Mill	NTI18335	200	0.02	41	HAPs
49	AL	DeKalb Co	Rural	Dekalb County (Fyffe) Sanitary Landfill	NTIALLF8406	0.0213	< 0.01	28	See All HAPs
50	AL	DeKalb Co	Rural	Downers / Waste Care Inc Sanitary Landfill	NTIALLF8404	0.255	< 0.01	28	See All HAPs
51	AL	Elmore Co	Urban	Wetumpka (Hwy 9) Sanitary Landfill	NTIALLF8009	0.705	< 0.01	28	See All HAPs
52	AL	Elmore Co	Urban	Speigner Sanitary Landfill	NTIALLF8008	0.115	< 0.01	28	See All HAPs
53	AL	Elmore Co	Urban	Central Sanitary Landfill	NTIALLF8007	1.03	< 0.01	28	See All HAPs
54	AL	Escambia Co	Rural	Wawbeek Sanitary Landfill	NTIALLF7942	0.130	< 0.01	28	See All HAPs
55	AL	Escambia Co	Rural	T R Miller Mill Co. Inc	NTIALLF7940	0.0310	< 0.01	28	See All HAPs
56	AL	Escambia Co	Rural	East Brewton Sanitary Landfill	NTIALLF7939	0.940	< 0.01	28	See All HAPs
57	AL	Escambia Co	Rural	Timberlands Landfill	NTIAL0530080	0.575	< 0.01	28	See All HAPs
58	AL	Escambia Co	Rural	Jsc Brewton, Inc.	NTI18338	101,200	8.35	48	See All HAPs
59	AL	Etowah Co	Urban	Etowah County Sanitary Landfill	NTIALLF7880	1.01	< 0.01	28	See All HAPs
60	AL	Etowah Co	Urban	City Of Gadsden Sanitary Landfill	NTIALLF7879	1.08	< 0.01	28	See All HAPs
61	AL	Etowah Co	Urban	Glencoe Trash Site Landfill	NTIALLF7878	0.0594	< 0.01	28	See All HAPs
62	AL	Fayette Co	Rural	Belk Landfill	NTIALLF7842	0.167	< 0.01	28	See All HAPs
63	AL	Fayette Co	Rural	Fayette County Sanitary Landfill	NTIALLF7841	0.0464	< 0.01	28	See All HAPs
64	AL	Franklin Co	Rural	Russellville Landfill	NTIALLF7778	0.632	< 0.01	28	See All HAPs
65	AL	Franklin Co	Rural	Franklin County Inert Landfill & Ts	NTIALLF7777	0.350	< 0.01	28	See All HAPs
66	AL	Geneva Co	Rural	West Geneva Sanitary Landfill	NTIALLF7488	1.22	< 0.01	28	See All HAPs
67	AL	Geneva Co	Rural	East Geneva Sanitary Landfill	NTIALLF7486	0.214	< 0.01	28	See All HAPs
68	AL	Geneva Co	Rural	Slocomb Landfill	NTIALLF7485	0.0213	< 0.01	28	See All HAPs
69	AL	Geneva Co	Rural	Samson Landfill	NTIALLF7489	0.632	< 0.01	28	See All HAPs
70	AL	Greene Co	Rural	Greene County (Eutaw) Sanitary Landfill	NTIALLF7280	0.538	< 0.01	28	See All HAPs
71	AL	Hale Co	Rural	Hale County (Greensboro) Sanitary Landfill	NTIALLF7184	0.230	< 0.01	28	See All HAPs
72	AL	Henry Co	Rural	Headland Sanitary Landfill	NTIALLF6927	0.0506	< 0.01	28	See All HAPs
73	AL	Henry Co	Rural	Abbeville Sanitary Landfill	NTIALLF6926	0.167	< 0.01	28	See All HAPs
74	AL	Houston Co	Urban	Dothan Sanitary Landfill	NTIALLF6800	0.596	< 0.01	28	See All HAPs
75	AL	Jackson Co	Rural	Scottsboro Balefill Sanitary Landfill	NTIALLF6478	0.539	< 0.01	28	See All HAPs
76	AL	Jackson Co	Rural	Valley View Sanitary Landfill	NTIALLF6477	0.440	< 0.01	28	See All HAPs

77	AL	Jackson Co	Rural	Tva / Widows Creek Landfill	NTIALLF6476	0.167	< 0.01	28	See All HAPs
78	AL	Jackson Co	Rural	Bridgeport Sanitary Landfill	NTIALLF6474	0.780	< 0.01	28	See All HAPs
79	AL	Jackson Co	Rural	Mead Containerboard	NTI18347	14,813	1.22	31	See All HAPs
80	AL	Jefferson Co	Urban	Simmons Machinery Company Inc Landfill	NTIALLF6397	0.197	< 0.01	28	See All HAPs
81	AL	Jefferson Co	Urban	Us Steel Mining (Oak Grove) Landfill	NTIALLF6396	0.197	< 0.01	28	See All HAPs
82	AL	Jefferson Co	Urban	U.S. Steel Mining Co.,Llc - Concord	NTIALLF6395	0.693	< 0.01	29	See All HAPs
83	AL	Jefferson Co	Urban	Mount Olive Sanitary Landfill	NTIALLF6394	0.503	< 0.01	28	See All HAPs
84	AL	Jefferson Co	Urban	Mitchell / Ab Foundry	NTIALLF6393	5.69	< 0.01	28	See All HAPs
85	AL	Jefferson Co	Urban	Turkey Creek Sanitary Landfill	NTIALLF6392	0.402	< 0.01	28	See All HAPs
86	AL	Jefferson Co	Urban	Peabody Sanitary Landfill	NTIALLF6391	5.69	< 0.01	28	See All HAPs
87	AL	Jefferson Co	Urban	Oscar Kent Landfill	NTIALLF6390	0.693	< 0.01	28	See All HAPs
88	AL	Jefferson Co	Urban	Holsomback Landfill	NTIALLF6389	5.69	< 0.01	28	See All HAPs
89	AL	Jefferson Co	Urban	Gaston Steam Plant Landfill	NTIALLF6388	0.693	< 0.01	28	See All HAPs
90	AL	Jefferson Co	Urban	Shannon Sanitary Landfill	NTIALLF6387	7.43	< 0.01	28	See All HAPs
91	AL	Jefferson Co	Urban	Partridge Sanitary Landfill	NTIALLF6386	0.635	< 0.01	28	See All HAPs
92	AL	Jefferson Co	Urban	Mcdonald Hollow Landfill	NTIALLF6385	0.635	< 0.01	28	See All HAPs
93	AL	Jefferson Co	Urban	New Georgia Sanitary Landfill	NTIALLF6383	4.15	< 0.01	28	See All HAPs
94	AL	Jefferson Co	Urban	Eastern Area Sanitary Landfill	NTIALLF6382	6.80	< 0.01	28	See All HAPs
95	AL	Jefferson Co	Urban	Salser Landfill	NTIALLF6381	0.693	< 0.01	28	See All HAPs
96	AL	Jefferson Co	Urban	John'S Sanitary Landfill	NTIALLF6320	0.197	< 0.01	28	See All HAPs
97	AL	Lamar Co	Rural	Sulligent Landfill	NTIALLF5841	0.0506	< 0.01	28	See All HAPs
98	AL	Lamar Co	Rural	City Of Sulligent	NTIALLF5840	0.0284	< 0.01	28	See All HAPs
99	AL	Lamar Co	Rural	Lamar County Sanitary Landfill (South)	NTIALLF5839	0.0506	< 0.01	28	See All HAPs
100	AL	Lauderdale Co	Rural	Lexington Sanitary Landfill	NTIALLF5719	0.167	< 0.01	28	See All HAPs
101	AL	Lauderdale Co	Rural	Underwood (Lauderdale County) Landfill & Ts	NTIALLF5722	0.475	< 0.01	28	See All HAPs
102	AL	Lauderdale Co	Rural	Threet Landfill	NTIALLF5721	0.167	< 0.01	28	See All HAPs
103	AL	Lawrence Co	Rural	Morris Landfill	NTIALLF5705	0.0506	< 0.01	28	See All HAPs
104	AL	Lawrence Co	Rural	Lawrence County Sanitary Landfill	NTIALLF5704	0.209	< 0.01	28	See All HAPs
105	AL	Lawrence Co	Rural	International Paper Company Courtland Mill	NTI18357	71,660	5.92	51	See All HAPs

106	AL	Lee Co	Urban	Salem Waste Disposal Inc Landfill	NTIALLF5688	3.34	< 0.01	28	See All HAPs
107	AL	Lee Co	Urban	Kent Landfill / City Of Auburn	NTIALLF5687	0.115	< 0.01	28	See All HAPs
108	AL	Limestone Co	Urban	Athens / Limestone Co Sanitary Landfill	NTIALLF5595	0.772	< 0.01	28	See All HAPs
109	AL	Lowndes Co	Rural	Lowndes County Sanitary Landfill	NTIALLF5156	0.0276	< 0.01	28	See All HAPs
110	AL	Macon Co	Urban	Tuskegee Landfill	NTIALLF5070	0.923	< 0.01	28	See All HAPs
111	AL	Madison Co	Urban	Wild Boys Landfill	NTIALLF5031	0.152	< 0.01	28	See All HAPs
112	AL	Madison Co	Urban	Madison Oaks Development Landfill	NTIALLF5030	2.22	< 0.01	28	See All HAPs
113	AL	Madison Co	Urban	Madison County / New Hope School	NTIALLF5029	0.549	< 0.01	28	See All HAPs
114	AL	Madison Co	Urban	Huntsville Sanitary Landfill	NTIALLF5028	2.55	< 0.01	28	See All HAPs
115	AL	Marengo Co	Rural	Marengo County Sanitary Landfill	NTIALLF4963	0.255	< 0.01	28	See All HAPs
116	AL	Marion Co	Rural	Hamilton Missionary Baptist Church	NTIALLF4833	1.03	< 0.01	28	See All HAPs
117	AL	Marion Co	Rural	Guin Landfill	NTIALLF4832	0.140	< 0.01	28	See All HAPs
118	AL	Marion Co	Rural	Indies House Inc	NTIALLF4831	0.167	< 0.01	28	See All HAPs
119	AL	Marion Co	Rural	South Marion County Sanitary Landfill	NTIALLF4835	0.234	< 0.01	28	See All HAPs
120	AL	Marion Co	Rural	North Marion County Sanitary Landfill	NTIALLF4834	0.234	< 0.01	28	See All HAPs
121	AL	Marion Co	Rural	Ballard Landfill	NTIALLF4830	0.167	< 0.01	28	See All HAPs
122	AL	Marshall Co	Rural	Bishop Sanitary Landfill	NTIALLF4762	2.00	< 0.01	28	See All HAPs
123	AL	Marshall Co	Rural	Albertville Sanitary Landfill	NTIALLF4761	0.242	< 0.01	28	See All HAPs
124	AL	Marshall Co	Rural	Boaz Sanitary Landfill	NTIALLF4760	0.0916	< 0.01	28	See All HAPs
125	AL	Mobile Co	Urban	Saraland Sanitary Landfill	NTIALLF4404	0.186	< 0.01	28	See All HAPs
126	AL	Mobile Co	Urban	Courtaulds North America Inc Landfill	NTIALLF4401	0.130	< 0.01	27	See All HAPs
127	AL	Mobile Co	Urban	Irvington Sanitary Landfill (Mobile County)	NTIALLF4400	3.44	< 0.01	28	See All HAPs
128	AL	Mobile Co	Urban	Brunson Construction Landfill	NTIALLF4403	0.752	< 0.01	28	See All HAPs
129	AL	Mobile Co	Urban	Prichard Landfill (Bellcase Road)	NTIALLF4402	0.752	< 0.01	28	See All HAPs
130	AL	Mobile Co	Urban	Chunchula Sanitary Landfill	NTIALLF4399	0.516	< 0.01	28	See All HAPs
131	AL	Mobile Co	Urban	Addsco Landfill	NTIALLF4397	3.44	< 0.01	28	See All HAPs
132	AL	Mobile Co	Urban	Chastang Sanitary Landfill	NTIALLF4396	1.51	< 0.01	28	See All HAPs
133	AL	Mobile Co	Urban	Hickory Street Sanitary Landfill / City Of Mobile	NTIALLF4395	0.752	< 0.01	28	See All HAPs
134	AL	Mobile Co	Urban	S D Warren	NTI8611	376,660	31.09	38	See All HAPs

135	AL	Mobile Co	Urban	Mobile Energy Services Company	NTI8610	40.0	< 0.01	30	See All HAPs
136	AL	Mobile Co	Urban	Kimberly-Clark Tissue	NTI18371	370,400	30.58	40	See All HAPs
137	AL	Mobile Co	Urban	International Paper Company Siebert Station	NTI18369	3,680	0.30	47	See All HAPs
138	AL	Monroe Co	Rural	Monroe County Sanitary Landfill	NTIALLF4329	0.695	< 0.01	28	See All HAPs
139	AL	Monroe Co	Rural	Alabama River Pulp Co Inc	NTI18373	43,940	3.63	47	See All HAPs
140	AL	Montgomery Co	Urban	Maxwell Afb Sanitary Landfill	NTIALLF4213	0.0267	< 0.01	28	See All HAPs
141	AL	Montgomery Co	Urban	Sullivan Landfill	NTIALLF4212	0.152	< 0.01	28	See All HAPs
142	AL	Montgomery Co	Urban	Ramer Sanitary Landfill	NTIALLF4211	0.152	< 0.01	28	See All HAPs
143	AL	Montgomery Co	Urban	North Montgomery Sanitary Landfill	NTIALLF4210	4.64	< 0.01	28	See All HAPs
144	AL	Morgan Co	Urban	Decatur / Morgan Sanitary Landfill	NTIALLF4142	2.63	< 0.01	28	See All HAPs
145	AL	Morgan Co	Urban	Daikin America Inc	NTIAL0061	5.00	< 0.01	4	See All HAPs
146	AL	Morgan Co	Urban	Mda	NTIAL0042	800	0.07	5	See All HAPs
147	AL	Perry Co	Rural	Perry County Sanitary Landfill	NTIALLF3271	0.0557	< 0.01	28	See All HAPs
148	AL	Perry Co	Rural	Central Alabama Swda Sanitary Landfill	NTIALLF3270	1.03	< 0.01	28	See All HAPs
149	AL	Pike Co	Rural	Brundidge Sanitary Landfill (Pike County)	NTIALLF3227	0.119	< 0.01	28	See All HAPs
150	AL	Pike Co	Rural	Brundidge Waste Disposal Center	NTIALLF3226	0.167	< 0.01	28	See All HAPs
151	AL	Randolph Co	Rural	Randolph County Demolition Lf	NTIALLF2870	0.0576	< 0.01	28	See All HAPs
152	AL	Randolph Co	Rural	Roanoke Sanitary Landfill	NTIALLF2869	0.193	< 0.01	28	See All HAPs
153	AL	Russell Co	Urban	Johnston Foundry Sand Landfill	NTIALLF2612	0.167	< 0.01	28	See All HAPs
154	AL	Russell Co	Urban	Esco Landfill #2	NTIALLF2611	0.167	< 0.01	28	See All HAPs
155	AL	Russell Co	Urban	Mead Coated Board Inc	NTI46931	720	0.06	44	See All HAPs
156	AL	St. Clair Co	Urban	Superior Cedar Hill Landfill	NTIALLF1442	1.10	< 0.01	26	See All HAPs
157	AL	St. Clair Co	Urban	Superior Star Ridge Landfill	NTIAL1150023	5.15	< 0.01	28	See All HAPs
158	AL	Shelby Co	Urban	Avanti Polar Lipids Inc.	NTIALT\$4415	4,502	0.37	2	See All HAPs
159	AL	Shelby Co	Urban	Highway 70 Sanitary Landfill	NTIALLF1698	0.815	< 0.01	28	See All HAPs
160	AL	Shelby Co	Urban	Westover Sanitary Landfill	NTIALLF1697	0.0545	< 0.01	28	See All HAPs
161	AL	Sumter Co	Rural	Sumter County Sanitary Landfill	NTIALLF1178	0.0550	< 0.01	28	See All HAPs
162	AL	Sumter Co	Rural	Livingston Landfill	NTIALLF1177	0.153	< 0.01	28	See All HAPs
163	AL	Talladega Co	Rural	Odena, District 4, Sanitary Landfill	NTIALLF1124	0.822	< 0.01	28	See All HAPs
164	AL	Talladega	Rural	Brecon Sanitary	NTIALLF1123	0.0310	< 0.01	28	See All

		Co		Landfill					HAPs
165	AL	Talladega Co	Rural	Alliance Forest Products, U.S. Corporation	NTI18390	8,380	0.69	51	See All HAPs
166	AL	Tallapoosa Co	Rural	Tallasse Waste Disposal Center	NTIALLF1122	0.557	< 0.01	28	See All HAPs
167	AL	Tallapoosa Co	Rural	Tallapoosa County Sanitary Landfill	NTIALLF1120	0.167	< 0.01	28	See All HAPs
168	AL	Tuscaloosa Co	Urban	Trash Site Landfill	NTIALLF889	0.0545	< 0.01	28	See All HAPs
169	AL	Tuscaloosa Co	Urban	Harris Landfill (K / Mart)	NTIALLF888	0.0452	< 0.01	28	See All HAPs
170	AL	Tuscaloosa Co	Urban	Harris (Jerusalem Heights) Landfill	NTIALLF887	0.0452	< 0.01	28	See All HAPs
171	AL	Tuscaloosa Co	Urban	Eley Landfill	NTIALLF886	0.0594	< 0.01	28	See All HAPs
172	AL	Tuscaloosa Co	Urban	Superior Eagle Bluff Landfill	NTIALLF885	0.0966	< 0.01	28	See All HAPs
173	AL	Tuscaloosa Co	Urban	Uniroyal Goodrich Tire Co Tuscaloosa Plant	NTI8487	20.0	< 0.01	47	See All HAPs
174	AL	Walker Co	Rural	Lost Creek Coal County Sanitary Landfill	NTIALLF612	0.0506	< 0.01	28	See All HAPs
175	AL	Walker Co	Rural	Argo Sanitary Landfill	NTIALLF611	0.186	< 0.01	28	See All HAPs
176	AL	Walker Co	Rural	Pine View Sanitary Landfill	NTIALLF610	0.401	< 0.01	28	See All HAPs
177	AL	Washington Co	Rural	Washington County Sanitary Landfill	NTIALLF523	0.405	< 0.01	28	See All HAPs
178	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI18379	68,043	5.62	22	See All HAPs
179	AL	Winston Co	Rural	Haleyville Regional Landfill	NTIALLF228	0.763	< 0.01	28	See All HAPs
180	AL	Winston Co	Rural	Three Star Manufacturing Company Landfill	NTIALLF227	0.0310	< 0.01	28	See All HAPs
181	AL	Winston Co	Rural	Winston County Sanitary Landfill	NTIALLF226	0.0260	< 0.01	28	See All HAPs
182	AL	Winston Co	Rural	Powell Landfill (Mobile Home)	NTIALLF225	0.0310	< 0.01	28	See All HAPs
183	AL	Winston Co	Rural	Hood Landfill (Mobile Home)	NTIALLF223	1.03	< 0.01	28	See All HAPs
Grand Total						1,211,385			

Page 1 of 1

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data obtained from state and local agencies, it is not a database of official state emissions data. Please contact the appropriate state agency to obtain information on a state's official emission inventory. Please contact EPA to report errors.

Consistency: The NEI is a composite of emission estimates generated by state and local regulatory agencies, industry, and EPA. Because the estimates originated from a variety of sources and estimation methods, as well as differing purposes, they vary in quality, level of detail, and geographic coverage. However, this compilation of emissions estimates represents the best available information to date.

Variability in quality and accuracy of emission estimation methods in the NEI: The accuracy of emission estimation techniques vary with pollutants and source categories. In some cases, an estimate may be based on a few or only one emission measurement at a similar sources. The techniques used and quality of the estimates will vary between source categories (e.g., some have been better studied than others) and between major, area and other, and mobile source sectors.

Readers are cautioned not to infer a qualitative ranking order of geographic areas based on AirData reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the prevailing air quality of a county or urban area. Pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the source is complying with applicable regulations.



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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: Ethylene Dibromide [Dibromoethane]

Year: 1999

Emissions in Pounds Per Year

164 Rows

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Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT	▲ ▼	▲ ▼	▲ ▼	▲ ▼	▲ ▼	▲ ▼	▲ ▼	▲ ▼	▲ ▼
1	AL	Autauga Co	Urban	Crystal Lake Mfg. Landfill	NTIALLF9971	0.0021	0.03	28	See All HAPs
2	AL	Baldwin Co	Urban	Airport Landfill	NTIALLF9942	0.0031	0.05	28	See All HAPs
3	AL	Baldwin Co	Urban	Magnolia Sanitary Landfill	NTIALLF9941	0.0948	1.49	28	See All HAPs
4	AL	Baldwin Co	Urban	Red Hills Sanitary Landfill	NTIALLF9940	0.0019	0.03	28	See All HAPs
5	AL	Barbour Co	Rural	Clio Sanitary Landfill	NTIALLF9921	0.0015	0.02	28	See All HAPs
6	AL	Bibb Co	Rural	Centreville Landfill	NTIALLF9705	0.0036	0.06	28	See All HAPs
7	AL	Bibb Co	Rural	Bibb County Sanitary Landfill & Ts	NTIALLF9704	0.0043	0.07	28	See All HAPs
8	AL	Blount Co	Urban	Blount County/Nectar/Hayden Lf & Ts	NTIALLF9680	0.0201	0.32	28	See All HAPs
9	AL	Blount Co	Urban	Blount County/Fridays Crossing Sanitary Landfill	NTIALLF9679	0.0020	0.03	28	See All HAPs
10	AL	Bullock Co	Rural	Union Springs Sanitary Landfill	NTIALLF9446	0.0376	0.59	28	See All HAPs
11	AL	Butler Co	Rural	Greenville Sanitary Landfill	NTIALLF9421	0.0027	0.04	28	See All HAPs
12	AL	Butler Co	Rural	Butler County Sif (Georgiana)	NTIALLF9420	0.0164	0.26	28	See All HAPs
13	AL	Calhoun Co	Rural	Stewart Landfill	NTIALLF9343	0.124	1.94	28	See All HAPs
14	AL	Calhoun Co	Rural	Mt. Liberty Baptist Church Landfill	NTIALLF9342	0.0020	0.03	28	See All HAPs
15	AL	Calhoun Co	Rural	Fort McClellan Sanitary Landfill	NTIALLF9341	0.0134	0.21	28	See All HAPs
16	AL	Calhoun Co	Rural	Brown Borthers / Lagarde Avenue Ts	NTIALLF9340	0.0851	1.33	28	See All HAPs
17	AL	Calhoun Co	Rural	Anniston Sanitary Landfill	NTIALLF9339	0.0034	0.05	28	See All HAPs
18	AL	Calhoun Co	Rural	Anniston Army Depot Sanitary Landfill	NTIALLF9338	0.124	1.94	28	See All HAPs

19	AL	Calhoun Co	Rural	Ann M. & H. C. Holland Fs	NTIALLF9337	0.0168	0.26	28	See All HAPs
20	AL	Calhoun Co	Rural	Fair Landfill	NTIALLF9336	0.0031	0.05	28	See All HAPs
21	AL	Cherokee Co	Rural	Cherokee County Sanitary Landfill	NTIALLF9079	0.0027	0.04	28	See All HAPs
22	AL	Chilton Co	Rural	Chilton County Sanitary Landfill	NTIALLF9038	0.0212	0.33	28	See All HAPs
23	AL	Choctaw Co	Rural	Choctaw County Sanitary Landfill	NTIALLF9000	0.0638	1.00	28	See All HAPs
24	AL	Clarke Co	Rural	Thomasville Sanitary Landfill	NTIALLF8930	0.0123	0.19	28	See All HAPs
25	AL	Clarke Co	Rural	Clarke County Sanitary Landfill	NTIALLF8929	0.0121	0.19	28	See All HAPs
26	AL	Clay Co	Rural	Clay County Sanitary Landfill	NTIALLF8914	0.0021	0.03	28	See All HAPs
27	AL	Cleburne Co	Rural	Cleburne County Sanitary Landfill	NTIALLF8892	0.0021	0.03	28	See All HAPs
28	AL	Coffee Co	Urban	Elba Landfill	NTIALLF8799	0.0538	0.84	28	See All HAPs
29	AL	Coffee Co	Urban	Coffee County Sanitary Landfill	NTIALLF8798	0.0274	0.43	28	See All HAPs
30	AL	Coffee Co	Urban	Johnson Landfill	NTIALLF8797	0.0029	0.05	28	See All HAPs
31	AL	Coffee Co	Urban	Enterprise Landfill	NTIALLF8796	0.0027	0.04	28	See All HAPs
32	AL	Colbert Co	Urban	Colbert Fossil Plant Landfill	NTIALLF8791	0.0295	0.46	28	See All HAPs
33	AL	Conecuh Co	Rural	Conecuh County Sanitary Landfill	NTIALLF8719	0.0024	0.04	28	See All HAPs
34	AL	Covington Co	Rural	Andalusia Sanitary Landfill	NTIALLF8590	0.0027	0.04	28	See All HAPs
35	AL	Covington Co	Rural	Lockhart Sanitary Landfill	NTIALLF8588	0.0027	0.04	28	See All HAPs
36	AL	Covington Co	Rural	Opp Sanitary Landfill	NTIALLF8585	0.0027	0.04	28	See All HAPs
37	AL	Covington Co	Rural	Brantley Landfill	NTIALLF8586	0.0080	0.13	28	See All HAPs
38	AL	Covington Co	Rural	Floralia Sanitary Landfill	NTIALLF8587	0.0123	0.19	28	See All HAPs
39	AL	Crenshaw Co	Rural	Crenshaw County Sanitary Landfill	NTIALLF8548	0.0097	0.15	28	See All HAPs
40	AL	Cullman Co	Rural	Cullman County Sanitary Landfill	NTIALLF8530	0.0295	0.46	28	See All HAPs
41	AL	Cullman Co	Rural	Cullman Environmental Sanitary Landfill	NTIALLF8531	0.0125	0.20	28	See All HAPs
42	AL	Cullman Co	Rural	Cullman City Sanitary Landfill	NTIALLF8529	0.0112	0.18	28	See All HAPs
43	AL	Dale Co	Rural	Fort Rucker Sanitary Landfill	NTIALLF8470	0.0029	0.05	28	See All HAPs
44	AL	Dallas Co	Rural	Dallas County / Pea Ridge Sif	NTIALLF8453	0.0282	0.44	28	See All HAPs
45	AL	DeKalb Co	Rural	Dekalb County (Fyffe) Sanitary Landfill	NTIALLF8406	0.0011	0.02	28	See All HAPs
46	AL	DeKalb Co	Rural	Downers / Waste Care Inc Sanitary Landfill	NTIALLF8404	0.0134	0.21	28	See All HAPs
47	AL	Elmore Co	Urban	Wetumpka (Hwy 9) Sanitary Landfill	NTIALLF8009	0.0370	0.58	28	See All HAPs
48	AL	Elmore Co	Urban	Speigner Sanitary Landfill	NTIALLF8008	0.0060	0.09	28	See All HAPs

49	AL	Elmore Co	Urban	Central Sanitary Landfill	NTIALLF8007	0.0538	0.84	28	See All HAPs
50	AL	Escambia Co	Rural	Wawbeek Sanitary Landfill	NTIALLF7942	0.0068	0.11	28	See All HAPs
51	AL	Escambia Co	Rural	T R Miller Mill Co. Inc	NTIALLF7940	0.0016	0.03	28	See All HAPs
52	AL	Escambia Co	Rural	Timberlands Landfill	NTIAL0530080	0.0302	0.47	28	See All HAPs
53	AL	Escambia Co	Rural	East Brewton Sanitary Landfill	NTIALLF7939	0.0493	0.77	28	See All HAPs
54	AL	Etowah Co	Urban	City Of Gadsden Sanitary Landfill	NTIALLF7879	0.0565	0.89	28	See All HAPs
55	AL	Etowah Co	Urban	Etowah County Sanitary Landfill	NTIALLF7880	0.0532	0.83	28	See All HAPs
56	AL	Etowah Co	Urban	Glencoe Trash Site Landfill	NTIALLF7878	0.0031	0.05	28	See All HAPs
57	AL	Fayette Co	Rural	Belk Landfill	NTIALLF7842	0.0088	0.14	28	See All HAPs
58	AL	Fayette Co	Rural	Fayette County Sanitary Landfill	NTIALLF7841	0.0024	0.04	28	See All HAPs
59	AL	Franklin Co	Rural	Russellville Landfill	NTIALLF7778	0.0332	0.52	28	See All HAPs
60	AL	Franklin Co	Rural	Franklin County Inert Landfill & Ts	NTIALLF7777	0.0183	0.29	28	See All HAPs
61	AL	Geneva Co	Rural	Samson Landfill	NTIALLF7489	0.0332	0.52	28	See All HAPs
62	AL	Geneva Co	Rural	West Geneva Sanitary Landfill	NTIALLF7488	0.0638	1.00	28	See All HAPs
63	AL	Geneva Co	Rural	East Geneva Sanitary Landfill	NTIALLF7486	0.0112	0.18	28	See All HAPs
64	AL	Geneva Co	Rural	Slocomb Landfill	NTIALLF7485	0.0011	0.02	28	See All HAPs
65	AL	Greene Co	Rural	Greene County (Eutaw) Sanitary Landfill	NTIALLF7280	0.0282	0.44	28	See All HAPs
66	AL	Hale Co	Rural	Hale County (Greensboro) Sanitary Landfill	NTIALLF7184	0.0121	0.19	28	See All HAPs
67	AL	Henry Co	Rural	Headland Sanitary Landfill	NTIALLF6927	0.0027	0.04	28	See All HAPs
68	AL	Henry Co	Rural	Abbeville Sanitary Landfill	NTIALLF6926	0.0088	0.14	28	See All HAPs
69	AL	Houston Co	Urban	Dothan Sanitary Landfill	NTIALLF6800	0.0312	0.49	28	See All HAPs
70	AL	Jackson Co	Rural	Scottsboro Balefill Sanitary Landfill	NTIALLF6478	0.0283	0.44	28	See All HAPs
71	AL	Jackson Co	Rural	Bridgeport Sanitary Landfill	NTIALLF6474	0.0409	0.64	28	See All HAPs
72	AL	Jackson Co	Rural	Tva / Widows Creek Landfill	NTIALLF6476	0.0088	0.14	28	See All HAPs
73	AL	Jackson Co	Rural	Valley View Sanitary Landfill	NTIALLF6477	0.0231	0.36	28	See All HAPs
74	AL	Jefferson Co	Urban	Simmons Machinery Company Inc Landfill	NTIALLF6397	0.0103	0.16	28	See All HAPs
75	AL	Jefferson Co	Urban	Us Steel Mining (Oak Grove) Landfill	NTIALLF6396	0.0103	0.16	28	See All HAPs
76	AL	Jefferson Co	Urban	U.S. Steel Mining Co.,Llc - Concord	NTIALLF6395	0.0363	0.57	29	See All HAPs
77	AL	Jefferson Co	Urban	Mount Olive Sanitary Landfill	NTIALLF6394	0.0264	0.41	28	See All HAPs

78	AL	Jefferson Co	Urban	Mitchell / Ab Foundry	NTIALLF6393	0.298	4.68	28	See All HAPs
79	AL	Jefferson Co	Urban	Turkey Creek Sanitary Landfill	NTIALLF6392	0.0211	0.33	28	See All HAPs
80	AL	Jefferson Co	Urban	Peabody Sanitary Landfill	NTIALLF6391	0.298	4.68	28	See All HAPs
81	AL	Jefferson Co	Urban	Oscar Kent Landfill	NTIALLF6390	0.0363	0.57	28	See All HAPs
82	AL	Jefferson Co	Urban	Holsomback Landfill	NTIALLF6389	0.298	4.68	28	See All HAPs
83	AL	Jefferson Co	Urban	Gaston Steam Plant Landfill	NTIALLF6388	0.0363	0.57	28	See All HAPs
84	AL	Jefferson Co	Urban	Shannon Sanitary Landfill	NTIALLF6387	0.390	6.12	28	See All HAPs
85	AL	Jefferson Co	Urban	Partridge Sanitary Landfill	NTIALLF6386	0.0333	0.52	28	See All HAPs
86	AL	Jefferson Co	Urban	Mcdonald Hollow Landfill	NTIALLF6385	0.0333	0.52	28	See All HAPs
87	AL	Jefferson Co	Urban	New Georgia Sanitary Landfill	NTIALLF6383	0.218	3.42	28	See All HAPs
88	AL	Jefferson Co	Urban	Eastern Area Sanitary Landfill	NTIALLF6382	0.357	5.60	28	See All HAPs
89	AL	Jefferson Co	Urban	Salser Landfill	NTIALLF6381	0.0363	0.57	28	See All HAPs
90	AL	Jefferson Co	Urban	John'S Sanitary Landfill	NTIALLF6320	0.0103	0.16	28	See All HAPs
91	AL	Lamar Co	Rural	City Of Sulligent	NTIALLF5840	0.0015	0.02	28	See All HAPs
92	AL	Lamar Co	Rural	Sulligent Landfill	NTIALLF5841	0.0027	0.04	28	See All HAPs
93	AL	Lamar Co	Rural	Lamar County Sanitary Landfill (South)	NTIALLF5839	0.0027	0.04	28	See All HAPs
94	AL	Lauderdale Co	Rural	Underwood (Lauderdale County) Landfill & Ts	NTIALLF5722	0.0249	0.39	28	See All HAPs
95	AL	Lauderdale Co	Rural	Lexington Sanitary Landfill	NTIALLF5719	0.0088	0.14	28	See All HAPs
96	AL	Lauderdale Co	Rural	Threet Landfill	NTIALLF5721	0.0088	0.14	28	See All HAPs
97	AL	Lawrence Co	Rural	Morris Landfill	NTIALLF5705	0.0027	0.04	28	See All HAPs
98	AL	Lawrence Co	Rural	Lawrence County Sanitary Landfill	NTIALLF5704	0.0110	0.17	28	See All HAPs
99	AL	Lee Co	Urban	Salem Waste Disposal Inc Landfill	NTIALLF5688	0.175	2.75	28	See All HAPs
100	AL	Lee Co	Urban	Kent Landfill / City Of Auburn	NTIALLF5687	0.0060	0.09	28	See All HAPs
101	AL	Limestone Co	Urban	Athens / Limestone Co Sanitary Landfill	NTIALLF5595	0.0405	0.64	28	See All HAPs
102	AL	Lowndes Co	Rural	Lowndes County Sanitary Landfill	NTIALLF5156	0.0015	0.02	28	See All HAPs
103	AL	Macon Co	Urban	Tuskegee Landfill	NTIALLF5070	0.0484	0.76	28	See All HAPs
104	AL	Madison Co	Urban	Wild Boys Landfill	NTIALLF5031	0.0079	0.12	28	See All HAPs
105	AL	Madison Co	Urban	Madison Oaks Development Landfill	NTIALLF5030	0.117	1.83	28	See All HAPs
106	AL	Madison Co	Urban	Madison County / New Hope School	NTIALLF5029	0.0288	0.45	28	See All HAPs
107	AL	Madison Co	Urban	Huntsville Sanitary	NTIALLF5028	0.134	2.10	28	See All

				Landfill					HAPs
108	AL	Marengo Co	Rural	Marengo County Sanitary Landfill	NTIALLF4963	0.0134	0.21	28	See All HAPs
109	AL	Marion Co	Rural	Hamilton Missionary Baptist Church	NTIALLF4833	0.0538	0.84	28	See All HAPs
110	AL	Marion Co	Rural	Guin Landfill	NTIALLF4832	0.0073	0.12	28	See All HAPs
111	AL	Marion Co	Rural	Indies House Inc	NTIALLF4831	0.0088	0.14	28	See All HAPs
112	AL	Marion Co	Rural	South Marion County Sanitary Landfill	NTIALLF4835	0.0123	0.19	28	See All HAPs
113	AL	Marion Co	Rural	North Marion County Sanitary Landfill	NTIALLF4834	0.0123	0.19	28	See All HAPs
114	AL	Marion Co	Rural	Ballard Landfill	NTIALLF4830	0.0088	0.14	28	See All HAPs
115	AL	Marshall Co	Rural	Albertville Sanitary Landfill	NTIALLF4761	0.0127	0.20	28	See All HAPs
116	AL	Marshall Co	Rural	Bishop Sanitary Landfill	NTIALLF4762	0.105	1.64	28	See All HAPs
117	AL	Marshall Co	Rural	Boaz Sanitary Landfill	NTIALLF4760	0.0048	0.08	28	See All HAPs
118	AL	Mobile Co	Urban	Courtaulds North America Inc Landfill	NTIALLF4401	0.0068	0.11	27	See All HAPs
119	AL	Mobile Co	Urban	Irvington Sanitary Landfill (Mobile County)	NTIALLF4400	0.180	2.83	28	See All HAPs
120	AL	Mobile Co	Urban	Hickory Street Sanitary Landfill / City Of Mobile	NTIALLF4395	0.0394	0.62	28	See All HAPs
121	AL	Mobile Co	Urban	Chastang Sanitary Landfill	NTIALLF4396	0.0793	1.24	28	See All HAPs
122	AL	Mobile Co	Urban	Addsco Landfill	NTIALLF4397	0.180	2.83	28	See All HAPs
123	AL	Mobile Co	Urban	Chunchula Sanitary Landfill	NTIALLF4399	0.0271	0.43	28	See All HAPs
124	AL	Mobile Co	Urban	Prichard Landfill (Bellcase Road)	NTIALLF4402	0.0394	0.62	28	See All HAPs
125	AL	Mobile Co	Urban	Saraland Sanitary Landfill	NTIALLF4404	0.0097	0.15	28	See All HAPs
126	AL	Mobile Co	Urban	Brunson Construction Landfill	NTIALLF4403	0.0394	0.62	28	See All HAPs
127	AL	Monroe Co	Rural	Monroe County Sanitary Landfill	NTIALLF4329	0.0365	0.57	28	See All HAPs
128	AL	Montgomery Co	Urban	Sullivan Landfill	NTIALLF4212	0.0079	0.12	28	See All HAPs
129	AL	Montgomery Co	Urban	Maxwell Afb Sanitary Landfill	NTIALLF4213	0.0014	0.02	28	See All HAPs
130	AL	Montgomery Co	Urban	North Montgomery Sanitary Landfill	NTIALLF4210	0.244	3.82	28	See All HAPs
131	AL	Montgomery Co	Urban	Ramer Sanitary Landfill	NTIALLF4211	0.0079	0.12	28	See All HAPs
132	AL	Morgan Co	Urban	Decatur / Morgan Sanitary Landfill	NTIALLF4142	0.138	2.17	28	See All HAPs
133	AL	Perry Co	Rural	Perry County Sanitary Landfill	NTIALLF3271	0.0029	0.05	28	See All HAPs
134	AL	Perry Co	Rural	Central Alabama Swda Sanitary Landfill	NTIALLF3270	0.0538	0.84	28	See All HAPs
135	AL	Pike Co	Rural	Brundidge Sanitary Landfill (Pike County)	NTIALLF3227	0.0062	0.10	28	See All HAPs
136	AL	Pike Co	Rural	Brundidge Waste	NTIALLF3226	0.0088	0.14	28	See All

				Disposal Center					HAPs
137	AL	Randolph Co	Rural	Randolph County Demolition Lf	NTIALLF2870	0.0030	0.05	28	See All HAPs
138	AL	Randolph Co	Rural	Roanoke Sanitary Landfill	NTIALLF2869	0.0101	0.16	28	See All HAPs
139	AL	Russell Co	Urban	Johnston Foundry Sand Landfill	NTIALLF2612	0.0088	0.14	28	See All HAPs
140	AL	Russell Co	Urban	Esco Landfill #2	NTIALLF2611	0.0088	0.14	28	See All HAPs
141	AL	Shelby Co	Urban	Highway 70 Sanitary Landfill	NTIALLF1698	0.0427	0.67	28	See All HAPs
142	AL	Shelby Co	Urban	Westover Sanitary Landfill	NTIALLF1697	0.0029	0.04	28	See All HAPs
143	AL	St. Clair Co	Urban	Superior Star Ridge Landfill	NTIAL1150023	0.270	4.24	28	See All HAPs
144	AL	St. Clair Co	Urban	Superior Cedar Hill Landfill	NTIALLF1442	0.0575	0.90	26	See All HAPs
145	AL	Sumter Co	Rural	Livingston Landfill	NTIALLF1177	0.0080	0.13	28	See All HAPs
146	AL	Sumter Co	Rural	Sumter County Sanitary Landfill	NTIALLF1178	0.0029	0.05	28	See All HAPs
147	AL	Talladega Co	Rural	Brecon Sanitary Landfill	NTIALLF1123	0.0016	0.03	28	See All HAPs
148	AL	Talladega Co	Rural	Odena, District 4, Sanitary Landfill	NTIALLF1124	0.0431	0.68	28	See All HAPs
149	AL	Tallapoosa Co	Rural	Tallapoosa County Sanitary Landfill	NTIALLF1120	0.0088	0.14	28	See All HAPs
150	AL	Tallapoosa Co	Rural	Tallassee Waste Disposal Center	NTIALLF1122	0.0292	0.46	28	See All HAPs
151	AL	Tuscaloosa Co	Urban	Eley Landfill	NTIALLF886	0.0031	0.05	28	See All HAPs
152	AL	Tuscaloosa Co	Urban	Harris (Jerusalem Heights) Landfill	NTIALLF887	0.0024	0.04	28	See All HAPs
153	AL	Tuscaloosa Co	Urban	Harris Landfill (K / Mart)	NTIALLF888	0.0024	0.04	28	See All HAPs
154	AL	Tuscaloosa Co	Urban	Superior Eagle Bluff Landfill	NTIALLF885	0.0051	0.08	28	See All HAPs
155	AL	Tuscaloosa Co	Urban	Trash Site Landfill	NTIALLF889	0.0029	0.04	28	See All HAPs
156	AL	Walker Co	Rural	Pine View Sanitary Landfill	NTIALLF610	0.0210	0.33	28	See All HAPs
157	AL	Walker Co	Rural	Argo Sanitary Landfill	NTIALLF611	0.0097	0.15	28	See All HAPs
158	AL	Walker Co	Rural	Lost Creek Coal County Sanitary Landfill	NTIALLF612	0.0027	0.04	28	See All HAPs
159	AL	Washington Co	Rural	Washington County Sanitary Landfill	NTIALLF523	0.0213	0.33	28	See All HAPs
160	AL	Winston Co	Rural	Powell Landfill (Mobile Home)	NTIALLF225	0.0016	0.03	28	See All HAPs
161	AL	Winston Co	Rural	Winston County Sanitary Landfill	NTIALLF226	0.0014	0.02	28	See All HAPs
162	AL	Winston Co	Rural	Three Star Manufacturing Company Landfill	NTIALLF227	0.0016	0.03	28	See All HAPs
163	AL	Winston Co	Rural	Hood Landfill (Mobile Home)	NTIALLF223	0.0538	0.84	28	See All HAPs
164	AL	Winston Co	Rural	Haleyville Regional Landfill	NTIALLF228	0.0400	0.63	28	See All HAPs
Grand									

Total	6.37
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Page 1 of 1

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Disclaimer: This AirData report was produced using data extracted from the National Emissions Inventory (NEI) database final version 3 (February 2004) of the Hazardous Air Pollutant (HAP) emissions for year 1999. EPA compiles the NEI using various sources of data, described in extensive [NEI documentation](#). The five primary data sources are: (1) emissions inventories developed by state and local air pollution control agencies, (2) databases related to EPA's Maximum Achievable Control Technology [programs to reduce HAP emissions](#), (3) [Toxic Release Inventory](#) data, (4) emissions estimated by using mobile source methodology developed by experts in EPA's Office of Transportation and Air Quality, and (5) area source emission estimates generated using emission factors and activity data. Although the NEI is based partially on emission data obtained from state and local agencies, it is not a database of official state emissions data. Please contact the appropriate [state agency](#) to obtain information on a state's official emission inventory. Please [contact EPA](#) to report errors.

Consistency: The NEI is a composite of emission estimates generated by state and local regulatory agencies, industry, and EPA. Because the estimates originated from a variety of sources and estimation methods, as well as differing purposes, they vary in quality, level of detail, and geographic coverage. However, this compilation of emissions estimates represents the best available information to date.

Variability in quality and accuracy of emission estimation methods in the NEI: The accuracy of emission estimation techniques vary with pollutants and source categories. In some cases, an estimate may be based on a few or only one emission measurement at a similar sources. The techniques used and quality of the estimates will vary between source categories (e.g., some have been better studied than others) and between major, area and other, and mobile source sectors.

Readers are cautioned not to infer a qualitative ranking order of geographic areas based on AirData reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the prevailing air quality of a county or urban area. Pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the source is complying with applicable regulations.



AirData

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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: Ethylene Dichloride [1,2-Dichloroethane]

Year: 1999

Emissions in Pounds Per Year

229 Rows

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Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT									
1	AL	Autauga Co	Urban	International Paper Company Prattville Mill	NTI8560	3,860	8.68	49	See All HAPs
2	AL	Autauga Co	Urban	Crystal Lake Mfg. Landfill	NTIALLF9971	0.456	< 0.01	28	See All HAPs
3	AL	Baldwin Co	Urban	Airport Landfill	NTIALLF9942	0.675	< 0.01	28	See All HAPs
4	AL	Baldwin Co	Urban	Magnolia Sanitary Landfill	NTIALLF9941	20.5	0.05	28	See All HAPs
5	AL	Baldwin Co	Urban	Red Hills Sanitary Landfill	NTIALLF9940	0.403	< 0.01	28	See All HAPs
6	AL	Baldwin Co	Urban	Baldwin County Commission Magnolia Sanitary Landfi	NTIAL0030033	940	2.11	7	See All HAPs
7	AL	Baldwin Co	Urban	Baldwin Dinettes (Ceased) Loxley	NTI18325	0.435	< 0.01	39	See All HAPs
8	AL	Barbour Co	Rural	Clio Sanitary Landfill	NTIALLF9921	0.313	< 0.01	28	See All HAPs
9	AL	Bibb Co	Rural	Centreville Landfill	NTIALLF9705	0.785	< 0.01	28	See All HAPs
10	AL	Bibb Co	Rural	Cahaba Veneer Inc	NTI18328	0.435	< 0.01	39	See All HAPs
11	AL	Bibb Co	Rural	Bibb County Sanitary Landfill & Ts	NTIALLF9704	0.924	< 0.01	28	See All HAPs
12	AL	Blount Co	Urban	Blount County/Nectar/Hayden Lf & Ts	NTIALLF9680	4.34	0.01	28	See All HAPs
13	AL	Blount Co	Urban	Blount County/Fridays Crossing Sanitary Landfill	NTIALLF9679	0.436	< 0.01	28	See All HAPs
14	AL	Bullock Co	Rural	Union Springs Sanitary Landfill	NTIALLF9446	8.13	0.02	28	See All HAPs
15	AL	Butler Co	Rural	Greenville Sanitary Landfill	NTIALLF9421	0.574	< 0.01	28	See All HAPs
16	AL	Butler Co	Rural	Butler County Sif (Georgiana)	NTIALLF9420	3.55	0.01	28	See All HAPs
17	AL	Calhoun Co	Rural	Stewart Landfill	NTIALLF9343	26.7	0.06	28	See All HAPs
18	AL	Calhoun Co	Rural	Mt. Liberty Baptist	NTIALLF9342	0.439	< 0.01	28	See All

				Church Landfill					HAPs
19	AL	Calhoun Co	Rural	Anniston Army Depot	NTI18329	0.275	< 0.01	45	See All HAPs
20	AL	Calhoun Co	Rural	National Gypsum Company	NTI18330	0.871	< 0.01	37	See All HAPs
21	AL	Calhoun Co	Rural	Fair Landfill	NTIALLF9336	0.673	< 0.01	28	See All HAPs
22	AL	Calhoun Co	Rural	Ann M. & H. C. Holland Fs	NTIALLF9337	3.63	0.01	28	See All HAPs
23	AL	Calhoun Co	Rural	Anniston Army Depot Sanitary Landfill	NTIALLF9338	26.7	0.06	28	See All HAPs
24	AL	Calhoun Co	Rural	Anniston Sanitary Landfill	NTIALLF9339	0.731	< 0.01	28	See All HAPs
25	AL	Calhoun Co	Rural	Brown Borthers / Lagarde Avenue Ts	NTIALLF9340	18.4	0.04	28	See All HAPs
26	AL	Calhoun Co	Rural	Fort McClellan Sanitary Landfill	NTIALLF9341	2.89	0.01	28	See All HAPs
27	AL	Chambers Co	Urban	West Point Stevens - Fairfax Plant	NTI18331	0.380	< 0.01	37	See All HAPs
28	AL	Chambers Co	Urban	West Point Stevens - Lanett Mill	NTI18332	0.130	< 0.01	37	See All HAPs
29	AL	Cherokee Co	Rural	Cherokee County Sanitary Landfill	NTIALLF9079	0.574	< 0.01	28	See All HAPs
30	AL	Chilton Co	Rural	International Paper Maplesville	NTI18333	0.871	< 0.01	36	See All HAPs
31	AL	Chilton Co	Rural	Chilton County Sanitary Landfill	NTIALLF9038	4.57	0.01	28	See All HAPs
32	AL	Choctaw Co	Rural	Fort James Corporation Naheola Mill	NTI18334	1,920	4.32	49	See All HAPs
33	AL	Choctaw Co	Rural	Choctaw County Sanitary Landfill	NTIALLF9000	13.8	0.03	28	See All HAPs
34	AL	Clarke Co	Rural	Thomasville Sanitary Landfill	NTIALLF8930	2.65	0.01	28	See All HAPs
35	AL	Clarke Co	Rural	Clarke County Sanitary Landfill	NTIALLF8929	2.61	0.01	28	See All HAPs
36	AL	Clarke Co	Rural	Boise Cascade	NTI8601	1,977	4.45	40	See All HAPs
37	AL	Clay Co	Rural	Clay County Sanitary Landfill	NTIALLF8914	0.456	< 0.01	28	See All HAPs
38	AL	Clay Co	Rural	Wellborn Cabinets Inc Ashland	NTI8574	0.723	< 0.01	38	See All HAPs
39	AL	Cleburne Co	Rural	Cleburne County Sanitary Landfill	NTIALLF8892	0.456	< 0.01	28	See All HAPs
40	AL	Coffee Co	Urban	Coffee County Sanitary Landfill	NTIALLF8798	5.91	0.01	28	See All HAPs
41	AL	Coffee Co	Urban	Johnson Landfill	NTIALLF8797	0.623	< 0.01	28	See All HAPs
42	AL	Coffee Co	Urban	Elba Landfill	NTIALLF8799	11.6	0.03	28	See All HAPs
43	AL	Coffee Co	Urban	Enterprise Landfill	NTIALLF8796	0.574	< 0.01	28	See All HAPs
44	AL	Coffee Co	Urban	Conagra Inc	NTIAL0103100	0.0642	< 0.01	37	See All HAPs
45	AL	Colbert Co	Urban	Colbert Fossil Plant Landfill	NTIALLF8791	6.38	0.01	28	See All HAPs
46	AL	Colbert Co	Urban	Tva Colbert	NTI11769	154	0.35	35	See All HAPs
47	AL	Conecuh Co	Rural	Conecuh County Sanitary Landfill	NTIALLF8719	0.526	< 0.01	28	See All HAPs

48	AL	Covington Co	Rural	Andalusia Sanitary Landfill	NTIALLF8590	0.574	< 0.01	28	See All HAPs
49	AL	Covington Co	Rural	Lockhart Sanitary Landfill	NTIALLF8588	0.574	< 0.01	28	See All HAPs
50	AL	Covington Co	Rural	McWilliams	NTI12259	0.0047	< 0.01	36	See All HAPs
51	AL	Covington Co	Rural	Opp Sanitary Landfill	NTIALLF8585	0.574	< 0.01	28	See All HAPs
52	AL	Covington Co	Rural	Brantley Landfill	NTIALLF8586	1.73	< 0.01	28	See All HAPs
53	AL	Covington Co	Rural	Florala Sanitary Landfill	NTIALLF8587	2.65	0.01	28	See All HAPs
54	AL	Crenshaw Co	Rural	Crenshaw County Sanitary Landfill	NTIALLF8548	2.10	< 0.01	28	See All HAPs
55	AL	Cullman Co	Rural	Alabama Feed Products Inc	NTIAL0104300	0.287	< 0.01	37	See All HAPs
56	AL	Cullman Co	Rural	Cullman City Sanitary Landfill	NTIALLF8529	2.42	0.01	28	See All HAPs
57	AL	Cullman Co	Rural	Cullman County Sanitary Landfill	NTIALLF8530	6.38	0.01	28	See All HAPs
58	AL	Cullman Co	Rural	Cullman Enviromental Sanitary Landfill	NTIALLF8531	2.69	0.01	28	See All HAPs
59	AL	Cullman Co	Rural	Dcp-Lohja, Inc.	NTI8449	0.435	< 0.01	38	See All HAPs
60	AL	Dale Co	Rural	Fort Rucker Sanitary Landfill	NTIALLF8470	0.630	< 0.01	28	See All HAPs
61	AL	Dallas Co	Rural	Dallas County / Pea Ridge Sif	NTIALLF8453	6.09	0.01	28	See All HAPs
62	AL	Dallas Co	Rural	International Paper Company Riverdale Mill	NTI18335	3,086	6.94	41	See All HAPs
63	AL	DeKalb Co	Rural	Dekalb County (Fyffe) Sanitary Landfill	NTIALLF8406	0.241	< 0.01	28	See All HAPs
64	AL	DeKalb Co	Rural	Downers / Waste Care Inc Sanitary Landfill	NTIALLF8404	2.89	0.01	28	See All HAPs
65	AL	Elmore Co	Urban	Speigner Sanitary Landfill	NTIALLF8008	1.30	< 0.01	28	See All HAPs
66	AL	Elmore Co	Urban	Wetumpka (Hwy 9) Sanitary Landfill	NTIALLF8009	7.98	0.02	28	See All HAPs
67	AL	Elmore Co	Urban	Central Sanitary Landfill	NTIALLF8007	11.6	0.03	28	See All HAPs
68	AL	Escambia Co	Rural	T R Miller Mill Co. Inc	NTIALLF7940	0.351	< 0.01	28	See All HAPs
69	AL	Escambia Co	Rural	Wawbeek Sanitary Landfill	NTIALLF7942	1.47	< 0.01	28	See All HAPs
70	AL	Escambia Co	Rural	East Brewton Sanitary Landfill	NTIALLF7939	10.7	0.02	28	See All HAPs
71	AL	Escambia Co	Rural	Jsc Brewton, Inc.	NTI18338	5,113	11.50	48	See All HAPs
72	AL	Escambia Co	Rural	Timberlands Landfill	NTIAL0530080	6.51	0.01	28	See All HAPs
73	AL	Etowah Co	Urban	Etowah County Sanitary Landfill	NTIALLF7880	11.5	0.03	28	See All HAPs
74	AL	Etowah Co	Urban	Glencoe Trash Site Landfill	NTIALLF7878	0.673	< 0.01	28	See All HAPs
75	AL	Etowah Co	Urban	City Of Gadsden Sanitary Landfill	NTIALLF7879	12.2	0.03	28	See All HAPs
76	AL	Etowah Co	Urban	Alabama Power Company Gadsden	NTI12788	11.5	0.03	37	See All HAPs
77	AL	Fayette Co	Rural	Belk Landfill	NTIALLF7842	1.89	< 0.01	28	See All

									HAPs
78	AL	Fayette Co	Rural	Fayette County Sanitary Landfill	NTIALLF7841	0.526	< 0.01	28	See All HAPs
79	AL	Franklin Co	Rural	Russellville Landfill	NTIALLF7778	7.16	0.02	28	See All HAPs
80	AL	Franklin Co	Rural	Franklin County Inert Landfill & Ts	NTIALLF7777	3.96	0.01	28	See All HAPs
81	AL	Geneva Co	Rural	West Geneva Sanitary Landfill	NTIALLF7488	13.8	0.03	28	See All HAPs
82	AL	Geneva Co	Rural	East Geneva Sanitary Landfill	NTIALLF7486	2.42	0.01	28	See All HAPs
83	AL	Geneva Co	Rural	Slocomb Landfill	NTIALLF7485	0.241	< 0.01	28	See All HAPs
84	AL	Geneva Co	Rural	Samson Landfill	NTIALLF7489	7.16	0.02	28	See All HAPs
85	AL	Greene Co	Rural	Greene County (Eutaw) Sanitary Landfill	NTIALLF7280	6.09	0.01	28	See All HAPs
86	AL	Greene Co	Rural	Alabama Power Company Greene County	NTI6495	69.1	0.16	37	See All HAPs
87	AL	Hale Co	Rural	Hale County (Greensboro) Sanitary Landfill	NTIALLF7184	2.61	0.01	28	See All HAPs
88	AL	Henry Co	Rural	Headland Sanitary Landfill	NTIALLF6927	0.574	< 0.01	28	See All HAPs
89	AL	Henry Co	Rural	Abbeville Sanitary Landfill	NTIALLF6926	1.89	< 0.01	28	See All HAPs
90	AL	Houston Co	Urban	Dothan Sanitary Landfill	NTIALLF6800	6.75	0.02	28	See All HAPs
91	AL	Houston Co	Urban	Ansell Inc	NTI18345	0.0879	< 0.01	38	See All HAPs
92	AL	Jackson Co	Rural	Scottsboro Balefill Sanitary Landfill	NTIALLF6478	6.11	0.01	28	See All HAPs
93	AL	Jackson Co	Rural	Valley View Sanitary Landfill	NTIALLF6477	4.99	0.01	28	See All HAPs
94	AL	Jackson Co	Rural	Tva Widows Creek	NTI12080	209	0.47	38	See All HAPs
95	AL	Jackson Co	Rural	Bridgeport Sanitary Landfill	NTIALLF6474	8.84	0.02	28	See All HAPs
96	AL	Jackson Co	Rural	Mead Containerboard	NTI18347	251	0.56	31	See All HAPs
97	AL	Jackson Co	Rural	Tva / Widows Creek Landfill	NTIALLF6476	1.89	< 0.01	28	See All HAPs
98	AL	Jefferson Co	Urban	Simmons Machinery Company Inc Landfill	NTIALLF6397	2.23	0.01	28	See All HAPs
99	AL	Jefferson Co	Urban	Us Steel Mining (Oak Grove) Landfill	NTIALLF6396	2.23	0.01	28	See All HAPs
100	AL	Jefferson Co	Urban	U.S. Steel Mining Co.,Llc - Concord	NTIALLF6395	7.85	0.02	29	See All HAPs
101	AL	Jefferson Co	Urban	Mount Olive Sanitary Landfill	NTIALLF6394	5.70	0.01	28	See All HAPs
102	AL	Jefferson Co	Urban	Mitchell / Ab Foundry	NTIALLF6393	64.5	0.15	28	See All HAPs
103	AL	Jefferson Co	Urban	Turkey Creek Sanitary Landfill	NTIALLF6392	4.56	0.01	28	See All HAPs
104	AL	Jefferson Co	Urban	Peabody Sanitary Landfill	NTIALLF6391	64.5	0.15	28	See All HAPs
105	AL	Jefferson Co	Urban	Oscar Kent Landfill	NTIALLF6390	7.85	0.02	28	See All HAPs

106	AL	Jefferson Co	Urban	Holsomback Landfill	NTIALLF6389	64.5	0.15	28	See All HAPs
107	AL	Jefferson Co	Urban	Gaston Steam Plant Landfill	NTIALLF6388	7.85	0.02	28	See All HAPs
108	AL	Jefferson Co	Urban	Shannon Sanitary Landfill	NTIALLF6387	84.2	0.19	28	See All HAPs
109	AL	Jefferson Co	Urban	Partridge Sanitary Landfill	NTIALLF6386	7.20	0.02	28	See All HAPs
110	AL	Jefferson Co	Urban	Mcdonald Hollow Landfill	NTIALLF6385	7.20	0.02	28	See All HAPs
111	AL	Jefferson Co	Urban	New Georgia Sanitary Landfill	NTIALLF6383	47.0	0.11	28	See All HAPs
112	AL	Jefferson Co	Urban	Eastern Area Sanitary Landfill	NTIALLF6382	77.1	0.17	28	See All HAPs
113	AL	Jefferson Co	Urban	Salser Landfill	NTIALLF6381	7.85	0.02	28	See All HAPs
114	AL	Jefferson Co	Urban	John'S Sanitary Landfill	NTIALLF6320	2.23	0.01	28	See All HAPs
115	AL	Jefferson Co	Urban	Alabama Power Company (Miller Power Plant)	NTI12519	363	0.82	37	See All HAPs
116	AL	Lamar Co	Rural	Sulligent Landfill	NTIALLF5841	0.574	< 0.01	28	See All HAPs
117	AL	Lamar Co	Rural	City Of Sulligent	NTIALLF5840	0.322	< 0.01	28	See All HAPs
118	AL	Lamar Co	Rural	Lamar County Sanitary Landfill (South)	NTIALLF5839	0.574	< 0.01	28	See All HAPs
119	AL	Lauderdale Co	Rural	Lexington Sanitary Landfill	NTIALLF5719	1.89	< 0.01	28	See All HAPs
120	AL	Lauderdale Co	Rural	Underwood (Lauderdale County) Landfill & Ts	NTIALLF5722	5.38	0.01	28	See All HAPs
121	AL	Lauderdale Co	Rural	Threet Landfill	NTIALLF5721	1.89	< 0.01	28	See All HAPs
122	AL	Lauderdale Co	Rural	Tennessee River, Inc	NTI18356	0.0504	< 0.01	37	See All HAPs
123	AL	Lauderdale Co	Rural	Lexington Fabrics Inc	NTI18355	0.0388	< 0.01	37	See All HAPs
124	AL	Lawrence Co	Rural	Morris Landfill	NTIALLF5705	0.574	< 0.01	28	See All HAPs
125	AL	Lawrence Co	Rural	International Paper Company Courtland Mill	NTI18357	1,891	4.25	51	See All HAPs
126	AL	Lawrence Co	Rural	Lawrence County Sanitary Landfill	NTIALLF5704	2.37	0.01	28	See All HAPs
127	AL	Lee Co	Urban	Salem Waste Disposal Inc Landfill	NTIALLF5688	37.8	0.09	28	See All HAPs
128	AL	Lee Co	Urban	Kent Landfill / City Of Auburn	NTIALLF5687	1.30	< 0.01	28	See All HAPs
129	AL	Lee Co	Urban	Westpoint Stevens - Opelika Plant	NTI8620	0.871	< 0.01	44	See All HAPs
130	AL	Limestone Co	Urban	Delphi Saginaw Steering Systems	NTI18358	1.31	< 0.01	37	See All HAPs
131	AL	Limestone Co	Urban	Athens / Limestone Co Sanitary Landfill	NTIALLF5595	8.74	0.02	28	See All HAPs
132	AL	Lowndes Co	Rural	Lowndes County Sanitary Landfill	NTIALLF5156	0.313	< 0.01	28	See All HAPs
133	AL	Macon Co	Urban	Tuskegee Landfill	NTIALLF5070	10.5	0.02	28	See All HAPs
134	AL	Madison Co	Urban	Wild Boys Landfill	NTIALLF5031	1.72	< 0.01	28	See All HAPs

135	AL	Madison Co	Urban	Madison Oaks Development Landfill	NTIALLF5030	25.2	0.06	28	See All HAPs
136	AL	Madison Co	Urban	Madison County / New Hope School	NTIALLF5029	6.21	0.01	28	See All HAPs
137	AL	Madison Co	Urban	Huntsville Sanitary Landfill	NTIALLF5028	28.9	0.07	28	See All HAPs
138	AL	Marengo Co	Rural	Marengo County Sanitary Landfill	NTIALLF4963	2.89	0.01	28	See All HAPs
139	AL	Marengo Co	Rural	Gulf States Paper Corporation	NTI45474	2,725	6.13	37	See All HAPs
140	AL	Marion Co	Rural	Guin Landfill	NTIALLF4832	1.58	< 0.01	28	See All HAPs
141	AL	Marion Co	Rural	Hamilton Missionary Baptist Church	NTIALLF4833	11.6	0.03	28	See All HAPs
142	AL	Marion Co	Rural	South Marion County Sanitary Landfill	NTIALLF4835	2.65	0.01	28	See All HAPs
143	AL	Marion Co	Rural	Indies House Inc	NTIALLF4831	1.89	< 0.01	28	See All HAPs
144	AL	Marion Co	Rural	Craftwood Design (Caldwell Chair) Haleyville	NTI18364	0.435	< 0.01	38	See All HAPs
145	AL	Marion Co	Rural	Harden Manufacturing Corporation Plant No. 1; Bear	NTI18365	0.435	< 0.01	38	See All HAPs
146	AL	Marion Co	Rural	North Marion County Sanitary Landfill	NTIALLF4834	2.65	0.01	28	See All HAPs
147	AL	Marion Co	Rural	Ballard Landfill	NTIALLF4830	1.89	< 0.01	28	See All HAPs
148	AL	Marion Co	Rural	Colby Furniture Co Hamilton	NTI8500	0.435	< 0.01	41	See All HAPs
149	AL	Marion Co	Rural	3m Company Guin	NTI8495	0.435	< 0.01	42	See All HAPs
150	AL	Marion Co	Rural	Harden Mfg. Corp. Plant No.3	NTI18366	0.435	< 0.01	35	See All HAPs
151	AL	Marshall Co	Rural	Bishop Sanitary Landfill	NTIALLF4762	22.6	0.05	28	See All HAPs
152	AL	Marshall Co	Rural	Albertville Sanitary Landfill	NTIALLF4761	2.74	0.01	28	See All HAPs
153	AL	Marshall Co	Rural	Boaz Sanitary Landfill	NTIALLF4760	1.04	< 0.01	28	See All HAPs
154	AL	Mobile Co	Urban	Irvington Sanitary Landfill (Mobile County)	NTIALLF4400	39.0	0.09	28	See All HAPs
155	AL	Mobile Co	Urban	Courtaulds North America Inc Landfill	NTIALLF4401	1.48	< 0.01	27	See All HAPs
156	AL	Mobile Co	Urban	Saraland Sanitary Landfill	NTIALLF4404	2.10	< 0.01	28	See All HAPs
157	AL	Mobile Co	Urban	Brunson Construction Landfill	NTIALLF4403	8.51	0.02	28	See All HAPs
158	AL	Mobile Co	Urban	Huls America Inc	NTI18368	0.435	< 0.01	41	See All HAPs
159	AL	Mobile Co	Urban	International Paper Company Siebert Station	NTI18369	3,598	8.10	47	See All HAPs
160	AL	Mobile Co	Urban	Kimberly-Clark Tissue	NTI18371	0.435	< 0.01	40	See All HAPs
161	AL	Mobile Co	Urban	Alabama Power Company Barry	NTI7966	197	0.44	37	See All HAPs
162	AL	Mobile Co	Urban	S D Warren	NTI8611	6,515	14.66	38	See All HAPs
				Hickory Street					

163	AL	Mobile Co	Urban	Sanitary Landfill / City Of Mobile	NTIALLF4395	8.51	0.02	28	See All HAPs
164	AL	Mobile Co	Urban	Basf Performance Copolymers Llc	NTIAL5022	200	0.45	4	See All HAPs
165	AL	Mobile Co	Urban	Martin Marietta Aggregates	NTIAL0109780	0.287	< 0.01	37	See All HAPs
166	AL	Mobile Co	Urban	Chastang Sanitary Landfill	NTIALLF4396	17.1	0.04	28	See All HAPs
167	AL	Mobile Co	Urban	Addsco Landfill	NTIALLF4397	39.0	0.09	28	See All HAPs
168	AL	Mobile Co	Urban	Churchula Sanitary Landfill	NTIALLF4399	5.85	0.01	28	See All HAPs
169	AL	Mobile Co	Urban	Prichard Landfill (Bellcase Road)	NTIALLF4402	8.51	0.02	28	See All HAPs
170	AL	Monroe Co	Rural	Monroe County Sanitary Landfill	NTIALLF4329	7.87	0.02	28	See All HAPs
171	AL	Monroe Co	Rural	Alabama River Pulp Co Inc	NTI18373	3,584	8.06	47	See All HAPs
172	AL	Montgomery Co	Urban	Ramer Sanitary Landfill	NTIALLF4211	1.72	< 0.01	28	See All HAPs
173	AL	Montgomery Co	Urban	Maxwell Afb Sanitary Landfill	NTIALLF4213	0.303	< 0.01	28	See All HAPs
174	AL	Montgomery Co	Urban	Sullivan Landfill	NTIALLF4212	1.72	< 0.01	28	See All HAPs
175	AL	Montgomery Co	Urban	North Montgomery Sanitary Landfill	NTIALLF4210	52.6	0.12	28	See All HAPs
176	AL	Morgan Co	Urban	3m Company Decatur Plant	NTI8510	2.18	< 0.01	52	See All HAPs
177	AL	Morgan Co	Urban	Bp Amoco Chemicals	NTI8507	4.47	0.01	40	See All HAPs
178	AL	Morgan Co	Urban	Solutia, Inc Decatur Plant	NTI18381	12.1	0.03	45	See All HAPs
179	AL	Morgan Co	Urban	Decatur / Morgan Sanitary Landfill	NTIALLF4142	29.8	0.07	28	See All HAPs
180	AL	Morgan Co	Urban	American Maize-Products Decatur Inc.	NTIAL10196	0.287	< 0.01	37	See All HAPs
181	AL	Morgan Co	Urban	Conagra	NTIAL10195	0.287	< 0.01	37	See All HAPs
182	AL	Perry Co	Rural	Perry County Sanitary Landfill	NTIALLF3271	0.631	< 0.01	28	See All HAPs
183	AL	Perry Co	Rural	Central Alabama Swda Sanitary Landfill	NTIALLF3270	11.6	0.03	28	See All HAPs
184	AL	Pike Co	Rural	Brundidge Sanitary Landfill (Pike County)	NTIALLF3227	1.35	< 0.01	28	See All HAPs
185	AL	Pike Co	Rural	Brundidge Waste Disposal Center	NTIALLF3226	1.89	< 0.01	28	See All HAPs
186	AL	Randolph Co	Rural	Roanoke Sanitary Landfill	NTIALLF2869	2.18	< 0.01	28	See All HAPs
187	AL	Randolph Co	Rural	Randolph County Demolition Lf	NTIALLF2870	0.652	< 0.01	28	See All HAPs
188	AL	Russell Co	Urban	Esco Landfill #2	NTIALLF2611	1.89	< 0.01	28	See All HAPs
189	AL	Russell Co	Urban	Mead Coated Board Inc	NTI46931	40.0	0.09	44	See All HAPs
190	AL	Russell Co	Urban	Johnston Foundry Sand Landfill	NTIALLF2612	1.89	< 0.01	28	See All HAPs
191	AL	Shelby Co	Urban	Seaman Timber Co	NTIAL117S001	0.575	< 0.01	37	See All HAPs
192	AL	Shelby Co	Urban	Cheney Lime & Cement Co	NTI18386	0.871	< 0.01	37	See All HAPs

193	AL	Shelby Co	Urban	Dravo Lime Co	NTI18387	0.435	< 0.01	37	See All HAPs
194	AL	Shelby Co	Urban	Ala Power Co E.C. Gaston	NTI7744	172	0.39	35	See All HAPs
195	AL	Shelby Co	Urban	Highway 70 Sanitary Landfill	NTIALLF1698	9.23	0.02	28	See All HAPs
196	AL	Shelby Co	Urban	Westover Sanitary Landfill	NTIALLF1697	0.617	< 0.01	28	See All HAPs
197	AL	St. Clair Co	Urban	Superior Star Ridge Landfill	NTIAL1150023	58.4	0.13	28	See All HAPs
198	AL	St. Clair Co	Urban	Superior Cedar Hill Landfill	NTIALLF1442	12.4	0.03	26	See All HAPs
199	AL	Sumter Co	Rural	Sumter County Sanitary Landfill	NTIALLF1178	0.623	< 0.01	28	See All HAPs
200	AL	Sumter Co	Rural	Livingston Landfill	NTIALLF1177	1.73	< 0.01	28	See All HAPs
201	AL	Talladega Co	Rural	Brecon Sanitary Landfill	NTIALLF1123	0.351	< 0.01	28	See All HAPs
202	AL	Talladega Co	Rural	Odena, District 4, Sanitary Landfill	NTIALLF1124	9.31	0.02	28	See All HAPs
203	AL	Talladega Co	Rural	Alliance Forest Products, U.S. Corporation	NTI18390	4,728	10.64	51	See All HAPs
204	AL	Tallapoosa Co	Rural	Tallapoosa County Sanitary Landfill	NTIALLF1120	1.89	< 0.01	28	See All HAPs
205	AL	Tallapoosa Co	Rural	Tallassee Waste Disposal Center	NTIALLF1122	6.31	0.01	28	See All HAPs
206	AL	Tallapoosa Co	Rural	Wellborn Forest Products Alex City	NTI18392	0.435	< 0.01	40	See All HAPs
207	AL	Tuscaloosa Co	Urban	Trash Site Landfill	NTIALLF889	0.617	< 0.01	28	See All HAPs
208	AL	Tuscaloosa Co	Urban	Harris Landfill (K / Mart)	NTIALLF888	0.512	< 0.01	28	See All HAPs
209	AL	Tuscaloosa Co	Urban	Harris (Jerusalem Heights) Landfill	NTIALLF887	0.512	< 0.01	28	See All HAPs
210	AL	Tuscaloosa Co	Urban	Eley Landfill	NTIALLF886	0.673	< 0.01	28	See All HAPs
211	AL	Tuscaloosa Co	Urban	Superior Eagle Bluff Landfill	NTIALLF885	1.09	< 0.01	28	See All HAPs
212	AL	Walker Co	Rural	Lost Creek Coal County Sanitary Landfill	NTIALLF612	0.574	< 0.01	28	See All HAPs
213	AL	Walker Co	Rural	Argo Sanitary Landfill	NTIALLF611	2.10	< 0.01	28	See All HAPs
214	AL	Walker Co	Rural	Pine View Sanitary Landfill	NTIALLF610	4.54	0.01	28	See All HAPs
215	AL	Walker Co	Rural	Alabama Power Company Gorgas	NTI13104	179	0.40	37	See All HAPs
216	AL	Washington Co	Rural	Washington County Sanitary Landfill	NTIALLF523	4.59	0.01	28	See All HAPs
217	AL	Washington Co	Rural	Olin Chemical Corp Po Box28mcintosh36553	NTI18400	0.967	< 0.01	38	See All HAPs
218	AL	Washington Co	Rural	Ciba Specialty Chemicals Corporation	NTI18398	4.35	0.01	53	See All HAPs
219	AL	Washington Co	Rural	Alabama Electric Cooperative Lowman	NTI12377	72.0	0.16	37	See All HAPs
220	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI8619	0.435	< 0.01	40	See All HAPs
221	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI18379	1,177	2.65	22	See All HAPs

222	AL	Winston Co	Rural	Haleyville Regional Landfill	NTIALLF228	8.64	0.02	28	See All HAPs
223	AL	Winston Co	Rural	Three Star Manufacturing Company Landfill	NTIALLF227	0.351	< 0.01	28	See All HAPs
224	AL	Winston Co	Rural	Winston County Sanitary Landfill	NTIALLF226	0.294	< 0.01	28	See All HAPs
225	AL	Winston Co	Rural	Powell Landfill (Mobile Home)	NTIALLF225	0.351	< 0.01	28	See All HAPs
226	AL	Winston Co	Rural	Hood Landfill (Mobile Home)	NTIALLF223	11.6	0.03	28	See All HAPs
227	AL	Winston Co	Rural	Harden Mfg. Corp. Plant No.2	NTI8498	0.435	< 0.01	36	See All HAPs
228	AL	Winston Co	Rural	Houston Wood Products Arley	NTI18402	0.435	< 0.01	39	See All HAPs
229	AL	Winston Co	Rural	Dover Furniture Arley	NTI18401	0.871	< 0.01	41	See All HAPs
Grand Total						44,447			

Page 1 of 1

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Consistency: The NEI is a composite of emission estimates generated by state and local regulatory agencies, industry, and EPA. Because the estimates originated from a variety of sources and estimation methods, as well as differing purposes, they vary in quality, level of detail, and geographic coverage. However, this compilation of emissions estimates represents the best available information to date.

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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: Formaldehyde

Year: 1999

Emissions in Pounds Per Year

244 Rows

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Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT									
1	AL	Autauga Co	Urban	International Paper Company Prattville Mill	NT18560	8,600	0.53	49	See All HAPs
2	AL	Autauga Co	Urban	Haldex Friction Products Prattville	NT18561	12,000	0.74	2	See All HAPs
3	AL	Baldwin Co	Urban	Baldwin Dinettes (Ceased) Loxley	NT118325	2.62	< 0.01	39	See All HAPs
4	AL	Barbour Co	Rural	Alabama Inter-Forest Corporation	NT18557	120	0.01	11	See All HAPs
5	AL	Barbour Co	Rural	Louisiana-Pacific Corporation, Clayton Mdf Mill	NT18439	20,771	1.28	9	See All HAPs
6	AL	Barbour Co	Rural	M C Dixon Lumber Co	NT118326	714	0.04	12	See All HAPs
7	AL	Bibb Co	Rural	Olon Belcher Lumber	NTIAL10149	280	0.02	15	See All HAPs
8	AL	Bibb Co	Rural	Centreville Lumber Co	NTIAL10148	714	0.04	12	See All HAPs
9	AL	Bibb Co	Rural	Cahaba Veneer Inc	NT118328	101	0.01	39	See All HAPs
10	AL	Bibb Co	Rural	Cahaba Pressure Treated Forest Products	NT118327	240	0.01	16	See All HAPs
11	AL	Butler Co	Rural	International Paper Co.	NT156713	2,945	0.18	23	See All HAPs
12	AL	Calhoun Co	Rural	Fort McClellan	NTIAL0101500	0.0718	< 0.01	11	See All HAPs
13	AL	Calhoun Co	Rural	U S Castings Company	NT18570	3,060	0.19	7	See All HAPs
14	AL	Calhoun Co	Rural	National Gypsum Company	NT118330	5.23	< 0.01	37	See All HAPs
15	AL	Calhoun Co	Rural	Anniston Army Depot	NT118329	1.65	< 0.01	45	See All HAPs
16	AL	Chambers Co	Urban	East Alabama Lumber Inc	NTIAL017S003	320	0.02	6	See All HAPs
17	AL	Chambers Co	Urban	Knauf Fiber Glass	NT18623	28,200	1.73	4	See All HAPs
		Chambers		West Point Stevens -					See All

18	AL	Co	Urban	Lanett Mill	NT118332	0.781	< 0.01	37	HAPs
19	AL	Chambers Co	Urban	West Point Stevens - Fairfax Plant	NT118331	2.28	< 0.01	37	See All HAPs
20	AL	Chilton Co	Rural	Transco Billingsley Station	NTIAL0102100	2,992	0.18	4	See All HAPs
21	AL	Chilton Co	Rural	Union Camp Corporation - Thorsby, Al Facility	NTIAL021S006	1,382	0.08	10	See All HAPs
22	AL	Chilton Co	Rural	Ward'S Cabinetry	NTIAL0210011	480	0.03	9	See All HAPs
23	AL	Chilton Co	Rural	International Paper Company Maplesville	NTIAL021S005	6,200	0.38	14	See All HAPs
24	AL	Choctaw Co	Rural	J W Lassiter Lbr Co	NTIAL0102390	71.5	< 0.01	13	See All HAPs
25	AL	Choctaw Co	Rural	Pruet Production Co	NTIAL0102300	7,114	0.44	4	See All HAPs
26	AL	Choctaw Co	Rural	Fort James Corporation Naheola Mill	NT118334	24,540	1.51	49	See All HAPs
27	AL	Clarke Co	Rural	Hamilton Woods Veneer Company	NTIRALWP-272	156	0.01	5	See All HAPs
28	AL	Clarke Co	Rural	Scotch Lumber	NTIAL025S006	11,632	0.71	23	See All HAPs
29	AL	Clarke Co	Rural	Coastal Lumber Co	NTIAL10150	79.0	< 0.01	12	See All HAPs
30	AL	Clarke Co	Rural	Boise Cascade	NT18601	7,480	0.46	40	See All HAPs
31	AL	Clay Co	Rural	Tru-Wood Cabinets Inc	NTIAL0270004	140	0.01	7	See All HAPs
32	AL	Clay Co	Rural	Wellborn Cabinets Inc Ashland	NT18574	30.0	< 0.01	38	See All HAPs
33	AL	Cleburne Co	Rural	Southern Natural Gas Bell Mills	NTIAL0290002	3,940	0.24	6	See All HAPs
34	AL	Coffee Co	Urban	Conagra Inc	NTIAL0103100	0.384	< 0.01	37	See All HAPs
35	AL	Colbert Co	Urban	Safco	NTIAL10155	2,596	0.16	4	See All HAPs
36	AL	Colbert Co	Urban	Mckinney Lumber	NTIAL0103390	98.9	0.01	12	See All HAPs
37	AL	Colbert Co	Urban	Al-Tennessee Natural Gas Co	NTIAL10154	1,371	0.08	4	See All HAPs
38	AL	Colbert Co	Urban	Tva Colbert	NT111769	1,453	0.09	35	See All HAPs
39	AL	Colbert Co	Urban	Wise Alloys, L.L.C. Alloys Plant	NT18522	120	0.01	10	See All HAPs
40	AL	Colbert Co	Urban	Wise Alloys, L.L.C. Sheffield Plant	NT18521	8,600	0.53	8	See All HAPs
41	AL	Conecuh Co	Rural	Louisiana Pacific Corporation	NTIAL035S001	100	0.01	2	See All HAPs
42	AL	Conecuh Co	Rural	Trus Joist	NTIAL0350012	1,080	0.07	3	See All HAPs
43	AL	Coosa Co	Rural	Us Alliance	NTIAL037S005	120	0.01	6	See All HAPs
44	AL	Coosa Co	Rural	Madix Inc Goodwater Location	NT18454	600	0.04	9	See All HAPs
45	AL	Covington Co	Rural	McWilliams	NT112259	27.7	< 0.01	36	See All HAPs
46	AL	Covington Co	Rural	Neste Resins Corporation	NT18591	640	0.04	4	See All HAPs

47	AL	Crenshaw Co	Rural	H.E. Browder Veneer, Incorporated	NTIRALWP-271	2.08	< 0.01	3	See All HAPs
48	AL	Cullman Co	Rural	Greif Brothers	NTI8450	1,480	0.09	7	See All HAPs
49	AL	Cullman Co	Rural	Dcp-Lohja, Inc.	NTI8449	40.0	< 0.01	38	See All HAPs
50	AL	Cullman Co	Rural	Louisiana-Pacific - Hanceville Osb	NTIAL0430027	4,673	0.29	13	See All HAPs
51	AL	Cullman Co	Rural	Louisiana-Pacific Corporation	NTI56715	4,620	0.28	4	See All HAPs
52	AL	Cullman Co	Rural	Alabama Feed Products Inc	NTIAL0104300	1.73	< 0.01	37	See All HAPs
53	AL	Cullman Co	Rural	Peerless Coatings Inc	NTIAL0430033	20.0	< 0.01	10	See All HAPs
54	AL	Dale Co	Rural	Sloss Ind. Corp., Arichem Plant	NTIALTS4667	219	0.01	3	See All HAPs
55	AL	Dale Co	Rural	Fort Rucker	NTIAL0450008	40.0	< 0.01	21	See All HAPs
56	AL	Dallas Co	Rural	Pilliod Of Alabama Inc Pilliod Furniture, Inc.	NTI18337	22,000	1.35	14	See All HAPs
57	AL	Dallas Co	Rural	Miller & Co #1	NTI18336	102	0.01	12	See All HAPs
58	AL	Dallas Co	Rural	International Paper Company Riverdale Mill	NTI18335	400	0.02	41	See All HAPs
59	AL	DeKalb Co	Rural	Cagle'S Inc.	NTIAL0104900	714	0.04	12	See All HAPs
60	AL	Elmore Co	Urban	Madix Inc Eclectic Location	NTIAL0510011	400	0.02	9	See All HAPs
61	AL	Elmore Co	Urban	Alagasco Coosada Liquid Natural Gas Plant	NTIAL0105100	2,639	0.16	5	See All HAPs
62	AL	Elmore Co	Urban	Southern Natural Gas Elmore Area	NTIAL0510006	20,000	1.23	6	See All HAPs
63	AL	Escambia Co	Rural	Pruet Production Co	NTIAL10160	5,193	0.32	4	See All HAPs
64	AL	Escambia Co	Rural	Swift Lumber Co.	NTIAL10161	192	0.01	12	See All HAPs
65	AL	Escambia Co	Rural	Exxonmobil Production Company Big Escambia Creek G	NTIAL0530007	7,200	0.44	6	See All HAPs
66	AL	Escambia Co	Rural	Jsc Brewton, Inc.	NTI18338	14,520	0.89	48	See All HAPs
67	AL	Escambia Co	Rural	T R Miller Mill Co	NTI18340	238	0.01	13	See All HAPs
68	AL	Escambia Co	Rural	Huxford Pole & Timber Co. Inc.	NTI18339	42.7	< 0.01	13	See All HAPs
69	AL	Etowah Co	Urban	Gulf States Steel Inc	NTI18341	40.0	< 0.01	20	See All HAPs
70	AL	Etowah Co	Urban	Alabama Power Company Gadsden	NTI12788	82.7	0.01	37	See All HAPs
71	AL	Fayette Co	Rural	Georgia Pacific-Belk	NTIAL0105790	714	0.04	12	See All HAPs
72	AL	Fayette Co	Rural	Sng Intrastate Co St Hwy 18 Fayette	NTIAL10165	6,172	0.38	4	See All HAPs
73	AL	Fayette Co	Rural	Pan Energy Field Services Inc	NTIAL10164	3,731	0.23	4	See All HAPs
74	AL	Fayette Co	Rural	Pan Energy Field	NTIAL10163	2,405	0.15	4	See All

				Services Inc					HAPs
75	AL	Franklin Co	Rural	Celotex Corporation	NTI18342	8,511	0.52	3	See All HAPs
76	AL	Greene Co	Rural	Alabama Power Company Greene County	NTI6495	865	0.05	37	See All HAPs
77	AL	Hale Co	Rural	Gulf States Paper Moundville Sawmill	NTIAL065S003	460	0.03	7	See All HAPs
78	AL	Hale Co	Rural	Southern Natural Gas Gallion	NTIAL0650003	18,640	1.14	6	See All HAPs
79	AL	Henry Co	Rural	Franklin Hardwood, Incorporated	NTIRALWP-221	35.2	< 0.01	3	See All HAPs
80	AL	Henry Co	Rural	U. S. Forest Industries	NTI18344	714	0.04	13	See All HAPs
81	AL	Houston Co	Urban	Howell Plywood Inc	NTI18346	105	0.01	16	See All HAPs
82	AL	Houston Co	Urban	Ansell Inc	NTI18345	0.526	< 0.01	38	See All HAPs
83	AL	Jackson Co	Rural	Acordis Industrial Fibers	NTI8528	20.0	< 0.01	8	See All HAPs
84	AL	Jackson Co	Rural	Tva Widows Creek	NTI12080	1,321	0.08	38	See All HAPs
85	AL	Jackson Co	Rural	Mead Containerboard	NTI18347	379,652	23.32	31	See All HAPs
86	AL	Jackson Co	Rural	Lozier Scottsboro	NTI8527	800	0.05	5	See All HAPs
87	AL	Jefferson Co	Urban	Taurus Exploration Inc. 0538	NTIAL10167	2,639	0.16	4	See All HAPs
88	AL	Jefferson Co	Urban	Taurus Exploration Inc. 0537	NTIAL10166	5,278	0.32	4	See All HAPs
89	AL	Jefferson Co	Urban	Kent Corporation	NTI8477	7,420	0.46	4	See All HAPs
90	AL	Jefferson Co	Urban	Sirco Sys. Llc	NTI8462	200	0.01	5	See All HAPs
91	AL	Jefferson Co	Urban	Rock Wool Manufacturing Company	NTI8456	13,240	0.81	14	See All HAPs
92	AL	Jefferson Co	Urban	Taurus Exploration Inc. 0540	NTIAL10168	5,278	0.32	4	See All HAPs
93	AL	Jefferson Co	Urban	Alabama Power Company (Miller Power Plant)	NTI12519	3,114	0.19	37	See All HAPs
94	AL	Jefferson Co	Urban	Ang Birmingham	NTIAL01073F0	0.0289	< 0.01	11	See All HAPs
95	AL	Jefferson Co	Urban	Polymer Coil Coaters, Inc.	NTIALT\$4443	120	0.01	9	See All HAPs
96	AL	Jefferson Co	Urban	Southern Natural Gas Corp.	NTIAL0107302	9,240	0.57	4	See All HAPs
97	AL	Lamar Co	Rural	Associated Nat Gas Millport-Mcgee Site	NTIAL10171	3,731	0.23	4	See All HAPs
98	AL	Lamar Co	Rural	Pruet Production Company	NTIAL10170	1,588	0.10	4	See All HAPs
99	AL	Lamar Co	Rural	Associated Nat Gas Vernon/Fayette	NTIAL10169	2,042	0.13	4	See All HAPs
100	AL	Lamar Co	Rural	Weyerhaeuser Company	NTI18354	1,599	0.10	24	See All HAPs
101	AL	Lauderdale Co	Rural	Tennessee River, Inc	NTI18356	0.304	< 0.01	37	See All HAPs
102	AL	Lauderdale Co	Rural	Lexington Fabrics Inc	NTI18355	0.233	< 0.01	37	See All HAPs

103	AL	Lawrence Co	Rural	International Paper Company Courtland Mill	NTI18357	12,460	0.77	51	See All HAPs
104	AL	Lee Co	Urban	Dudley Lumber Co Inc	NTIAL10173	714	0.04	12	See All HAPs
105	AL	Lee Co	Urban	Westpoint Stevens - Opelika Plant	NTI8620	15,600	0.96	44	See All HAPs
106	AL	Lee Co	Urban	Southern Natural Gas Auburn	NTIAL0810021	1,000	0.06	4	See All HAPs
107	AL	Lee Co	Urban	Alabama Board Company L.L.C.	NTIAL0035	10,120	0.62	2	See All HAPs
108	AL	Lee Co	Urban	Union Camp	NTIAL10172	2,143	0.13	12	See All HAPs
109	AL	Limestone Co	Urban	Steelcase Inc	NTI18359	80.0	< 0.01	8	See All HAPs
110	AL	Limestone Co	Urban	Brown'S Ferry Nuclear Plant	NTIAL0108300	0.0140	< 0.01	12	See All HAPs
111	AL	Limestone Co	Urban	Delphi Saginaw Steering Systems	NTI18358	7.85	< 0.01	37	See All HAPs
112	AL	Madison Co	Urban	Giles & Kendall, Inc.	NTIAL089S001	2,596	0.16	15	See All HAPs
113	AL	Madison Co	Urban	Huntsville Refuse-Fired Steam Fac.	NTI18361	367	0.02	10	See All HAPs
114	AL	Madison Co	Urban	Redstone Arsenal	NTIAL0890007	20.0	< 0.01	13	See All HAPs
115	AL	Marengo Co	Rural	Transcontinental Gas	NTIAL10175	26,428	1.62	4	See All HAPs
116	AL	Marengo Co	Rural	Miller & Co #3	NTIAL10176	86.9	0.01	12	See All HAPs
117	AL	Marengo Co	Rural	Borden	NTIALT\$4729	4,200	0.26	3	See All HAPs
118	AL	Marengo Co	Rural	Linden Lumber Co	NTI18362	294	0.02	14	See All HAPs
119	AL	Marengo Co	Rural	Wallace Wood Products	NTIALRPCWP-3	64.6	< 0.01	5	See All HAPs
120	AL	Marion Co	Rural	Speedrack	NTIAL0015	400	0.02	2	See All HAPs
121	AL	Marion Co	Rural	Colby Furniture Co Hamilton	NTI8500	200	0.01	41	See All HAPs
122	AL	Marion Co	Rural	3m Company Guin	NTI8495	1,400	0.09	42	See All HAPs
123	AL	Marion Co	Rural	Harden Mfg. Corp. Plant No.3	NTI18366	2.62	< 0.01	35	See All HAPs
124	AL	Marion Co	Rural	Harden Manufacturing Corporation Plant No. 1; Bear	NTI18365	2.62	< 0.01	38	See All HAPs
125	AL	Marion Co	Rural	Craftwood Design (Caldwell Chair) Haleyville	NTI18364	2.62	< 0.01	38	See All HAPs
126	AL	Marshall Co	Rural	Bowater Lumber Co	NTIAL0109590	253	0.02	12	See All HAPs
127	AL	Mobile Co	Urban	Cytec Inds. Inc.	NTIALT\$4721	565	0.03	5	See All HAPs
128	AL	Mobile Co	Urban	Chickasaw	NTI12030	58.0	< 0.01	15	See All HAPs
129	AL	Mobile Co	Urban	Huls America Inc	NTI18368	2.62	< 0.01	41	See All HAPs
130	AL	Mobile Co	Urban	International Paper Company Siebert	NTI18369	12,100	0.74	47	See All HAPs

				Station					
131	AL	Mobile Co	Urban	Kimberly-Clark Tissue	NTI18371	944	0.06	40	See All HAPs
132	AL	Mobile Co	Urban	Shell Oil Products Co.	NTI18372	369	0.02	36	See All HAPs
133	AL	Mobile Co	Urban	Alabama Power Company Barry	NTI7966	1,270	0.08	37	See All HAPs
134	AL	Mobile Co	Urban	E I Dupont De Nemours & Co. Mobile Plant	NTI8596	60.0	< 0.01	16	See All HAPs
135	AL	Mobile Co	Urban	Mobile Energy Services Company	NTI8610	12,380	0.76	30	See All HAPs
136	AL	Mobile Co	Urban	S D Warren	NTI8611	2,320	0.14	38	See All HAPs
137	AL	Mobile Co	Urban	Coastal Mobile Refining Company Mobile Petroleum R	NTI8612	72.4	< 0.01	31	See All HAPs
138	AL	Mobile Co	Urban	Armstrong World Inc Mobile Plant	NTI8613	39,980	2.46	2	See All HAPs
139	AL	Mobile Co	Urban	Florida Gas Transmission Company Mt. Vernon Statio	NTIAL3028	31,920	1.96	5	See All HAPs
140	AL	Mobile Co	Urban	Four Star Oil & Gas Company Hatter'S Pond O&G Trea	NTIAL4004	66,000	4.05	5	See All HAPs
141	AL	Mobile Co	Urban	Exxonmobil Production Company Mobile Bay Onshore G	NTIAL4011	800	0.05	6	See All HAPs
142	AL	Mobile Co	Urban	Shell Offshore Inc Yellowhammer Gas Treating & Pro	NTIAL4017	434	0.03	8	See All HAPs
143	AL	Mobile Co	Urban	Basf Performance Copolymers Lic	NTIAL5022	1,200	0.07	4	See All HAPs
144	AL	Mobile Co	Urban	Holnam Inc	NTIAL8026	680	0.04	18	See All HAPs
145	AL	Mobile Co	Urban	Ocal Thomas & Betts Incorporated	NTIAL8053	40.0	< 0.01	8	See All HAPs
146	AL	Mobile Co	Urban	Duke Energy Field Services Mobile Bay Gas Processi	NTIAL8085	14,200	0.87	1	See All HAPs
147	AL	Mobile Co	Urban	Martin Marietta Aggregates	NTIAL0109780	1.73	< 0.01	37	See All HAPs
148	AL	Mobile Co	Urban	Callon Offshore	NTIAL10191	0.0140	< 0.01	11	See All HAPs
149	AL	Mobile Co	Urban	Unocal Corp - Chunchula Gas Treating Fac	NTIAL10190	125,920	7.73	4	See All HAPs
150	AL	Mobile Co	Urban	Moepsi	NTIAL10189	0.0140	< 0.01	11	See All HAPs
151	AL	Mobile Co	Urban	Transcontinental G.P.	NTIAL10185	161	0.01	4	See All HAPs
152	AL	Mobile Co	Urban	Gulf Lumber Co	NTIAL10183	174	0.01	12	See All HAPs
153	AL	Mobile Co	Urban	Union Expl Partners	NTIAL10182	2,125	0.13	11	See All HAPs
154	AL	Mobile Co	Urban	Shell Yellowhammer Platform & Dril.Eng.	NTIAL10180	2,639	0.16	11	See All HAPs
155	AL	Mobile Co	Urban	Exxonmobil Production Company	NTIAL0012	2,800	0.17	11	See All

				Bon Secour Bay Produ					HAPs
156	AL	Mobile Co	Urban	Exxonmobil Production Company North Central Gulf P	NTIAL0970025	2,000	0.12	11	See All HAPs
157	AL	Mobile Co	Urban	Exxonmobil Production Company Northwest Gulf Prod	NTIAL0970013	4,200	0.26	11	See All HAPs
158	AL	Mobile Co	Urban	Mobil Oil Exploration & Production S E Mary Ann Ga	NTIAL0970010	2,639	0.16	11	See All HAPs
159	AL	Monroe Co	Rural	Alabama River Pulp Co Inc	NTI18373	20,140	1.24	47	See All HAPs
160	AL	Monroe Co	Rural	Scotch Plywood Co	NTI18374	628	0.04	12	See All HAPs
161	AL	Monroe Co	Rural	Stallworth Timber Co	NTI18375	128	0.01	13	See All HAPs
162	AL	Monroe Co	Rural	Temple-Inland - Monroeville Particleboard	NTI8589	21,241	1.30	24	See All HAPs
163	AL	Monroe Co	Rural	Georgia Pacific Corp	NTI8590	2,055	0.13	22	See All HAPs
164	AL	Monroe Co	Rural	Exxon-North Central	NTIAL10193	2,639	0.16	4	See All HAPs
165	AL	Monroe Co	Rural	Torch Operating Company North Frisco	NTIAL10194	2,639	0.16	3	See All HAPs
166	AL	Montgomery Co	Urban	Maxwell Afb/Gunter Annex	NTIAL01101F0	0.316	< 0.01	11	See All HAPs
167	AL	Montgomery Co	Urban	Koppers Industries, Inc.	NTI18378	389	0.02	16	See All HAPs
168	AL	Montgomery Co	Urban	Coca-Cola Bottling Co	NTI18377	143	0.01	12	See All HAPs
169	AL	Montgomery Co	Urban	Capital Veneer Works Bx 8278 Montg, Al	NTI18376	99.3	0.01	16	See All HAPs
170	AL	Morgan Co	Urban	Conagra	NTIAL10195	1.73	< 0.01	37	See All HAPs
171	AL	Morgan Co	Urban	American Maize- Products Decatur Inc.	NTIAL10196	1.73	< 0.01	37	See All HAPs
172	AL	Morgan Co	Urban	Alabama Tennessee Natural Gas	NTIAL10197	1,371	0.08	4	See All HAPs
173	AL	Morgan Co	Urban	Southern Water Consultants Inc.	NTIALT\$4553	1.00	< 0.01	1	See All HAPs
174	AL	Morgan Co	Urban	Nichols Aluminum Decatur Plant	NTI8506	8,400	0.52	9	See All HAPs
175	AL	Morgan Co	Urban	3m Company Decatur Plant	NTI8510	80.0	< 0.01	52	See All HAPs
176	AL	Morgan Co	Urban	Basf Decatur Coatings Facility	NTI8508	200	0.01	11	See All HAPs
177	AL	Morgan Co	Urban	Bp Amoco Chemicals	NTI8507	86,060	5.29	40	See All HAPs
178	AL	Morgan Co	Urban	Solutia, Inc Decatur Plant	NTI18381	72.4	< 0.01	45	See All HAPs
179	AL	Pickens Co	Rural	Lewis Brothers Lumber Company, Inc.	NTIAL10200	1,428	0.09	14	See All HAPs
180	AL	Pickens Co	Rural	Southern Natural Gas Reform	NTIAL1070009	2,900	0.18	5	See All HAPs
181	AL	Pickens Co	Rural	Samson Resources Company	NTIAL10198	2,307	0.14	4	See All HAPs

182	AL	Pickens Co	Rural	Meridian Oil	NTIAL10199	1,089	0.07	4	See All HAPs
183	AL	Randolph Co	Rural	Transco Wadley Station	NTIAL0111100	3,072	0.19	4	See All HAPs
184	AL	Russell Co	Urban	Owens Corning	NTI8627	41,600	2.56	16	See All HAPs
185	AL	Russell Co	Urban	Mead Coated Board Inc	NTI46931	22,040	1.35	44	See All HAPs
186	AL	Russell Co	Urban	Southern Natural Gas Company Holy Trinity	NTIAL1130023	3,440	0.21	5	See All HAPs
187	AL	Shelby Co	Urban	Seaman Timber Co	NTIAL117S001	3.45	< 0.01	37	See All HAPs
188	AL	Shelby Co	Urban	Blue Circle Cement Inc	NTIAL1170004	300	0.02	9	See All HAPs
189	AL	Shelby Co	Urban	Ala Power Co E.C. Gaston	NTI7744	1,520	0.09	35	See All HAPs
190	AL	Shelby Co	Urban	Dravo Lime Co	NTI18387	2.62	< 0.01	37	See All HAPs
191	AL	Shelby Co	Urban	Cheney Lime & Cement Co	NTI18386	5.23	< 0.01	37	See All HAPs
192	AL	Sumter Co	Rural	Sonoco Products Company Moldwood Products Company	NTIAL119S003	9,800	0.60	1	See All HAPs
193	AL	Sumter Co	Rural	Southern Natural Gas York	NTIAL0111900	960	0.06	4	See All HAPs
194	AL	Sumter Co	Rural	Mannington Wood Floors	NTI18388	137	0.01	16	See All HAPs
195	AL	Talladega Co	Rural	Alliance Forest Products, U.S. Corporation	NTI18390	30,600	1.88	51	See All HAPs
196	AL	Talladega Co	Rural	Georgia-Pacific Corp.	NTI8458	2,095	0.13	12	See All HAPs
197	AL	Talladega Co	Rural	Avondale Mills Eva Jane Plant	NTIAL0014	1,000	0.06	5	See All HAPs
198	AL	Tallapoosa Co	Rural	Russell Corporation	NTI18391	6,580	0.40	25	See All HAPs
199	AL	Tallapoosa Co	Rural	Wellborn Forest Products Alex City	NTI18392	2.62	< 0.01	40	See All HAPs
200	AL	Tuscaloosa Co	Urban	Amoco Production Co Station No 3	NTIAL10222	1,997	0.12	4	See All HAPs
201	AL	Tuscaloosa Co	Urban	Associated Nat Gas Windham Springs	NTIAL10220	4,542	0.28	4	See All HAPs
202	AL	Tuscaloosa Co	Urban	River Gas Corp Source 1	NTIAL10215	2,639	0.16	4	See All HAPs
203	AL	Tuscaloosa Co	Urban	Taurus Exploration (Station #2)	NTIAL10214	1,970	0.12	4	See All HAPs
204	AL	Tuscaloosa Co	Urban	River Gas Corp Source 11	NTIAL10213	2,639	0.16	4	See All HAPs
205	AL	Tuscaloosa Co	Urban	River Gas Corp Source 5	NTIAL10212	2,639	0.16	4	See All HAPs
206	AL	Tuscaloosa Co	Urban	Hunt Refining Co.	NTI18394	195	0.01	37	See All HAPs
207	AL	Tuscaloosa Co	Urban	River Gas Corp Source 9	NTIAL10210	2,639	0.16	4	See All HAPs
208	AL	Tuscaloosa Co	Urban	River Gas Corp Source 4	NTIAL10209	2,639	0.16	4	See All HAPs
209	AL	Tuscaloosa Co	Urban	River Gas Corp Source 3	NTIAL10208	2,639	0.16	4	See All HAPs
210	AL	Tuscaloosa Co	Urban	River Gas Corp Source 2	NTIAL10207	2,639	0.16	4	See All HAPs

211	AL	Tuscaloosa Co	Urban	River Gas Corp Source 13	NTIAL10206	2,639	0.16	4	See All HAPs
212	AL	Tuscaloosa Co	Urban	River Gas Corp Source 12	NTIAL10205	2,639	0.16	4	See All HAPs
213	AL	Tuscaloosa Co	Urban	Magnolia Pipeline	NTIAL10203	31.9	< 0.01	4	See All HAPs
214	AL	Tuscaloosa Co	Urban	Sonat Intrastate - Alabama White Oak Station No. 1	NTIAL0077	7,440	0.46	6	See All HAPs
215	AL	Tuscaloosa Co	Urban	Sonat Intrastate - Alabama White Oak Station No. 2	NTIAL0067	9,220	0.57	6	See All HAPs
216	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Stations 1	NTIAL0043	2,200	0.14	6	See All HAPs
217	AL	Tuscaloosa Co	Urban	Lawter International	NTIAL0036	15,120	0.93	16	See All HAPs
218	AL	Tuscaloosa Co	Urban	Southern Natural Gas Company Duncanville Station	NTIAL1250078	1,380	0.08	6	See All HAPs
219	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Station 5	NTIAL1250046	680	0.04	5	See All HAPs
220	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Station 4	NTIAL1250045	5,180	0.32	6	See All HAPs
221	AL	Tuscaloosa Co	Urban	Black Warrior Transmission Corporation Station 3 A	NTIAL1250044	6,920	0.43	6	See All HAPs
222	AL	Tuscaloosa Co	Urban	Tamko Roofing Products Inc	NTI18395	59,520	3.66	4	See All HAPs
223	AL	Tuscaloosa Co	Urban	Amoco Production	NTIAL10223	1,997	0.12	4	See All HAPs
224	AL	Tuscaloosa Co	Urban	River Gas Corp Source 10	NTIAL10224	2,639	0.16	4	See All HAPs
225	AL	Tuscaloosa Co	Urban	Vance Lumber Co	NTIAL10225	714	0.04	12	See All HAPs
226	AL	Tuscaloosa Co	Urban	International Paper Company Tuskalusa Sawmill	NTIALS011	6,140	0.38	14	See All HAPs
227	AL	Tuscaloosa Co	Urban	Kykenkee Inc	NTIALS012	180	0.01	6	See All HAPs
228	AL	Tuscaloosa Co	Urban	Taurus Exploration (Station #6)	NTIAL10211	3,967	0.24	4	See All HAPs
229	AL	Walker Co	Rural	Murphy Furniture Manufacturing Co Inc	NTI18397	966	0.06	12	See All HAPs
230	AL	Walker Co	Rural	Alabama Power Company Gorgas	NTI13104	1,115	0.07	37	See All HAPs
231	AL	Walker Co	Rural	Dover Furniture Carbon Hill	NTI18396	1,009	0.06	16	See All HAPs
232	AL	Washington Co	Rural	Olin Chemical Corp Po Box28mcintosh36553	NTI18400	5.80	< 0.01	38	See All HAPs
233	AL	Washington Co	Rural	Phillips Petroleum Corp Chatom Gas Treating & Proc	NTIAL1290009	33,731	2.07	5	See All HAPs
234	AL	Washington Co	Rural	Mcintosh Power Plant	NTIAL10227	434	0.03	4	See All HAPs
235	AL	Washington Co	Rural	Collet Ventures Inc	NTIAL10228	2,373	0.15	4	See All HAPs

236	AL	Washington Co	Rural	Hooks Lake Pole Yard	NTI18399	85.9	0.01	12	See All HAPs
237	AL	Washington Co	Rural	Alabama Electric Cooperative Lowman	NTI12377	446	0.03	37	See All HAPs
238	AL	Washington Co	Rural	Ciba Specialty Chemicals Corporation	NTI18398	26.6	< 0.01	53	See All HAPs
239	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI8619	3,826	0.24	40	See All HAPs
240	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI18379	18,377	1.13	22	See All HAPs
241	AL	Winston Co	Rural	Country Expressions Inc	NTIAL1330022	100	0.01	10	See All HAPs
242	AL	Winston Co	Rural	Houston Wood Products Arley	NTI18402	400	0.02	39	See All HAPs
243	AL	Winston Co	Rural	Harden Mfg. Corp. Plant No.2	NTI8498	2.62	< 0.01	36	See All HAPs
244	AL	Winston Co	Rural	Dover Furniture Arley	NTI18401	5.23	< 0.01	41	See All HAPs
Grand Total						1,627,967			

Page 1 of 1

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Consistency: The NEI is a composite of emission estimates generated by state and local regulatory agencies, industry, and EPA. Because the estimates originated from a variety of sources and estimation methods, as well as differing purposes, they vary in quality, level of detail, and geographic coverage. However, this compilation of emissions estimates represents the best available information to date.

Variability in quality and accuracy of emission estimation methods in the NEI: The accuracy of emission estimation techniques vary with pollutants and source categories. In some cases, an estimate may be based on a few or only one emission measurement at a similar sources. The techniques used and quality of the estimates will vary between source categories (e.g., some have been better studied than others) and between major, area and other, and mobile source sectors.

Readers are cautioned not to infer a qualitative ranking order of geographic areas based on AirData reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the prevailing air quality of a county or urban area. Pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the source is complying with applicable regulations.



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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: Hexachlorobutadiene

Year: 1999

Emissions in Pounds Per Year

0 Rows

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No records matched the criteria you selected.

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Row	State	County	Urban /	Facility	Facility	Pollutant	% of Total	Number	Facility
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<u>#</u>		<u>Rural</u>	<u>Name</u>	<u>ID</u>	<u>Emissions</u>	<u>Emissions</u>	<u>of HAPs</u>	<u>Detail</u>
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AirData

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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: Manganese Compounds

Year: 1999

Emissions in Pounds Per Year

184 Rows

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Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT									
1	AL	Autauga Co	Urban	International Paper Company Prattville Mill	NT18560	4,429	2.80	49	See All HAPs
2	AL	Baldwin Co	Urban	Baldwin Dinettes (Ceased) Loxley	NT118325	5.33	< 0.01	39	See All HAPs
3	AL	Barbour Co	Rural	Alabama Inter-Forest Corporation	NT18557	20.0	0.01	11	See All HAPs
4	AL	Barbour Co	Rural	Louisiana-Pacific Corporation	NT154363	4,477	2.83	11	See All HAPs
5	AL	Barbour Co	Rural	M C Dixon Lumber Co	NT118326	1,132	0.72	12	See All HAPs
6	AL	Bibb Co	Rural	Olon Belcher Lumber	NTIAL10149	420	0.27	15	See All HAPs
7	AL	Bibb Co	Rural	Centreville Lumber Co	NTIAL10148	1,132	0.72	12	See All HAPs
8	AL	Bibb Co	Rural	Cahaba Veneer Inc	NT118328	5.33	< 0.01	39	See All HAPs
9	AL	Bibb Co	Rural	Cahaba Pressure Treated Forest Products	NT118327	340	0.22	16	See All HAPs
10	AL	Butler Co	Rural	International Paper Co.	NT156713	3,397	2.15	23	See All HAPs
11	AL	Calhoun Co	Rural	Southern Tool Inc.	NTIALT\$4650	10.0	0.01	4	See All HAPs
12	AL	Calhoun Co	Rural	Fort McClellan	NTIAL0101500	0.0043	< 0.01	11	See All HAPs
13	AL	Calhoun Co	Rural	U S Castings Company	NT18570	250	0.16	7	See All HAPs
14	AL	Calhoun Co	Rural	Anniston Army Depot	NT118329	6.58	< 0.01	45	See All HAPs
15	AL	Calhoun Co	Rural	National Gypsum Company	NT118330	10.7	0.01	37	See All HAPs
16	AL	Chambers Co	Urban	East Alabama Lumber Inc	NTIAL017S003	500	0.32	6	See All HAPs
17	AL	Chambers Co	Urban	West Point Stevens - Lanett Mill	NT118332	1.59	< 0.01	37	See All HAPs
18	AL	Chambers Co	Urban	West Point Stevens - Fairfax Plant	NT118331	4.64	< 0.01	37	See All HAPs

19	AL	Cherokee Co	Rural	C V Materials Ltd.	NTIALT\$4620	450	0.28	4	See All HAPs
20	AL	Chilton Co	Rural	International Paper Company Maplesville	NTIALO21S005	20.0	0.01	14	See All HAPs
21	AL	Chilton Co	Rural	International Paper Maplesville	NTI18333	10.7	0.01	36	See All HAPs
22	AL	Choctaw Co	Rural	J W Lassiter Lbr Co	NTIALO102390	113	0.07	13	See All HAPs
23	AL	Choctaw Co	Rural	Fort James Corporation Naheola Mill	NTI18334	2,740	1.73	49	See All HAPs
24	AL	Clarke Co	Rural	Coastal Lumber Co	NTIAL10150	125	0.08	12	See All HAPs
25	AL	Clarke Co	Rural	Boise Cascade	NTI8601	454	0.29	40	See All HAPs
26	AL	Clarke Co	Rural	Scotch Lumber	NTIALO25S006	865	0.55	23	See All HAPs
27	AL	Clay Co	Rural	Wellborn Cabinets Inc Ashland	NTI8574	49.5	0.03	38	See All HAPs
28	AL	Coffee Co	Urban	Conagra Inc	NTIALO103100	0.786	< 0.01	37	See All HAPs
29	AL	Colbert Co	Urban	Mckinney Lumber	NTIALO103390	157	0.10	12	See All HAPs
30	AL	Colbert Co	Urban	Wise Alloys, L.L.C. Alabama Reclamation Plant	NTIAL0006	17,784	11.25	1	See All HAPs
31	AL	Colbert Co	Urban	Tva Colbert	NTI11769	1,889	1.19	35	See All HAPs
32	AL	Conecuh Co	Rural	Louisiana Pacific	NTIALO103590	344	0.22	11	See All HAPs
33	AL	Coosa Co	Rural	Us Alliance	NTIALO37S005	160	0.10	6	See All HAPs
34	AL	Coosa Co	Rural	Madix Inc Goodwater Location	NTI8454	250	0.16	9	See All HAPs
35	AL	Covington Co	Rural	McWilliams	NTI12259	0.0581	< 0.01	36	See All HAPs
36	AL	Cullman Co	Rural	Alabama Feed Products Inc	NTIALO104300	3.52	< 0.01	37	See All HAPs
37	AL	Cullman Co	Rural	Dcp-Lohja, Inc.	NTI8449	5.33	< 0.01	38	See All HAPs
38	AL	Dale Co	Rural	Fort Rucker	NTIALO450008	0.0043	< 0.01	21	See All HAPs
39	AL	Dallas Co	Rural	Miller & Co #1	NTI18336	161	0.10	12	See All HAPs
40	AL	Dallas Co	Rural	Pilliod Of Alabama Inc Pilliod Furniture, Inc.	NTI18337	1,492	0.94	14	See All HAPs
41	AL	Dallas Co	Rural	International Paper Company Riverdale Mill	NTI18335	5,711	3.61	41	See All HAPs
42	AL	DeKalb Co	Rural	Nucor Corp., Vulcraft Div.	NTIALT\$4616	250	0.16	3	See All HAPs
43	AL	DeKalb Co	Rural	Cagle'S Inc.	NTIALO104900	1,132	0.72	12	See All HAPs
44	AL	DeKalb Co	Rural	Valley Joist Co	NTIALO490018	440	0.28	2	See All HAPs
45	AL	Elmore Co	Urban	Madix Inc Eclectic Location	NTIALO510011	5.00	< 0.01	9	See All HAPs
46	AL	Escambia Co	Rural	Alabama Ductile Casting Co	NTIALO530011	23.0	0.01	7	See All HAPs

47	AL	Escambia Co	Rural	T R Miller Mill Co	NTI18340	377	0.24	13	See All HAPs
48	AL	Escambia Co	Rural	Swift Lumber Co.	NTIAL10161	304	0.19	12	See All HAPs
49	AL	Escambia Co	Rural	Huxford Pole & Timber Co. Inc.	NTI18339	67.7	0.04	13	See All HAPs
50	AL	Escambia Co	Rural	Jsc Brewton, Inc.	NTI18338	235	0.15	48	See All HAPs
51	AL	Etowah Co	Urban	Heckett	NTIALT\$4610	322	0.20	1	See All HAPs
52	AL	Etowah Co	Urban	Culp Aluminum Alloys	NTIALT\$4607	2.00	< 0.01	4	See All HAPs
53	AL	Etowah Co	Urban	Gulf States Steel Inc	NTI18341	1,920	1.21	20	See All HAPs
54	AL	Etowah Co	Urban	Alabama Power Company Gadsden	NTI12788	141	0.09	37	See All HAPs
55	AL	Fayette Co	Rural	Georgia Pacific-Belk	NTIALO105790	1,132	0.72	12	See All HAPs
56	AL	Greene Co	Rural	Alabama Power Company Greene County	NTI6495	847	0.54	37	See All HAPs
57	AL	Hale Co	Rural	Gulf States Paper Moundville Sawmill	NTIALO65S003	620	0.39	7	See All HAPs
58	AL	Henry Co	Rural	U. S. Forest Industries	NTI18344	1,000	0.63	13	See All HAPs
59	AL	Houston Co	Urban	Howell Plywood Inc	NTI18346	1,555	0.98	16	See All HAPs
60	AL	Houston Co	Urban	Ansell Inc	NTI18345	1.08	< 0.01	38	See All HAPs
61	AL	Jackson Co	Rural	Scottsboro Aluminum L.L.C.	NTIALO710004	750	0.47	10	See All HAPs
62	AL	Jackson Co	Rural	Tva Widows Creek	NTI12080	2,556	1.62	38	See All HAPs
63	AL	Jackson Co	Rural	Mead Containerboard	NTI18347	3,836	2.43	31	See All HAPs
64	AL	Jefferson Co	Urban	Svedala Inds. Inc. - Thomas Div.	NTIALT\$4501	1,000	0.63	3	See All HAPs
65	AL	Jefferson Co	Urban	L. B. Foster Co.	NTIALT\$4486	250	0.16	1	See All HAPs
66	AL	Jefferson Co	Urban	Smi Steel Inc.	NTIALT\$4485	1,000	0.63	5	See All HAPs
67	AL	Jefferson Co	Urban	Amerex Corp.	NTIALT\$4467	10.0	0.01	4	See All HAPs
68	AL	Jefferson Co	Urban	Shelby Steel L.L.C. (Bessemer Plant)	NTIALT\$4421	5.00	< 0.01	1	See All HAPs
69	AL	Jefferson Co	Urban	Alabama Power Company (Miller Power Plant)	NTI12519	4,453	2.82	37	See All HAPs
70	AL	Jefferson Co	Urban	U.S. Steel Mining Co. L.L.C. Oak Grove Sys.	NTIALT\$4414	2.00	< 0.01	1	See All HAPs
71	AL	Jefferson Co	Urban	Ang Birmingham	NTIALO1073F0	0.0017	< 0.01	11	See All HAPs
72	AL	Jefferson Co	Urban	Butler Mfg. Co.	NTI8479	68.0	0.04	1	See All HAPs
73	AL	Jefferson Co	Urban	Sloss Ind. Corp. Chemical Plant	NTI8467	34.2	0.02	16	See All HAPs
74	AL	Jefferson Co	Urban	U. S. Pipe & Foundry Company Inc. (No. B'Ham Plant)	NTI8465	1,000	0.63	3	See All HAPs

75	AL	Jefferson Co	Urban	American Cast Iron Pipe Company	NTI8464	703	0.44	9	See All HAPs
76	AL	Jefferson Co	Urban	Sirco Sys. Llc	NTI8462	6.00	< 0.01	5	See All HAPs
77	AL	Jefferson Co	Urban	Rock Wool Manufacturing Company	NTI8456	13.7	0.01	14	See All HAPs
78	AL	Jefferson Co	Urban	U.S. Steel - Fairfield	NTI8453	6,819	4.31	8	See All HAPs
79	AL	Jefferson Co	Urban	U. S. Pipe & Foundry Company, Inc. (Bessemer Plant)	NTI8445	1,500	0.95	3	See All HAPs
80	AL	Jefferson Co	Urban	Allied Corporation	NTIALT\$4502	6.56	< 0.01	20	See All HAPs
81	AL	Jefferson Co	Urban	Birmingham Steel Corp. Birmingham Al Steel Div.	NTIALT\$4504	3,524	2.23	4	See All HAPs
82	AL	Jefferson Co	Urban	Sra Mill Services Inc. Plant 59	NTIALT\$4509	58.0	0.04	1	See All HAPs
83	AL	Jefferson Co	Urban	Griffin Wheel Co. Bessemer Plant	NTIALT\$4420	2,090	1.32	1	See All HAPs
84	AL	Lamar Co	Rural	Weyerhaeuser Company	NTI18354	10,200	6.45	24	See All HAPs
85	AL	Lauderdale Co	Rural	Monarch Ceramic Tile	NTI8517	3.00	< 0.01	2	See All HAPs
86	AL	Lauderdale Co	Rural	Tennessee River, Inc	NTI18356	0.619	< 0.01	37	See All HAPs
87	AL	Lauderdale Co	Rural	Royster-Clark, Inc.	NTIALT\$4570	10.0	0.01	1	See All HAPs
88	AL	Lauderdale Co	Rural	Lexington Fabrics Inc	NTI18355	0.476	< 0.01	37	See All HAPs
89	AL	Lawrence Co	Rural	International Paper Company Courtland Mill	NTI18357	840	0.53	51	See All HAPs
90	AL	Lee Co	Urban	Dudley Lumber Co Inc	NTIAL10173	1,132	0.72	12	See All HAPs
91	AL	Lee Co	Urban	Union Camp	NTIAL10172	3,397	2.15	12	See All HAPs
92	AL	Lee Co	Urban	Westpoint Stevens - Opelika Plant	NTI8620	10.7	0.01	44	See All HAPs
93	AL	Limestone Co	Urban	Brown'S Ferry Nuclear Plant	NTIALO108300	0.0008	< 0.01	12	See All HAPs
94	AL	Limestone Co	Urban	Martin Industries Athens Facility	NTI8514	20.0	0.01	7	See All HAPs
95	AL	Limestone Co	Urban	Delphi Saginaw Steering Systems	NTI18358	16.0	0.01	37	See All HAPs
96	AL	Madison Co	Urban	Huntsville Refuse-Fired Steam Fac.	NTI18361	9.73	0.01	10	See All HAPs
97	AL	Marengo Co	Rural	Gulf States Paper Corporation	NTI45474	345	0.22	37	See All HAPs
98	AL	Marengo Co	Rural	Linden Lumber Co	NTI18362	466	0.29	14	See All HAPs
99	AL	Marengo Co	Rural	Medusa Cement Company	NTIAL321	3.15	< 0.01	13	See All HAPs
100	AL	Marengo Co	Rural	Miller & Co #3	NTIAL10176	138	0.09	12	See All HAPs
101	AL	Marion Co	Rural	Ntn-Bower Corp.	NTIALT\$4537	500	0.32	3	See All HAPs
102	AL	Marion Co	Rural	Colby Furniture Co Hamilton	NTI8500	5.33	< 0.01	41	See All HAPs

103	AL	Marion Co	Rural	Harden Mfg. Corp. Plant No.3	NTI18366	5.33	< 0.01	35	See All HAPs
104	AL	Marion Co	Rural	Harden Manufacturing Corporation Plant No. 1; Bear	NTI18365	5.33	< 0.01	38	See All HAPs
105	AL	Marion Co	Rural	Craftwood Design (Caldwell Chair) Haleyville	NTI18364	5.33	< 0.01	38	See All HAPs
106	AL	Marion Co	Rural	3m Company Guin	NTI8495	5.33	< 0.01	42	See All HAPs
107	AL	Marshall Co	Rural	Bowater Lumber Co	NTIAL0109590	401	0.25	12	See All HAPs
108	AL	Mobile Co	Urban	S D Warren	NTI8611	605	0.38	38	See All HAPs
109	AL	Mobile Co	Urban	Coastal Mobile Refining Company Mobile Petroleum R	NTI8612	8.88	0.01	31	See All HAPs
110	AL	Mobile Co	Urban	Brookley Furniture	NTIAL2019	20.0	0.01	8	See All HAPs
111	AL	Mobile Co	Urban	Mobil Oil Exploration & Production S E Mary Ann Ga	NTIAL0970010	0.0017	< 0.01	11	See All HAPs
112	AL	Mobile Co	Urban	Exxonmobil Production Company Northwest Gulf Prod	NTIAL0970013	0.0008	< 0.01	11	See All HAPs
113	AL	Mobile Co	Urban	Exxonmobil Production Company North Central Gulf P	NTIAL0970025	0.0008	< 0.01	11	See All HAPs
114	AL	Mobile Co	Urban	Exxonmobil Production Company Bon Secour Bay Produ	NTIAL0012	0.0264	< 0.01	11	See All HAPs
115	AL	Mobile Co	Urban	Shell Yellowhammer Platform & Dril.Eng.	NTIAL10180	0.0008	< 0.01	11	See All HAPs
116	AL	Mobile Co	Urban	Union Expl Partners	NTIAL10182	0.0183	< 0.01	11	See All HAPs
117	AL	Mobile Co	Urban	Gulf Lumber Co	NTIAL10183	275	0.17	12	See All HAPs
118	AL	Mobile Co	Urban	Moepsi	NTIAL10189	0.0008	< 0.01	11	See All HAPs
119	AL	Mobile Co	Urban	Callon Offshore	NTIAL10191	0.0008	< 0.01	11	See All HAPs
120	AL	Mobile Co	Urban	Martin Marietta Aggregates	NTIAL0109780	3.52	< 0.01	37	See All HAPs
121	AL	Mobile Co	Urban	Mobile Energy Services Company	NTI8610	1,240	0.78	30	See All HAPs
122	AL	Mobile Co	Urban	Chickasaw	NTI12030	0.150	< 0.01	15	See All HAPs
123	AL	Mobile Co	Urban	Huls America Inc	NTI18368	5.33	< 0.01	41	See All HAPs
124	AL	Mobile Co	Urban	International Paper Company Siebert Station	NTI18369	567	0.36	47	See All HAPs
125	AL	Mobile Co	Urban	Kimberly-Clark Tissue	NTI18371	1,498	0.95	40	See All HAPs
126	AL	Mobile Co	Urban	Shell Oil Products Co.	NTI18372	57.8	0.04	36	See All HAPs
127	AL	Mobile Co	Urban	Mobile Pulley & Machine Works	NTI56728	552	0.35	4	See All HAPs
128	AL	Mobile Co	Urban	Alabama Power	NTI7966	2,411	1.53	37	See All

				Company Barry					HAPs
129	AL	Mobile Co	Urban	Taylor Wharton	NTI8604	68.0	0.04	9	See All HAPs
130	AL	Mobile Co	Urban	Kerr-Mcgee Chemical Llc Mobile Synthetic Rutile Fa	NTI8605	19.0	0.01	2	See All HAPs
131	AL	Monroe Co	Rural	Temple-Inland - Monroeville Particleboard	NTI8589	1,728	1.09	24	See All HAPs
132	AL	Monroe Co	Rural	Georgia Pacific Corp	NTI8590	2,403	1.52	22	See All HAPs
133	AL	Monroe Co	Rural	Stallworth Timber Co	NTI18375	204	0.13	13	See All HAPs
134	AL	Monroe Co	Rural	Scotch Plywood Co	NTI18374	996	0.63	12	See All HAPs
135	AL	Monroe Co	Rural	Alabama River Pulp Co Inc	NTI18373	628	0.40	47	See All HAPs
136	AL	Montgomery Co	Urban	Maxwell Afb/Gunter Annex	NTIAL01101F0	0.0188	< 0.01	11	See All HAPs
137	AL	Montgomery Co	Urban	Steris Corp.	NTIALT\$4639	4.00	< 0.01	3	See All HAPs
138	AL	Montgomery Co	Urban	Koppers Industries, Inc.	NTI18378	160	0.10	16	See All HAPs
139	AL	Montgomery Co	Urban	Coca-Cola Bottling Co	NTI18377	226	0.14	12	See All HAPs
140	AL	Montgomery Co	Urban	Capital Veneer Works Bx 8278 Montg, Al	NTI18376	410	0.26	16	See All HAPs
141	AL	Morgan Co	Urban	Conagra	NTIAL10195	3.52	< 0.01	37	See All HAPs
142	AL	Morgan Co	Urban	American Maize-Products Decatur Inc.	NTIAL10196	3.52	< 0.01	37	See All HAPs
143	AL	Morgan Co	Urban	Wolverine Tube Inc. Decatur Ops.	NTIALT\$4555	2.00	< 0.01	2	See All HAPs
144	AL	Morgan Co	Urban	Solutia, Inc Decatur Plant	NTI18381	3,320	2.10	45	See All HAPs
145	AL	Morgan Co	Urban	Trico Steel Co Llc	NTIAL0037	980	0.62	5	See All HAPs
146	AL	Morgan Co	Urban	3m Company Decatur Plant	NTI8510	80.0	0.05	52	See All HAPs
147	AL	Morgan Co	Urban	Bp Amoco Chemicals	NTI8507	54.7	0.03	40	See All HAPs
148	AL	Pickens Co	Rural	Lewis Brothers Lumber Company, Inc.	NTIAL10200	2,265	1.43	14	See All HAPs
149	AL	Russell Co	Urban	Mead Coated Board Inc	NTI46931	820	0.52	44	See All HAPs
150	AL	Russell Co	Urban	Owens Corning	NTI8627	13.7	0.01	16	See All HAPs
151	AL	Shelby Co	Urban	Seaman Timber Co	NTIAL117S001	80.0	0.05	37	See All HAPs
152	AL	Shelby Co	Urban	Cheney Lime & Cement Co	NTI18386	10.7	0.01	37	See All HAPs
153	AL	Shelby Co	Urban	Dravo Lime Co	NTI18387	5.33	< 0.01	37	See All HAPs
154	AL	Shelby Co	Urban	Ala Power Co E.C. Gaston	NTI7744	2,113	1.34	35	See All HAPs
155	AL	Shelby Co	Urban	Abc-Naco	NTIAL0003	1,600	1.01	3	See All HAPs
156	AL	Shelby Co	Urban	Shelby Steel L.L.C. (Vincent Plant)	NTIALT\$4468	5.00	< 0.01	1	See All HAPs

157	AL	St. Clair Co	Urban	National Cement Co Of Alabama	NTIAL1150002	26.0	0.02	7	See All HAPs
158	AL	St. Clair Co	Urban	Culp Aluminum Alloys	NTIALT\$4622	15.0	0.01	4	See All HAPs
159	AL	St. Clair Co	Urban	Shelby Steel L.L.C. Pell City Plant	NTIALT\$4455	5.00	< 0.01	1	See All HAPs
160	AL	Sumter Co	Rural	Chemical Waste Management	NTIALT\$4520	10.0	0.01	18	See All HAPs
161	AL	Sumter Co	Rural	Mannington Wood Floors	NTI18388	1,492	0.94	16	See All HAPs
162	AL	Talladega Co	Rural	Alliance Forest Products, U.S. Corporation	NTI18390	3,624	2.29	51	See All HAPs
163	AL	Talladega Co	Rural	Georgia Pacific Plywood, Talladega	NTI54340	2,010	1.27	11	See All HAPs
164	AL	Tallapoosa Co	Rural	Russell Corporation	NTI18391	5,744	3.63	25	See All HAPs
165	AL	Tallapoosa Co	Rural	Wellborn Forest Products Alex City	NTI18392	5.33	< 0.01	40	See All HAPs
166	AL	Tuscaloosa Co	Urban	Corus Tuscaloosa	NTIAL1250033	1,040	0.66	5	See All HAPs
167	AL	Tuscaloosa Co	Urban	Empire Coke Co	NTI8489	40.0	0.03	17	See All HAPs
168	AL	Tuscaloosa Co	Urban	Vance Lumber Co	NTIAL10225	1,132	0.72	12	See All HAPs
169	AL	Tuscaloosa Co	Urban	International Paper Company Tuskalusa Sawmill	NTIALS011	3,397	2.15	14	See All HAPs
170	AL	Tuscaloosa Co	Urban	Hunt Refining Co.	NTI18394	32.0	0.02	37	See All HAPs
171	AL	Tuscaloosa Co	Urban	Sra Mill Services Inc. Plant 58	NTIALT\$4517	190	0.12	3	See All HAPs
172	AL	Tuscaloosa Co	Urban	Kykenkee Inc	NTIALS012	240	0.15	6	See All HAPs
173	AL	Walker Co	Rural	Dover Furniture Carbon Hill	NTI18396	1,600	1.01	16	See All HAPs
174	AL	Walker Co	Rural	Murphy Furniture Manufacturing Co Inc	NTI18397	1,532	0.97	12	See All HAPs
175	AL	Walker Co	Rural	Alabama Power Company Gorgas	NTI13104	2,197	1.39	37	See All HAPs
176	AL	Washington Co	Rural	Hooks Lake Pole Yard	NTI18399	136	0.09	12	See All HAPs
177	AL	Washington Co	Rural	Olin Chemical Corp Po Box28mcintosh36553	NTI18400	11.9	0.01	38	See All HAPs
178	AL	Washington Co	Rural	Ciba Specialty Chemicals Corporation	NTI18398	392	0.25	53	See All HAPs
179	AL	Washington Co	Rural	Alabama Electric Cooperative Lowman	NTI12377	883	0.56	37	See All HAPs
180	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI8619	317	0.20	40	See All HAPs
181	AL	Winston Co	Rural	Country Expressions Inc	NTIAL1330022	40.0	0.03	10	See All HAPs
182	AL	Winston Co	Rural	Harden Mfg. Corp. Plant No.2	NTI8498	5.33	< 0.01	36	See All HAPs
183	AL	Winston Co	Rural	Houston Wood Products Arley	NTI18402	5.33	< 0.01	39	See All HAPs
184	AL	Winston Co	Rural	Dover Furniture Arley	NTI18401	10.7	0.01	41	See All HAPs

Grand Total	158,087
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Page 1 of 1

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Disclaimer: This AirData report was produced using data extracted from the National Emissions Inventory (NEI) database final version 3 (February 2004) of the Hazardous Air Pollutant (HAP) emissions for year 1999. EPA compiles the NEI using various sources of data, described in extensive [NEI documentation](#). The five primary data sources are: (1) emissions inventories developed by state and local air pollution control agencies, (2) databases related to EPA's Maximum Achievable Control Technology [programs to reduce HAP emissions](#), (3) [Toxic Release Inventory](#) data, (4) emissions estimated by using mobile source methodology developed by experts in EPA's Office of Transportation and Air Quality, and (5) area source emission estimates generated using emission factors and activity data. Although the NEI is based partially on emission data obtained from state and local agencies, it is not a database of official state emissions data. Please contact the appropriate [state agency](#) to obtain information on a state's official emission inventory. Please [contact EPA](#) to report errors.

Consistency: The NEI is a composite of emission estimates generated by state and local regulatory agencies, industry, and EPA. Because the estimates originated from a variety of sources and estimation methods, as well as differing purposes, they vary in quality, level of detail, and geographic coverage. However, this compilation of emissions estimates represents the best available information to date.

Variability in quality and accuracy of emission estimation methods in the NEI: The accuracy of emission estimation techniques vary with pollutants and source categories. In some cases, an estimate may be based on a few or only one emission measurement at a similar sources. The techniques used and quality of the estimates will vary between source categories (e.g., some have been better studied than others) and between major, area and other, and mobile source sectors.

Readers are cautioned not to infer a qualitative ranking order of geographic areas based on AirData reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the prevailing air quality of a county or urban area. Pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the source is complying with applicable regulations.



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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: Naphthalene

Year: 1999

Emissions in Pounds Per Year

144 Rows

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Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT									
1	AL	Autauga Co	Urban	International Paper Company Prattville Mill	NT18560	7,100	3.77	49	See All HAPs
2	AL	Baldwin Co	Urban	Standard Furniture Manufacturing Co	NTIALS009	20.0	0.01	8	See All HAPs
3	AL	Baldwin Co	Urban	Baldwin Dinettes (Ceased) Loxley	NT118325	0.141	< 0.01	39	See All HAPs
4	AL	Barbour Co	Rural	Louisiana-Pacific Corporation	NT154363	0.0303	< 0.01	11	See All HAPs
5	AL	Barbour Co	Rural	M C Dixon Lumber Co	NT118326	0.0077	< 0.01	12	See All HAPs
6	AL	Bibb Co	Rural	Olon Belcher Lumber	NTIAL10149	0.0077	< 0.01	15	See All HAPs
7	AL	Bibb Co	Rural	Cahaba Pressure Treated Forest Products	NT118327	6,720	3.56	16	See All HAPs
8	AL	Bibb Co	Rural	Centreville Lumber Co	NTIAL10148	0.0077	< 0.01	12	See All HAPs
9	AL	Bibb Co	Rural	Cahaba Veneer Inc	NT118328	0.141	< 0.01	39	See All HAPs
10	AL	Blount Co	Urban	Birmingham Wood Inc	NTIAL009S004	1,460	0.77	7	See All HAPs
11	AL	Butler Co	Rural	International Paper Co.	NT156713	0.0230	< 0.01	23	See All HAPs
12	AL	Calhoun Co	Rural	Union Foundry	NT18569	15,180	8.05	5	See All HAPs
13	AL	Calhoun Co	Rural	National Gypsum Company	NT118330	0.283	< 0.01	37	See All HAPs
14	AL	Calhoun Co	Rural	Anniston Army Depot	NT118329	0.0895	< 0.01	45	See All HAPs
15	AL	Chambers Co	Urban	East Alabama Lumber Inc	NTIAL017S003	140	0.07	6	See All HAPs
16	AL	Chambers Co	Urban	West Point Stevens - Lanett Mill	NT118332	0.0423	< 0.01	37	See All HAPs
17	AL	Chambers Co	Urban	West Point Stevens - Fairfax Plant	NT118331	0.123	< 0.01	37	See All HAPs
18	AL	Chilton Co	Rural	International Paper Company Maplesville	NTIAL021S005	60.0	0.03	14	See All HAPs

19	AL	Chilton Co	Rural	International Paper Maplesville	NTI18333	0.283	< 0.01	36	See All HAPs
20	AL	Choctaw Co	Rural	J W Lassiter Lbr Co	NTIAL0102390	0.0008	< 0.01	13	See All HAPs
21	AL	Choctaw Co	Rural	Fort James Corporation Naheola Mill	NTI18334	740	0.39	49	See All HAPs
22	AL	Clarke Co	Rural	Coastal Lumber Co	NTIAL10150	0.0008	< 0.01	12	See All HAPs
23	AL	Clarke Co	Rural	Boise Cascade	NTI8601	3,920	2.08	40	See All HAPs
24	AL	Clarke Co	Rural	Scotch Lumber	NTIAL025S006	0.0059	< 0.01	23	See All HAPs
25	AL	Clay Co	Rural	Wellborn Cabinets Inc Ashland	NTI8574	0.235	< 0.01	38	See All HAPs
26	AL	Coffee Co	Urban	Conagra Inc	NTIAL0103100	0.0208	< 0.01	37	See All HAPs
27	AL	Colbert Co	Urban	Mckinney Lumber	NTIAL0103390	0.0011	< 0.01	12	See All HAPs
28	AL	Colbert Co	Urban	Tva Colbert	NTI11769	53.3	0.03	35	See All HAPs
29	AL	Conecuh Co	Rural	Louisiana Pacific	NTIAL0103590	0.0023	< 0.01	11	See All HAPs
30	AL	Coosa Co	Rural	Us Alliance	NTIAL037S005	40.0	0.02	6	See All HAPs
31	AL	Covington Co	Rural	McWilliams	NTI12259	0.230	< 0.01	36	See All HAPs
32	AL	Cullman Co	Rural	Alabama Feed Products Inc	NTIAL0104300	0.0934	< 0.01	37	See All HAPs
33	AL	Cullman Co	Rural	Dcp-Lohja, Inc.	NTI8449	0.141	< 0.01	38	See All HAPs
34	AL	Dallas Co	Rural	Raytheon Aerospace Company	NTIAL0470022	100.0	0.05	7	See All HAPs
35	AL	Dallas Co	Rural	Pilliod Of Alabama Inc Pilliod Furniture, Inc.	NTI18337	0.0101	< 0.01	14	See All HAPs
36	AL	Dallas Co	Rural	Miller & Co #1	NTI18336	0.0011	< 0.01	12	See All HAPs
37	AL	Dallas Co	Rural	International Paper Company Riverdale Mill	NTI18335	0.0355	< 0.01	41	See All HAPs
38	AL	DeKalb Co	Rural	Cagle'S Inc.	NTIAL0104900	0.0077	< 0.01	12	See All HAPs
39	AL	DeKalb Co	Rural	The Heil Company	NTI8540	1,860	0.99	7	See All HAPs
40	AL	Escambia Co	Rural	Swift Lumber Co.	NTIAL10161	0.0021	< 0.01	12	See All HAPs
41	AL	Escambia Co	Rural	T R Miller Mill Co	NTI18340	1,140	0.60	13	See All HAPs
42	AL	Escambia Co	Rural	Huxford Pole & Timber Co. Inc.	NTI18339	0.0005	< 0.01	13	See All HAPs
43	AL	Escambia Co	Rural	Jsc Brewton, Inc.	NTI18338	5,340	2.83	48	See All HAPs
44	AL	Etowah Co	Urban	Goodyear Tire & Rubber Co.	NTI56716	20.0	0.01	24	See All HAPs
45	AL	Etowah Co	Urban	Gulf States Steel Inc	NTI18341	20,920	11.10	20	See All HAPs
46	AL	Etowah Co	Urban	Alabama Power Company Gadsden	NTI12788	3.89	< 0.01	37	See All HAPs
									See All

47	AL	Fayette Co	Rural	Georgia Pacific-Belk	NTIAL0105790	0.0077	< 0.01	12	HAPs
48	AL	Geneva Co	Rural	Reliable Products	NTIAL061S003	3,360	1.78	10	See All HAPs
49	AL	Greene Co	Rural	Alabama Power Company Greene County	NTI6495	23.1	0.01	37	See All HAPs
50	AL	Henry Co	Rural	U. S. Forest Industries	NTI18344	0.0077	< 0.01	13	See All HAPs
51	AL	Houston Co	Urban	Howell Plywood Inc	NTI18346	0.0105	< 0.01	16	See All HAPs
52	AL	Houston Co	Urban	Ansell Inc	NTI18345	0.0285	< 0.01	38	See All HAPs
53	AL	Houston Co	Urban	Dunbarton Corporation Slimfold Division	NTI8581	200	0.11	10	See All HAPs
54	AL	Jackson Co	Rural	Tva Widows Creek	NTI12080	70.2	0.04	38	See All HAPs
55	AL	Jackson Co	Rural	Mead Containerboard	NTI18347	0.0260	< 0.01	31	See All HAPs
56	AL	Jackson Co	Rural	Scottsboro Aluminum L.L.C.	NTIAL0710004	320	0.17	10	See All HAPs
57	AL	Jefferson Co	Urban	Alabama Power Company (Miller Power Plant)	NTI12519	124	0.07	37	See All HAPs
58	AL	Jefferson Co	Urban	Koppers Inds. Inc. Woodward Tar Plant	NTIALT\$4441	22,111	11.73	7	See All HAPs
59	AL	Jefferson Co	Urban	Pemco Aeroplex, Incorporated	NTI8472	854	0.45	9	See All HAPs
60	AL	Jefferson Co	Urban	Sloss Ind. Coke Plant	NTI8466	877	0.47	9	See All HAPs
61	AL	Jefferson Co	Urban	American Cast Iron Pipe Company	NTI8464	10,975	5.82	9	See All HAPs
62	AL	Jefferson Co	Urban	Abc Coke (Drummond Company)	NTI18349	2,900	1.54	10	See All HAPs
63	AL	Jefferson Co	Urban	Allied Corporation	NTIALT\$4502	6,330	3.36	20	See All HAPs
64	AL	Jefferson Co	Urban	Altec Industries, Inc.	NTIALT\$4505	18.0	0.01	8	See All HAPs
65	AL	Jefferson Co	Urban	J & M Industries, Inc.	NTIRAL730173	120	0.06	2	See All HAPs
66	AL	Jefferson Co	Urban	Polymer Coil Coaters, Inc.	NTIALT\$4443	2,660	1.41	9	See All HAPs
67	AL	Lamar Co	Rural	Marathon Equipment Co	NTI8503	220	0.12	6	See All HAPs
68	AL	Lamar Co	Rural	Weyerhaeuser Company	NTI18354	0.0110	< 0.01	24	See All HAPs
69	AL	Lauderdale Co	Rural	Tennessee River, Inc	NTI18356	0.0164	< 0.01	37	See All HAPs
70	AL	Lauderdale Co	Rural	Lexington Fabrics Inc	NTI18355	0.0126	< 0.01	37	See All HAPs
71	AL	Lawrence Co	Rural	International Paper Company Courtland Mill	NTI18357	1,880	1.00	51	See All HAPs
72	AL	Lee Co	Urban	Dudley Lumber Co Inc	NTIAL10173	0.0077	< 0.01	12	See All HAPs
73	AL	Lee Co	Urban	Union Camp	NTIAL10172	0.0230	< 0.01	12	See All HAPs
74	AL	Lee Co	Urban	Westpoint Stevens - Opelika Plant	NTI8620	0.283	< 0.01	44	See All HAPs

75	AL	Limestone Co	Urban	Delphi Saginaw Steering Systems	NTI18358	0.424	< 0.01	37	See All HAPs
76	AL	Marengo Co	Rural	Miller & Co #3	NTIAL10176	0.0009	< 0.01	12	See All HAPs
77	AL	Marengo Co	Rural	Linden Lumber Co	NTI18362	0.0031	< 0.01	14	See All HAPs
78	AL	Marion Co	Rural	Harden Manufacturing Corporation Plant No. 1; Bear	NTI18365	0.141	< 0.01	38	See All HAPs
79	AL	Marion Co	Rural	Craftwood Design (Caldwell Chair) Haleyville	NTI18364	0.141	< 0.01	38	See All HAPs
80	AL	Marion Co	Rural	Harden Mfg. Corp. Plant No.3	NTI18366	0.141	< 0.01	35	See All HAPs
81	AL	Marion Co	Rural	Colby Furniture Co Hamilton	NTI8500	0.141	< 0.01	41	See All HAPs
82	AL	Marion Co	Rural	3m Company Guin	NTI8495	0.141	< 0.01	42	See All HAPs
83	AL	Marshall Co	Rural	Mueller Co	NTI8539	180	0.10	13	See All HAPs
84	AL	Marshall Co	Rural	Bowater Lumber Co	NTIAL0109590	0.0027	< 0.01	12	See All HAPs
85	AL	Mobile Co	Urban	Alabama Power Company Barry	NTI7966	65.3	0.03	37	See All HAPs
86	AL	Mobile Co	Urban	E I Dupont De Nemours & Co. Mobile Plant	NTI8596	360	0.19	16	See All HAPs
87	AL	Mobile Co	Urban	Mobile Energy Services Company	NTI8610	1,380	0.73	30	See All HAPs
88	AL	Mobile Co	Urban	Coastal Mobile Refining Company Mobile Petroleum R	NTI8612	891	0.47	31	See All HAPs
89	AL	Mobile Co	Urban	Brookley Furniture	NTIAL2019	20.0	0.01	8	See All HAPs
90	AL	Mobile Co	Urban	Holnam Inc	NTIAL8026	2,520	1.34	18	See All HAPs
91	AL	Mobile Co	Urban	Worthington Cylinders	NTIAL8054	840	0.45	3	See All HAPs
92	AL	Mobile Co	Urban	Gulf Lumber Co	NTIAL10183	0.0019	< 0.01	12	See All HAPs
93	AL	Mobile Co	Urban	Martin Marietta Aggregates	NTIAL0109780	0.0934	< 0.01	37	See All HAPs
94	AL	Mobile Co	Urban	Shell Oil Products Co.	NTI18372	3,869	2.05	36	See All HAPs
95	AL	Mobile Co	Urban	Chickasaw	NTI12030	0.535	< 0.01	15	See All HAPs
96	AL	Mobile Co	Urban	Huls America Inc	NTI18368	0.141	< 0.01	41	See All HAPs
97	AL	Mobile Co	Urban	International Paper Company Siebert Station	NTI18369	10,080	5.35	47	See All HAPs
98	AL	Mobile Co	Urban	Kimberly-Clark Tissue	NTI18371	0.151	< 0.01	40	See All HAPs
99	AL	Monroe Co	Rural	Temple-Inland - Monroeville Particleboard	NTI8589	0.0117	< 0.01	24	See All HAPs
100	AL	Monroe Co	Rural	Georgia Pacific Corp	NTI8590	0.0163	< 0.01	22	See All HAPs
101	AL	Monroe Co	Rural	Stallworth Timber Co	NTI18375	1,180	0.63	13	See All HAPs

102	AL	Monroe Co	Rural	Scotch Plywood Co	NTI18374	0.0067	< 0.01	12	See All HAPs
103	AL	Monroe Co	Rural	Alabama River Pulp Co Inc	NTI18373	0.141	< 0.01	47	See All HAPs
104	AL	Montgomery Co	Urban	Coca-Cola Bottling Co	NTI18377	0.0015	< 0.01	12	See All HAPs
105	AL	Montgomery Co	Urban	Koppers Industries, Inc.	NTI18378	10,640	5.64	16	See All HAPs
106	AL	Montgomery Co	Urban	Capital Veneer Works Bx 8278 Montg, Al	NTI18376	0.0028	< 0.01	16	See All HAPs
107	AL	Morgan Co	Urban	American Maize-Products Decatur Inc.	NTIAL10196	0.0934	< 0.01	37	See All HAPs
108	AL	Morgan Co	Urban	Conagra	NTIAL10195	0.0934	< 0.01	37	See All HAPs
109	AL	Morgan Co	Urban	Nichols Aluminum Decatur Plant	NTI8506	11,420	6.06	9	See All HAPs
110	AL	Morgan Co	Urban	Bp Amoco Chemicals	NTI8507	1.45	< 0.01	40	See All HAPs
111	AL	Morgan Co	Urban	Basf Decatur Coatings Facility	NTI8508	4,780	2.54	11	See All HAPs
112	AL	Morgan Co	Urban	3m Company Decatur Plant	NTI8510	0.707	< 0.01	52	See All HAPs
113	AL	Morgan Co	Urban	Solutia, Inc Decatur Plant	NTI18381	3.92	< 0.01	45	See All HAPs
114	AL	Pickens Co	Rural	Lewis Brothers Lumber Company, Inc.	NTIAL10200	0.0153	< 0.01	14	See All HAPs
115	AL	Russell Co	Urban	Mead Coated Board Inc	NTI46931	760	0.40	44	See All HAPs
116	AL	Shelby Co	Urban	Research Solvents & Chemicals Inc.	NTIALT\$4453	4.00	< 0.01	11	See All HAPs
117	AL	Shelby Co	Urban	Seaman Timber Co	NTIAL117S001	10,020	5.32	37	See All HAPs
118	AL	Shelby Co	Urban	Blue Circle Cement Inc	NTIAL1170004	1,060	0.56	9	See All HAPs
119	AL	Shelby Co	Urban	Ala Power Co E.C. Gaston	NTI7744	57.8	0.03	35	See All HAPs
120	AL	Shelby Co	Urban	Dravo Lime Co	NTI18387	0.141	< 0.01	37	See All HAPs
121	AL	Shelby Co	Urban	Cheney Lime & Cement Co	NTI18386	0.283	< 0.01	37	See All HAPs
122	AL	Sumter Co	Rural	Mannington Wood Floors	NTI18388	0.0101	< 0.01	16	See All HAPs
123	AL	Talladega Co	Rural	Alliance Forest Products, U.S. Corporation	NTI18390	1,140	0.60	51	See All HAPs
124	AL	Talladega Co	Rural	Georgia Pacific Plywood, Talladega	NTI54340	0.0136	< 0.01	11	See All HAPs
125	AL	Talladega Co	Rural	American Color Graphics Inc	NTIAL1210029	2,280	1.21	3	See All HAPs
126	AL	Tallapoosa Co	Rural	Russell Corporation	NTI18391	0.0389	< 0.01	25	See All HAPs
127	AL	Tallapoosa Co	Rural	Wellborn Forest Products Alex City	NTI18392	0.141	< 0.01	40	See All HAPs
128	AL	Tuscaloosa Co	Urban	Uniroyal Goodrich Tire Co Tuscaloosa Plant	NTI8487	260	0.14	47	See All HAPs
129	AL	Tuscaloosa Co	Urban	Empire Coke Co	NTI8489	520	0.28	17	See All HAPs
		Tuscaloosa							See All

130	AL	Co	Urban	Lawter International	NTIAL0036	3,280	1.74	16	HAPs	
131	AL	Tuscaloosa Co	Urban	Vance Lumber Co	NTIAL10225	0.0077	< 0.01	12	See All HAPs	
132	AL	Tuscaloosa Co	Urban	Hunt Refining Co.	NTI18394	2,955	1.57	37	See All HAPs	
133	AL	Tuscaloosa Co	Urban	International Paper Company Tuskalusa Sawmill	NTIALS011	0.0230	< 0.01	14	See All HAPs	
134	AL	Walker Co	Rural	Dover Furniture Carbon Hill	NTI18396	0.0108	< 0.01	16	See All HAPs	
135	AL	Walker Co	Rural	Murphy Furniture Manufacturing Co Inc	NTI18397	0.0104	< 0.01	12	See All HAPs	
136	AL	Walker Co	Rural	Alabama Power Company Gorgas	NTI13104	59.6	0.03	37	See All HAPs	
137	AL	Washington Co	Rural	Hooks Lake Pole Yard	NTI18399	0.0009	< 0.01	12	See All HAPs	
138	AL	Washington Co	Rural	Olin Chemical Corp Po Box28mcintosh36553	NTI18400	0.314	< 0.01	38	See All HAPs	
139	AL	Washington Co	Rural	Ciba Specialty Chemicals Corporation	NTI18398	1.41	< 0.01	53	See All HAPs	
140	AL	Washington Co	Rural	Alabama Electric Cooperative Lowman	NTI12377	23.9	0.01	37	See All HAPs	
141	AL	Wilcox Co	Rural	Macmillan Bloedel Corp.	NTI8619	0.141	< 0.01	40	See All HAPs	
142	AL	Winston Co	Rural	Harden Mfg. Corp. Plant No.2	NTI8498	0.141	< 0.01	36	See All HAPs	
143	AL	Winston Co	Rural	Houston Wood Products Arley	NTI18402	0.141	< 0.01	39	See All HAPs	
144	AL	Winston Co	Rural	Dover Furniture Arley	NTI18401	0.283	< 0.01	41	See All HAPs	
Grand Total						188,519				

Page 1 of 1

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Disclaimer: This AirData report was produced using data extracted from the National Emissions Inventory (NEI) database final version 3 (February 2004) of the Hazardous Air Pollutant (HAP) emissions for year 1999 EPA compiles the NEI using various sources of data, described in extensive [NEI documentation](#). The five primary data sources are: (1) emissions inventories developed by state and local air pollution control agencies, (2) databases related to EPA's Maximum Achievable Control Technology programs to reduce HAP emissions, (3) [Toxic Release Inventory](#) data, (4) emissions estimated by using mobile source methodology developed by experts in EPA's Office of Transportation and Air Quality, and (5) area source emission estimates generated using emission factors and activity data. Although the NEI is based partially on emission data obtained from state and local agencies, it is not a database of official state emissions data. Please contact the appropriate [state agency](#) to obtain information on a state's official emission inventory. Please [contact EPA](#) to report errors.

Consistency: The NEI is a composite of emission estimates generated by state and local regulatory agencies, industry, and EPA. Because the estimates originated from a variety of sources and estimation methods, as well as differing purposes, they vary in quality, level of detail, and geographic coverage. However, this compilation of emissions estimates represents the best available information to date.

Variability in quality and accuracy of emission estimation methods in the NEI: The accuracy of emission

estimation techniques vary with pollutants and source categories. In some cases, an estimate may be based on a few or only one emission measurement at a similar sources. The techniques used and quality of the estimates will vary between source categories (e.g., some have been better studied than others) and between major, area and other, and mobile source sectors.

Readers are cautioned not to infer a qualitative ranking order of geographic areas based on AirData reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the prevailing air quality of a county or urban area. Pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the source is complying with applicable regulations.



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Facility Emissions Report - Hazardous Air Pollutants

Geographic Area: Alabama

Pollutant: 1,1,2,2-Tetrachloroethane

Year: 1999

Emissions in Pounds Per Year

166 Rows

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Row #	State	County	Urban / Rural	Facility Name	Facility ID	Pollutant Emissions	% of Total Emissions	Number of HAPs	Facility Detail
SORT									
1	AL	Autauga Co	Urban	Crystal Lake Mfg. Landfill	NTIALLF9971	2.09	0.02	28	See All HAPs
2	AL	Baldwin Co	Urban	Airport Landfill	NTIALLF9942	3.10	0.03	28	See All HAPs
3	AL	Baldwin Co	Urban	Magnolia Sanitary Landfill	NTIALLF9941	94.0	1.00	28	See All HAPs
4	AL	Baldwin Co	Urban	Red Hills Sanitary Landfill	NTIALLF9940	1.85	0.02	28	See All HAPs
5	AL	Barbour Co	Rural	Clio Sanitary Landfill	NTIALLF9921	1.44	0.02	28	See All HAPs
6	AL	Bibb Co	Rural	Centreville Landfill	NTIALLF9705	3.60	0.04	28	See All HAPs
7	AL	Bibb Co	Rural	Bibb County Sanitary Landfill & Ts	NTIALLF9704	4.24	0.04	28	See All HAPs
8	AL	Blount Co	Urban	Blount County/Nectar/Hayden Lf & Ts	NTIALLF9680	19.9	0.21	28	See All HAPs
9	AL	Blount Co	Urban	Blount County/Fridays Crossing Sanitary Landfill	NTIALLF9679	2.00	0.02	28	See All HAPs
10	AL	Bullock Co	Rural	Union Springs Sanitary Landfill	NTIALLF9446	37.3	0.40	28	See All HAPs
11	AL	Butler Co	Rural	Greenville Sanitary Landfill	NTIALLF9421	2.63	0.03	28	See All HAPs
12	AL	Butler Co	Rural	Butler County Sif (Georgiana)	NTIALLF9420	16.3	0.17	28	See All HAPs
13	AL	Calhoun Co	Rural	Stewart Landfill	NTIALLF9343	123	1.30	28	See All HAPs
14	AL	Calhoun Co	Rural	Mt. Liberty Baptist Church Landfill	NTIALLF9342	2.02	0.02	28	See All HAPs
15	AL	Calhoun Co	Rural	Fort McClellan Sanitary Landfill	NTIALLF9341	13.3	0.14	28	See All HAPs
16	AL	Calhoun Co	Rural	Brown Borthers / Lagarde Avenue Ts	NTIALLF9340	84.4	0.89	28	See All HAPs
17	AL	Calhoun Co	Rural	Anniston Sanitary Landfill	NTIALLF9339	3.36	0.04	28	See All HAPs
18	AL	Calhoun Co	Rural	Anniston Army Depot Sanitary Landfill	NTIALLF9338	123	1.30	28	See All HAPs

19	AL	Calhoun Co	Rural	Ann M. & H. C. Holland Fs	NTIALLF9337	16.7	0.18	28	See All HAPs
20	AL	Calhoun Co	Rural	Fair Landfill	NTIALLF9336	3.09	0.03	28	See All HAPs
21	AL	Cherokee Co	Rural	Cherokee County Sanitary Landfill	NTIALLF9079	2.63	0.03	28	See All HAPs
22	AL	Chilton Co	Rural	Chilton County Sanitary Landfill	NTIALLF9038	21.0	0.22	28	See All HAPs
23	AL	Choctaw Co	Rural	Choctaw County Sanitary Landfill	NTIALLF9000	63.2	0.67	28	See All HAPs
24	AL	Clarke Co	Rural	Thomasville Sanitary Landfill	NTIALLF8930	12.2	0.13	28	See All HAPs
25	AL	Clarke Co	Rural	Clarke County Sanitary Landfill	NTIALLF8929	12.0	0.13	28	See All HAPs
26	AL	Clay Co	Rural	Clay County Sanitary Landfill	NTIALLF8914	2.09	0.02	28	See All HAPs
27	AL	Cleburne Co	Rural	Cleburne County Sanitary Landfill	NTIALLF8892	2.09	0.02	28	See All HAPs
28	AL	Coffee Co	Urban	Elba Landfill	NTIALLF8799	53.3	0.56	28	See All HAPs
29	AL	Coffee Co	Urban	Coffee County Sanitary Landfill	NTIALLF8798	27.2	0.29	28	See All HAPs
30	AL	Coffee Co	Urban	Johnson Landfill	NTIALLF8797	2.86	0.03	28	See All HAPs
31	AL	Coffee Co	Urban	Enterprise Landfill	NTIALLF8796	2.63	0.03	28	See All HAPs
32	AL	Colbert Co	Urban	Colbert Fossil Plant Landfill	NTIALLF8791	29.3	0.31	28	See All HAPs
33	AL	Conecuh Co	Rural	Conecuh County Sanitary Landfill	NTIALLF8719	2.42	0.03	28	See All HAPs
34	AL	Covington Co	Rural	Andalusia Sanitary Landfill	NTIALLF8590	2.63	0.03	28	See All HAPs
35	AL	Covington Co	Rural	Lockhart Sanitary Landfill	NTIALLF8588	2.63	0.03	28	See All HAPs
36	AL	Covington Co	Rural	Opp Sanitary Landfill	NTIALLF8585	2.63	0.03	28	See All HAPs
37	AL	Covington Co	Rural	Brantley Landfill	NTIALLF8586	7.97	0.08	28	See All HAPs
38	AL	Covington Co	Rural	Florala Sanitary Landfill	NTIALLF8587	12.2	0.13	28	See All HAPs
39	AL	Crenshaw Co	Rural	Crenshaw County Sanitary Landfill	NTIALLF8548	9.66	0.10	28	See All HAPs
40	AL	Cullman Co	Rural	Cullman County Sanitary Landfill	NTIALLF8530	29.3	0.31	28	See All HAPs
41	AL	Cullman Co	Rural	Cullman Environmental Sanitary Landfill	NTIALLF8531	12.4	0.13	28	See All HAPs
42	AL	Cullman Co	Rural	Cullman City Sanitary Landfill	NTIALLF8529	11.1	0.12	28	See All HAPs
43	AL	Dale Co	Rural	Fort Rucker Sanitary Landfill	NTIALLF8470	2.89	0.03	28	See All HAPs
44	AL	Dallas Co	Rural	Dallas County / Pea Ridge Sif	NTIALLF8453	28.0	0.30	28	See All HAPs
45	AL	DeKalb Co	Rural	Dekalb County (Fyffe) Sanitary Landfill	NTIALLF8406	1.11	0.01	28	See All HAPs
46	AL	DeKalb Co	Rural	Downers / Waste Care Inc Sanitary Landfill	NTIALLF8404	13.3	0.14	28	See All HAPs
47	AL	Elmore Co	Urban	Wetumpka (Hwy 9) Sanitary Landfill	NTIALLF8009	36.7	0.39	28	See All HAPs
48	AL	Elmore Co	Urban	Speigner Sanitary Landfill	NTIALLF8008	5.97	0.06	28	See All HAPs

49	AL	Elmore Co	Urban	Central Sanitary Landfill	NTIALLF8007	53.3	0.56	28	See All HAPs
50	AL	Escambia Co	Rural	Wawbeek Sanitary Landfill	NTIALLF7942	6.76	0.07	28	See All HAPs
51	AL	Escambia Co	Rural	T R Miller Mill Co. Inc	NTIALLF7940	1.61	0.02	28	See All HAPs
52	AL	Escambia Co	Rural	Timberlands Landfill	NTIAL0530080	29.9	0.32	28	See All HAPs
53	AL	Escambia Co	Rural	East Brewton Sanitary Landfill	NTIALLF7939	48.9	0.52	28	See All HAPs
54	AL	Etowah Co	Urban	City Of Gadsden Sanitary Landfill	NTIALLF7879	56.1	0.59	28	See All HAPs
55	AL	Etowah Co	Urban	Etowah County Sanitary Landfill	NTIALLF7880	52.7	0.56	28	See All HAPs
56	AL	Etowah Co	Urban	Glencoe Trash Site Landfill	NTIALLF7878	3.09	0.03	28	See All HAPs
57	AL	Fayette Co	Rural	Belk Landfill	NTIALLF7842	8.69	0.09	28	See All HAPs
58	AL	Fayette Co	Rural	Fayette County Sanitary Landfill	NTIALLF7841	2.42	0.03	28	See All HAPs
59	AL	Franklin Co	Rural	Russellville Landfill	NTIALLF7778	32.9	0.35	28	See All HAPs
60	AL	Franklin Co	Rural	Franklin County Inert Landfill & Ts	NTIALLF7777	18.2	0.19	28	See All HAPs
61	AL	Geneva Co	Rural	West Geneva Sanitary Landfill	NTIALLF7488	63.2	0.67	28	See All HAPs
62	AL	Geneva Co	Rural	East Geneva Sanitary Landfill	NTIALLF7486	11.1	0.12	28	See All HAPs
63	AL	Geneva Co	Rural	Slocomb Landfill	NTIALLF7485	1.11	0.01	28	See All HAPs
64	AL	Geneva Co	Rural	Samson Landfill	NTIALLF7489	32.9	0.35	28	See All HAPs
65	AL	Greene Co	Rural	Greene County (Eutaw) Sanitary Landfill	NTIALLF7280	28.0	0.30	28	See All HAPs
66	AL	Hale Co	Rural	Hale County (Greensboro) Sanitary Landfill	NTIALLF7184	12.0	0.13	28	See All HAPs
67	AL	Henry Co	Rural	Headland Sanitary Landfill	NTIALLF6927	2.63	0.03	28	See All HAPs
68	AL	Henry Co	Rural	Abbeville Sanitary Landfill	NTIALLF6926	8.70	0.09	28	See All HAPs
69	AL	Houston Co	Urban	Dothan Sanitary Landfill	NTIALLF6800	31.0	0.33	28	See All HAPs
70	AL	Jackson Co	Rural	Scottsboro Balefill Sanitary Landfill	NTIALLF6478	28.1	0.30	28	See All HAPs
71	AL	Jackson Co	Rural	Bridgeport Sanitary Landfill	NTIALLF6474	40.6	0.43	28	See All HAPs
72	AL	Jackson Co	Rural	Tva / Widows Creek Landfill	NTIALLF6476	8.69	0.09	28	See All HAPs
73	AL	Jackson Co	Rural	Valley View Sanitary Landfill	NTIALLF6477	22.9	0.24	28	See All HAPs
74	AL	Jefferson Co	Urban	Simmons Machinery Company Inc Landfill	NTIALLF6397	10.2	0.11	28	See All HAPs
75	AL	Jefferson Co	Urban	Us Steel Mining (Oak Grove) Landfill	NTIALLF6396	10.2	0.11	28	See All HAPs
76	AL	Jefferson Co	Urban	U.S. Steel Mining Co.,Llc - Concord	NTIALLF6395	36.0	0.38	29	See All HAPs
77	AL	Jefferson Co	Urban	Mount Olive Sanitary Landfill	NTIALLF6394	26.2	0.28	28	See All HAPs

78	AL	Jefferson Co	Urban	Mitchell / Ab Foundry	NTIALLF6393	296	3.14	28	See All HAPs
79	AL	Jefferson Co	Urban	Turkey Creek Sanitary Landfill	NTIALLF6392	20.9	0.22	28	See All HAPs
80	AL	Jefferson Co	Urban	Peabody Sanitary Landfill	NTIALLF6391	296	3.14	28	See All HAPs
81	AL	Jefferson Co	Urban	Oscar Kent Landfill	NTIALLF6390	36.0	0.38	28	See All HAPs
82	AL	Jefferson Co	Urban	Holsomback Landfill	NTIALLF6389	296	3.14	28	See All HAPs
83	AL	Jefferson Co	Urban	Gaston Steam Plant Landfill	NTIALLF6388	36.0	0.38	28	See All HAPs
84	AL	Jefferson Co	Urban	Shannon Sanitary Landfill	NTIALLF6387	387	4.09	28	See All HAPs
85	AL	Jefferson Co	Urban	Partridge Sanitary Landfill	NTIALLF6386	33.1	0.35	28	See All HAPs
86	AL	Jefferson Co	Urban	Mcdonald Hollow Landfill	NTIALLF6385	33.1	0.35	28	See All HAPs
87	AL	Jefferson Co	Urban	New Georgia Sanitary Landfill	NTIALLF6383	216	2.29	28	See All HAPs
88	AL	Jefferson Co	Urban	Eastern Area Sanitary Landfill	NTIALLF6382	354	3.75	28	See All HAPs
89	AL	Jefferson Co	Urban	Salser Landfill	NTIALLF6381	36.0	0.38	28	See All HAPs
90	AL	Jefferson Co	Urban	John'S Sanitary Landfill	NTIALLF6320	10.2	0.11	28	See All HAPs
91	AL	Lamar Co	Rural	City Of Sulligent	NTIALLF5840	1.48	0.02	28	See All HAPs
92	AL	Lamar Co	Rural	Sulligent Landfill	NTIALLF5841	2.63	0.03	28	See All HAPs
93	AL	Lamar Co	Rural	Lamar County Sanitary Landfill (South)	NTIALLF5839	2.63	0.03	28	See All HAPs
94	AL	Lauderdale Co	Rural	Threet Landfill	NTIALLF5721	8.69	0.09	28	See All HAPs
95	AL	Lauderdale Co	Rural	Underwood (Lauderdale County) Landfill & Ts	NTIALLF5722	24.7	0.26	28	See All HAPs
96	AL	Lauderdale Co	Rural	Lexington Sanitary Landfill	NTIALLF5719	8.69	0.09	28	See All HAPs
97	AL	Lawrence Co	Rural	Morris Landfill	NTIALLF5705	2.63	0.03	28	See All HAPs
98	AL	Lawrence Co	Rural	Lawrence County Sanitary Landfill	NTIALLF5704	10.9	0.12	28	See All HAPs
99	AL	Lee Co	Urban	Salem Waste Disposal Inc Landfill	NTIALLF5688	174	1.84	28	See All HAPs
100	AL	Lee Co	Urban	Kent Landfill / City Of Auburn	NTIALLF5687	5.97	0.06	28	See All HAPs
101	AL	Limestone Co	Urban	Athens / Limestone Co Sanitary Landfill	NTIALLF5595	40.1	0.43	28	See All HAPs
102	AL	Lowndes Co	Rural	Lowndes County Sanitary Landfill	NTIALLF5156	1.44	0.02	28	See All HAPs
103	AL	Macon Co	Urban	Tuskegee Landfill	NTIALLF5070	48.0	0.51	28	See All HAPs
104	AL	Madison Co	Urban	Madison Oaks Development Landfill	NTIALLF5030	116	1.22	28	See All HAPs
105	AL	Madison Co	Urban	Madison County / New Hope School	NTIALLF5029	28.5	0.30	28	See All HAPs
106	AL	Madison Co	Urban	Huntsville Sanitary Landfill	NTIALLF5028	133	1.41	28	See All HAPs
107	AL	Madison Co	Urban	Redstone Arsenal	NTIAL0890007	980	10.38	13	See All

									HAPs
108	AL	Madison Co	Urban	Wild Boys Landfill	NTIALLF5031	7.88	0.08	28	See All HAPs
109	AL	Madison Co	Urban	George C. Marshall Space Flight Center	NTI8534	2,140	22.67	7	See All HAPs
110	AL	Marengo Co	Rural	Marengo County Sanitary Landfill	NTIALLF4963	13.3	0.14	28	See All HAPs
111	AL	Marion Co	Rural	Hamilton Missionary Baptist Church	NTIALLF4833	53.3	0.56	28	See All HAPs
112	AL	Marion Co	Rural	Guin Landfill	NTIALLF4832	7.27	0.08	28	See All HAPs
113	AL	Marion Co	Rural	Indies House Inc	NTIALLF4831	8.69	0.09	28	See All HAPs
114	AL	Marion Co	Rural	South Marion County Sanitary Landfill	NTIALLF4835	12.2	0.13	28	See All HAPs
115	AL	Marion Co	Rural	North Marion County Sanitary Landfill	NTIALLF4834	12.2	0.13	28	See All HAPs
116	AL	Marion Co	Rural	Ballard Landfill	NTIALLF4830	8.69	0.09	28	See All HAPs
117	AL	Marshall Co	Rural	Bishop Sanitary Landfill	NTIALLF4762	104	1.10	28	See All HAPs
118	AL	Marshall Co	Rural	Albertville Sanitary Landfill	NTIALLF4761	12.6	0.13	28	See All HAPs
119	AL	Marshall Co	Rural	Boaz Sanitary Landfill	NTIALLF4760	4.77	0.05	28	See All HAPs
120	AL	Mobile Co	Urban	Saraland Sanitary Landfill	NTIALLF4404	9.66	0.10	28	See All HAPs
121	AL	Mobile Co	Urban	Courtaulds North America Inc Landfill	NTIALLF4401	6.78	0.07	27	See All HAPs
122	AL	Mobile Co	Urban	Hickory Street Sanitary Landfill / City Of Mobile	NTIALLF4395	39.1	0.41	28	See All HAPs
123	AL	Mobile Co	Urban	Chastang Sanitary Landfill	NTIALLF4396	78.7	0.83	28	See All HAPs
124	AL	Mobile Co	Urban	Addsco Landfill	NTIALLF4397	179	1.90	28	See All HAPs
125	AL	Mobile Co	Urban	Chunchula Sanitary Landfill	NTIALLF4399	26.9	0.28	28	See All HAPs
126	AL	Mobile Co	Urban	Prichard Landfill (Bellcase Road)	NTIALLF4402	39.1	0.41	28	See All HAPs
127	AL	Mobile Co	Urban	Irvington Sanitary Landfill (Mobile County)	NTIALLF4400	179	1.90	28	See All HAPs
128	AL	Mobile Co	Urban	Brunson Construction Landfill	NTIALLF4403	39.1	0.41	28	See All HAPs
129	AL	Monroe Co	Rural	Monroe County Sanitary Landfill	NTIALLF4329	36.1	0.38	28	See All HAPs
130	AL	Montgomery Co	Urban	Sullivan Landfill	NTIALLF4212	7.88	0.08	28	See All HAPs
131	AL	Montgomery Co	Urban	Maxwell Afb Sanitary Landfill	NTIALLF4213	1.39	0.01	28	See All HAPs
132	AL	Montgomery Co	Urban	North Montgomery Sanitary Landfill	NTIALLF4210	241	2.56	28	See All HAPs
133	AL	Montgomery Co	Urban	Ramer Sanitary Landfill	NTIALLF4211	7.88	0.08	28	See All HAPs
134	AL	Morgan Co	Urban	Decatur / Morgan Sanitary Landfill	NTIALLF4142	137	1.45	28	See All HAPs
135	AL	Perry Co	Rural	Perry County Sanitary Landfill	NTIALLF3271	2.90	0.03	28	See All HAPs
136	AL	Perry Co	Rural	Central Alabama Swda	NTIALLF3270	53.3	0.56	28	See All

				Sanitary Landfill					HAPs
137	AL	Pike Co	Rural	Brundidge Sanitary Landfill (Pike County)	NTIALLF3227	6.18	0.07	28	See All HAPs
138	AL	Pike Co	Rural	Brundidge Waste Disposal Center	NTIALLF3226	8.69	0.09	28	See All HAPs
139	AL	Randolph Co	Rural	Randolph County Demolition Lf	NTIALLF2870	2.99	0.03	28	See All HAPs
140	AL	Randolph Co	Rural	Roanoke Sanitary Landfill	NTIALLF2869	10.0	0.11	28	See All HAPs
141	AL	Russell Co	Urban	Johnston Foundry Sand Landfill	NTIALLF2612	8.69	0.09	28	See All HAPs
142	AL	Russell Co	Urban	Esco Landfill #2	NTIALLF2611	8.69	0.09	28	See All HAPs
143	AL	Shelby Co	Urban	Highway 70 Sanitary Landfill	NTIALLF1698	42.4	0.45	28	See All HAPs
144	AL	Shelby Co	Urban	Westover Sanitary Landfill	NTIALLF1697	2.83	0.03	28	See All HAPs
145	AL	St. Clair Co	Urban	Superior Star Ridge Landfill	NTIAL1150023	268	2.84	28	See All HAPs
146	AL	St. Clair Co	Urban	Superior Cedar Hill Landfill	NTIALLF1442	57.0	0.60	26	See All HAPs
147	AL	Sumter Co	Rural	Livingston Landfill	NTIALLF1177	7.97	0.08	28	See All HAPs
148	AL	Sumter Co	Rural	Sumter County Sanitary Landfill	NTIALLF1178	2.86	0.03	28	See All HAPs
149	AL	Talladega Co	Rural	Brecon Sanitary Landfill	NTIALLF1123	1.61	0.02	28	See All HAPs
150	AL	Talladega Co	Rural	Odena, District 4, Sanitary Landfill	NTIALLF1124	42.7	0.45	28	See All HAPs
151	AL	Tallapoosa Co	Rural	Tallapoosa County Sanitary Landfill	NTIALLF1120	8.69	0.09	28	See All HAPs
152	AL	Tallapoosa Co	Rural	Tallassee Waste Disposal Center	NTIALLF1122	29.0	0.31	28	See All HAPs
153	AL	Tuscaloosa Co	Urban	Eley Landfill	NTIALLF886	3.09	0.03	28	See All HAPs
154	AL	Tuscaloosa Co	Urban	Harris (Jerusalem Heights) Landfill	NTIALLF887	2.35	0.02	28	See All HAPs
155	AL	Tuscaloosa Co	Urban	Harris Landfill (K / Mart)	NTIALLF888	2.35	0.02	28	See All HAPs
156	AL	Tuscaloosa Co	Urban	Superior Eagle Bluff Landfill	NTIALLF885	5.03	0.05	28	See All HAPs
157	AL	Tuscaloosa Co	Urban	Trash Site Landfill	NTIALLF889	2.83	0.03	28	See All HAPs
158	AL	Walker Co	Rural	Pine View Sanitary Landfill	NTIALLF610	20.8	0.22	28	See All HAPs
159	AL	Walker Co	Rural	Argo Sanitary Landfill	NTIALLF611	9.66	0.10	28	See All HAPs
160	AL	Walker Co	Rural	Lost Creek Coal County Sanitary Landfill	NTIALLF612	2.63	0.03	28	See All HAPs
161	AL	Washington Co	Rural	Washington County Sanitary Landfill	NTIALLF523	21.1	0.22	28	See All HAPs
162	AL	Winston Co	Rural	Powell Landfill (Mobile Home)	NTIALLF225	1.61	0.02	28	See All HAPs
163	AL	Winston Co	Rural	Winston County Sanitary Landfill	NTIALLF226	1.35	0.01	28	See All HAPs
164	AL	Winston Co	Rural	Three Star Manufacturing Company Landfill	NTIALLF227	1.61	0.02	28	See All HAPs
165	AL	Winston Co	Rural	Hood Landfill (Mobile	NTIALLF223	53.3	0.56	28	See All

				Home)					HAPs
166	AL	Winston Co	Rural	Haleyville Regional Landfill	NTIALLF228	39.7	0.42	28	See All HAPs
Grand Total						9,440			

Page 1 of 1

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Disclaimer: This AirData report was produced using data extracted from the National Emissions Inventory (NEI) database final version 3 (February 2004) of the Hazardous Air Pollutant (HAP) emissions for year 1999. EPA compiles the NEI using various sources of data, described in extensive [NEI documentation](#). The five primary data sources are: (1) emissions inventories developed by state and local air pollution control agencies, (2) databases related to EPA's Maximum Achievable Control Technology [programs to reduce HAP emissions](#), (3) [Toxic Release Inventory](#) data, (4) emissions estimated by using mobile source methodology developed by experts in EPA's Office of Transportation and Air Quality, and (5) area source emission estimates generated using emission factors and activity data. Although the NEI is based partially on emission data obtained from state and local agencies, it is not a database of official state emissions data. Please contact the appropriate [state agency](#) to obtain information on a state's official emission inventory. Please [contact EPA](#) to report errors.

Consistency: The NEI is a composite of emission estimates generated by state and local regulatory agencies, industry, and EPA. Because the estimates originated from a variety of sources and estimation methods, as well as differing purposes, they vary in quality, level of detail, and geographic coverage. However, this compilation of emissions estimates represents the best available information to date.

Variability in quality and accuracy of emission estimation methods in the NEI: The accuracy of emission estimation techniques vary with pollutants and source categories. In some cases, an estimate may be based on a few or only one emission measurement at a similar sources. The techniques used and quality of the estimates will vary between source categories (e.g., some have been better studied than others) and between major, area and other, and mobile source sectors.

Readers are cautioned not to infer a qualitative ranking order of geographic areas based on AirData reports. Air pollution levels measured in the vicinity of a particular monitoring site may not be representative of the prevailing air quality of a county or urban area. Pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the source is complying with applicable regulations.

APPENDICES

APPENDIX A

Other Studies

Several studies of air toxics in Alabama have been completed or initiated in recent years. These include:

LEAF Study of Jefferson County (2006)

The Legal Environmental Assistance Foundation, Inc. published *Toxic Air Pollution in Jefferson County* in June 2006. This study focused on ambient concentrations of Arsenic, Cadmium and Manganese collected in Jefferson County from 2001-2005. The study compared ambient measurements to “safe” health-based concentrations and identified industrial sources of these chemicals. An abridged version of the study was presented to the Alabama Environmental Management Commission on June 2, 2006. The complete study is available at <http://www.enviro-lawyer.com/JeffersonCountyAirToxics.pdf>.

Jefferson County Health Department Study (Incomplete)

The Jefferson County Health Department collected an extensive amount of data on ambient levels of toxic air pollutants in Jefferson County from July 2005 to July 2006. The Department is developing a report, expected to be published in late 2008, which will compare ambient concentrations of toxic pollutants to “safe” health-based concentrations and attempt to identify the most probable sources of excessive toxic pollutants. See <http://www.epa.gov/ttnamti1/files/ambient/airtox/fyo4jeff.pdf>. The data collected by the Department are available to the public on request and are also reported on the U.S. Environmental Protection Agency’s *AirData* website at <http://www.epa.gov/air/>

[data/hapvals.html?st~AL~Alabama](http://www.epa.gov/air/data/hapvals.html?st~AL~Alabama). These data have been considered in the preparation of this report.

Mobile County Air Quality Study (Incomplete)

A consortium composed of The Forum-Industrial Partners in Environmental Progress, City of Mobile, Mobile County, Mobile Baykeeper, and Mobile Area Chamber of Commerce measured ambient concentrations of Volatile Organic Carbons, Carbonyls (Formaldehyde and Acetaldehyde), Metals, Polycyclic Aromatic Hydrocarbons, and Polychlorinated Diphenyls at five sites in Mobile County from August 2002 to August 2003. Data analysis and modeling remain incomplete due to lack of financial resources. The data from ambient air measurements has not been made public until recently. For more information see “Mobile County Air Quality Study Moves One Step Closer to Reality,” *The Harbinger* (Nov. 28, 2000) at <http://www.theharbinger.org/xix/001128/tsa ng1.html> and “Mobile County Air Quality Study - EPA Science Forum 2004” at <http://www.epa.gov/sciforum/2004/presentations/day3/reg/session3/perry-steve.pdf>. The data generated by this study were considered in the preparation of this report.

EPA National-Scale Air Toxics Assessment (2006)

EPA published the 1999 National-Scale Air Toxics Assessment in 2006. This assessment includes county-level risk summaries; county-level emission summaries; county-level ambient concentration summaries; a pollutant-specific database of risk results; a

census tract-level database of risk results; and a state summary database. The study is based on emission estimates and modeling. *See* “1999 National-Scale Air Toxics Assessment: 1999 Data Tables” at <http://www.epa.gov/ttn/atw/nata1999/tables.html>.

The National-Scale Air Toxics Assessment comprises four steps, all of which focus on 1999 air toxics data:

1. National inventory of air toxics emissions from sources in the U.S. plus Puerto Rico and the Virgin Islands. The types of emissions sources in the inventory include large sources such as waste incinerators and factories and smaller sources, such as dry cleaners, small manufacturers and wildfires. Also included in the inventory are emissions from highway and non-road mobile sources, such as cars, trucks and boats.
2. Estimates of average concentrations of toxics in the outdoor air. These estimates are developed using a computer model that analyzes a number of factors, including total emissions, the number of emissions sources in a particular area, weather patterns and pollution source characteristics.

3. Estimates of population exposures based on estimated outdoor concentrations and on a model that looks at the amount of an air toxic a person is likely to inhale in a year's time. The average concentration of a pollutant that people breathe is known as an exposure concentration. Estimating exposure, assuming 1999 levels over the course of a lifetime, is a key step in determining potential health risk.
4. Characterization of potential public health risks including both cancer and other adverse health effects, using available information on air toxics health effects, current EPA risk assessment and risk characterization guidelines, and estimated population exposures to outdoor sources of air toxics.

See National-Scale Air Toxics Assessment for 1999: Estimated Emissions, Concentrations and Risk: Technical Fact Sheet at <http://www.epa.gov/ttn/atw/nata1999/natafinalfact.html>. A more recent version of the National-Scale Air Toxics Assessment is expected to be published in late 2008. This assessment will be based on emission estimates for 2002.

ONIS "TREY" GLENN, III
DIRECTOR



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BOB RILEY
GOVERNOR

May 12, 2008

Mr. David Ludder
9150 McDougal Court
Tallahassee, Florida 32312-4208

Dear David:

This is in response to your e-mail of April 3, 2008, which requested the status of any air toxics monitoring or assessments by ADEM.

Perhaps it is appropriate, before providing a short answer to your question, to review the history of efforts to address non-criteria air pollutants (aka, air toxics) since the Clean Air Act was passed in 1970.

First, it was clearly recognized that efforts to reduce emissions of criteria pollutants would make great strides in reducing levels of air toxics. Examples include:

- Many air toxics, such as metals and metal oxides, are solids, and therefore are reduced by particulate matter control devices.
- The majorities of air toxics are gaseous, and are reduced by control equipment designed to reduce Volatile Organic Compounds, which in turn have been required to be reduced for ozone reasons.
- Catalytic oxidizers on autos reduce emissions of the toxic constituents of gasoline and combustion by-products.

Second, the original Clean Air Act recognized that technology-based standards for air toxics were important, and so NESHAPS regulations (National Emission Standards for Hazardous Air Pollutants) were developed in the 1970's and 80's. Although the NESHAPS program was not carried to fruition for a variety of reasons, the rules that were adopted did address many of the most toxic pollutants, such as mercury, asbestos, and beryllium.

The Clean Air Act amendments of 1990 addressed the issue of air toxics head-on. The MACT rules (Maximum Available Control Technology) required both that the air toxics reduction efforts be ratcheted up to modern technology and that residual risk assessments be performed after technology improvements. To date, there are MACT's which impose air toxics limits on about 100 industry categories.

The 1990 amendments also mandated that EPA perform research on air toxics, especially in urban areas, in order to determine the need for reductions. Through this research, it has been realized that the air toxics which are of greatest concern to human health arise from transportation sources. This conclusion is due to the emissions occurring in proximity to people and to the nature of the emissions. Two of the most carcinogenic compounds, benzene and diesel particulates, arise from evaporative and tailpipe emissions in gasoline-powered vehicles, and, obviously, from diesel-powered vehicles, respectively. Both of these pollutants are being reduced currently by nationally-applicable, on-the-books regulations covering both gasoline and diesel engines and the quality of the fuels they utilize.

The purpose of the above information is to emphasize that Alabama and the majority of its sister States must rely on EPA's resources and scientific expertise to prioritize which air toxics sources need to be addressed. This premise, that States lack resources and toxicological and epidemiological expertise and therefore rely on EPA for setting standards, is one of the foundations of the Clean Air Act and other environmental statutes.

The answer to your question, then, is that ADEM has not undertaken any State specific air toxics study for the reasons given. We have adopted the MACT rules by reference and have enforced them diligently.

Please let me know if further information is needed.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ronald W. Gore".

Ronald W. Gore/Chief
Air Division

ONIS "TREY" GLENN, III
DIRECTOR



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August 8, 2008

BOB RILEY
GOVERNOR

MEMORANDUM

TO: Commissioner Kathleen J. Felker

COPY TO: Environmental Management Commission
Debi Thomas

FROM: Onis "Trey" Glenn, III 
Director

SUBJECT: Response to Mr. Ludder's Request for Air Toxics Monitoring

Pursuant to your request, I have reviewed the e-mail that Mr. Ludder sent you regarding air toxics. I have consulted my staff on the history of departmental efforts in this area, and a summary of the key points provided by my staff is contained below.

In the late 1980's and early 1990's, ADEM developed a statewide air toxics assessment program. Industrial stakeholders participated, and the State Epidemiologist from the Health Department provided input. The primary reason for the effort was that little or no activity on air toxics was taking place at the federal level.

The study included developing a detailed inventory of industrial, mobile (cars, trucks, etc.), background, area, and natural sources of air toxics. The conclusions reached included:

1. Mobile sources are responsible for at least half of air toxics emissions.
2. Industrial sources are responsible for one-third or less of air toxics emissions in the State.
3. Dispersion models showed that the only industrial emissions which should be targeted for possible controls were chlorine-based compounds from paper mills which bleached their products using chlorine.

The study never went further than the conclusions above for three reasons:

1. Bleached paper mills changed their processes to eliminate chlorine as their bleaching agent to reduce dioxin discharge to water. The chlorine-based air toxics emissions which were of concern before fell dramatically, also.

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Kathleen J. Felker

08/08/2008

Page 2 of 2

2. The Clean Air Act was amended in 1990. The requirement in the Act that EPA regulate air toxics through the Maximum Available Control Technology Program (MACT) mooted ADEM's efforts. The MACT program required EPA to assess what air toxics are emitted from industrial sources in significant quantities, to require best control technology on those sources, and to perform a residual risk analysis on those sources after application of best control technology.

3. EPA was required by the revised Act to assess urban air toxics, those pollutants emitted by mobile and area sources.

In the early 2000's a stakeholder's group was formed in Mobile to study air toxics in that area. The study resulted in significant amounts of data on actual air toxics concentrations being developed. However, our understanding is that the study was not completed after it became apparent that the air toxics of concern arose solely from mobile source emissions.

The Jefferson County Health Department's Air Quality Division received a large grant from EPA several years ago to measure certain air toxics and to reach conclusions regarding public health concerns. Information from JCDH staff indicates that conclusion of the study is imminent.

ADEM currently operates 40 + ambient air quality monitors across the State. Most of these instruments must be operated to meet EPA's minimum data gathering requirements. Because of resource constraints at both the State and Federal levels, ADEM has recently discontinued operation of several discretionary monitors.

As you can see, useful data regarding the significance ADEM's permit holders in these studies is confused when compared to data regarding mobile sources. We are open to solutions for the reduction of air toxics, but the information will need to be clear and convincing that the action suggested will produce the desired result.

ADEM employees operate the present monitoring system. If an air toxics monitoring network were deemed necessary, at a minimum, the analyses of the samples would have to be done through contracting with one of the few commercial laboratories in the country able to do such work. Other aspects of the network, such as designing sampling techniques, might require outside assistance also.

I hope this summary is helpful. Please let me know if you would like more information regarding this issue. This is an area in which increased resources to pursue further data collection ideas would prove valuable. With the limited current resources, ADEM must prioritize this action against other actions that might have more of a positive impact on the health and safety of the citizens of Alabama. I stand ready to take further direction from the Commission.

OTG/ghe