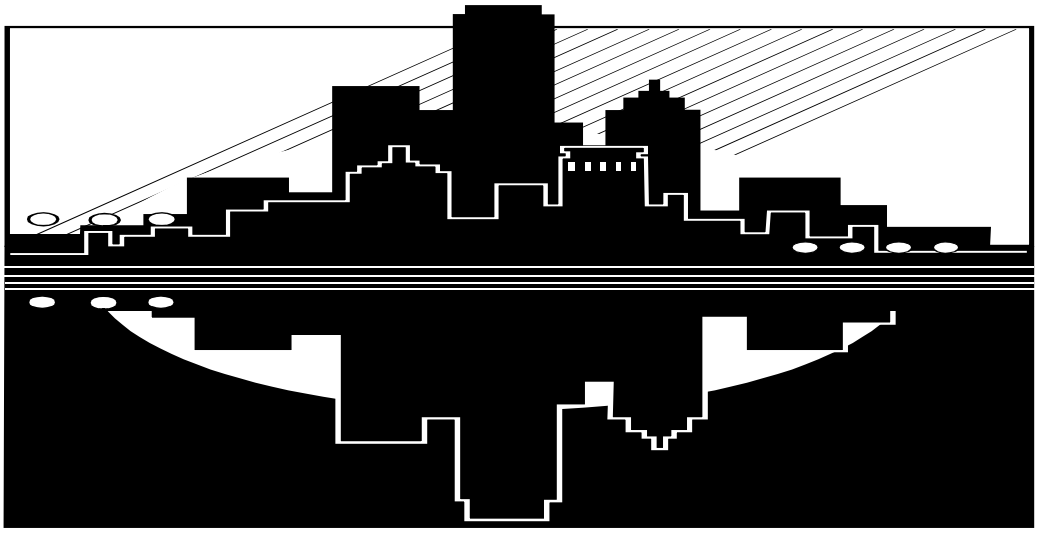
St. Louis Community Environmental Justice Project

HANDBOOK FOR Pagedale Area



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University of Missouri-St. Louis

Chapter One:
ABOUT ENVIRONMENTAL JUSTICE

This handbook is designed to show you how to take action on environmental issues that can affect your health, property values, or economic viability. The handbook does this by providing a step-by-step guide to obtaining and using environmental information.

The handbook is a product of the St. Louis Environmental Justice Project, a partnership between Project H.O.P.E. (Helping Other People Emerge) and the University of Missouri-St. Louis. The Project -- funded by the U.S. Environmental Protection Agency *(EPA)* under its Environmental Justice Program -- was designed to provide people like you with the tools to do your own research into environmental issues, and to develop a plan for seeking improvements in your neighborhood's environmental condition.

The EPA has been particularly interested in issues of environmental justice since 1994, when President Bill Clinton officially made it a national priority. Benjamin Chavez, former head of the National Association for the Advancement of Colored People (NAACP) coined the term "environmental justice" in 1987. He released the first study showing low-income minorities are more likely to live near an existing source of pollution or live in a neighborhood where a new source of pollution is to be located. Several studies have since upheld Chavez's view and pointed out that poor minority neighborhoods get a less adequate response when they speak out about existing or new pollution sources.[1] Thus, environmental justice usually is taken to mean that all people, regardless of income or race, have the same right to clean air, water and soil.

While it is inspiring to believe that something may finally be done about this social inequity, it can take a long time for action in a specific area unless people in polluted neighborhoods learn who is responsible for their

[1] U.S. Environmental Protection Agency, Office of Compliance and Assurance, Office of Environmental Justice Home Page, http://es.epa.gov.oejbut.html, January 10, 1999. National Public Radio, "Environmental Racism Exists in Louisiana," May 15, 1993, as reproduced by LEXIS-NEXIS, October 20, 1998.

environmental problems and what can be done about them. This can seem like a very difficult task, especially when pollution may be unnoticed because residents cannot see or smell it. In some inner city neighborhoods, for example, traffic emissions from a nearby freeway can produce more pollution than the neighborhood gets from local industry.

This handbook provides you with guides to emissions that are considered "toxic," (or poisonous) and to some that are not, but can harm human health nonetheless. You will learn how to identify sources of pollution in your neighborhood, find out what the emissions mean for your health and property, and decide which strategy is best for getting action on your situation. (Words such as 'toxic' or 'emissions' may not be familiar to you. Although we have tried to define such words as we go, there are definitions on page 38 of this handbook.)

Unfortunately, there is no one place to go for information about every pollutant that is emitted into the environment in your area. And there is no single agency that can answer all your questions. This because EPA, state agencies, and local offices have different responsibilities for different parts of the overall effort to control pollution. You may find information about just one company to be kept in four or five different offices. The discussion that follows introduces you to the various levels of government and their responsibility for environmental issues.

Environmental Law

The federal government acts through its laws and the EPA. Laws are created by Congress and approved by the President. These laws set standards for the environment. These standards currently include the amount of certain chemicals that can be released into your air, the process that factories must use to dispose of hazardous wastes, and who is responsible for cleaning up environmental hazards.

Congress

- Passes the laws that set the national standards for the environment
- Supervises the agencies responsible for implementing the laws
- Provides an outlet for concerned citizens to ask questions about environmental activities in their district.

The EPA is responsible for enforcing the environmental laws passed by Congress, and for explaining them to neighborhood residents, businesses, and local governments. This process includes regulations made by the EPA to determine what businesses and neighborhood residents must do to comply with particular laws passed by Congress.

The EPA collects a large quantity of environmental information that it makes available to the public. The information can include health hazards of particular chemicals, regional environmental issues, environmental hazards caused by industry, and other environmental information. EPA is also responsible under the "Superfund" program for making sure the worst environmental sites get cleaned up.

Environmental Protection Agency

- Creates regulations which explain the standards passed by Congress
- Responsible for enforcement of laws
- Conducts testing to determine health risks in the environment
- Issues permits to control the release of hazardous chemicals

State governments also are concerned about the environment. Every state has its own environmental laws, passed by the state legislature. Most states also have their own agencies for dealing with the environment. These agencies do many of the things that the EPA does, but focus on a much smaller area. Often, neighborhood residents will have contact with state agency staff before they will work with the EPA. Generally, state agencies have funds for many types of environmental programs, including educational projects, cleanup of contaminated sites, and enforcement of environmental laws.

Some of the best environmental information comes from the permits that the state agencies issue to businesses. Frequently, these agencies also have environmental information, but it is often broken down into smaller parts, and often matches closely with the existing city and county boundaries.

State Legislatures

- Pass state laws setting environmental standards that may be tougher than federal standards
- Supervise the state agencies responsible for enforcement
- Provides outlet for citizens to voice their concerns

State Environmental Agencies

- Responsible for local enforcement of state environmental standards
- Create regulations explaining the state standards
- Conduct testing and other activities to determine health risks from the environment
- Issue permits for the release of hazardous chemicals

Finally, cities, counties and other smaller communities have their own laws on the environment. These local governments have their own level of information; often including business permits, zoning laws, and sometimes even their own environmental regulations. These smaller units also have more local contact information with businesses, community leaders, and other agencies, and they are a great place to start your search for information.

What you need to know

To get started on your journey for environmental information, it helps to:

(1) learn a bit about the difference between toxics (or hazardous materials) and substances which are not toxic, but which can harm human health;
(2) learn about environmental laws and who is responsible for enforcing them;
(3) learn the shortcomings of information provided by environmental agencies.

You have been given a sketch of the governmental structure of environmental activities. The remainder of this chapter deals with materials that can harm human health. The shortcomings of agencies' information are covered in Chapter 2.

Toxic/Hazardous Substances

A **toxin** (or hazardous material) is a substance that in quantity or form poses an unreasonable risk. **Hazardous waste** is toxic material that no longer has a commercial value.

The use of chemicals in American society has skyrocketed since World War II. According to the Chemical Abstract Service, which provides names and numbers to chemicals, there were 211,000 new chemicals in 1965; 10 million in 1990[2]. An example is chromium, which can cause cancer and other problems if a person is exposed to sufficient quantities over a certain period of time.[3]

Materials that ordinarily are not considered harmful can become threats to human health. This depends on the form and quantity in which they are emitted. An important example is **particulates**. These are little bits of material such as shavings, fibers or dust that can be breathed, posing a threat to respiratory health. A good example is the cloth dust emitted from garment factories. The EPA, as well as the states, regulates both toxins and particulates.

The next chapter describes basic information you can get about sources of pollution in your neighborhood. It also provides names and addresses of agencies that can supply more environmental information.

[2] Jake Joyce, Ph.D., presentation to Project Researchers, September 3, 1997.

[3] Iris Report from RTK.NET, January 20, 1998.

Chapter Two:
Finding Out About Your Neighborhood

How you approach your search for information will depend upon your goals. Typically, you would become involved in an environmental issue because you have a particular problem that concerns you. This could be a health condition affecting you or your children, troublesome odors in your yard or house, unsightly deposits of dust or film on your property, or bad-tasting water. You may have an idea where the pollution that is affecting you originates. If you already know whom you want to investigate, you can use this handbook to find information about the pollution source.

If you are uncertain where the pollution comes from, you may need to collect information about several pollution sources to see who is emitting substances into the environment and whether this activity could cause difficulty for you and your neighbors.

This chapter focuses on how to get basic information about emissions. Then you will learn how to seek information about the effect that these emissions may have on your health, your children's health, or your property values.

One of your first tasks should be to notice environmental problems in your neighborhood. Not all problems can be smelled or seen, but generally, neighborhoods experiencing environmental problems notice one or more of the following signs:

Odors

- ✓ Especially strong, persistent or regularly occurring

Sights

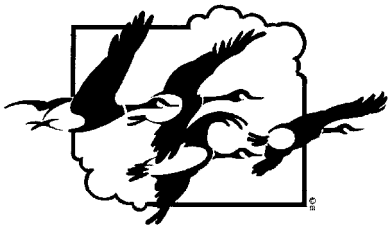
- ✓ Smoke or fumes (other than steam)
- ✓ Leaks, spills, discharges, drainage, or runoff of liquids into the soil, creeks, storm drains, or street.
- ✓ Discolored soil or pavement
- ✓ Waste containers that appear to be messy or leaking
- ✓ Dead or dying vegetation
- ✓ Corroding surfaces, such as car paint

The presence of any of these signs may help you to narrow your search to one or two pollution

sources that may be responsible. But whatever information you have to begin with, you are ready now to start doing research to find out about your neighborhood's environment.

This chapter is designed to make it easy for you to search for information depending on which problem you have -- air, land, or water. Air, land and water are called media when discussing the environment. There are separate laws for each of these "media." The chapter covers six basic laws regarding toxins that are enforced by the EPA. When you have the information EPA keeps regarding these laws, you will have a pretty good picture of which toxins are used, produced or stored by various sources in your neighborhood. If your trouble is with particulates, how to get information on them is included in the section on air pollution.

Unfortunately, much more research -- usually in state offices -- will be required to answer many of your questions, such as whether the pollution source is acting legally or not, or what effect the substances involved may have on you or your children. The three sections below describe regulations concerning air, land, and water pollution. Those offices having additional information about pollution sources are listed below under the heading Who To Call or Write for Information. Air pollution is Section One, Land is Section Two, and Water is in Section Three.



Section One: *AIR*

Annual Emission Reports

A good way to start investigating suspected air pollution is to obtain an annual air emission report from the state agency responsible for enforcing air pollution laws. The annual air emission report is useful because it gives you information about a) air permits, including permit limitations on emissions and b) a list of actual emissions reported for the year. This is a quick way to get data that you may want to develop further through additional research.

One difficulty is that the emissions are reported by industries themselves. No state agency has enough personnel to monitor all pollution sources. Nonetheless, it is a good source of information that will help you ask intelligent questions. How to contact the Missouri authorities is listed below.

AIRS Database

AIRS (Aerometric Information Retrieval System) is a computer-based repository of information about airborne pollution in the United States and various World Health Organization (WHO) member countries. If you have access to a computer, you can check the AIRS yourself. See the special section on Internet Sources on page 49 of the appendix.

AIRS manage EPA programs to improve air quality in places where the current quality is unacceptable and to prevent deterioration in areas where the air is relatively free of contamination. To accomplish this task, AIRS establishes national ambient air quality standards for pollutants that are proven detriments to public health. These pollutants are known as criteria pollutants.

The states implement regulatory and enforcement procedures to meet national ambient air quality standards. AIRS track each state's progress toward achieving and maintaining these standards, and report the status to Congress.

AIRS monitor the states' progress in meeting air quality standards by measuring concentrations of criteria pollutants. The Clean Air Act requires every state to establish a network of air monitoring stations for these pollutants, using criteria set by AIRS for their location and operation.

According to provisions of the Clean Air Act, each state must provide the EPA with a State Implementation Plan (SIP). Implementation plans define what actions a state will take to improve the air quality in areas that do not meet national ambient air quality standards (Non-Attainment Areas). The Clean Air Act also stipulates that the SIP includes a comprehensive inventory of existing sources of air pollution and an accurate estimate of the amount of pollutants emitted by each source.

AIRS and the states need this emissions inventory to evaluate the effects on air quality of planned new sources of pollution and to satisfy other analysis and reporting requirements of the Clean Air Act.

Often a state office may have more information on these facilities than the federal office, due to the fact that the state can have stricter air pollution laws than federal regulations require, and because EPA often contracts with the states to provide enforcement.

As you may have guessed, state and federal environmental authorities will have information regarding particulate emissions and permits as well as for hazardous materials. You may need to tell the agency that you are particularly interested in particulates.

Toxic Release Inventory

Another good source of information on air emissions is the Toxic Release Inventory or TRI. The Toxic Release Inventory is one of the results of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986. In accordance with this Act, industrial firms that use, manufacture, or process designated chemicals above established threshold limits are required to report the amounts of those chemicals that are released into the environment. Beginning in 1991, facilities subject to EPCRA reporting were also required to submit reports regarding past, present and future measures undertaken by the facility to avoid using a toxic chemical, thus resulting in pollution prevention.

The Environmental Protection Agency (EPA) into the Toxic Release Inventory compiles all of this information annually. It provides information about wastes discharged into the air, land and water. For each toxic substance handled by a company, the inventory lists the quantity released annually into the air, water and land. Facilities must report their releases if they meet the following four conditions:

1. *They must be a manufacturing facility*
2. *They must have at least ten full-time workers.*
3. *They must either manufacture or process more than 25,000 pounds of the chemical or use more than 10,000 pounds during the year.*
4. *The chemical must be on the TRI list of 350 specific toxic chemicals or chemical categories.*

Because the above four provisions do not cover many companies and pollutants, much of the pollution in a community will not appear in the Toxic Release Inventory. However, TRI does have certain advantages:

1. *It is multi-media. Facilities must report the amounts they release to air, land, water, and underground separately, and must report how much they send off-site;*
2. *All quantities are reported in pounds. This is an advantage compared to databases that often report releases as concentrations or databases that report releases by volume of waste. These measures are often impossible to convert into pounds;*
3. *It is congressionally mandated to be publicly available, by electronic and other means, to everyone. This*

means that it's relatively easy to obtain TRI data and that the data are well-known, becoming a national "yardstick" for measuring progress in pollution and waste generation.

The TRI data are reported by individual facilities, which send their reports to EPA every year. These reports are filled out on a form called "Form R". EPA takes these forms and converts them into an electronic database. To better understand TRI data, it is recommended that you order a copy of one of these forms from the TRI Hotline (1-800-535-0202). You can also order (for free) a national "data release", or summary on paper, of TRI data every year from the Hotline. If you have access to a computer, you can check the TRI yourself. See the special section on Internet Sources on page 49 of the appendix. Some data you may want from TRI or other databases described below are not already prepared to be released to the public. To get this data, you will have to submit a Freedom of Information Act (FOIA) request. A FOIA form letter is included on page 39 of the appendix. If you have any questions, ask for the FOIA officer at the state or local agency.

The data are not, however, always reliable. The participating companies report all information in the TRI voluntarily. The data are not verified by environmental agencies. Community researchers usually want to know if the amount released is within the law. This is impossible to determine from the TRI because releases are reported in pounds per year; permits are usually issued for a certain concentration of the chemical in a certain volume of air, water or land.

Air-permitted Facilities in PAGEDALE/WELLSTON

None listed (*Information should be verified.)*

Who to call or write for more information about air permitted facilities:

Air Pollution Control Program
Freedom of Information Officer
Department of Natural Resources
P.O. Box 176
Jefferson City, MO
Telephone: 1-800-361-4827 (Ask for the Air Pollution Control Program)

U.S. EPA Region VII

Kansas City, KS 66101
Telephone: (913) 551-7000
901 North 5th Street

St. Louis County Environmental Protection
Air Land and Water Branch
111 S. Meramec
St. Louis, MO
Telephone: (314) 854-6923

Toxic Release Inventory Facilities in Pagedale/Wellston

Lever Bros. Co. 1400 N. Pennsylvania Ave.

Pro-Tect Manufacturing Inc. 1251 Ferguson Ave.

Sinnett-Elpaco Coatings Corp. 1378 Kingsland

Calgon Vestal Laboratories 7501 Page

GE CO. St. Louis Plant 6251 Etzel

Lee-Rowan Co. St. Louis Facility 6333 Etzel

Who to call or write for TRI information :

Air Pollution Control Program
Missouri Department of Natural Resources
Jefferson City, Missouri
Telephone: 573/751-4817

County Office:
St. Louis Regional Environmental Quality Office
10805 Sunset Office Drive
St. Louis, MO 63127
314/822-0101

U.S. EPA Region VII
901 North 5th Street
Kansas City, KS 66101
913/551-7000

Section Two: *LAND*

Annual Emissions Reports

As with air pollution, a quick way to learn who emits toxins and particulates into your environment is to obtain a state annual emissions report. This will give you a) amounts that are permitted as well as b) amounts the industry says they emitted. You need to call the Missouri Department of Natural Resources office listed below.

☑ *CERCLIS*

In the past, many manufacturers disposed of their waste carelessly, dumping it in pits, pouring it in open trenches, and burying it in poorly designed landfills. The Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) is a list of such sites maintained by the EPA.

The Comprehensive Environmental Response, Compensation, and Liability Act (1980) was passed by Congress to assign responsibility for cleaning up these contaminated sites, a difficult task, because in many cases the firms responsible for the pollution have gone out of business. Congress also set aside money in a "Superfund" to clean up which pose the greatest immediate danger to people.

To determine which sites qualify for Superfund status, federal and state agencies investigate each one and give it a hazardous ranking score (HRS). Sites with the highest scores are placed on the National Priorities List (Superfund) for cleanup.

Hazardous waste sites get placed on the CERCLIS list when there is a suspicion that contamination exists in a particular place. Private citizens, public officials, and corporations may report suspected sites to the government for consideration. Hazardous waste sites are sometimes removed from the

CERCLIS list after a determination has been made that the site poses little danger to the surrounding community.

When you ask for CERCLIS sites in your community you will receive only the name of the site. You must then contact the appropriate state office to find out whether the site is active or inactive, and to get an idea of what chemicals may have been disposed there. If you have access to a computer, you can check the CERCLIS yourself. See the special section on Internet Sources on page 49 of the appendix.

Toxic Release Inventory

As was described in the section on air quality, the toxic release inventory will provide a listing of emissions that are toxins. Contact your Kansas City EPA office listed below. If you have access to a computer, you can check the TRI yourself. See the special section on Internet Sources on page 49 of the appendix.

CERCLIS SITES IN AND AROUND PAGEDALE/WELLSTON

Wagner Eletric, 6400 Plymouth, Wellston, 63133

Union Electric Fire School, 6600 Page, Pagedale, 63133

Huge Co., 7625 Page, Pagedale, 63133

Modern Iron and Metal, 7701 N. Market, Pagedale, 63133

Who to call or write for information about CERCLIS sites and TRI:

Division of Environmental Quality
Missouri Department of Natural Resources
Jefferson City, Missouri
Telephone: 573/751-6892

County Office:
St. Louis Regional Environmental Quality Office
10805 Sunset Office Drive
St. Louis, MO 63127
314/822-0101

U.S. EPA Region VII
901 North 5th Street
Kansas City, KS 66101
913/551-7000

RCRA

All active facilities that treat, store or dispose of hazardous waste are required to have a permit, according to the Resource Conservation and Recovery Act (RCRA, 1976). Generators and transporters of hazardous waste only need to notify the EPA of their activities. Permits allow environmental agencies to monitor the activities of firms and make sure that they stay in compliance with environmental laws. The Resource Conservation and Recovery Information System (RCRIS) is a list of all companies that have such permits. These are some common terms you may hear when asking for RCRA permitted facilities:

Large Quantity Generator (LQG)-	a facility that generates a large amount of hazardous waste
Small Quantity Generator (SQG)-	a facility that generates a small a amount of hazardous waste.
Conditionally Exempt Small Quantity Generator (CESQG)-	a small quantity generator that is conditionally exempt from reporting.
Treatment, Storage, or Disposal Facility (TSD)-	a facility that treats, stores, or disposes of hazardous waste.

RCRIS or toxic waste handlers in Pagedale:

None listed

Who to call for information about RCRA facilities:

Hazardous Waste Program
Freedom of Information Officer
Department of Natural Resources
P.O. Box 176
Jefferson City, MO
Telephone: 1-800-361-4827 (ask for Hazardous Waste Program)

U.S. EPA Region VII
726 Minnesota Avenue
Kansas City, KS 66401
Telephone: 913/551-7000

Leaking Underground Storage Tanks

Industrial and commercial facilities such as dry cleaners and gas stations often store dangerous chemicals in underground tanks. Over time, these tanks may leak, thus releasing the chemicals into the soil and groundwater. The Leaking Underground Storage Tank (LUST) list catalogues underground tanks that have been identified as leaking through either owner notification, inspection, or real estate transactions.

LUSTs are often referred to as **active** (they have not yet been cleaned up or investigated completely) or **inactive** (they have been investigated and are no longer being investigated for clean up). Always include both inactive and active LUSTs in your information requests. Inactive does not always mean that the site is harmless.

The list below shows where such facilities have been located your community. To find out whether these are active or inactive, and to get more detailed information, you need to contact the Missouri Department of Natural Resources.

Leaking Underground Storage Tanks in Pagedale/Wellston

Sinnett-Elpaco Coatings Corp., 1378 Kingsland, Pagedale, 63133
Huge Co., 7625 Page, Pagedale, 63133
Terminal Railroad 1353 Pennsylvania, Pagedale, 63133
SW Bell Telephone Work Center, 1390 Ferguson, Pagedale, 63133
Kingsland Warehouse, 1431 Kingsland, Pagedale, 63133
AMOCO, 7777 Page, Pagedale, 63133
Costello Property, 1601 Pennsylvania, Pagedale, 63133
Pohlman Property, 7025 St. Charles Rock Road, Pagedale, 63133
Lee-Rowan Co., 6333 Etzel, Wellston, 63133
Moog Automotive, 6565 Wells, Wellston, 63133
Newell Corp., formerly Lee Rowan, 6301 Etzel, Wellston, 63133
Curtis-Toledo Inc., 1905 Kienlen, Wellston, 63133
Salvation Army, 3800 Lindell, Wellston, 63133
Coleman Taylor Transmissions, 6250 Page, Wellston, 63133
Wellston Facility, 6436 Plymouth, Wellston, 63133
ABEX Corp., 6600 Ridge, Wellston, 63133

Section Three: *WATER*

Annual Emission Reports

As with land and air, you can get a thumbnail sketch of water pollution in your area by asking your state agency for annual emission reports. These cover a) the permitted level for emissions and b) the amount reported to have been emitted. Contact the Missouri Department of Natural Resources at the number below for more information.

Permit Compliance System

The Permit Compliance System (PCS) Database is a system that the EPA uses to monitor the activities of industries that discharge wastes into waterways. In 1972, Congress amended the Federal Water Pollution Control Act (also known as the Clean Water Act) to require all water pollution sources to apply for permits that specify the amount of each pollutant a given facility can legally discharge into the water. These are called National Pollutant Discharge Elimination System permits (NPDES). The following terms are some that you may see or hear when asking about a facility's water permit:

Discharge Monitoring Report (DMR)	a form on which a water permitted facility fills out what has been discharged into the water.
Quarterly Non-Compliance Report (QNCR)	a report that is run every three months by the EPA that lists facilities, which have violated their permits.

Toxic Release Inventory

You also can use the Toxic Release Inventory to get information about discharges to the water system, streams or rivers. Remember that the TRI provides information about discharges into the air, land, and water. For a complete discussion of TRI, see page 9 at the end of the AIR section above.

Using these laws can help you get started, but in many cases they only alert you to information that will require further research, for example when you learn there is a CERCLIS site in your area. The box on the next page spells out some of the limitations of government data.

A NOTE OF CAUTION

Government lists are an excellent place to begin finding out who in your neighborhood may be contributing to air, water, and land pollution. But these lists have limitations:

First, a company appearing on one list may not necessarily appear on another. For example, if a chemical company discharges all of its waste into a nearby stream, it will only appear on a list that pertains to water pollution. So it is important to consult all the lists to get a full picture your community.

Second, state and federal agencies do not check the accuracy of every, single report they receive under these laws. The agencies rely upon the pollution sources themselves to report information. However, EPA will check if it receives a complaint about a particular pollution source. And every year EPA monitors some of the pollution sources on its lists to see how well its reporting system is working.

Third, government reports can contain errors, just as any large database can contain mistakes. Most of the time, however, the information accurately reflects what pollution sources have reported to government agencies.

Fourth, being placed on a list does not mean that a particular pollution source is in violation of the law. It simply indicates that there are hazardous substances generated, stored or handled at the listed site. To learn how large a threat it poses to your community and whether or not the given company is a good environmental citizen, you must do even more digging.

Fifth, some important sources of pollution are not included in these lists. For example, in areas where traffic is very heavy -- such as near a major expressway -- exhaust from vehicles can be a major cause of air pollution.

Chapter Three:
Finding Out How Pollution Affects You

After you have gathered information about the sources of pollution you are interested in, and you have a list of materials that they release into the environment, you will want to know "What can these materials do to my health, quality of life, and property values?"

In some cases, pollution has been associated with disease, degradation of property values, a decline in a community's economic well being, and higher rates of crime. Even if a pollutant poses no genuine harm to your health or property, it can affect the quality of life in your neighborhood by creating odors, dust films, or other unsightly effects.

This chapter discusses the possible effects of pollution on health, property, and economic viability. Just as there is no single place to get data on pollution sources, there is no agency that can answer all your questions about how pollution affects you and your family. The chapter is divided into three parts: Health, Property, and Risk Analysis (how professional scientists try to determine whether health is at risk).

PART ONE: Pollution and Your Health

Questions about health problems are often the impetus for people to become involved in environmental issues. Unfortunately, their questions are frequently difficult to answer. First, scientists do not know enough about how some chemicals and other pollutants affect the body, plants and animals, and/or property to give you good answers.

Second, scientists cannot say how your health has been affected without knowing the answers to several other questions about your particular situation. These include:

How much of the chemical or pollutant have you and your family been exposed to?

How long were you exposed to the chemical or pollutant?

What other factors might be contributing to health conditions that you or your family is experiencing? (Examples: smoking, using chemicals in your yard or home, activities of neighbors)

Scientists do know, however, that people who work with chemicals are the most likely to experience health problems as a result of their exposure. And in most cases, the *effects of chemicals in very high concentrations are* well known. But relatively little is known about the effects of long-term exposure to lower amounts of pollutants that might occur in a community, or how pollutants may interact with one another to affect health. Under such conditions, young children and the elderly are more likely than otherwise healthy adults to experience health problems related to pollution. The EPA recently has begun a research program aimed at finding answers to those questions.

One university researcher has found that higher pollution levels in cities are associated with higher crime rates, particularly when communities suffering from lead poisoning are exposed to certain other chemicals in the environment.[4] Another found that children living in neighborhoods with high levels of air pollution had poorer respiratory health than children of the same race and income living in cleaner air did.[5] This may explain why low-income African American children suffer high rates of asthma, or why crime is higher in some inner-city neighborhoods than others, for example. But more studies of this type are needed to verify these findings.

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[4] Roger D. Masters and associates at Dartmouth College argue that toxic pollutants, specifically lead and manganese, cause learning disabilities, an increase in aggressive behavior, and a loss of control over impulsive behavior. When combined with other factors such as alcohol, drugs, social stress and poverty, this can lead to increased criminal behavior. See "Toxics and Violent Crime" in *Rachel's Environment & Health Weekly*, #551, June 19, 1997.

[5] See Cvietusa, Peter, "Bronchial responsiveness in children exposed to atmospheric pollution in Hong Kong," Pediatrics, 96 [Suppl]: 390-391.

Getting the big picture:

Health authorities will be more interested in investigating possible links between pollution and your health if you can show that there is a pattern of common problems that are shared by a lot of people in the community, such as asthma, cancer, birth defects, liver disease, skin problems or behavioral disorders.

You can get an idea just by asking your neighbors whether they are experiencing any problems that they think could be caused by environmental pollution. It is important to contact as many people as possible throughout the community.

Agencies such as the EPA or Missouri Department of Health don't consider such surveys or assessments to be scientifically valid. Unless studies are conducted in the precise manner that scientists recommend, government agencies usually do not find them acceptable. (See Part III of this chapter.) It is beyond the capability of most community residents to conduct such a study. Indeed, an EPA manual on how to conduct such a study is thicker than this handbook.

(A survey of people in your community, conducted by the St. Louis Environmental Justice Program, is included in this handbook on page 54 of the appendix.)

Your informal study can, however, generate important information that government agencies may feel warrants further investigation. In that case, the agencies involved will probably insist on doing a follow-up study themselves, rather than having community members participate as researchers.

How pollution can affect the body:

Environmental pollutants can enter your body through a variety of means. These include:

Respiration: Breathing in fumes or particles

Ingestion: Eating or drinking contaminated soil, food or water

Absorption: Absorbing chemicals through the skin

Your age, gender, health condition, nutritional status and genetic predisposition to certain illnesses can all influence what happens when you are exposed to environmental pollutants. As mentioned earlier, the very young and very old are most likely to be affected. People with pre-existing illnesses, inadequate diet, or genetic predisposition to disease also are at higher risk.

Other factors that determine the health effects people experience include the dose (how much you were exposed to over what time), and the chemical and physical properties of the substance or substances in question. Obviously, making the link between pollutants in your community and the community's health is a complex and difficult task.

Community groups are often suspicious when government agencies fail to verify their belief that pollution is causing an unusual pattern of disease in the neighborhood. In fairness, tracing a particular health condition to a specific pollutant is extraordinarily difficult. However, in doing their complex scientific studies, health authorities may sometimes miss what turn out later to be real connections between disease patterns and pollution. Chapter 4 of the handbook discusses what communities can do to get action on their complaints.

Finding out about particular pollutants

Once you have a list of pollutants emitted into your community, you can find out what effects they are known to have on the human body. Usually, this will be the effect felt by people in the workplace, who may be exposed to large doses either all at once or over time. Unfortunately, as previously mentioned, very little is known about what happens when people in a community experience low levels of exposure over a long period of time.

Nevertheless, if a pollutant is known to cause respiratory problems, and there is a pattern of asthma in your community, you might question whether the pollutant is adding to the problem. You can do this by calling or writing to health authorities and environmental organizations. Some places to call or write are listed in the box at the end of this section.

What to do before you write or call for health information

Have a notebook and pen ready so you can write down the information you are given. You may be routed to several offices, and perhaps several people, before you find the right person to answer your questions.

Write down the names of the pollution sources and pollutants that you are asking about.

Write down the questions that you want to ask. Below are some suggested questions. Be sure to add any others that you think of on your own.

☑ Questions to ask about health

The pollution source I am interested in emits [_____ pounds of name of chemical] each year. What is this chemical or pollutant, and what is it used for?

Is this amount unsafe for people living nearby?

How might people be exposed to this pollutant?

How does it enter the body?

How can it affect health?

Are children affected differently than adults? How?

Are the elderly affected differently than younger people? How?

Is there a medical test to determine whether I have been exposed to it? If yes, is there a public health clinic where I can be tested?

Has the Environmental Protection Agency made any recommendations involving this chemical or pollutant to protect human health? What are those recommendations?

Have there been any studies of environmental health and/or environmental effects in my neighborhood? Can I get a copy of it?

Who is responsible for doing such studies? How can my community get such a study done?

How can this chemical affect the environment around my home, such as my lawn, my garden, and the places where my children play?

Who to contact for health information

Missouri Department of Public Health
P.O. Box 570
Jefferson City, Missouri 65102-0570
Telephone 573/751-6001
FAX 573/751-6041

Local Office
Eastern District Health Office
220 South Jefferson
St. Louis, Missouri 63103
Telephone: 314/877-2800
FAX 314/877-2882

County Office
St. Louis County Department of Health
Environmental Health Services
111 S. Meramec
Clayton, MO 63105
314/854-6923

Agency for Toxic Substances and Disease Registry
Christopher Thomas DeRosa, Ph.D.
Director, Division of Toxicology
1600 Clifton Rd., (E29)
Atlanta, GA 30333
(404) 639-6300
fax (404) 639-6315
E-mail: CYDO@cdc.gov

Right to Know Network
(Health information on most chemicals provided as part of the listing of EPA Toxic Release Inventory Data. See appendix for more information.)
On the internet: http://rtk.net

PART TWO: How pollution affects property

Pollution can affect your property in several ways. Some pollutants can corrode paint on your house and/or car. Others can affect the soil around your home, making it an unsafe place to grow a vegetable garden, much less allow pets and children play out of doors. Some are just eyesores which make your neighborhood seem "undesirable" to people who might otherwise consider living there.

Very little information is currently available about the specific effects of different pollutants on property. When contacting the above agencies about health questions, you might also ask whether they have any information about how specific pollutants affect property values and the quality of life in your neighborhood. Below are some questions you might ask. Be sure to write down any others that occur to you.

Questions to ask about property

What can it do to my pets?

How can it affect my home, car and other property?

Will it damage paint, siding or other materials? If so, how?

Can this pollutant cause my grass, trees and shrubs to wither or die?

Where can I get more information about how this pollutant affects my property?

Who to contact about property issues

There are no specific government or public agencies that maintain information about pollutants and their effects on property. It may be possible for you to get help from hardware stores, automobile dealers or mechanics, or the makers of other

products like aluminum siding for homes. You also might call the Agriculture Department for information about pollution and plants.

Who to Call for Further Information:

Missouri Department of Agriculture

P.O. Box 630

Jefferson City, MO 65102

573/751-4211

PART THREE: Risk Analysis-- Discovering Your Health Dangers

This section is designed to be a little more medical and a little less community-based than the previous sections. The topic of risk assessment is very mathematical, and is the source of a lot of controversy within the environmental community. We've given you here a quick overview of how the process works, where the problems are, and how you can try to come to a decision about your risk. If you are familiar with the issues here, you can talk with confidence to pollution sources, political officials, environmental officials and anyone else who will listen about the risk your community faces. Risk assessments are an excellent tool for making the people responsible for the problems fixes it.

Health Risk Assessment

A health risk assessment seeks to identify the kinds of adverse health out-comes that may be associated with exposure to a potentially harmful substance (or some other health-threatening risk agent) and to predict the likelihood that specific human populations will experience such effects at given exposure levels.

Most of the health risk assessments conducted over the past several decades have been directed at estimating the health consequences of exposures to toxic chemicals, with particular attention to the potential for cancer.

Nonetheless, the importance of examining non-cancer health effects (such as nervous or immune system impairments,

organ damage, and reproductive and developmental effects) or risk agents other than chemicals (such as industrial processes whose features or failure modes may pose risks of injury or disease to workers and surrounding communities) is well recognized.

Scientists have developed methods for these other kinds of health risk assessments and research is now focused on non-cancer health effects.

Basic Steps in Conducting a Health Risk Assessment

A 1983 National Academy of Sciences panel (Risk Assessment in the Federal Government: Managing the Process), seeking to standardize and coordinate the various risk analysis practices that had come to be employed, recommended a four-step process for conducting health risk assessments. This process, outlined below, has become the standard model.

1. Hazard identification is directed at determining if a substance (or other health-threatening risk agent) could cause particular adverse health effects in human populations. For example, will exposure to a particular substance cause cancer? Will it harm the nervous system or immune system? Will it give rise to reproductive defects or other serious health conditions or disabilities?

2. Dose–response assessment seeks to identify the relationship between the amount of a chemical a person is exposed to (dose) and the resulting occurrence of injury or disease (response). Most substances—even many of those used for helpful purposes—cause harm when consumed in a large enough quantity. For example, an anesthetic may cause headaches at low doses, a medically advantageous sleep at higher doses, but is lethal at very high doses. Thus, the riskiness of a substance cannot be determined with confidence unless the dose–response relationship is quantified.

With noncancer causing substances, it is assumed that effects on a person's body occur only after a certain level of exposure has been exceeded (a threshold). Various levels have come to be established. They include a lowest observable effect level (LOEL), the smallest dose that causes any detectable effect. A no-observed-effect level (NOEL), the dose at or below which no biological effects of any type are detected. And a no-observed-adverse-effect level

(NOAEL), the dose at or below which no harmful effects are detected.

With suspected cancer causing agents, however, the assumption is usually that no threshold exists. This concept has long been a mainstay of cancer risk assessment; the concept is based primarily on what is known about the health effects mechanisms associated with exposures to ionizing radiation and toxic substances. More recent findings about the onset of cancer suggest that a wider range of mechanisms may be involved, depending on the substance involved, and that for some cancer causing agents there may be a threshold below which cancer does not occur.

3. Exposure assessment attempts to identify the nature and size of the population(s) exposed the risk agent, along with the magnitude, duration, and spatial extent of exposure. Depending on the purpose, the exposure assessment could concern past or current exposures or those anticipated in the future.

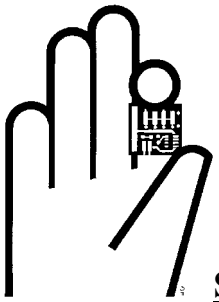
Case by case, the steps involved in an exposure assessment vary widely, because circumstances differ with respect to how much is known about existing exposures and what information is available. The most reliable picture comes from direct monitoring (personal, biological, and/or ambient) of the amounts of the substance to which people are actually exposed over time. This sort of information is, however, often not available. In fact, lack of knowledge about actual exposures is one of the weaker links in the knowledge chain supporting risk assessments. Therefore, a good deal of what is done is derived from models and from generalized assumptions about relevant physical parameters and human behaviors.

Numerous pathways exist through which exposures can occur (direct and indirect), and a large number of variables and moderating factors can be involved. For example, estimating the movement of a chemical in the environment depends on considerations such as how easily it evaporates, how easily it dissolves in different media (such as water or animal fat), how strongly it attaches to the soil, and how long it persists in the environment.

Regarding human behavior, the issues include how much water or specific types of food people consume each day; whether or not

people filter their water; how they prepare their food; what balance of time during the day is spent indoors versus out-doors, and so on.

4. Risk characterization combines the principal findings of the hazard characterization, dose–response, and exposure phases of the risk assessment into an integrated picture of the nature and expected frequency of adverse health effects in exposed populations. Ordinarily, the "bottom line" forthcoming from a risk characterization is a primary determinant of the risk management phase that follows risk assessment.



Sources of Evidence for Health Risk Assessments

Health risk assessment draws on the knowledge and methods of various scientific fields. The kinds of data and findings that ordinarily are used include the following:

- Epidemiologic studies. Epidemiology examines the occurrence of disease in human populations and tries to determine the causes. These studies are an important source of information because they are based on the experience of human subjects. When the levels of exposure to a risk agent and other relevant substances can be well documented, the exposed population well defined, and the kinds of adverse effect(s) known in advance, epidemiology provides the most direct way of determining the effects of a risk agent on human biology.

Epidemiology's weakness is that these essential conditions are often not met. The presence of confounding factors, such as simultaneous exposures to other toxic substances, can make the health effects of a given risk agent difficult to determine.

Additionally, it is difficult to accurately account for population mobility and the genetic variability of humans (which can, among other things, significantly affect an individual's susceptibility to many diseases). Moreover, epidemiologic studies are usually not sufficiently sensitive (in a statistical sense) to allow the detection of small changes in risk levels (such as might be associated with low-dose exposures to chemicals in the environment).

- Toxicological studies. Most of the information used to predict the adverse health effects of exposures to substances comes from animal testing or test tube procedures using cells or tissues isolated from animals or humans. These kinds of studies allow the examination of potentially toxic substances while accounting for different exposure levels and genetic variability.

Animals, including the rodents frequently used in toxicological testing, biologically resemble humans in many ways. A good body of evidence indicates that animal studies can be used in

many (but not all) instances to deduce hazards to human health—although, not always to indicate the precise level of risk that humans would face.

Despite their merits, toxicological studies suffer from some serious limitations. Cost considerations typically limit the number of test animals to a few hundred. To make up for such limited sample sizes, research designs must use high exposure levels—perhaps 1,000 times or more greater than typical human environmental exposures—to maximize the likelihood that health effects can be detected with acceptable statistical precision. (Without such high exposures, study designs might require millions of experimental animals.) Consequently, estimating a substance's ability to cause adverse health effects at the (low) levels typical of environmental exposures depends on extrapolating the dose–response relationships from the (high exposure) experimental data down to levels well below the range verifiable by experimental data.

A number of mathematical models, based on various scientific theories of how toxic substances cause biological effects, have been developed to perform such projections. Scientists, however, often disagree on what is the most appropriate theory. In addition, the models associated with differing health effects theories can give vastly different estimates of the level of risk associated with human exposures.

- Exposure data and exposure modeling. Information about the exposures of human populations to risk agents is a crucial input to the risk assessment process. Risk assessors need this information to estimate the amount of the substance that reaches the cells, tissues, or organs of exposed individuals. In general, exposure assessment involves identifying the pathways (e.g., air, food, and water) by which a substance travels through the environment; the changes the substance undergoes; its environmental concentrations relative to time, distance, and direction from its source; the routes through which human exposures could occur (e.g., oral, dermal, and inhalation); and the distribution of sensitive population subgroups (such as children or pregnant women).

Sources of Controversy in Health Risk Assessments

The risk assessment process as outlined above has a number of strengths: a structure for collecting, organizing, and evaluating data; a capacity to base policy decisions on the estimated level of human risks; a basis for focusing research efforts on important risk assessment topics; and, in principle, a basis for ranking risks and focusing hazard management resources.

Nonetheless, the process has a number of limitations: It can involve exceedingly complex analyses, with much judgmental weighing of diverse data; it is vulnerable to limitations in data and to uncertainties in scientific reasoning; and it requires a good many assumptions, at least some of which will be debatable.

Advances in science will help to diminish these limitations. However, debatable assumptions, plausible risk estimates that contrast sharply, and various other uncertainties are likely to remain the name of the game in health risk assessment for some time to come—making risk management an exercise conducted under uncertainty. The risk assessment community now recognizes that risk managers need better understanding of the uncertainties in risk analyses, along with insight about the sensitivity of the findings to possible alternative assumptions (regarding dose–response assumptions, scaling factors, exposure scenarios, etc.). Risk characterizations, in addition to providing a quantitative estimate of risk or a range of possible values, should also discuss the assumptions involved in determining the magnitude of risk, the strengths and weaknesses of the evidence used, the significance of any uncertainties that remain, and the implications of any probable alternative assumptions that might have been made in risk calculations.

A second (and reinforcing) development is the use of modern mathematical/probabilistic techniques in risk assessment, which facilitates the treatment of uncertainties in risk calculations.

Chapter Four:

What Your Community Can Do

A number of options are available to communities to deal with their environmental problems, ranging from accepting the status quo to getting state laws changed.

1. ***Community Activism***

Your community has a right to take action to assure that you live in a clean environment. This may require you to invest time in organizing your neighborhood so there will be many people writing and calling the officials about your problem. This may involve community members going out and doing surveys, collecting information from the library, or requesting documents from local, state, or federal officials in order to show the problem to the officials involved. If the pollution source is emitting toxins or particulates within the limits of its permits, there may be nothing an environmental agency can do. In that case, you must turn your attention elsewhere.

Another option for community activism is to seek legal changes by lobbying legislative officials. If the businesses or other emitters are within their legal rights, and you disagree with that position, don't be afraid to try and change those laws. If enough people within a community voice their concern, or create coalitions with other communities to voice their concerns, elected officials take notice. There are environmental organizations out there that concentrate solely of the maintenance of the environment through legal standards. These organizations are more than happy to work with communities to protect their environment. Community activism is an option where the resources are time, dedication to seeing a process through, and commitment to a goal. Any community can be an activist community.

2. ***Community Organizing***

A community council creates a formal structure to either take action just on environmental issues or on broader issues facing your neighborhood. Many community councils incorporate as a not-for- profit corporation. This establishes a board of directors to represent you.

A community council has a number of advantages. First, state and federal environmental officials know who to talk to about environmental issues in your neighborhood. This means that the

neighborhood may have the opportunity to influence what activities are taking place. Also, if there are problems, the officials have more than other officials to talk to, they can talk directly to the neighborhood. Second, giving the council primary responsibility for conducting necessary environmental research allows the neighborhood to identify what it considers as serious problems, rather than someone else deciding what those problems might be. This allows the neighborhood to form action plans to seek action on the environmental problems.

3. ***Community Partnerships***

Many businesses are interested in maintaining good relations with their neighbors, as often these are the same communities that the employee base lives in. Partnerships can be created with these businesses so that the community's concerns may be addressed or fixed. One option is to create a partnered commission involving members of both the business and the community. This would allow both parties to see the same information, and allow the community to have a greater understanding of the pressures facing the business. The business, in return, would gain a greater understanding of the effects of their business practices upon their neighbors.

A Good Neighbor Policy may be appropriate for your situation. Here, your neighborhood's environmental council (or other citizens) meets directly with managers at the company or business to negotiate a contract. The contract establishes an ongoing and systematic means of dialog between the pollution source and community representatives (see example on p. 61 of the appendix).

Most Good Neighbor Policies give neighborhoods the right to inspections paid for by the pollution source, the ability to enforce the contract by tying it to a pollution source's emission permit(s), limits on offending emissions (sometimes stricter than a pollution source's permits), and so on. It must be noted that the pollution source you are targeting may not be willing or able to sign a Good Neighbor Agreement. Community organizers in St. Louis have reported that companies based in St. Louis are more cooperative than companies based elsewhere.

What you want may be very different from the demands included in most Good Neighbor Agreements. It is for your community to decide for itself what is important and negotiate accordingly. At the annual Black Mayors Conference in St. Louis two years ago, one woman explained that her community had demanded a

laundromat, which the pollution source agreed to supply. It is up to you to decide your demands.

4. Legal Action

Legal action is always an option, but it should be carefully considered before it is taken. There are a number of problems with this option. First, a lawyer must be interested in taking the case. This either means that there will need to be some sort of contingency fee arrangement, or the lawyer will need to be convinced to donate time to the project.

In either case, finding the lawyer can be very difficult. There are lawyers who specialize in environmental law and public law whose practices are built on these types of cases. However, they are not located in all communities and may be too busy already. Local law schools may be another resource, but again, their availability is dependent upon the school.

Second, finding the right evidence to take to court can be an extremely difficult and costly process. Some of the evidence necessary for a court case is only available after some sort of environmental testing is done. Additionally, many of the documents necessary to track environmental output lie in the hands of the party you may be suing, posing additional problems of timing, cooperation, and cost. Even if there is general documentation somewhere within the reporting system, it may not be enough to sustain a lawsuit. Evidence is a crucial question facing any community considering a lawsuit.

Third, certain issues are solely criminal issues, and therefore not available for a private lawsuit. The EPA, through the Justice Department and state agencies in various forms, is the only entity able to prosecute criminal environmental offenses. Civil actions are based on the ability to receive damage awards or to stop activity, which may or may not be available dependent upon the type of environmental problem involved. There has been an attempt on the part of the federal government over the past few years to encourage suits by private citizens, calling these actions the actions of "private attorneys general". While this may be a good idea, there are still hurdles facing this sort of action, not the least of which is still the cost of bringing a private action against a pollution source.

With all of the disadvantages above, there are a few advantages. Should the case be won, the pollution source may be required to pay for cleanup, pay the members of the community who have had their health damaged, and/or be forced to change their relationship to the community's environment. The threat of

legal action may produce an incentive for the pollution source to become more cooperative with other forms of action being undertaken by the community. Finally, the community may become empowered through the court's power to force the pollution source to answer the questions of the community as it regards their environment.

APPENDIX

Glossary

AIRS is EPA's repository for air quality data, emissions, compliance, and permit data collected by state and local agencies and EPA.

Annual Emission Reports can be obtained for any medium -- air, land, or water. These reports show the estimated pollution emitted by a source and how much that source is allowed to emit under existing regulations.

Environmental Justice refers to the principle that all people, regardless of race, income, or belief are entitled to clean air, land, and water.

EPA refers to the United States Environmental Protection Agency. St. Louis is within Region 7 and has its offices in Kansas City. The agency helps to set emission standards and monitors polluters throughout Missouri.

Hazardous waste is toxic material that no longer has a commercial value, but which poses threats to public health or the environment..

LUSTs stands for leaking underground storage tanks. If a source is named in EPA's LUST list, you must do further research to find out if it has been cleaned up.

Particulates are little bits of material such as shavings, fibers or dust that can be inhaled, causing respiratory problems.

Permit Compliance System (PCS), is the program EPA uses to monitor emissions into the water.

Resource Conservation and Recovery Act (RCRA), governs the activities of facilities which generate, transport, treat, store or dispose of hazardous waste.

Risk Analysis is the formal model scientists use to determine whether exposure to a chemical or to particulates may have an effect on health.

Right-to-Know Net (RTK-net) is an internet site that reports data by EPA. Please refer to the Internet Guide, listed later in the Appendix, for details.

Superfund refers to the **Comprehensive Environmental Response, Compensation and Liability Act (CERCLA),** one of the laws EPA implements. It provides for the cleanup of the most hazardous sites.

Toxic Release Inventory (TRI) is a database reporting toxic emissions into the air land and water by source.

A **toxin** (or hazardous material) is a substance *that* in quantity or form poses an *unreasonable* health or environmental risk.

[*] Freedom of Information Act Request Letter

Agency Head [or Freedom of Information Officer]
Name of Agency
Address of Agency
City, State, Zip Code
Re: Freedom of Information Act Request

Dear _____:

This is a request under the Freedom of Information Act, 5 U.S.C. Sec. 552.
I request that a copy of the following documents [or documents containing the following information] be provided to me: [identify the documents or information as specifically as possible.]

In order to help to determine my status to assess fees, you should know that I am [insert a suitable description of the requester and the purpose of the request].
[Sample requester descriptions:
a public interest organization that publishes or disseminates information etc.), and this request is made as part of news gathering and not for a commercial use.
affiliated with an educational or noncommercial scientific institution, and this request is made for a scholarly or scientific purpose and not for a commercial use.
an individual seeking information for personal use and not for a commercial use.]

[Optional] I request a waiver of all fees for this request. Disclosure of
the requested information to me is in the public interest because it is likely to contribute significantly to public understanding of the operations or activities of the government and is not primarily in my commercial interest. [Include a specific explanation.]

[Optional] I am willing to pay fees for this request up to a maximum of $[ ]. If you estimate that the fees will exceed this amount, please inform me first.

Thank you for your consideration of this request.
Sincerely,

Name
Address
City, State, Zip Code
Telephone Number [optional]

(Source: FOIA Code.)

[*] Source = American Civil Liberties Union (ACLU)

Toxic Release Information

For General Electric - St. Louis Lamp Plant
6251 Etzel Ave., St. Louis, 63133

Chemical	Air Lbs.	Land Lbs.	Water Lbs.	Off-Site Lbs.
Copper	1987	1987	1987	1987 11,000
	1988	1988	1988	1988 9,900
	1989	1989	1989	1989 12,000
	1990	1990	1990	1990 8,275
	1991 5	1991	1991	1991 7,718
	1992 5	1992	1992	1992 21,972
	1993 5	1993	1993	1993 20,300
	1994 5	1994	1994	1994 19,800
	1995 5	1995	1995	1995 19,374
Copper Compounds	1987	1987	1987	1987
	1988	1988	1988	1988
	1989	1989	1989	1989
	1990	1990	1990	1990 9,600
	1991	1991	1991	1991
	1992	1992	1992	1992
	1993	1993	1993	1993
	1994	1994	1994	1994
	1995	1995	1995	1995
Lead	1987 250	1987	1987	1987 10,216
	1988 250	1988	1988	1988 95,000
	1989	1989	1989	1989
	1990	1990	1990	1990
	1991 5	1991	1991	1991 55,527
	1992	1992	1992	1992
	1993	1993	1993	1993
	1994	1994	1994	1994
	1995	1995	1995	1995
Lead Compounds	1987 250	1987	1987	1987 75,054
	1988 250	1988	1988	1988 79,000
	1989 250	1989	1989	1989 12,140
	1990 250	1990	1990	1990 81,027
	1991	1991	1991	1991
	1992 5	1992	1992	1992 37,928
	1993 5	1993	1993	1993 29,005
	1994 5	1994	1994	1994 34,000
	1995	1995	1995	1995

Source: U.S. Environmental Protection Agency as reported by the Right-to-Know Network, http://www.rtk.net

Toxic Release Information
For Lee Rowan Co. (Plating & Polishing)
6333 Etzel Ave.
St. Louis, MO 63133
All Amounts in Pounds

Chemical	Air Lbs.	Land Lbs.	Water Lbs.	Off-Site Lbs.
Chlorine	1987	1987	1987	1987
	1988	1988	1988	1988
	1989	1989	1989	1989
	1990	1990	1990 15	1990
	1991	1991	1991 10	1991 5
	1992 5	1992	1992 5	1992 5
	1993	1993	1993	1993
	1994	1994	1994	1994
	1995	1995	1995	1995
Hydrochloric Acid (1995 and after, acid aerosols only)	1987	1987	1987 26,700	1987
	1988	1988	1988 56,493	1988
	1989	1989	1989	1989
	1990	1990	1990 20	1990
	1991	1991	1991 15	1991 5
	1992 5	1992	1992 5	1992 5
	1993 5	1993	1993	1993 10
	1994	1994	1994	1994
	1995	1995	1995	1995
Nickel	1987	1987	1987	1987
	1988	1988	1988	1988
	1989	1989	1989 250	1989
	1990	1990	1990 265	1990
	1991	1991	1991 3,455	1991
	1992	1992	1992 3,830	1992 2,210
	1993	1993	1993 2,202	1993 4,967
	1994	1994	1994	1994
	1995	1995	1995	1995
Sulfuric Acid	1987	1987	1987 38,650	1987
	1988	1988	1988 12,455	1988
	1989	1989	1989	1989
	1990	1990	1990 20	1990
	1991	1991	1991 15	1991 5
	1992 5	1992	1992 5	1992 5
	1993 5	1993	1993 5	1993 10
	1994	1994	1994	1994
	1995	1995	1995	1995

Source: U.S. Environmental Protection Agency as reported by the Right-to-Know Network, http://www.rtk.net

Toxic Release Information
For Lever Bros., Inc.
1400 N. Pennsylvania Ave.
Pagedale, MO 63133

Chemical	Air Lbs.	Land Lbs.	Water Lbs.	Off-Site Lbs.
Ammonia	1987	1987	1987	1987
	1988 500	1988	1988 750	1988
	1989 500	1989	1989 250	1989
	1990 500	1990	1990 250	1990
	1991 1,000	1991	1991 250	1991
	1992 1,000	1992	1992 250	1992
	1993 1,000	1993	1993 250	1993
	1994 1,000	1994	1994 250	1994
	1995 <500	1995	1995	1995
Glycol Ethers	1987	1987	1987	1987
	1988	1988	1988 750	1988 250
	1989	1989	1989 750	1989
	1990	1990	1990 250	1990
	1991 750	1991 250	1991 1,300	1991 250
	1992 250	1992 250	1992 1,900	1992
	1993	1993	1993	1993
	1994	1994	1994	1994
	1995	1995	1995	1995
Sodium Hydroxide	1987 250	1987	1987 1,500	1987
	1988 250	1988	1988 2,200	1988
	1989	1989	1989	1989
	1990	1990	1990	1990
	1991	1991	1991	1991
	1992	1992	1992	1992
	1993	1993	1993	1993
	1994	1994	1994	1994
	1995	1995	1995	1995
Sulfuric acid	1987	1987	1987	1987
	1988	1988	1988	1988
	1989	1989	1989	1989
	1990	1990	1990	1990
	1991	1991	1991	1991
	1992 1, 250	1992 250	1992 2,150	1992
	1993	1993	1993	1993*
	1994	1994	1994	1994
	1995	1995	1995	1995

1,1,1-Trichloroethane	1987 95,800 (f) 1988 100,270 (f) 1989 46,000 (f) 1990 1991 1992 1993 1994 1995	1987 1988 1989 1990 1991 1992 1993 1994 1995	1987 1988 1989 1990 1991 1992 1993 1994 1995	1987 1988 1989 1990 1991 1992 1993 1994 1995

* 1993 -- 225,000 lbs. of this chemical were treated on site.

Source: U.S. Environmental Protection Agency as reported by the Right-to-Know Network, http://www.rtk.net

Toxic Release Information
For PRO-TECT Mfg. Inc.
1251 Ferguson Ave.
University City, MO 63133

Chemical	Air Lbs.	Land Lbs.	Water Lbs.	Off-Site/Lbs.
Methyl Ethyl Ketone	1987 23,000 1988 5 1989 39,000 1990 27,000 1991 20,000 1992 11,006 1993 26,901 1994 30,585 1995 25,427	1987 1988 1989 1990 1991 1992 1993 1994 1995	1987 1988 1989 1990 1991 1992 1993 1994 1995	1987 1988 1989 1990 1991 1992 1993 1994 1995
Methyl Isobutyl Ketone	1987 11,000 1988 5 1989 5 1990 8,000 1991 9,000 1992 1993 11,000 1994 12,473 1995 7,337	1987 1988 1989 1990 1991 1992 1993 1994 1995	1987 1988 1989 1990 1991 1992 1993 1994 1995	1987 1988 1989 1990 1991 1992 1993 1994 1995
Toluene	1987 21,000 1988 5 1989 32,000 1990 21,000 1991 1992 27,590 1993 27,590 1994 29,189 1995 57,155	1987 1988 1989 1990 1991 1992 1993	1987 1988 1989 1990 1991 1992 1993	1987 1988 1989 1990 1991 1992 1993

Source: U.S. Environmental Protection Agency as reported by the Right-to-Know Network, http://www.rtk.net

Toxic Release Information

For VI-JON Labs, Inc.
6300 Etzel Ave.
St. Louis, MO 63133

Chemical	Air Lbs.	Land Lbs.	Water Lbs.	Off-Site Lbs.
Acetone	1987 12,200	1987	1987	1987
	1988 13,200	1988	1988	1988 20,000
	1989 17,300	1989	1989	1989 25,000
	1990 20,300	1990	1990	1990
	1991 23,300	1991	1991	1991 54,000
	1992 27,400	1992	1992	1992 40,000
	1993 1,760	1993	1993	1993 57,675

Source: U.S. Environmental Protection Agency as reported by the Right-to-Know Network, http://www.rtk.net

Toxic Release Information
For Calgon Vestal Labs (Convatec)
7501 Page Ave.
St. Louis, MO 63133

Chemical	Air Lbs.	Land Lbs.	Water Lbs.	Off-Site Lbs.
Glycol Ethers	1987	1987	1987	1987
	1988	1988	1988	1988
	1989	1989	1989	1989
	1990	1990	1990	1990
	1991 5	1991	1991 285	1991
	1992 5	1992	1992 150	1992
	1993 5	1993	1993	1993
	1994	1994	1994 216	1994
	1995	1995	1995	1995
Diethanolamine	1987	1987	1987	1987
	1988	1988	1988	1988
	1989	1989	1989	1989
	1990	1990	1990	1990
	1991 5	1991	1991 125	1991
	1992 5	1992	1992 70	1992
	1993 5	1993	1993 121	1993
	1994 5	1994	1994	1994
	1995	1995	1995	1995
Ethylene Glycol	1987	1987	1987	1987
	1988	1988	1988	1988
	1989	1989	1989	1989
	1990	1990	1990	1990
	1991 5	1991	1991 175	1991
	1992 5	1992	1992 184	1992
	1993 5	1993	1993 137	1993
	1994	1994	1994	1994
	1995	1995	1995	1995
Phosphoric Acid	1987	1987	1987	1987
	1988	1988	1988	1988
	1989	1989	1989	1989
	1990	1990	1990	1990
	1991	1991	1991	1991
	1992	1992	1992	1992
	1993	1993	1993	1993
	1994 5	1994	1994	1994
	1995 255	1995	1995	1995 5,746

Source: U.S. Environmental Protection Agency as reported by the Right-to-Know Network, http://www.rtk.net

Toxic Release Inventory
Sinnett-Elpaco Coatings Corp., 1987-1995

Chemical	Air Lbs.	Water Lbs	Land Lbs	Off-Site Incineration
Toluene	1987: 6,640	1987:	1987:	1987:
	1988: 7,000	1988:	1988:	1988:
	1989: 7,600	1989:	1989:	1989:
	1990: 7,800	1990:	1990:	1990: 27,200
	1991: 7,800	1991:	1991:	1991: 21,700
	1992: 7,270	1992:	1992:	1992: 30,800
	1993: 5,860	1993:	1993:	1993: 43,550
	1994: 3,440	1994:	1994:	1994: 38,820
	1995: 3,950	1995:	1995:	1995: 33,300
Xylene	1987: 2,020	1987:	1987:	1987:
	1988: 6,900	1988:	1988:	1988:
	1989: 5,200	1989:	1989:	1989:
	1990: 5,200	1990:	1990:	1990: 27,200
	1991: 4,900	1991:	1991:	1991: 21,700
	1992: 5,120	1992:	1992:	1992: 30,800
	1993: 5,140	1993:	1993:	1993: 43,550
	1994: 4,240	1994:	1994:	1994: 38,820
	1995: 4,820	1995:	1995:	1995: 33,300
Methyl ethyl ketone	1987:	1987:	1987:	1987:
	1988: 1,600	1988:	1988:	1988:
	1989: 1,900	1989:	1989:	1989:
	1990: 1,600	1990:	1990:	1990:
	1991: 1,220	1991:	1991:	1991:
	1992: 1,400	1992:	1992:	1992:
	1993: 1,400	1993:	1993:	1993:
	1994: 1,140	1994:	1994:	1994:
	1995: 1,220	1995:	1995:	1995:
Ethylbenzene	1987:	1987:	1987:	1987:
	1988:	1988:	1988:	1988:
	1989: 300	1989:	1989:	1989:
	1990: 450	1990:	1990:	1990:
	1991: 350	1991:	1991:	1991:
	1992: 470	1992:	1992:	1992:
	1993: 550	1993:	1993:	1993:
	1994: 460	1994:	1994:	1994:
	1995: 540	1995:	1995:	1995:

N-butyl alcohol	1987:	1987:	1987:	1987:
	1988:	1988:	1988:	1988:
	1989: 1,400	1989:	1989:	1989:
	1990: 1,750	1990:	1990:	1990:
	1991: 1,750	1991:	1991:	1991:
	1992: 1,890	1992:	1992:	1992:
	1993: 1,530	1993:	1993:	1993:
	1994: 900	1994:	1994:	1994:
	1995: 1,190	1995:	1995:	1995:
Styrene	1987:	1987:	1987:	1987:
	1988: 1,900	1988:	1988:	1988:
	1989: 2,200	1989:	1989:	1989:
	1990:	1990:	1990:	1990:
	1991:	1991:	1991:	1991:
	1992:	1992:	1992:	1992:
	1993:	1993:	1993:	1993:
	1994:	1994:	1994:	1994:
	1995:	1995:	1995:	1995:
Isopropyl alcohol	1987:	1987:	1987:	1987:
	1988:	1988:	1988:	1988:
	1989:	1989:	1989:	1989:
	1990:	1990:	1990:	1990:
	1991:	1991:	1991:	1991:
	1992: 1,520	1992:	1992:	1992:
	1993: 1,370	1993:	1993:	1993:
	1994: 1,310	1994:	1994:	1994:
	1995: 1,270	1995:	1995:	1995:
Glycol Ethers	1987:	1987:	1987:	1987:
	1988:	1988:	1988:	1988:
	1989:	1989:	1989:	1989:
	1990:	1990:	1990:	1990:
	1991:	1991:	1991:	1991:
	1992: 730	1992:	1992:	1992:
	1993: 850	1993:	1993:	1993:
	1994: 900	1994:	1994:	1994:
	1995: 1,080	1995:	1995:	1995:
Methyl isobutyl ketone	1987:	1987:	1987:	1987:
	1988:	1988:	1988:	1988:
	1989: 900	1989:	1989:	1989:
	1990: 1,050	1990:	1990:	1990:
	1991:	1991:	1991:	1991:
	1992: 1,470	1992:	1992:	1992:
	1993: 1,330	1993:	1993:	1993:
	1994: 1,230	1994:	1994:	1994:
	1995: 950	1995:	1995:	1995:

Source: EPA data as reported to the RTK.net.

Internet Sources

http://www.rtk.net

This is the Right-to-Know Network offered by the U.S. Office of Management and Budget. It contains key databases from the EPA.

When you reach the home page via the address above, click on databases. Then click on environmental databases. You will then see a list of databases available, including information for each of the laws described in the main text of this handbook.

When you call up a list -- say a TRI list -- the report will say whether an IRIS report is available. If you click on the IRIS, you will receive a report on the health effects of the chemical in question.

http://www.enviroweb.org/gnp/

This is the God Neighbor Project for Sustainable Industries. It provides in depth information about Good Neighbor agreements and news about other communities active in the environmental movement.

http://earth1.epa.gov

This is the U.S. Environmental Agency's home page. A tremendous wealth of information is available by clicking on various topics. You also can get "links" to other internet sources of information about the environment.

http://www.atsdr.cdc.gov.atsdrhome.html

This is the Agency for Toxic Substances and Disease Registry, or ATSDR. This site provides some of the clearest and easiest to understand information on the health effects of chemicals. The drawback is that only chemicals listed on the Superfund list are included. When you get to the home page, click on HazDat Databases at the left and then follow instructions for getting information on a particular chemical.