United States
Environmental Protection
Agency

Pollution Prevention
and Toxics (7407)

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Toxics Release Inventory 1987-1995 CD-ROM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

November 23, 1997

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Dear Toxics Release Inventory User;

I am pleased to be sending you the 1987-1995 Toxics Release Inventory (TRI) CD-ROM, as well as the accompanying User's Manual and Quick Reference Guide. This set supersedes discs released in earlier years. The basic features of the CD-ROM package include:

- a comprehensive manual including installation instructions;
- a menu driven installation system;
- Boolean search capabilities, numeric ranging, sorting, and ranking features;
- export features including exporting to the KSTAT statistical analyzer (included);
- help screens and a form designer;
- password protection;
- reports on 286 new chemicals added for reporting year 1995;
- Adobe Acrobat Reader 3.0 and EPA documents in PDF.

Every year, the EPA strives to improve its outreach activities. I am therefore happy to announce that we are planning to issue a Windows version next year. The new format is being developed to include friendlier software with more capabilities including mapping, graphing and web connectivity features. Future plans include educational modules and expanded statistical and trend analyses.

I hope you will find the TRI CD-ROM useful. If you have any questions or suggestions please contact us at (202)260-1531 or by E-mail at tri.us@epamail.epa.gov. Thank you for your interest in TRI.

Sincerely,

Odelia Funke

Odelia Funke, Chief
Information Access Branch

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1.0 Introduction

This chapter will explain the use of this Manual and its format. It contains a brief overview of the Toxics Release Inventory (TRI) System and a description of each of the media formats in which TRI is published. A list of other reference materials is also provided at the end of the chapter.

1.1 Organization of This Manual

This Manual is intended as both a learning and a reference tool for TRI CD-ROM users. It explains the operation of the TRI CD-ROM software and includes corresponding screen illustrations and examples. The Manual is not intended to provide detailed technical guidance about the TRI program or interpretation of data submitted by individual reporting facilities. The remaining chapters consist of:

Chapter 2 - Accessing TRI On CD-ROM

Chapter 3 - Chemical Substance Fact Sheets

Chapter 4 - Toxics Release Inventory Database

Chapter 5 - Performing Calculations With KASTAT

Chapter 6 - Accessing TRI Publications

Additionally, there are three appendices containing information to assist you in using the TRI CD-ROM. For example, Appendix B, TRI Quick Search Guide, provides abbreviated instructions that allow the user to effectively search TRI and use other features of the disc right away.

1.2 User Manual Conventions

To assist you in the use of this Manual, some conventions used throughout this Manual are listed below:

- Keys to be pressed are shown with capital letters, bold type, and within angle brackets. For example, the enter key is represented as **<ENTER>**.

- Names of screens and menus are shown in capital letters and bold type. For example, **DATA BASE SELECTION MENU**.

- **<ENTER>** refers to the enter key or the return key.

1.3 An Overview of the Toxics Release Inventory

1.3.1 Background

In 1984, a deadly cloud of methyl isocyanate killed thousands of people in Bhopal, India. Shortly thereafter, there was a serious chemical release at a sister plant in West Virginia. These incidents underscored demands by industrial workers and communities in several states for information on hazardous materials. Public interest and environmental organizations around the country accelerated demands for information on toxic chemicals being released "beyond the fence line" outside of the facility.

1.3.2 The Emergency Planning and Community Right-To-Know Act

Against this background, the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 was enacted. Hailed as one of the most potent pieces of environmental legislation in 20 years, EPCRA's primary purpose is to inform communities and citizens of chemical hazards in their areas. The Act provides for the collection and public release of information about the presence and release of hazardous or toxic chemicals in our nation's communities. The law requires industries to participate in emergency planning and to notify their communities of the existence of, and routine and accidental releases of, hazardous chemicals. The goal is to help citizens, officials, and community leaders to be better informed about toxic and hazardous materials in their communities. Sections 311 and 312 of EPCRA require businesses to report the locations and quantities of chemicals stored on-site to state and local governments. This helps communities prepare to respond to chemical spills and similar emergencies. The goal is to reduce risk for communities as a whole.

Through EPCRA, Congress mandated that a Toxics Release Inventory (TRI) be made public. TRI provides citizens with accurate information about potentially hazardous chemicals and their use so that communities can hold companies accountable and make informed decisions about how toxic chemicals are to be managed.

Section 313 of EPCRA specifically required manufacturers to report releases of chemicals that had been designated as toxic to the environment. From its inception in 1987 through 1994, the number of chemicals covered by the TRI remained relatively constant at about 350. Beginning in reporting year 1995 (the last reporting year in this CD-ROM), companies were required to report releases for 643 chemicals. The reports are submitted to the U.S. Environmental Protection Agency (EPA) and state governments. EPA compiles this data into an on-line, publicly accessible, national inventory. Many states also make TRI available. This vast source of data is widely recognized as a powerful force for environmental improvement.

Facilities are required to report on releases of toxic chemicals into the air, water, and land. Additionally, they must report off-site transfers of wastes to a separate facility for treatment or disposal. Facilities are also required to report on pollution prevention activities and chemical recycling. Reports must be submitted on or before July 1 each year and must cover activities that occurred at the facility during the previous year. (NOTE: the reporting deadline for 1995 data was extended to August 1, 1996, as a result of temporary closures of the Federal government that occurred in late 1995 and 1996.)

1.3.3 TRI Reporting Requirements

Under the present reporting requirements, about 80,000 reports - representing billions of pounds of chemical releases - are submitted to EPA each year by more than 20,000 manufacturing facilities.

A facility is required to report if it...

- Has ten or more full-time employees; and

- Manufactures or processes over 25,000 pounds of the designated chemicals or chemical categories specified in the law or added by rulemaking, or uses more than 10,000 pounds of any designated chemical or category; and

- Conducts selected manufacturing operations in the industry groups specified in the U.S. Government Standard Industrial Classification (SIC) Codes 20 through 39.

Since inception of TRI, government contractors managing Federal facilities meeting the conditions listed above have been required to report to TRI. However, reporting was voluntary if a facility was operated by a Federal agency rather than a government contractor. Beginning in 1994, Federal agencies were required to report toxic chemical releases to TRI, regardless of whether the facility was operated by a contractor or by the Federal agency itself.

As a result, EPA received reports from both government contractors and Federal agencies for a very limited number of contractor-operated Federal facilities. In these instances, the TRI CD-ROM contains only the report filed by the Federal agency and not the corresponding contractor's report. This was done partly to avoid "double-counting" releases for a single facility. (Contractor reports as well as reports submitted by Federal agencies are available in dBase format from the Government Printing Office, as described in Section 1.4.)

A new reporting threshold designed to reduce the burden on small businesses went into effect in 1996 for reports covering the reporting years of 1995 and beyond. Businesses whose total releases and wastes for a TRI chemical are less than 500 pounds per year may submit a simplified version of the Form R called Form A.

As mentioned in the preceding section, the number of chemicals included in TRI was increased to 643. The EPA is also adding a number of non-manufacturing industry sectors to the TRI program. This will take effect for reporting year 1996 (submitted in 1998) and will include metal mining, coal mining, electric utilities, RCRA subtitle C HWTD facilities, chemical and allied product wholesale distributors, petroleum bulk stations and terminals, and solvent recovery services.

For more detailed information concerning who must submit reports for TRI, see the TRI Reporting Requirements contained on the TRI CD-ROM and explained in Chapter 6.

1.3.4 Scope of the TRI

TRI is unique in that it marks the first time that the public has direct access to detailed information about releases of toxic chemicals in their communities. TRI offers an opportunity for citizens to increase their knowledge of chemical usage in their area and to use this knowledge to affect community environmental policy and change.

The TRI database includes information on:

What chemicals were released into the local environment during the preceding year;

How much of each chemical went into the air, water, and land in a particular year;

How much of the chemicals were transported away from the reporting facility for disposal, treatment, recycling, or energy recovery;

How chemical wastes were treated at the reporting facility;

The efficiency of waste treatment; and

Pollution prevention and chemical recycling activities.

TRI provides the first comprehensive overview of toxic chemical pollution from manufacturing facilities in the United States. It is a public "report card" for the industrial community, creating a powerful motivation for waste reduction. This annual accounting of the nation's management of industrial toxic chemical wastes is a valuable source of information for concerned individuals and communities. Citizens can use TRI to evaluate local facilities through comparisons, determine how toxic chemicals are used, and, with other information, evaluate potential health risks for their community. Organizations can use TRI information as a starting point for constructive dialogue with manufacturing businesses in the area.

Although TRI offers valuable insight into chemical pollution in the U.S., it is important to recognize that it also has limitations. For example, TRI covers toxic chemicals released by manufacturing operations only. Options for expanding TRI to include non-industrial sources are being studied for future implementation. Reported releases are annual estimates based on accepted estimation techniques, not necessarily exact measurements. The amounts reported could have been released evenly over the course of the year or, possibly, in a single large burst. Another important point to consider when using TRI data to consider health affects is that it cannot be used alone; additional information is necessary to ascertain levels of risk or exposure (see 1.3.7). Nevertheless, TRI provides communities with a springboard from which citizens can seek further vital information about toxic chemicals in their area.

1.3.5 Pollution Prevention and TRI

Following implementation of the Pollution Prevention Act (PPA) of 1990, TRI reporting became even more comprehensive. Historically, government agencies and waste generators have tried to resolve environmental problems using "end-of-pipe" waste management practices; that is, treating or disposing of waste after it has been created. Pollution prevention strategies focus instead on avoiding creation of wastes by redesigning products, changing processes, substituting other raw materials for more toxic substances, and other techniques.

With passage of the PPA, Congress adopted as national policy an environmental hierarchy that establishes pollution prevention as the first choice among waste management practices. For waste that cannot be avoided at the source, recycling is considered the next best option. A waste generator should turn to treatment or disposal only after source reduction and recycling have been considered.

Reporting requirements for TRI changed in 1991 as a result of the PPA. Prior to 1991, facilities were required to report toxic substances released into the environment and transferred off-site for treatment or disposal. Beginning in 1991, facilities were also required to indicate amounts of chemicals that are recycled, used for energy recovery, and treated on-site. (Energy recovery means burning the chemical so that resulting heat energy contributes to subsequent manufacturing operations.) These amounts must be reported for the past year and the current year, as well as projected amounts for the next two years. Furthermore, facilities must indicate source reduction activities that have been implemented.

These changes to TRI highlight the importance of pollution prevention and encourage reporting facilities to develop and implement strategies for reducing waste. This information will also help the public gauge industry's commitment to improving the nation's environment. By working together, businesses and neighboring communities can build on emerging pollution prevention practices for everyone's benefit.

1.3.6 Using the TRI

The Toxics Release Inventory is a rich source of data for a broad-based audience that includes manufacturers, environmental consulting firms, trade associations, labor groups, health professionals, state and local environmental agencies, Local Emergency Planning Committees (LEPCs), and federal agencies. An important and growing user group is concerned citizens who, on their own or through organized groups, use TRI to raise and answer questions about chemical releases in their communities.

Whether the TRI is used to influence local government action, emergency planning, the education of citizens, or to spur industry-citizen cooperation, it is clear that it plays an important role in understanding trends in environmental releases and chemical waste management.

The following examples illustrate the way TRI is used by various groups:

> **Citizens** The Emergency Planning and Community Right-to-Know Act (EPCRA) was written with individual citizens in mind, on the principle that the more citizens know, the more effective they can be at improving health and safety by avoiding chemical hazards in their communities. TRI enables citizens to become more aware of toxic chemicals in their own neighborhoods. It encourages dialogue between individuals and local companies which can result in a change in current practices, and improve the local environment. Citizens often use the TRI data in combination with other information sources to explore health-related risks in their communities.

Businesses Manufacturers can use the TRI data as a basis for reducing large stocks of toxic chemicals located in dense population areas or to lower levels of chemical releases. TRI data is also used to cut costs and improve operations. "Wastes" represent an expense - chemical wastes leftover after manufacturing must be managed, which may include treatment or disposal or removal from the facility. Companies are using TRI to increase awareness of environmental business opportunities and, as a result, reduce the use of toxic chemicals. TRI is also used to market a chemical or process that is cleaner, safer, or more cost-effective for the reporting facilities. Law firms, real estate companies, and banks use TRI to identify potential liability issues associated with a particular parcel of land. Most important of all, the publicity that has resulted from the availability of TRI data has caused many companies to voluntarily pledge toxic chemical release reductions. A portfolio management group illustrates another way TRI data is used by the private sector: the Clean Yield Group uses TRI and other data sources to track environmental performance for of companies for potential investors.

Educators Academic researchers rely on TRI data to conduct important studies of the environment. Several universities use TRI reports to study how chemicals are used and to develop alternative technologies for the prevention of toxic releases. Increasingly, TRI is being coupled with other data, such as economic indicators, to study social policy and economic development. In the classroom, TRI is a resource for students who examine local sources of chemical pollution and prepare toxic waste audits on communities or facilities.

Public Interest Groups Public interest groups make effective use of the TRI data to educate citizens, prepare revealing company profiles and influence change. Most often, they use TRI to bring public pressure to bear on facilities and public officials. One illustration of successful use of TRI by a public interest group is the Hudson River Sloop Clearwater, Inc., which uses TRI data to track chemical releases in the Hudson River drainage basin. They have produced three reports and seek to actively educate their membership and the public. The New York Public Interest Research Group released TRI data to coincide with local public hearings on toxics use reduction, and helped pass a bill expanding state TRI coverage to power plants and transportation facilities. The Georgia Environmental Policy Institute is sponsoring preparation of a citizen's guide for using TRI, Census and other information to help define areas with potential environmental justice concerns. These are but a couple examples of many, many instances where TRI has made a difference in citizens' ability to monitor and influence the quality of their local environment.

Labor Concern for worker safety was a key factor in the original passage of the national legislation. Providing workers the right-to-know about chemical hazards in the workplace has been a consistent goal of organized labor since the early 1970s. For example, one large textile workers union teamed up with a Minnesota community and used the TRI data to pressure their company to reduce the use of methylene chloride, a known health hazard to the workers, and search for safer alternatives. Union members and activists pressured the state for tougher regulations that would force the company to cut emissions by 93 percent. Publication of toxics release data often makes it easier for labor organizations to lobby successfully for safer practices to protect workers' health.

State Emergency Response Commissions (SERCs) EPCRA requires each state to set up a SERC to designate local emergency planning districts within the state, and coordinate activities and review plans of the local committees. The SERCs serve as a liaison between the state and EPA and provide the forum for coordinating all Title III information (although another state agency may be designated to collect TRI data). Each SERC works to ensure that its state programs are integrated with the federal law to strengthen enforcement. It provides leadership, coordination, technical assistance, and training - working closely with the LEPCs - to help individuals and organizations meet their responsibilities under the Act.

Local Emergency Planning Committees (LEPCs) EPCRA required each SERC to establish LEPCs to develop and periodically review emergency plans to prepare for and respond to chemical emergencies. By law, LEPCs include representatives from state and local government, civil defense, fire fighting, health, environmental and transportation agencies, the media, community groups and businesses subject to EPCRA reporting. LEPCs use TRI data, as well as information about chemicals stored on-site by local facilities, for their own planning purposes. They also make this information available to the public upon request.

State and Local Agencies TRI data is useful to hospitals, schools, and state and local governments for emergency planning and response at the state and local level. Many emergency management agencies, fire departments, and emergency medical services use TRI to identify chemicals in use and map facility locations for more effective, quicker response to emergencies. The TRI data is also used to identify the need for and pass state and local legislation. For example, Louisiana used the TRI data as the basis for passing an Air Toxics law that required a 50 percent reduction of emissions by 1996. TRI is also used in combination with other data to determine whether companies are complying with environmental legislation already in effect. For example, TRI data on off-site transfers can be used to identify chemicals or wastes being transported from a facility and to verify that the receiving landfill has the proper permits for the incoming amount and types of waste.

U.S. Environmental Protection Agency (EPA) TRI is used by EPA as a baseline for measuring improvements in companies across the nation. Company performance records are tracked over time to monitor voluntary pollution prevention efforts, and to oversee emission reductions called for under the Clean Air Act Amendments of 1990. TRI is used throughout the EPA to measure company compliance with other laws and to target areas where enforcement of other regulations is needed, to gauge the need for additional regulatory efforts to clean up water, air, and solid waste problems, and to develop strategies for assessing pollution prevention programs.

Federal Agencies TRI data is used extensively at the federal level for a variety of programs. Congress relies on TRI figures to develop environmental legislation. Through TRI data, federal lawmakers discovered that the nation's original Clean Air Act toxics control program was not adequate - of the top 25 toxic chemicals reported to TRI as released to the air, only two were regulated by the Clean Air Act. In 1990, amendments to the Clean Air Act required additional reporting for designated "hazardous air pollutants" and made manufacturers develop risk management plans, shifting the initial emergency planning burden from the mostly-volunteer LEPC to industry. The Agency for Toxic Substances and Disease Registry, a federal public health agency whose job it is to prevent or minimize adverse health effects from exposure to hazardous substances, uses TRI data to set goals for improving the nation's health. The Internal Revenue Service has used TRI data to measure compliance of reporting companies with tax laws pertaining to the use of toxic substances.

Health Officials TRI data can be used to build an information base on hazardous chemicals used, manufactured, or transported in a state or community. Health professionals can use this information to better prepare personnel for emergencies. TRI can help diagnose, treat or study health effects resulting from chemical exposure in the community or workplace. (See 1.3.7)

Media TRI is important to the education of the community about facilities and potential hazards in the local area. Many large newspapers, such as USA Today, the New York Times, and the Wall Street Journal have run stories on the effectiveness of the right-to-know statute, as have scores of local newspapers, trade and labor union publications, and periodicals.

International TRI enhances the ability of the global community to work as one in monitoring the earth's environment. Several nations use the data to assist in their efforts to become more environmentally conscious. Environment Canada uses the TRI data to determine which industries and chemicals need greater regulation in their country; it developed a National Pollutant Inventory modeled on TRI. In recent years, when many eastern European countries turned their attention to the environment, several nations began considering implementation of programs similar to TRI. One country used TRI data to evaluate companies interested in opening facilities there. Other users of TRI around the world include Great Britain, continental Europe, India, and Japan. International organizations, particularly other governments, are one of the fastest growing segments of the TRI user community.

1.3.7 TRI & Health

Viewing TRI data for the first time often triggers concern about the health risk posed by the release of chemicals that are listed in the data base. You may ask, or others may ask you, how toxic a particular chemical is, or whether the volume of releases shown in TRI will adversely affect their health or the environment. These are not easy questions to answer, and cannot be answered by TRI alone. Risk is the measure of the chance that you will experience health problems or that the environment will be degraded. Many factors must be considered in order to evaluate what risks, if any, you face from the presence of toxic chemicals in your local environment. Risk screening uses available information, such as TRI, to develop a relative estimate of risk for a given set of conditions. Risks are ranked as high, medium, or low in order to set priorities for further evaluation.

The TRI data is a first link to discovering which chemicals being manufactured, released, or transferred in your community pose a threat to human health and the environment. The TRI will tell you the names and estimated amounts of chemicals released in your area during the preceding year. You can also find out about chemicals that were transferred into or away from your area for treatment and disposal.

This information alone does not indicate the risks that these chemicals pose or may pose to human health and the environment. Small releases of highly toxic chemicals may be a greater risk than very large releases of less toxic chemicals. Though the TRI data is useful to evaluate the risk in your community, other information is required to form a complete picture. A determination of risk depends on the release conditions, extent of exposure, environmental conditions, and other factors.

The presence of a chemical on TRI does not necessarily represent a health risk. Other factors, such as the level and type of exposure and toxicity, also must be considered. For example, some high-volume releases of relatively non-toxic chemicals may appear to be a more serious problem than low-volume releases of highly toxic chemicals. However, just the opposite may be true. Volume does not always indicate danger or a need for serious concern. Reports of TRI data contain releases of chemicals, not the level of exposure to these chemicals. It is important to review all the variables involved in the reporting of TRI data. Other information, in addition to TRI data, must be considered to determine the impact of a chemical release on your health.

1.3.8 If You Want More Information

Once you become aware of toxic chemical releases in your community, you may want additional information or assistance. Here are several suggestions for following up in your community:

Learn the facts. In addition to chemical release information, TRI contains the names and telephone numbers of public contacts at reporting facilities. Companies are becoming more sensitive to citizens' concerns about health and the environment, and some have begun community outreach programs. Company officials may provide answers to your questions that could affect risk screening. They can also steer you towards local agencies, for example, the Local Emergency Planning Committee (LEPC).

Go to the local library. Ask your librarian to help you find information about chemicals in your community. There are many reference works that examine chemical toxicity and other factors to help you decide whether further investigation is warranted.

Identify local safety and public health agencies. These groups can help you evaluate what you have learned and identify any additional information you may need. Most counties have a public health agency staffed by one or more doctors, including a county health officer. Some areas have poison control centers with toxicologists and other staff who may be of some assistance. If you have difficulty identifying appropriate agencies in your area, call the local hospital or fire department for a referral.

Locate the Local Emergency Planning Committee (LEPC). The EPCRA legislation that created TRI also established LEPCs to plan for emergency action in the event of hazardous chemical spills and similar incidents. LEPCs are aware of hazardous chemicals used and stored by facilities in your area. They receive Material Safety Data Sheets that detail physical properties and health effects of hazardous chemicals used by local manufacturers and other facilities. LEPCs, while often associated with existing county-level emergency planning or civil defense agencies, include representatives of environmental and transportation agencies, fire fighters, hospitals, the media, community groups, and others.

Call the Agency for Toxic Substances and Disease Registry (ATSDR). The ATSDR is the leading federal public health agency concerned with risks resulting from chemical exposure. Located in Atlanta, GA, it was created by the Superfund legislation in 1980. ATSDR makes information on the health effects of hazardous substances available to the public, conducts health assessments, and sponsors research. The ATSDR publication series titled Toxicological Profiles characterizes toxicological properties and health effects information for specific chemicals so they can be understood by a lay person. These publications, widely distributed to libraries across the country, are invaluable if you are interested in a specific chemical. ATSDR maintains contacts with state and local health agencies throughout the U.S. (For more information, call ATSDR at (404) 639-6300 or fax your request for a specific Toxicological Profile to (404) 639-6315.)

Contact the regional EPA office serving your area for more information about TRI facilities near you. Each of the ten regional offices has a designated TRI coordinator who can answer your questions about the TRI program and reporting facilities in your area. (See the list of TRI coordinators provided on the disc in a file called CONTACTS.TRI.) You may also call TRI User Support to learn more about obtaining or using TRI information products. Finally, the EPCRA Hotline (800-535-0202) can provide detailed information about TRI reporting requirements.

Contact your local college or university. Leading experts can often be found in the academic community, and professors and staff are often willing to share their knowledge with local residents. Be prepared to make a few phone calls. Several attempts may be necessary to find the right department or person.

Network with neighbors and community groups. This is a good way to exchange information, participate in meetings with officials, experts, and company representatives and plan activities that address your concerns. The more people are involved, the more attention you are likely to receive from industry officials, government agencies, and the news media.

1.4 Media Formats for TRI

TRI is available in several media formats. The two government agencies listed below make selected formats available to the public. Availability of specific products and prices vary from one agency to another. Call these agencies directly for up-to-date ordering information.

U.S. Government Printing Office (GPO)
710 North Capitol Street, NW
Washington, D.C. 20401
202-512-1800 (general sales)
202-512-1530 (computer products)

National Technical Information Services (NTIS)
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161
1-800-553-NTIS (rush orders only)
703-487-4650 (sales)
703-487-4763 (computer products)

1.4.1 TRI Data On CD-ROM

As indicated by this User Manual, TRI data is available on CD-ROM. The CD-ROM edition is comprised of two discs, distributed as a set. Together, the two discs contain the complete TRI for the years 1987-1995. Disc One contains TRI data submitted for 1987-1990. Data for 1991-1995 is provided on Disc Two. (Data on each disc is divided into two files, RELEASES and TREATMNT. See Section 2.2 for a more detailed description of the data base structure.) Each disc also contains a complete set of Chemical Substance Fact Sheets, which provide reference materials on the health and ecological effects of the TRI substances. Some of the software capabilities include searching TRI data, downloading data, creating custom reports, and performing calculations on chemical release amounts. Data can be retrieved by chemical name, facility name, location, industry code and numerous other categories.

Some of the basic features of the CD-ROM are:

- help screens
- system messages and prompts
- combining searches using Boolean operators
- numeric ranging
- displaying records on screen, or sending them to a printer or to disk
- exporting records to disk in several formats
- user selection of fields for printing, displaying and exporting
- sorting and ranking fields
- optional features to limit DOS exit
- statistical analyzer (KASTAT)
- form designer for creating custom reports
- brief user guide

1.4.2 TRI Data On Floppy Diskette

TRI can be accessed on the personal computer (PC) through the use of several different software packages. Floppy diskettes are compatible with the IBM PC microcomputer and may be available in a choice of sizes, depending on the source. The user can buy diskettes for a single state, a set of several different states, or all states in dBASE III Plus format or in Lotus 1-2-3 format. Floppy diskettes contain the most frequently used TRI data, including the TRI facility identification number, name of the reporting facility, the facility's county, city, state, zip code, Standard Industrial Classification code, parent company name, chemical name and Chemical Abstracts Service Registry Number, aggregated chemical releases to the air, land, underground injection wells, and water, as well as total chemical transfers to off-site locations and publicly owned treatment works. In addition, the diskettes include the public contact name and phone number, longitude and latitude, state/county FIPS (Federal Information Processing Standards) code, and various EPA-assigned waste permitting identification numbers. Diskettes containing data for 1991 and later also contain selected pollution prevention data that were added to TRI as a result of the Pollution Prevention Act of 1990. Diskettes containing data for 1995 include the facility Dun & Bradstreet Number, a code indicating whether a report represents a Federal facility, and additional data fields designed for use with geographic information systems. A single diskette containing reports by Federal agencies and contractors for the Federal government nationwide is also available for sale. Documentation accompanies the state and Federal facilities diskettes. Floppy disks are available for sale from GPO.

1.4.3 TRI Data Through On-line Databases

TRI is a component file of the Toxicology Data Network (TOXNET) operated by the National Library of Medicine (NLM) of the National Institutes of Health. TOXNET offers state-of-the-art, user-friendly searching, utilizing a free text search capability, full Boolean logic, a powerful and flexible command language and a variety of on-line user assistance features. On-line and off-line printing of entire or specific portions of records is available, as are a variety of customized print options. Special TRI features allow sorting and numerical manipulation of data. A menu-driven search package also allows novice users or individuals with limited computer skills to search TRI efficiently. TOXNET is available seven days a week, 24 hours a day, and a fee is charged per each hour of access. A modem is required for access.

If you are interested in accessing TRI through NLM, contact:

TRI Representative
National Library of Medicine
Specialized Information Services
8600 Rockville Pike
Bethesda, MD 20894
(301) 496-6531

1.4.4 TRI Data on Internet

TRI data is now available through the Internet in several ways. EPA has recently established an agency-wide Gopher server and a World Wide Web (WWW) server allowing access to a broad range of environmental information. (A Gopher server is a menu-driven, user-friendly system allowing access to an organized collection of files over the Internet, as well as access to other Internet systems and services through the use of links. A World Wide Web is a more sophisticated version of a Gopher server that allows both viewing of graphics and 'point and click' access to different menu levels.)

The address for the EPA gopher is: gopher.epa.gov. To browse TRI data from the menu, select the following menu choices:

EPA Offices and Laboratories/
Office of Prevention, Pesticides, and Toxic Substances/
Toxic Substances/
Toxic Release Inventory/
1995 Toxics Release Inventory Data Release Report/

You can also use the keyword search capability on the Gopher main menu to access the last menu option directly. The metadata Record and Index provide descriptive information about the contents of the TRI data files.

Announcements, information about ways to access TRI, and electronic copies of documents related to TRI are available on the TRI "home page" on the EPA Web server. The EPA address for the TRI home page is: htttp://www.epa.gov/opptintr/tri. You can also follow electronic links to access TRI and related data bases available from the Right-To-Know Network (RTKNET) and other sources.

The National Library of Medicine's TOXNET data base, including all data for TRI reporting years from 1987-1995, is also available on the Internet. The Internet address for NLM is: toxnet.nlm.nih.gov, which users can access using the telenet function in Internet.

1.4.5 TRI Data On Magnetic Tape

The previous edition of TRI, covering the years 1987-1994, is available on 9 track tape, 1600 or 6250 density, ASCII or EBCDIC format, with accompanying documentation. Tapes include printing instructions or codes and text, as well as complete TRI records. A subset of 1992 data called "Reporting Facilities Names and Addresses" is also available on tape. TRI data for 1995 is not available in magnetic tape format. However, magnetic tape users may be able to receive comparable access by using File Transfer Protocol (FTP) over the Internet. Contact TRI User Support (TRI-US) for additional information (202 260-9389).

1.4.6 Printed Reports About TRI

Every year, EPA publishes one or more printed reports highlighting the most recent TRI data available to the public. The first three reports (also called "national reports") contain analyses describing trends in geographic distribution, industrial patterns of releases and transfers, pollution prevention, and data usage. National reports were published under differing titles in 1989, 1990 and 1991. Every Spring since 1991 and continuing to the present, EPA has issued a Public Data Release Report. These reports contain numerous tables accompanied by explanatory text aggregating release data by chemical, state, industry, etc. Tables also highlight facilities with the largest releases nationwide, the greatest change from the preceding year, etc. Both national reports and public data release reports are widely distributed by EPA and made available to selecting Federal depository libraries. A limited number of copies are available (until stock is exhausted) from TRI User Support (see 1.5).

1.4.7 TRI Data on Microfiche

TRI data for 1987-1990 is available on microfiche at many public and depository libraries. The microfiche version contains TRI data for each state and U.S. territories and includes 12 indices to use for searching of data. Each set of fiche consists of three parts. Part 1 is the Introduction and contains a list of chemicals reported, a directory of EPA and State TRI contacts, a guide to searching the fiche, and other reference material. Part 2 contains the index to the chemical substance names, names of facilities, publicly owned treatment works, off-site transfer locations, and other facility information. Part 3 contains the TRI submissions of each State and U.S. territories. TRI is no longer being published in microfiche format.

1.4.8 TRI Data On Electronic Bulletin Board

If you have a personal computer, a modem, telecommunications software, and a telephone line, you can obtain TRI data electronically by calling the Federal Bulletin Board sponsored by the Government Printing Office. This service will allow you to browse a TRI Library, order diskettes, or download data directly to your computer. Anyone can access the Federal Bulletin Board by calling (202) 512-1357. A GPO deposit account number is required to place orders electronically. For more information about this service, call GPO at (202) 512-1530.

1.5 TRI User Support

For the convenience of TRI data users, EPA offers users support services over the telephone. Contractor staff are available on weekdays from 8:30 a.m. until 4:30 p.m to assist you in obtaining or using TRI information products. Experienced personnel can answer your questions about installing the CD-ROM, search strategies for using the CD-ROM or TRI/TOXNET, or accessing TRI on Internet or by other means. They can also refer you to state and EPA regional offices in your area, as well as the closest Federal depository library where TRI may be available to the public. TRI User Support maintains the latest information for ordering TRI information products from GPO and NTIS. Limited training services may be available. To contact TRI User Support, call (202) 260-1531 or send email to: tri.us@epamail.epa.gov.

1.6 Other Available Reference Materials

There are many reference materials that provide additional information about the Community Right-to-Know Act and the Toxics Release Inventory. The aforementioned TRI User Support (see Section 1.5) may also be able to offer assistance in obtaining publications. Materials are free, unless otherwise indicated. The following materials published by EPA are available through the EPCRA Hotline (1-800-535-0202; 703-412-9810 in the Washington, DC area; 800-553-7672 for TDD equipment for the hearing impaired):

Chemicals In Your Community: A Guide to the Emergency Planning and Community Right-To-Know Act, 1988 (36 pp.) Free

The Emergency Planning and Community Right-To-Know Act, Section 313 Release Reporting Requirements, 1994 (28 pp.) Free

Chemical Releases and Chemical Risks, A Citizen's Guide To Risk Screening, 1989 (8 pp.) Free

Public Access to the Toxic Release Inventory (TRI): TRI Publications List, 1993 (11 pp.) Free

Title III, List of Lists - Consolidated List of Chemicals Subject To Reporting Under the Emergency Planning and Community Right-To-Know Act, 1995 Free

Common Synonyms For Chemicals Listed Under Section 313 of the Emergency Planning and Community Right-To-Know Act, 1995 Free

Also available from the EPCRA Hotline:

Chemicals, the Press and the Public: A Journalist's Guide To Reporting on Chemicals in the Community, Environmental Health Center, National Safety Council, 1989 (119 pp.) Free

Additional resources:

The Toxic Release Inventory, Environmental Democracy In Action
TRI US
202-260-1531
1992 (7 pp.) Free

Hazardous Substances In Our Environment: A Citizen's Guide to Understanding Health Risks and Reducing Exposure, U.S. EPA, 1990 (125 pp.) Free

When All Else Fails! Enforcement of the Emergency Planning and Community Right-To-Know Act, 1989 (12 pp.) Free
Risk Communication Hotline
(202) 260-5606

2.0 Accessing TRI on CD-ROM

The complete package for utilizing TRI on CD-ROM includes the CD-ROM, the Quick Reference Guide and installation instructions contained in the disc case, and this User Manual.

2.1 Installation of TRI

The installation of the CD-ROM TRI software can be performed quickly and efficiently if you follow the steps presented in the sections listed below.

2.1.1 Configuration Requirements

The following minimum configuration is needed to run the compact disc software:

- IBM or 100% IBM PC compatible personal computer (preferably a 386 or higher).
- 4 MB memory, including 510K RAM (i.e. DOS conventional memory) available for fielded data
- Hard disk with at least 4 MB disk space
- CD-ROM drive with CD-ROM Extensions
- MS-DOS or PC-DOS version 3.3 or above
- Windows 3.1, Windows for Workgroups, or Windows NT
- Color or monochrome monitor
- Printer (optional)

2.1.2 Setting Up Your CD-ROM System

This section describes how to configure a personal computer to read data from a CD-ROM device. **If your CD-ROM workstation is already setup or the workstation is being used to access other discs, please skip this section and proceed to Section 2.1.3, Installing TRI Search Software.**

There are several steps that must be performed to configure your system to begin to utilize CD-ROMs. These steps are not difficult, especially if you are comfortable with setting up directories and changing system files. Some procedures and file-naming conventions may vary from one institution to another because of differences in equipment and internal policies. The information presented here is to be used as a guide; it is not intended to provide step-by-step instructions that will work in every institution. Most organizations have designated a staff person with appropriate technical skills who can provide you with assistance, if needed.

Set-up procedures vary especially where local area networks (LANs) are in place to permit resource sharing among many users. The 1987-1995 TRI discs were designed for single-user workstations, not multi-user configurations as found on LANs. Nevertheless, TRI can be used on a network. Typically, if more than one user tries to use a disc simultaneously, the second user will receive a DOS message notifying them that the file is already in use.

2.1.2.1 Installing CD-ROM Extensions

The TRI CD-ROM, like most discs developed in recent years, is in ISO 9660 format. ISO 9660 is a standard format that was adopted early in the development of CD-ROM technology. This format dictates a common logical file format for data on CD-ROMs that enable them to be used with a variety of different microcomputers, CD-ROM drives, and operating systems. This format, and thus most discs in use today, requires the use of software called CD-ROM Extensions. CD-ROM Extensions are usually supplied by the vendor when a CD-ROM drive is purchased.

CD-ROM Extensions provide the interface between the retrieval software developed for a particular application and the MS-DOS operating system. A program called MSCDEX.EXE prevails over the limitation in earlier versions of MS-DOS (before Version 5.0) that restricts access to devices larger in size than 32 megabytes. The MSCDEX.EXE program is not required with DOS 5.0 or higher.

Another program, called a "device driver," is also provided with the CD-ROM drive. This program actually translates signals between the microcomputer and the CD-ROM drive. Device drivers are not unique to CD-ROM applications; these drivers also are required for other peripherals, such as CRTs and printers. Device driver programs can usually be identified because they are named by the manufacturer after the type of equipment for which they were developed, for example, hitachi.sys for a Hitachi CD-ROM drive.

Most computer vendors provide a simple setup program with their equipment for preparing a microcomputer to begin to recognize and interact with the CD-ROM drive. When available, use the vendor-supplied program. They are usually reliable and simple to run. However, you can configure your own system in a few steps. (The steps are essentially the same, whether they are done automatically by a program or performed manually.)

Configuring your workstation to read CD-ROMs without the aid of a set-up program requires making changes to your "autoexec.bat" and "config.sys" files, two files that provide vital instructions to the computer during the initial boot. To modify these files, you will need to use DOS or another utility for editing files.

After you have physically hooked up the hardware, the first step is installing CD-ROM Extensions (MSCDEX) and the CD-ROM device driver on your bootable disk (which in most cases is the C Drive). The name of the device driver varies from one model CD-ROM drive to another; one common practice of software developers is to name the device driver after the brand of CD-ROM drive that it supports (as previously explained). The device driver program and MSCDEX.EXE are frequently set up in separate directories. However, this practice is not universal.

The next step is to add a line to the Config.sys file to identify the device driver program. The format for this line may be as follows:

Device=\path\driver name/D:\driver alias/N:#

A typical example might be:

Device=\dev\hitachi.sys/D:MSCD001/n:1

In this example, DEV is the directory where the file - hitachi.sys - is located; hitachi.sys is the name of the device driver. MSCD001 is the driver alias provided by the manufacturer in either written instructions or the drive setup program; and the last number following the "n" represents the number of CD-ROM drives attached to that computer.

The third step is to add a line to the autoexec.bat file for running MSCDEX and assigning a letter to your CD-ROM drive. Depending on your system configuration, you may opt to setup one or more batch files to accomplish the same purpose. A line added to the autoexec.bat file will be formatted as follows:

\path\MSCDEX/d:driver alias/M:8/L:E

A typical example of this line might be:

\bin\MSCDEX/d:MSCD001/M:12/L:E

In this example, bin is the directory where the program MSCDEX is located; MSCDEX is the program commonly called CD-ROM Extensions. d:MSCD001 is the device driver alias name supplied by the manufacturer (and also listed in the config.sys file); following m: is the number of memory buffers allocated. The last letter, following L:, represents the letter used to designate the CD-ROM drive. The final step, though simple, is nevertheless easy to overlook. You must reboot your computer in order to activate the changes that you have made to your autoexec.bat and config.sys files.

2.1.3 Installing TRI Search Software

Specialized DOS-based software for installing software for searching the TRI data base and the Chemical Substance Fact Sheets are provided on these discs. In addition, a Windows "reader" is supplied for accessing TRI publications on the disc. Instructions for installing both are provided below.

2.1.3.1 TRI Data Base Searching

Complete software for searching the CD-ROM is contained on each of the two discs that comprise the 1987-1995 TRI CD-ROM set. Installation, which is accomplished using a menu-driven, easy-to-use program, usually takes only a couple of minutes.

The installation procedure supplied with these discs has been enhanced to reduce RAM requirements and to allow you greater flexibility in configuring your system. For example, it is possible to limit users' access to DOS, in two ways: Depending on how it is installed, the retrieval software will allow (or not allow) users temporary exit to DOS while using the disc. For added security, it is also possible to set a password required to exit the TRI software and return to the DOS prompt at the end of a session. Another option allows you to decide during installation whether to let users "add" data to CD-ROM records (in fact the data would be stored to your hard disk).

Before you begin, you may want to delete software for earlier editions of TRI since the discs that you have received contain cumulative data as well as newer, improved software. Companies are permitted by law to revise TRI reporting forms for previous years; the updated forms are included on the latest disc. Removal of outdated software from old directories is essential if you plan to use the same directory name again. (Previous software versions used TRI, REL and TRT as the default directory names.) By deleting old software, you will be able to free up several megabytes of hard disk space.

Either disc can be used to install the retrieval software that will be used to search TRI and the Chemical Substance Fact Sheets. Insert Disc One or Disc Two into the CD-ROM drive, with the label facing up.

To begin the installation, you will need to know the letter of the CD-ROM where the TRI disc is located. If you do not know the letter for the CD-ROM drive, identify it before proceeding further.

For most, the easiest way to identify the letter assigned to the CD-ROM drive is to use Windows File Manager.

QUICK START INSTRUCTIONS FOR INSTALLING TRI

1. Insert Disc One or Two into the CD-ROM drive. (Software may be loaded from either disc.)
2. Enter the CD-ROM letter and the install command, e.g.,
   C:\>**e:install** <ENTER>.
3. Follow prompts on the installation screen:
   a. Type C <enter> or just <ENTER> to indicate whether or not you are using a color monitor.
   b. Enter the letter of the hard drive where the software will be installed and press <ENTER>.
   c. Enter a name and press <ENTER> to create a directory or press <ENTER> to use TRI as the default directory name.
   d. Using the cursor key, indicate whether or not to allow users to add data to TRI records and press <ENTER>. ("Added" data is stored on the hard disk.)
   e. Enter and verify a password to limit users' access to DOS when they are finished using the TRI CD-ROM, or press ESC to cancel the password feature. (Note: If you designate a password, it must be entered at the end of each session of CD-ROM use.)
   f. Indicate whether or not to allow Temp Exit to DOS while using the CD-ROM and press <enter>.
4. The system will respond by copying files to the hard drive (up to 31 files, based on the choices made above).
5. Type TRI at the DOS prompt (e.g., C:\TRI>**TRI**) to begin using the CD-ROM.

Under DOS, you can view the autoexec.bat file. Return to the root directory and type:

c:>**type autoexec.bat <ENTER>**

Locate a line similar to:

\BIN\MSCDEX\D:MSCD001/M:12/L:E

The letter following L: at the end of the line (in this case, L:E) indicates the drive letter assigned to the CD-ROM drive. If L: is not present, your CD-ROM drive is the first letter of the alphabet not assigned to a hard disk or other storage device. The CD-ROM drive may be assigned any letter of the alphabet.

After inserting either TRI disc into the CD-ROM drive, you are ready to install selected files from it

onto your hard disk. Type the CD-ROM drive letter followed by the word "install" (no quotes). For example, type:

C:\>**E:install <ENTER>**

where the CD-ROM drive letter is E.

If, at any point during installation, you encounter an error message or any other indication of a problem, proceed to Section 2.1.4, Troubleshooting Software Installation.

The first installation screen will ask you to indicate whether you are using a color or monochrome monitor. (Both TRI and the Chemical Substance Fact Sheets are fully functional using a monochrome monitor.) Type C if you are using a color monitor. Press **<ENTER>** in response to the prompt if you are using a monochrome monitor.

```
Installation Procedure For Toxics Release Inventory CD-ROM
```

```
If you are using a color monitor
type C.  Otherwise press ENTER.
```

```
United States Environmental Protection Agency
```

The screen below asks you to identify the letter of the hard disk where you would like to install the retrieval software. (Depending on the choices that you make during installation, about 1.5 K of hard disc space will be needed to install TRI.) Enter the letter of the hard drive and press **<ENTER>**.

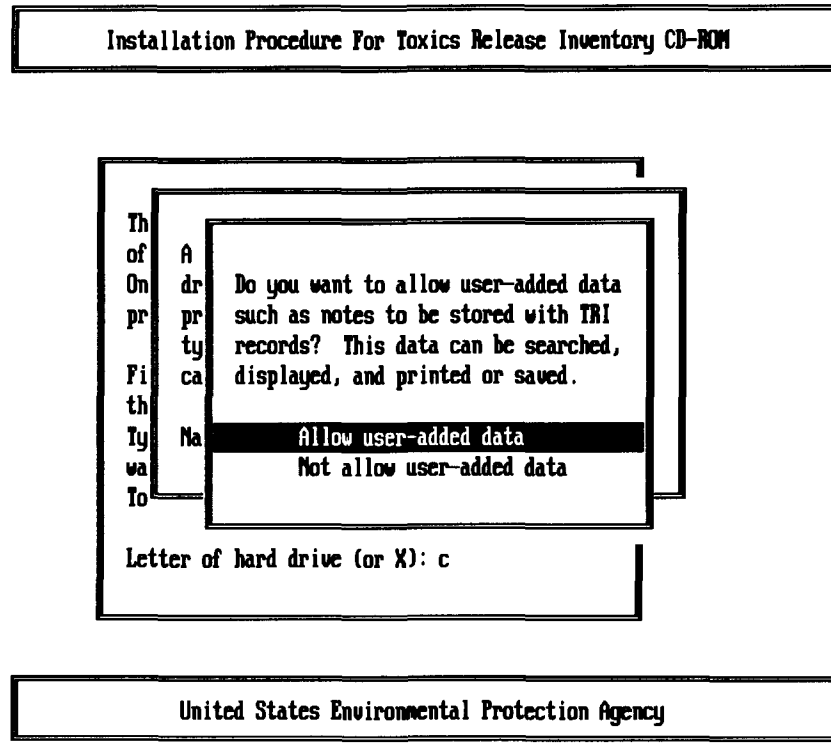
```
Installation Procedure For Toxics Release Inventory CD-ROM

This procedure installs the 1997 version
of the Toxics Release Inventory (TRI) CD-ROM.
On the following screens you can specify your
preferences for several installation options.

First, this procedure copies some files from
the CD-ROM to a directory on your hard drive.
Type in the letter of the hard drive that you
want to use (for example, C) and press ENTER.
To cancel and exit, type X and press ENTER.

Letter of hard drive (or X):

United States Environmental Protection Agency
```

The next screen allows you to choose the name of the directory where you would like the retrieval software to be installed. If you wish to designate a directory, enter the name and press <enter> (e.g., c:\>**toxics <ENTER>**). If you prefer, you may accept "TRI" as the default directory name by just pressing **<ENTER>** instead.

```
Installation Procedure For Toxics Release Inventory CD-ROM

Th
of   A new or existing directory will be used on
On   drive C.  To call this directory \TRI, just
pr   press ENTER.  To use another directory name,
     type in the name below and press ENTER.  To
Fi   cancel and exit, type X and press ENTER.
th
Ty   Name of directory (or ENTER or X):
wa
To

Letter of hard drive (or X): c

United States Environmental Protection Agency
```

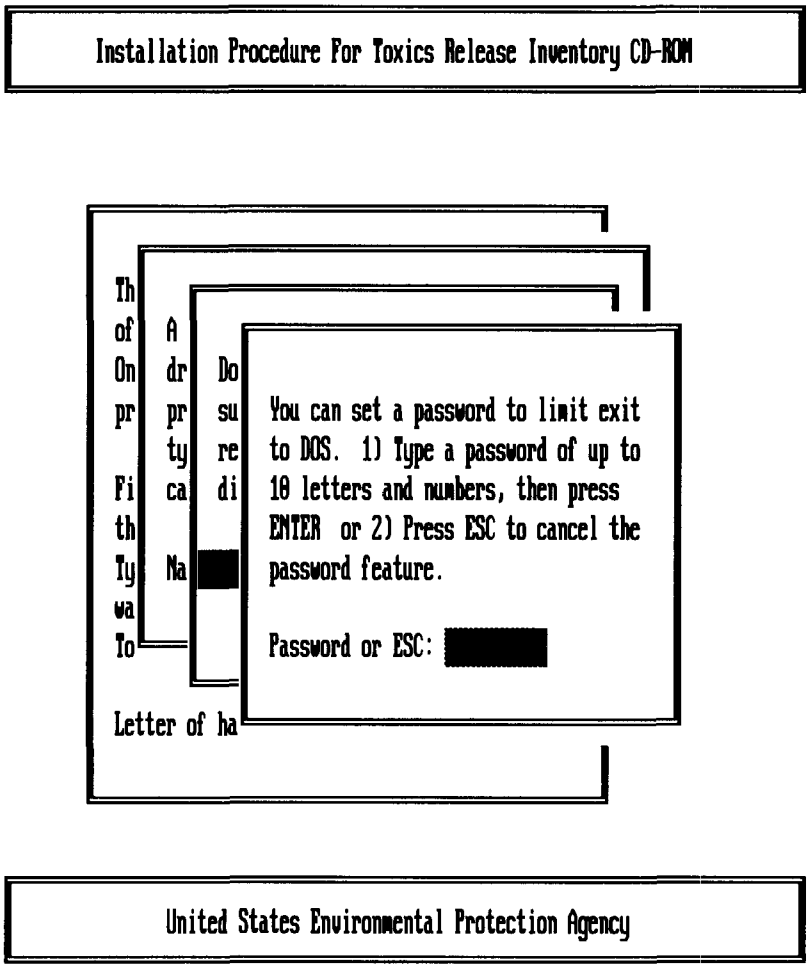
The next screen allows you to choose whether or not you want TRI users to be able to "add" data to records from TRI. As an option, users would be able fill two fields called User Added Data that would be linked (unless later deleted) to that TRI record. The additional data would actually be written to the hard drive in the directory where the retrieval software was loaded. From then on, each time a user called up that record from the CD-ROM, the associated User Added Data would also be retrieved from the hard drive and displayed at the end of the record. (See Chapter 4.)

If you wish to allow User Added Data, highlight the first option shown and press **<ENTER>**. To restrict users from being able to write User Added Data to your hard drive, highlight "Not allow user-added data" and press **<ENTER>**.



The next segment of the installation procedure allows you the option of designating a password that would be required to exit from the CD-ROM. The purpose of this security feature is to prevent unauthorized access to DOS upon completion of a TRI CD-ROM session. This capability is often helpful where public access is permitted, such as in libraries. Of course, there are other effective ways, like shell programs, that can also limit DOS access at the end of a session. Remember, if you choose an exit password, someone will need to enter it at the conclusion of each session before the workstation can be used for another purpose. (If you later forget the password that you designated, call TRI User Support (202 260-1531) for assistance, or reinstall the software.)

If you do not wish to create an exit password, press **<ENTER>** in response to the prompt shown below and skip to the next part of the installation procedure. Otherwise, enter a password containing up to 10 letters and numbers and press **<ENTER>**.



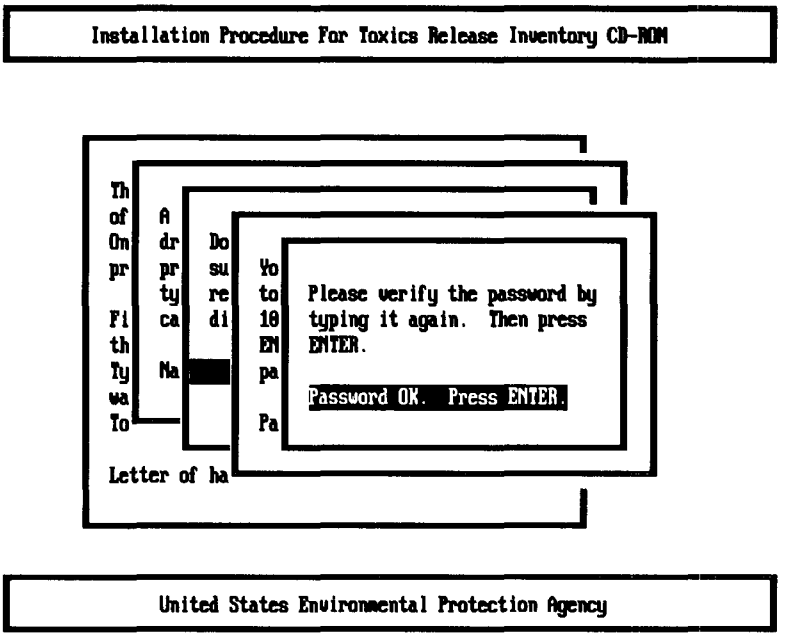
As you enter the password, the letters will be masked by x's, as shown below:

```
Installation Procedure For Toxics Release Inventory CD-ROM

Th
of   A
On   dr   Do
pr   pr   su   You can set a password to limit exit
     ty   re   to DOS.  1) Type a password of up to
Fi   ca   di   10 letters and numbers, then press
th                ENTER  or 2) Press ESC to cancel the
Ty   Na           password feature.
wa
To                Password or ESC: xxxxx
Letter of ha

United States Environmental Protection Agency
```

The system will respond with a screen asking you to re-enter the same password for verification:

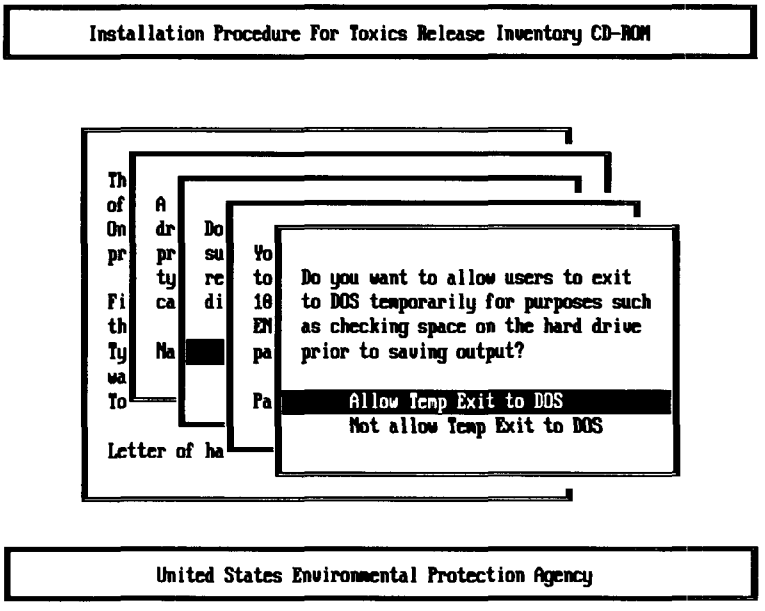
```
Installation Procedure For Toxics Release Inventory CD-ROM

Th
of   A
On   dr   Do
pr   pr   su   Yo
     ty   re   to   Please verify the password by
Fi   ca   di   10   typing it again.  Then press
th             EN   ENTER.
Ty   Na        pa
wa                  Password:
To             Pa
Letter of ha

United States Environmental Protection Agency
```

The system will either accept the password as entered the second time (if it matches exactly), or you will receive a prompt asking you to create and verify a new password.



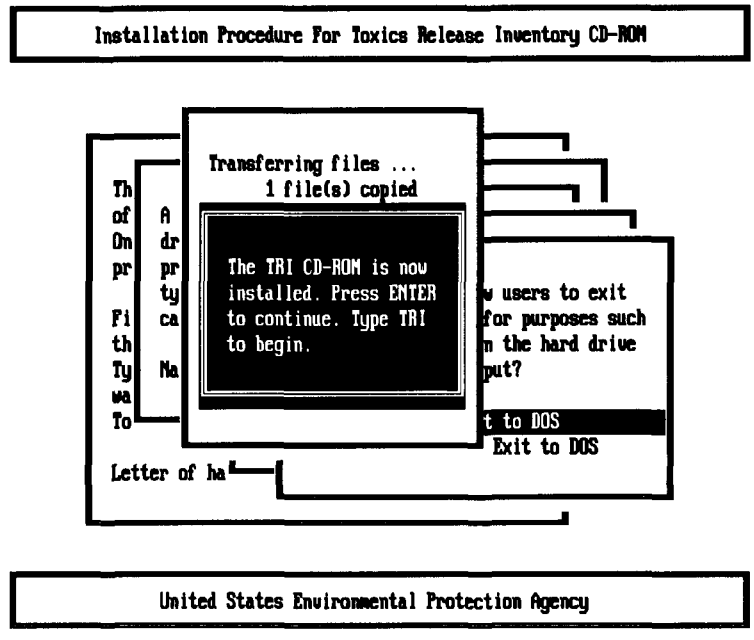
The final choice that you will make during installation is whether or not to allow users temporary access to DOS while still using the TRI CD-ROM. Sometimes access to DOS is useful to perform tasks like creating directories or verifying file names before exporting data. However, in public settings, access to DOS is often blocked for security reasons, as mentioned earlier.

Using the cursor key, highlight your choice, as shown below, and press **<ENTER>**.



The system will proceed with installation by copying a number of files to your hard disk. (The number of files will vary between 24 and 31, depending on whether you chose to allow User Added Data, designated a password, etc.)

When all of the files have been copied successfully, a message indicating that installation has been completed. The message also indicates the name of the directory where the software was installed appears on the screen.



If you wish to begin using TRI immediately or to check that the software is properly installed, type TRI at the DOS prompt (e.g., c:\TOXICS>**TRI**,) and press **<ENTER>**. The system will respond by displaying the main menu. See Chapter 4.)

2.1.3.2 Installing Software for Reading TRI Publications

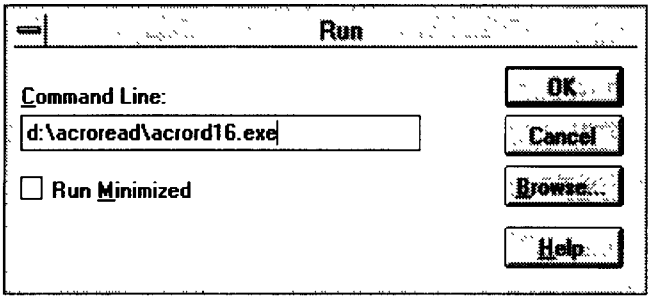
The Acrobat Reader software provided on the CD-ROM runs under Windows. If you prefer, a DOS version is available for free from Adobe. To obtain a copy, call Adobe at 1-800-521-1976 or visit their Web site at http://www.adobe.com/acrobat/readstep.html.

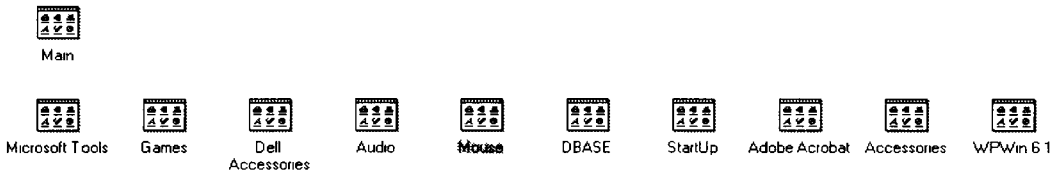
If you already have Acrobat Reader software installed on your PC, you do not need to install the software from the TRI CD-ROM. The CD-ROM contains version 3.0, however, Acrobat Reader 2.0 can also be used to access the TRI publications.

Acrobat Reader 3.0 requires only about 5.0 MB of hard disk space. If disk space is limited, you may execute the Acrobat Reader directly from the CD-ROM. However, it may be slower than when copied to your hard disk using the install routine.

To install the Acrobat Reader, you must be in the Windows environment. If you are using the TRI CD-ROM menu, highlight "7. Quit TRI CD-ROM" and press <enter>. If prompted, enter the exit password.

Enter the command to execute Windows. Choose the File menu, highlight Run and press <enter>. A dialog box will appear on the screen. In the space provided, enter the letter of the CD-ROM followed by the complete path to the Acrobat Reader software, i.e., [CD-ROM drive]:\ACROREAD\ACRORD16.EXE for Windows 3.1x or \ACROREAD\ACRORD32.EXE FOR Windows 95, then click on OK.





The Adobe Acrobat Reader will then walk you through setup. For more information on browsing TRI publications using the Acrobat Reader, see Chapter 6.)

2.1.4 Troubleshooting Software Installation

In most cases, software installation is trouble-free. In a few cases, however, difficulties may arise. This section is designed to help you identify and remedy the most common problems. For convenience, it is organized by symptom. Error messages are shown in bold print to help you locate them quickly.

CDR101:Not ready error reading drive [CD-ROM drive letter]
Abort, Retry, Fail?

The first item to check for this error is whether the TRI CD is properly inserted in the drive with the label facing up. This error may occur during installation or anytime someone is preparing to use the CD-ROM.

A more difficult problem to resolve is when your system is not configured properly. If you also have trouble reading a CD-ROM other than TRI when you list the directory, an improper configuration is likely the problem. If you think your system is configured improperly, examine the autoexec.bat, config.sys, and other files that are created to run the CD-ROM drive. If you cannot detect the problem, seek assistance from a systems expert.

Although it is possible, it is highly unlikely that the CD-ROM itself is faulty unless the product was damaged following its manufacture.

Bad Command or File Name

If this error occurs during the initial installation, check for typographical errors in the way the command was entered. If the error occurs during installation or when you are trying to use the TRI database, the computer is reading from a subdirectory (e.g., TRIFACTS) rather than the root directory of the CD-ROM. To remedy the problem, change to the root directory of the CD-ROM. (Enter the letter for the CD-ROM drive followed by a colon. Then, type cd\ and press **<ENTER>**.)

Invalid Drive Specification

The CD-ROM drive was not turned on until after the PC. Turn on the PC <u>after</u> turning on the CD-ROM drive.

Invalid Drive Letter

The letter that you entered to represent the CD-ROM drive does not agree with the system configuration that is presently active. Verify the letter assigned to the CD-ROM drive by checking the autoexec.bat file or listing the CD-ROM directory. Try rebooting your system if the autoexec.bat file appears to be correct but there is a chance that it was changed since the last boot.

File Not Found

It is normal for this message to flash on the screen momentarily the first time that you use the disc following software installation. (Additional files are created automatically as soon as you begin using the CD-ROM.) If the message recurs during subsequent use, it may mean that installation was interrupted or did not complete successfully. The number of files transferred to the hard drive may vary (between 24 and 31 files), depending on how the software was installed i.e., whether DOS access and user added data were allowed. If a problem occurs resulting in the message File Not Found, the easiest solution may be to repeat the installation procedure.

Display shows something other than TRI Installation Screen

This error may occur if the CD-ROM reader is reading from a directory rather than the root directory

of the TRI CD-ROM during the installation process. To remedy the problem, change to the root directory of the CD-ROM. (Enter the letter for the CD-ROM drive followed by a colon. Then, type cd\ and press **<ENTER>**.)

[#] Additional Bytes of Available Memory Required To Run KAware2 Press ENTER to Exit KAware2
Out of Memory: This Application requires 0 Additional Bytes of Free Memory

These messages will appear if your system does not have enough room to load the software and TRI records into memory to allow you to retrieve the TRI data. About 430K available memory is required to load the Chemical Substance Fact Sheets. Approximately 510K of memory is required for the TRI data base. Although the error message says that no additional bytes of free memory are needed, additional memory is required. The message instructs you to press **<ENTER>** to return to DOS to investigate the memory problem, however, when you press **<ENTER>**, you will not return to the DOS prompt. Instead, you will return to the **DATA SELECTION MENU**.

Most microcomputers are configured with at least 640K of Random Access Memory (RAM). Memory is the area where your computer temporarily stores data and instructions it needs to execute that tasks you have requested. (Don't confuse memory with hard disk space usually measured in megabytes which provides longer-term data storage.) Some of your computer's memory may be used by DOS or other programs loaded on your equipment. To find out how much memory is actually available, at the C prompt in the root directory, type:

c:\>**chkdsk**

Scan the display; the last line tells you how many bytes of memory are free.

2.1.5 If You Need More Memory...

One of the most common problems that users experience during installation occurs when insufficient random access memory (RAM) is available to load the files. As noted above, 510K of RAM is required to successfully install the TRI software. (It is important to distinguish between RAM, required by DOS applications such as the TRI discs, and other types of memory. See the sidebar on the following page for a brief description.) If you are currently experiencing problems due to memory limitations, it is only going to get worse as more multimedia and audio discs are introduced. You may want to consider upgrading the memory or modernizing your CD-ROM workstation. If you are considering enhancing your existing system, you may wish to speak to someone knowledgeable in this area before proceeding.

There are, however, several steps that you can take to maximize the RAM available without upgrading equipment. The easiest method requires use of DOS 5.0 or higher, which allows you to make use of memory in several new ways. For example, it allows you to utilize part of the upper which was restricted from use unless you purchased a separate memory management program. In addition, you can transfer actual DOS programs from conventional memory to the high memory area, thus freeing up a larger portion of the precious 640K conventional memory.

Another possibility is to identify and discontinue use of any unnecessary "terminate and stay resident" (TSR) programs that you may be using. All computer software requires the use of some memory while the computer is in use. TSR programs are routines that continue to occupy memory even if these programs are not active. Often such programs are difficult to identify and you may need assistance.

Here are two steps you might take to free-up memory space occupied by TSRs:

1) Reboot your system before using the TRI CD-ROM. Some application software, for example, spreadsheets, word processors, etc., may leave a "part" of the program in memory, even though you are no longer using the program. By rebooting your system, you will rid the memory of TSR routines remaining from software used earlier.

2) Change your autoexec.bat file to eliminate TSR programs that are activated as soon as you turn your computer on. A common example of TSRs is a "shell" programs to display a menu instead of the DOS prompt when you first boot the computer or allow your numeric keypad to function like a calculator. If you modify your autoexec.bat file, be sure to reboot your computer to activate any changes you have made.

TYPES OF COMPUTER MEMORY

The 640K (or sometimes less) memory with which you are most familiar is known as conventional memory, also called random access memory (RAM). Conventional memory can be used in many ways, including loading and executing programs, for DOS and device drivers, and temporarily storing data. DOS applications, like the TRI CD-ROM, require access to varying amounts of RAM in order to run. (TRI requires 507K RAM.) Most PCS in use today also have an additional 384K memory (transparent to the user) that increases memory from 640K to 1 MB. Use of this space, known as "upper memory," is somewhat restricted. For example, it is not accessible to most programs and earlier versions of DOS (before 5.0).
Expanded memory, developed to overcome the 640K DOS barrier (before DOS 5.0), requires installation of a card in an expansion slot on your PC. Expanded memory allows you to use conventional memory more efficiently by swapping data from expanded memory in and out of conventional memory very quickly in 64K blocks. Thus, your computer is "fooled" into using programs that are actually stored on the expansion card.

Extended memory, developed after expanded memory was widely available, uses a completely different approach. This is an area above 1 MB (up to 32 MB) that is accessible from a chip on the motherboard. Extended memory is only available on 80286 and faster machines. Some programs, such as Windows and Lotus 1-2-3, can fully utilize extended memory just as though it was part of the conventional 640K.

There is one other type of memory - high memory - which is the first 64K of extended memory.

Another alternative is to reduce the number of files allocated in your config.sys file. The config.sys file, read automatically by the computer when you boot, instructs the computer on how to allocate some of its memory. The config.sys file describes the number of files that can be opened at one time with the files command. For example, files=10 means that a maximum number of ten files may be open at one time. Usually the minimum number of files is between six and ten, because DOS requires five files for its use. Reboot the computer after changing the config.sys file.

You also can reduce the number of memory buffers. DOS uses disk buffers to store data when reading from and writing to a disk. Each buffer requires 528 bytes of memory. The number of buffers you allocate depends on the type of applications you use and your hardware configuration. Check the documentation or contact your system administrator to determine the minimum number of buffers for your situation. If you modify the config.sys file, reboot the system.

2.2 TRI CD-ROM Structure

The CD-ROM version of TRI allows users to conduct research using the Chemical Substance Fact Sheets and search and perform calculations using the TRI data base. This year, in addition, new features described below provide greater understanding of the TRI program. All of these capabilities are outlined below.

2.2.1 What is TRI?

For the first time, the CD-ROMs contain a screen about the TRI program, including such topics as who must report, the benefits of collecting this information, and how to obtain access to TRI.

2.2.2 Toxics Release Inventory

This set of two CD-ROMs cumulate several years of the Toxics Release Inventory, dating back to the inception of the program in 1987. Disc One contains TRI submissions for reporting years 1987-1990; Disc Two contains TRI reports for 1991-1995. On each CD-ROM, TRI records are broken down into two files, called RELEASES and TREATMNT:

> The RELEASES file is used when requesting comprehensive facility identification information. This file contains total amounts of chemicals released to the mediums (air, land, water) and publicly owned treatment works (POTWs). It can be used to display summary of releases, e.g., searching for facility and chemical information for ABC Manufacturing Company, or the name and addresses of off-site locations in Houston, Texas where chemical wastes are shipped.
>
> The TREATMNT file is used to search for data on waste treatment methods and efficiency, and waste minimization.

For more information about searching the RELEASES and TREATMNT files, see Chapter 4.

2.2.3 Chemical Substance Fact Sheets

In addition to the TRI itself, the CD-ROM also contains Fact Sheets that provide information about health, safety and ecological data on TRI chemicals. You might use this file after searching for information in the TRI itself (discussed below) to learn more about the effects and to better understand the chemicals that have been identified. The fact sheets data base is provided on both Disc 1 and Disc 2, for your convenience. For more information, see Chapter 3.

2.2.4 Calculation Feature (KASTAT)

KASTAT is a feature of TRI that takes sets that have been created and calculates the sum totals of fields that have been selected. For more information, see Chapter 5.

2.2.5 TRI Publications

These CD-ROMs contain several key TRI-related reports published by EPA. These publications will help enrich your understanding of the TRI program. They are provided on the discs in Portable Document Format (PDF), so they can be read, searched, and printed easily. For more information, see Chapter 6.

2.3 Readme Files

There are several "readme" files that provide documentation for the database and referrals to State and Regional contacts. These files can be viewed and printed directly from the CD-ROM. These files are:

FIELDS.TRI: Contains descriptions of all the data fields including codes and translations of coded information.

README.NOW: Describes TRI and the contents of these discs more fully;

REGIONS.EPA: Contains the names, addresses, and telephone numbers of coordinators for the TRI program in each of the ten EPA Regions. (This list updates the list of TRI regional coordinators contained in the TRI Reporting Instructions.)

STATES: Contains the names, addresses, and telephone numbers of officials of State and Territorial TRI programs.

In addition, this manual is on the discs in both PDF and ASCII text format.

2.4 Accessing the Toxics Release Inventory

In order to access TRI on the CD-ROM:

1. Turn on the CD-ROM drive and the personal computer.

   NOTE: The CD-ROM drive must be turned on before or at the same time as the PC.

2. Insert one of the two TRI compact discs (CD) into the CD-ROM drive.

3. Make sure that you are logged onto the hard drive where the TRI retrieval software was loaded. If not, type **C: <ENTER>** (or the appropriate letter for your configuration).

4. Access the directory where the TRI CD-ROM software was loaded (e.g., TRI, the default directory name supplied by the installation module):

   CD TRI <ENTER>

5. To launch TRI, at the subdirectory DOS prompt (e.g., C:\TRI>), type:

   TRI <ENTER>

   The first screen you will see is the Data Base Selection menu:

```
Toxics Release Inventory CD-ROM
United States Environmental Protection Agency

Highlight choice and press ENTER:

1 What is TRI?
2 Toxics Release Inventory 1987-90
3 Toxics Release Inventory 1991-95
4 Calculate Releases (NASTAT)
5 TRI Publications
6 Chemical Substance Fact Sheets
7 Quit TRI CD-ROM Disc

Choose #5, TRI Publications, for instructions on
viewing PDF information files on the CD-ROM disc
```

6. Press the arrow keys to move to the selection of your choice or press the corresponding number and press **<ENTER>** to indicate your selection.

Each of the selections will be discussed in the next several chapters. With the selection of Option 7, Quit TRI CD-ROM Disc, you will be prompted for the TRI password or leave the TRI software and return to the DOS prompt and the TRI directory. To re-enter TRI, type TRI (see #5 above) and proceed with the instructions.

2.5 Special Keys

The TRI CD-ROM software employs the use of many specials keys to ease your use of the software. These special keys are described below.

Arrows - Allow you to move up, down, left and right in menus, screens, and records.

Home/End - Allows you to move to the top of page with HOME and to the bottom of page with END. The combination of the CTRL and HOME keys pressed simultaneously moves you to the first record in a set. The combination of the CTRL and END keys pressed simultaneously moves you to the last record in a set.

PgUp/PgDn - Allows you to move backward or forward through a menu or display, one page at a time.

ESC - allows you to perform the following functions:

- Acts as a backup key to return you to the previous step
- Will abort a search
- Will abort a save or load of a set list
- Returns you to the Title Screen when the function keys 1-5 are open.

Ctrl - In combination with another letter key hit simultaneously will assist in performing a variety of options.

Alt - In combination with another letter key hit simultaneously will assist in performing a variety of options.

NOTE: To remove a pull-down menu associated with a function key option, press the function key for that option and the pull-down menu will toggle off. Press the same function key to toggle the pull-down menu back on.

2.6 Printing Files

You can print a record that you are viewing on the screen with the *Print Current Record* option. In addition, you can print a set of records that you have created. Using the reader software provided, you can also print from the electronic copies of the TRI publications herein. These options are discussed in Chapters 3, 4, and 6.

3.0 Chemical Substance Fact Sheets

Fact sheets supplement the environmental release data on chemicals in TRI with information related to the health and ecological effects as well as safety and handling of the chemicals. There is a fact sheet for most TRI chemicals, except when categories of chemicals are grouped together for TRI reporting (e.g., lead compounds). Designed for a lay audience, they represent scientifically accepted information in non-technical language. The data may be especially useful to workers, employers, community residents, and health professionals.

It is especially useful to review the Fact Sheets after identifying chemicals of interest by searching the TRI Fielded Database. Text on health, safety, and ecological data is displayed along with the common name and CAS number.

For your convenience, Chemical Substance Fact Sheets are provided on both TRI discs, and can be accessed from the main menu on Disc One or Disk Two.

Highlight '6 Chemical Substance Fact Sheets' on the **DATA BASE SELECTION MENU** and press **<ENTER>**.

```
Toxics Release Inventory CD-ROM
United States Environmental Protection Agency

Highlight choice and press ENTER:

1 What is TRI?
2 Toxics Release Inventory 1987-90
3 Toxics Release Inventory 1991-95
4 Calculate Releases (KASTAT)
5 TRI Publications
6 Chemical Substance Fact Sheets
7 Quit TRI CD-ROM Disc

Choose #5, TRI Publications, for instructions on
viewing PDF information files on the CD-ROM disc
```

While the TRI Fact Sheets are being loaded, the message, "Loading KAware2 with E:\TRIFACTS\FACTS - Please Wait" will be displayed. (The drive designation - E: - in this message will vary according to the letter assigned to the CD-ROM.) The next screen to be displayed is the **TRI FACT SHEETS TITLE SCREEN**.

Press **<ENTER>** to continue. The **TRI FACT SHEETS MAIN MENU** (with F3 = Select, highlighted) will appear.

```
                TRI FACT SHEETS - KAware2 (tm) FullText V1.52
 F1 = Help      F2 = Options      F3 = Select      F4 = Search      F5 = Sets
                                  ╔═══════════════╗
                                  ╚═══╗           ╚═══╗
                                  ╔═══╗           ╔═══╗
                                  ╚═══╗           ╚═══╗
                                  ╔═══╗           ╔═══╗
                                  ╚═══╗           ╚═══╗
                                  ╔═══╗           ╚
```

3.2 Function Key Options

Several options in the form of function key selections are displayed on the top and bottom of the screen. Some of these options have pull-down menus associated with the option.
These options are as follows.

NOTE: To remove a pull-down menu associated with a function key option, press the function key for that option and the pull-down menu will toggle off. Press the same function key to toggle the pull-down menu back on.

3.2.1 F1 = HELP Key

F1 = Help - This option provides context sensitive HELP for several of the function key selections. The HELP pull-down menu is displayed below:

```
                    TRI FACT SHEETS - KAware2 (tm) FullText V1.52
 F1 = Help          F2 = Options      F3 = Select      F4 = Search      F5 = Sets
 ╔═══╗
 ╔═══╗
 ╔═══╗
```

The HELP option is available at any time while you are in the TRI Fact Sheets by pressing the F1 key. Use the PgUp/PgDn keys to move within the HELP text. A HELP example is displayed below:

```
TRI FACT SHEETS - KAware2 (tm) FullText V1.52

Page/Line Up          ESC to Exit          Page/Line Down

                      F6 - DISPLAY

F6, the Display Manager, does not have its own menu,
because you do not want a menu on the screen while
you are reading the retrieved information.  Instead,
you will find prompts for using the Display Manager
in the top and bottom banners of the screen.  There
is also an "Action Menu" that appears briefly on the
right side of the screen to assist you in Hypertext
searching, block marking/saving/printing, addition
of your notes to the file, etc.

SEARCH SET=0    DISPLAY SET=0    WORKSPACE REMAINING=256000

F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

3.2.2 F2 = OPTIONS Key

F2 = Options - This option allows you to access the settings for the search, display, and output of information. The OPTIONS pull-down menu is displayed below:

```
                TRI FACT SHEETS - KAware2 (tm) FullText V1.52
F1 = Help       F2 = Options     F3 = Select      F4 = Search      F5 = Sets

                Search Set:          LAST SET CREATED
                Display Set:         LAST SET CREATED
                Post Search:         DISPLAY SET FOUND
                Group Search With:   GROUP ONLY
Set    #Found   Table of Contents:   ALPHA ORDER
                Notes With Output:   OUTPUT TEXT ONLY
                Define Display:      DISPLAY RETRIEVED DOCUMENTS
                Save Current Settings

                (Ctrl-PgUp/PgDn changes Set List page)

SEARCH SET=0    DISPLAY SET=0    WORKSPACE REMAINING=256000

F6=Display   F7=Group   F8=Group   F9=Group √   F10=Exit   ESC=Backup
```

When the cursor is on a specific selection in the OPTIONS menu, press **<ENTER>** to toggle through all of the choices for that selection. As an example, for Search Set, *Last Set Created* is displayed. By pressing **<ENTER>**, the other choices, *Selected Set* and *Entire Document*, also are displayed. When the desired choice is displayed, press the up or down arrow to move to another selection within the OPTIONS menu. To save your selections, use the down arrow to Save Current Settings. Press **<ENTER>**. The new settings will now become the current settings until they are changed. Press F1 (HELP) when the pull-down menu for OPTIONS is displayed to view the effects of your selection.

3.2.3 F3 = SELECT Key

F3 = Select - This option displays all the fields used to search for data in the TRI Fact Sheets. The SELECT menu is displayed below:

```
                TRI FACT SHEETS - KAware2 (tm) FullText V1.52
 F1 = Help      F2 = Options      F3 = Select      F4 = Search      F5 = Sets
                                  TABLE OF CONTENTS
                                  COMMON NAME
                                  CAS NUMBER
                                  TEXT
 Set   #Found       (Page 1 of 1   GLOBAL INDEX

                  (Ctrl-PgUp/PgDn changes Set List page)
          SEARCH SET=0    DISPLAY SET=0     WORKSPACE REMAINING=256000
 F6=Display   F7=Group ↓    F8=Group ↑    F9=Group √    F10=Exit   ESC=Backup
```

NOTE: The choices in the pull-down menu for F3 = Select are tied directly to the function, F4 = Search. Since this option is the core of the searching capabilities for the TRI Fact Sheets, each of the choices will be described below to assist you in its usage.

TABLE OF CONTENTS - This choice provides a listing which displays all of the common names of chemicals in alphabetic order (or the order that is indicated in the Table of Contents selection under the F2 = Options choice). Chemical names preceded by numbers sort before chemicals that begin with an alphabetic character (see examples on sample screen shown below). There are 33 screens of chemical common names. Use the **<PGUP>** and **<PGDN>** keys to browse through the list of chemicals sequentially. When you have located the common name that you need, press **<ENTER>**. The Table of Contents only searches the chemical common name field. After selecting a name, the record is displayed but no set is created.

```
                TRI FACT SHEETS - KAware2 (tm) FullText V1.52
F1 = Help     F2 = Options     F3 = Select      F4 = Search      F5 = Sets

Common Name:    1,1,2,2-Tetrachloroethane
Common Name:    1,1,2-Trichloro-1,2,2-Trifluoroethane
Common Name:    1,1,2-Trichloroethane
Common Name:    1,2,4-Trichlorobenzene
Common Name:    1,2-Butylene Oxide
Common Name:    1,2-Dichlorobenzene
Common Name:    1,2-Dichloroethane
Common Name:    1,2-Dichloroethylene
Common Name:    1,2-Dichloropropane
Common Name:    1,2-Dihydroxybenzene
                              (Page 1 of 33)

                (Ctrl-PgUp/PgDn changes Set List page)

        SEARCH SET=0    DISPLAY SET=0     WORKSPACE REMAINING=256000

F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

COMMON NAME - This choice also allows you to search by common chemical name, but provides greater flexibility in searching. It allows you to type in a term, partial term (followed by a question mark (?)), phrase, or boolean expression to locate a common chemical name. For chemical names that begin with numbers, omit the numbers when searching. (For example, search 1,1,2,2 - Tetrachlorethane by entering Tetrachlorethane.) Only the common name field will be searched, not the text of the Fact Sheet. Unlike using the Table of Contents to search by common chemical name, this option will result in creation of a search set.

NOTE: It is possible to search the Common Name field using boolean expressions, however, it is not the most effective way to search by chemical name. Instead, type a partial term followed by a question mark (e.g., chlor?) to identify variant spellings or similar chemical names.

```
                    TRI FACT SHEETS - KAware2 (tm) FullText V1.52
 F1 = Help      F2 = Options      F3 = Select       F4 = Search       F5 = Sets

                              COMMON NAME
                     Enter a Term, Partial Term followed by a ?,
                     Phrase, or Boolean Expression (F1 for Help):
 Set    #Fo

                    (Ctrl-PgUp/PgDn changes Set List page)

          SEARCH SET=0     DISPLAY SET=0      WORKSPACE REMAINING=256000

 F6=Display   F7=Group ↓    F8=Group ↑    F9=Group √    F10=Exit   ESC=Backup
```

Type the common name and press **<ENTER>**. The TRI software will search for the common name and respond with the search results or a message will appear that says the common name you requested is unavailable. If you are unsure of the name or the spelling of the name, use the partial term option. When using the partial term option, type a term followed by a question mark (?) (e.g., ben?) and press **<ENTER>**. The message "Loading Words With BEN? Root" will appear. A listing of common names that start with the letters "BEN" will appear. Select the correct common name and press **<ENTER>**. It should be noted that each chemical is unique with distinct properties. Although two chemical names may start with "METHYL (methyl tert-butylether and methyl acrylate), it does not mean that these two chemicals have comparable or related characteristics and effects.

```
                TRI FACT SHEETS - KAware2 (tm) FullText V1.52
 F1 = Help      F2 = Options      F3 = Select      F4 = Search      F5 = Sets
                                                   COMMON NAME
                                                 BENZAL [1]
                                                 BENZAMIDE [1]
                                                 BENZENAMINE [1]
Set   #Found       (Page 1 of 1)                 BENZENE [3]
                                                 BENZIDINE [1]
  1     1/1      COMMON NAME:  BENZYL [1]        BENZOQUINONE [1]
                                                 BENZOTRICHLORIDE [1]
                                                 BENZOYL [2]
                                                 BENZYL [1]

                 (Ctrl-PgUp/PgDn changes Set List page)
        SEARCH SET=1    DISPLAY SET=0     WORKSPACE REMAINING=255999
 F6=Display   F7=Group ↓    F8=Group ↑    F9=Group √    F10=Exit   ESC=Backup
```

NOTE: Chemicals are often known by more than one name. In most instances, the same chemical name was used for TRI and the Fact Sheets. If you cannot find the "TRI Name", use the CAS Number that is found in the TRI record (see page 3-9).

CAS NUMBER - A Chemical Abstracts Service (CAS) number uniquely identifies an individual chemical. When known, searching by CAS number is the most precise way to search for chemical data. This choice allows you to type in a term, partial term (followed by a question mark (?)), phrase, or boolean expression to locate a CAS number. Dashes in a CAS number are required. Only the CAS number field will be searched. The format for a CAS number is as follows: first five positions can be digits (no leading zeros), followed by a dash (-), followed by two more digits (leading zero), followed by a dash (-), and then one more final digit (may be a zero).

```
                    TRI FACT SHEETS - KAware2 (tm) FullText V1.52
F1 = Help      F2 = Options      F3 = Select       F4 = Search       F5 = Sets

                              CAS NUMBER
                   Enter a Term, Partial Term followed by a ?,
                   Phrase, or Boolean Expression (F1 for Help):

Set    #Fo

                    (Ctrl-PgUp/PgDn changes Set List page)

          SEARCH SET=0     DISPLAY SET=0     WORKSPACE REMAINING=256000

F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

Type the complete CAS number and press **<ENTER>**. The TRI software will search for a CAS number and respond with the search results or a message will appear that says the CAS number you requested is unavailable. Check to ensure that the CAS number, including dashes, was entered correctly if the CAS number you requested is unavailable.

```
                TRI FACT SHEETS - KAware2 (tm) FullText V1.52
F1 = Help       F2 = Options      F3 = Select       F4 = Search       F5 = Sets

                          CAS NUMBER
                Enter a Term, Partial Term followed by a ?,
                Phrase, or Boolean Expression (F1 for Help):

Set    #Fo

                (Ctrl-PgUp/PgDn changes Set List page)

        SEARCH SET=0     DISPLAY SET=0      WORKSPACE REMAINING=256000

F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

TEXT - This choice allows you to type in a term, partial term (followed by a question mark (?)), phrase, or boolean expression to locate text. Only the body of the Fact Sheet (or "text") is searched, not the chemical name or CAS number where they appear in the heading of the Fact Sheet. Proximity searching also is an effective way to search for specific text. This type of searching is useful when trying to locate text or words that are adjacent or near each other. Either of two formats may be used: 1) Using the search operator NEAR (e.g., EXPOSURE NEAR TOXICITY) will retrieve all documents where the two words occur in the same Fact Sheet or part of a Fact Sheet; 2) The search command WITHIN 1 will bring up all Fact Sheets where the first term is adjacent to the second search term (e.g., SKIN WITHIN 1 CONTACT will retrieve all Fact Sheets containing the term SKIN CONTACT).

```
                    TRI FACT SHEETS - KAware2 (tm) FullText V1.52
F1 = Help      F2 = Options      F3 = Select       F4 = Search       F5 = Sets

                                   TEXT
                      Enter a Term, Partial Term followed by a ?,
                      Phrase, or Boolean Expression (F1 for Help):
Set    #Fo

                    (Ctrl-PgUp/PgDn changes Set List page)

          SEARCH SET=0     DISPLAY SET=0      WORKSPACE REMAINING=256000

F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

Type the text and press **<ENTER>**. The TRI software will search for the text and respond with a location of the text you have entered or a message will appear that says the text you requested is unavailable. You will then need to try again if the text was not found. When using the partial term option, type a term followed by a question mark (?) (e.g., ben?) and press **<ENTER>**. A listing of text that contains "BEN" will appear. Select the correct text and press **<ENTER>**.

```
                TRI FACT SHEETS - KAware2 (tm) FullText V1.52
 F1 = Help      F2 = Options      F3 = Select      F4 = Search      F5 = Sets
                                                        TEXT
                                                 BENEATH [1]
                                                 BENEZENEDIAMINE [1]
                                                 BENHEXACHLOR [1]
Set   #Found       (Page 1 of 1)                 BENZ [1]
                                                 BENZ-O [1]
  1     1/1      COMMON NAME:  BENZYL [1]        BENZ-O-CHLORO [1]
                                                 BENZAL [42]
                                                 BENZALDEHYDE [3]
                                                 BENZAMIDE [44]
                                                 BENZAZINE [1]
                                                       (Page 1 of 5)

                    (Ctrl-PgUp/PgDn changes Set List page)
         SEARCH SET=1     DISPLAY SET=0      WORKSPACE REMAINING=255999
 F6=Display   F7=Group ↓    F8=Group ↑    F9=Group √    F10=Exit   ESC=Backup
```

GLOBAL INDEX - This choice allows you to type in a term, partial term (followed by a question mark (?)), phrase, or boolean expression or proximity search to perform a global index search to locate data. The Global Index searches a combination of the CAS number, chemical common name, and text.

```
                TRI FACT SHEETS - KAware2 (tm) FullText V1.52
 F1 = Help      F2 = Options      F3 = Select      F4 = Search      F5 = Sets
                                 GLOBAL INDEX
                        Enter a Term, Partial Term followed by a ?,
                        Phrase, or Boolean Expression (F1 for Help):
Set   #Fo

                    (Ctrl-PgUp/PgDn changes Set List page)
         SEARCH SET=0     DISPLAY SET=0      WORKSPACE REMAINING=256000
 F6=Display   F7=Group ↓    F8=Group ↑    F9=Group √    F10=Exit   ESC=Backup
```

Type the search term or expression and press **<ENTER>**. The TRI software will search the global index and respond with a location of the data that you have requested or a message will appear that says the search term or expression that you requested is unavailable. When using the partial term option, type a term followed by a question mark (?) (e.g.,CHL?) and press **<ENTER>**. The message, "Loading Words With CHL? Root" will appear. A listing of global index terms that start with CHL will appear, highlighting whether the index is a common name or text. Select the correct index entry and press **<ENTER>**.

```
                    TRI FACT SHEETS - KAware2 (tm) FullText V1.52
 F1 = Help      F2 = Options      F3 = Select      F4 = Search      F5 = Sets
                                                 GLOBAL INDEX
                                                CHLORACNE [TEXT 5]
                                                CHLORAMBED [TEXT 1]
                                                CHLORAMBEN [COMMON NAME 1]
                                                CHLORAMBEN [TEXT 37]
 Set    #Found       (Page 1 of 1)              CHLORATE [COMMON NAME 1]
                                                CHLORATE [TEXT 24]
                                                CHLORATES [TEXT 84]
                                                CHLORDANE [COMMON NAME 1]
                                                CHLORDANE [TEXT 40]
                                                CHLORETHENE [TEXT 1]
                                                         (Page 1 of 9)

                    (Ctrl-PgUp/PgDn changes Set List page)
          SEARCH SET=0     DISPLAY SET=0      WORKSPACE REMAINING=256000
 F6=Display   F7=Group ↓    F8=Group ↑    F9=Group √    F10=Exit   ESC=Backup
```

3.2.4 F4 = SEARCH Key

F4 = Search - This option is directly related to the choices described for the F3 = Select option. See the NOTE for that option described above. Press **<ESC>** to leave this option.

3.2.5 F5 = SETS Key

F5 = Sets - This option provides selections to work with user defined sets of data in order to enhance the sets of data you create. The SETS pull-down menu is displayed below:

```
                TRI FACT SHEETS - KAware2 (tm) FullText V1.52
 F1 = Help      F2 = Options     F3 = Select      F4 = Search      F5 = Sets
                                                                  Change Search Sets
                                                                  Combine Sets
                                                                  Delete a Set
                                                                  Delete All Sets
 Set   #Found       (Page 1 of 1)                                  Display a Set
                                                                  Export a Set
                                                                  Export from Table of Contents
                                                                  Load Set List
                                                                  Print a Set
                                                                  Print from Table of Contents
                                                                  Save Set List
                                                                  Select Display Set
                                                                  Select New Data File
                                                                  Temp Exit to DOS
                    (Ctrl-PgUp/PgDn changes Set List page)
          SEARCH SET=0     DISPLAY SET=0     WORKSPACE REMAINING=256000
 F6=Display   F7=Group ↓    F8=Group ↑    F9=Group √    F10=Exit    ESC=Backup
```

There are various selections for this option which assist you in creating, printing, and displaying sets. Several examples are displayed below.

Change Search Sets - This selection allows you to change to a specific set you have created and search for further information within that specific set. If you do not specify a set, the TRI software will search the entire file. (The current search set is shown at the bottom of the screen. SEARCH SET=0 means that the entire database is being searched.) Once the search set is changed, you must change the set back to zero (0) if you wish to resume searching the entire file. Using the Change Search Set option saves time and memory space, as the TRI software searches the entire database once, and then searches within the smaller set that was previously defined, to search for the second condition.

Combine Sets - This selection allows you combine user defined sets with additional conditions of AND, OR, or NOT. To understand the difference between these three conditions, let us use an example for each condition.

- Benzene AND Chlorine - The TRI software will search the database for both chemical names in the field being searched. AND limits the search to records meeting criteria for all of the sets that are being combined.

- Benzene OR Chlorine - The TRI software will search the database for either of the chemical names in the field being searched. OR broadens the search to include records that meet criteria for creating any of the searches being combined.

- Benzene NOT Chlorine - The TRI software will search the database for the first word not the second word in the field being searched. NOT includes records that meet criteria used to create the first set specified except records that were included in the second set that is combined.

  NOTE: When combining with NOT, you will obtain different results depending on which word you specify first.

```
                TRI FACT SHEETS - KAware2 (tm) FullText V1.52
F1 = Help       F2 = Options      F3 = Select       F4 = Search       F5 = Sets
```

```
Set    #Found        (Page 1 of 1)

                          Select an Operator:
                           Combine with AND
                           Combine with OR
                           Combine with NOT

                    (Ctrl-PgUp/PgDn changes Set List page)
          SEARCH SET=0     DISPLAY SET=0     WORKSPACE REMAINING=256000
F6=Display   F7=Group ↓    F8=Group ↑    F9=Group √    F10=Exit    ESC=Backup
```

Select the condition and press **<ENTER>**. Set numbers are displayed on the screen under the SET category. In the set box, type the first set number, press **<ENTER>**, type the second set number, press **<ENTER>**, etc., until all the set numbers to be combined have been identified. You may give this newly created set a name. If you do not give the set a name, the TRI software will generate a name automatically.

Delete A Set - This selection allows you to delete a specific set. Deleting search sets that you do not need may be beneficial because it increases the amount of workspace that is available for creating additional search sets. (See WORKSPACE REMAINING=????? in the lower right-hand side of the screen.) Once you have requested a deletion, that set will be highlighted on the screen with the word DELETED. Once deleted, it is no longer possible to retrieve that set, without searching the data again.

Delete All Sets - This selection allows you to delete all user defined sets. (To save records for a particular search to disk before deleting all sets, see Export A Set, below.)

```
                TRI FACT SHEETS - KAware2 (tm) FullText V1.52
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets

Set    #Found       (Page 1
                          This will erase your
                            ENTIRE Set List!
                          ARE YOU SURE? (Y/N)

                    (Ctrl-PgUp/PgDn changes Set List page)
          SEARCH SET=0    DISPLAY SET=0    WORKSPACE REMAINING=256000
F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

If you answer YES by typing **<Y>** to the erasure of all sets, you will no longer be able to access them. All sets will have to be recreated. If you answer NO by typing **<N>**, no sets will be erased.

Display A Set - This selection allows you display any user defined set.

```
                    TRI FACT SHEETS - KAware2 (tm) FullText V1.52
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets


Set   #Found      (Page 1 of
                                 Enter the number
                                  of the set to
                                  be displayed:



                    (Ctrl-PgUp/PgDn changes Set List page)
          SEARCH SET=0    DISPLAY SET=0     WORKSPACE REMAINING=256000
F6=Display   F7=Group ↓    F8=Group ↑    F9=Group √    F10=Exit   ESC=Backup
```

Type the number of the set to be displayed and press **<ENTER>**. If the set number you have entered does not correspond with a set number displayed, the field in the box erases the value you have entered and displays a blank. Enter the correct set number.

Export A Set - This selection allows you to save search results in ASCII format to be used with other software. Enter the number of the set to be saved for exporting, name of the file to be saved, and press **<ENTER>**. A message will appear telling you the set has been saved.

Export from Table of Contents - This selection allows you to save a record using the common name from the Table of Contents. Name the file to be saved on the C drive. A message will appear telling you the set has been saved.

Load Set List - This selection allows you to load a set list that you have previously saved. When you load a set list, all currently displayed set lists that have not been previously saved, will be erased. Select a set list from the box displaying all the saved set lists.

Print A Set - This selection allows you to print a set to a local printer. Enter the set number to be printed. If the set number you have entered does not correspond with a set number that exists, the field in the box erases the value you have entered and displays a blank. Enter the correct set number. The set will be printed on a local printer.

Print from Table of Contents - This selection allows you to select a chemical name from the Table of Contents name and send the record for that chemical to a local printer to be printed.

Save Set List - This selection allows you to save a set list to the C drive so that you can retrieve it at a later date. The system will supply the suffix, .SSL.

NOTE: Caution! If you save set lists to a drive other than C, the file must be copied to the current directory where the CD-ROM is loaded (e.g., C:\REL\) to be loaded. This process saves only the list - not the actual records retrieved. To save search results, use Export A Set.

Select Display Set - This selection allows you to display a set using the F6 key (F6=Display). See the F6=Display section below for more information.

Select New Data File - It is not recommended that you exercise this option. This software feature was designed for products that contain multiple text files on one disc. The TRI disc, however, contains only one text file - the Fact Sheets. If you press **Select New Data File** accidentally, press **<ESC>** to return to the **TRI Fact Sheets Main Menu**. You may have to repeat searches that were conducted earlier.

Temp Exit to DOS - This selection allows you to temporarily exit to DOS. Once you are at the DOS prompt, you can return to the **TRI Fact Sheets Main Menu** by typing **<EXIT>** and pressing **<ENTER>**.

3.2.6 F6=DISPLAY Key

F6=Display - This option displays Fact Sheets for the chemicals in the data set you have created (or the display set shown at the bottom of the screen). Working with the common name, Benzyl, that was used for the select process as an example, the Fact Sheet for BENZYL would be displayed. The illustration below shows the Fact Sheet for Benzyl, the chemical used as an example for the select process. Press **<CTRL>** and **<PGDN>** simultaneously to skip to the next record when displaying search results containing multiple records.

When you display data, you will notice a status line at the bottom of the screen, which highlights the Search Set, Display Set, and Workspace Remaining.

- Search Set - identifies which set is being searched; a Search Set = 0 means the entire database will be searched.
- Display Set - identifies which set will be displayed when you press F6.
- Workspace Remaining - identifies the amount of free storage space remaining.

```
                    TRI FACT SHEETS - KAware2 (tm) FullText V1.52
Search #1       Document #1 of 1                          Line-1 of 385
Content:  Common Name:    Benzyl Chloride
┌──────────────────────────────────────────────────────────────────────────┐
│ Common Name:     Benzyl Chloride                                         │
│ CAS Number:      100-44-7                                                │
│ DOT Number:      UN 1738                                                 │
│ Date:            August 1, 1987                                          │
│ ----------------------------------------                                 │
│                                                                          │
│ HAZARD SUMMARY                                                           │
│ *    Benzyl Chloride can affect you when breathed in.                    │
│ *    Because this is a MUTAGEN, handle it as a possible cancer           │
│      causing substance WITH EXTREME CAUTION.                             │
│ *    Benzyl Chloride may damage the developing fetus.                    │
│ *    Benzyl Chloride is a CORROSIVE CHEMICAL and contact can burn        │
│      the eyes.                                                           │
│ *    It is extremely irritating to the eyes, nose and throat.            │
│      Higher levels may cause a buildup of fluid in the lungs             │
│      (pulmonary edema). This can cause death.                            │
│                                                                          │
│ IDENTIFICATION                                                           │
└──────────────────────────────────────────────────────────────────────────┘
↓ ↑ /PgUp/PgDn=Move      ENTER=Action Menu      ESC=Backup     F2 thru F5=Exit
              Ctrl PgUp/PgDn=New Document    ♫=Posted Note    Ctrl ←→
```

This function key will display one of the following choices, depending on your selection from the Display Set option (F2 = Options): Search Set, Last Set Created, or Selected Set. Display Set = ???, at the bottom of the screen, identifies the set that is displayed when you press F6.

3.2.7 F7=GROUP ↓, F8=GROUP ↑, F9=GROUP √ Keys

F7=Group ↓, F8=Group ↑, F9=Group √ - These options are used to search for specific data when terms are listed through the F4 = Search option. Use these keys to group terms together or to identify a specific term to retrieve.

To mark the beginning of a range of terms, move the highlight bar with the up and down arrows to the first term to start the range and press **<F7>**. A down arrow will appear next to that item. Move the highlight bar to the last item in the range and press **<F8>**. An up arrow will appear next to that item. If you need to select items individually that are not related, highlight each individual desired item using the up and down arrows and press **<F9>**. A check mark will appear next to each item selected.

After defining the group search using the F7, F8, and F9 keys, press **<ENTER>** to begin the search. Each item contained in defined ranges (F7 and F8) or marked individually (F9) will be searched one at a time, and the results combined to form a search set.

3.2.8 F10=EXIT Key

F10=Exit - This option will exit you from the Fact Sheet option and return you to the **Data Base Selection Menu**

```
                    TRI FACT SHEETS - KAware2 (tm) FullText V1.52
F1 = Help      F2 = Options      F3 = Select       F4 = Search       F5 = Sets
                                  TABLE OF CONTENTS
                                  COMMON NAME
                                  CAS NUMBER
                                  TEXT
Set    #Found       (Page 1 of 1  GLOBAL INDEX

                  Are you sure you want to exit? (Y/N)

                  (Ctrl-PgUp/PgDn changes Set List page)
         SEARCH SET=0     DISPLAY SET=0     WORKSPACE REMAINING=256000
F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

Press **<Y>** to return to the **Data Base Selection Menu**. Press **<N>** to return the **TRI Fact Sheets Main Menu**.

3.2.9 ESC=BACKUP Key

ESC=Backup - This option will return you to the previous screen.

3.3 Conducting A Search For Fact Sheets

To assist you in searching for a specific Fact Sheet using the TRI CD-ROM Software, this section will describe how to conduct a search, using a simple example. You can refer to Sections 3.0 and 3.2, to review specific screens.

1. Press **<F3>** and decide which part of the file is most efficient to search. Highlight the choice and press **<ENTER>**.

2. Construct the search based on fields to be searched and press **<ENTER>**.

For this example, you need to locate a Fact Sheet about the chemical, Methylene, as you are concerned about health affects related to this chemical.

Once you have selected **TRI Fact Sheets** from the **DATA BASE SELECTION MENU**, you can begin your search for a specific Fact Sheet. First, you will need to determine what selection criteria you will use. For this example, we will use common name. Choose "Common Name" from the F3 = Select option and press **<ENTER>**. The Common Name Box is displayed. Suppose you are not sure how to spell the chemical, Methylene. Type **METH?** and press **<ENTER>**. A box appears showing you all the chemical names that start with the letters METH. Use the down arrow to highlight the correct chemical name, Methylene, and press **<ENTER>**. Five Fact Sheets about methylene or related chemicals can be displayed. Remember, because two chemicals have methylene in their names does not necessarily mean the two chemicals are comparable for health effects.

Now that you have created a set for the chemical, methylene, suppose you also would like to review material about methylene and health issues, specifically cancer concerns. You will need to create a set, retrieving data on cancer issues. Then, combine the two sets together to create a set that contains Fact Sheets on methylene and cancer issues. Let's explain how to create these sets. Select the "text" choice from the F3 = Select option pull-down menu. Type "cancer" and press **<ENTER>**. The TRI software will display that there are 323 Fact Sheets containing 996 occurrences of "cancer". You have now created two sets, which are displayed on the screen. Next, you will need to combine these two sets. Select the F5 = Sets option pull-down menu. Choose the Combine Sets selection and highlight the Combine With AND option and press **<ENTER>** and press **<ENTER>** again. Follow the instructions to combine sets 1 (methylene) and 2 (cancer). Give the combined set a name. This combined set becomes the third set on the screen.

3.4 Displaying Fact Sheets

To display the Fact Sheets about Methylene, select the F5 = Sets option and the pull-down menu appears. Highlight the Display A Set selection and press **<ENTER>**. Enter #1 to display the Fact Sheets for methylene. To display the combined set, showing methylene and cancer issues, follow the same instructions but enter #3 as the set to display. As you move through the text, the word, "Cancer", will be highlighted, to bring it to your attention. Use the options displayed at the bottom of the screen to browse through the information.

When you display a Fact Sheet, there are several additional options that exist to enhance the Fact Sheet. These options are displayed in the Action Menu and are accessed by pressing **<ENTER>** while you are reviewing the Fact Sheet.

```
                TRI FACT SHEETS - KAware2 (tm) FullText V1.52
Search #1      Document #3 of 3                        Line 1 of 412
Content:  Common Name:    Methylene Chloride
┌──────────────────────────────────────────────────────────────────────────┐
│ Common Name:    Methylene Chloride
│ CAS Number:     75-09-2
│ DOT Number:     UN 1593
│ Date:           May, 1989
│ ----------------------------------------
│
│ HAZARD SUMMARY
│ *    Methylene Chloride can affect you when breathed and by passing
│      through skin.
│ *    Methylene Chloride should be handled as a CARCINOGEN WITH
│      EXTREME CAUTION.
│ *    Exposure to high concentrations causes unconsciousness and
│      even death. Lower exposures can cause headaches, fatigue,
│      unsteadiness and "drunk" behavior.
│ *    Exposure can irritate the lungs, causing a buildup of fluid
│      (pulmonary edema), a medical emergency.
│ *    Long term exposure may damage the liver and brain.
└──────────────────────────────────────────────────────────────────────────┘
  ↑/↓/PgUp/PgDn=Move     ENTER=Action Menu     ESC=Backup     F2 thru F5=Exit
             Ctrl PgUp/PgDn=New Document    ♫=Posted Note    Ctrl ←/→
```

3.5 Action Menu

When you display a set, there are several options available to enhance the display of the data. These options are available in the Action Menu and are accessed by pressing **<ENTER>** while you are viewing the information.

```
                TRI FACT SHEETS - KAware2 (tm) FullText V1.52
Search #1      Document #3 of 3                        Line 1 of 412
Content:  Common Name:    Methylene Chloride

 Common Name:     Methylene Chloride
 CAS Number:      75-09-2
 DOT Number:      UN 1593                                SEARCH (alt-s)
 Date:            May, 1989                              BEGIN MARK (alt-m)
 ----------------------------------------                CANCEL MARK (esc)
                                                         PRINT BLOCK (alt-p)
 HAZARD SUMMARY                                          SAVE BLOCK (alt-d)
 *    Methylene Chloride can affect you when breat       NOTE PAD (alt-n)
      through skin.                                      BACK-UP (alt-b)
 *    Methylene Chloride should be handled as a CA       CHANGE DOCUMENT (alt-r)
      EXTREME CAUTION.                                   TOGGLE DISPLAY (alt-t)
 *    Exposure to high concentrations causes uncon
      even death. Lower exposures can cause headac
      unsteadiness and "drunk" behavior.
 *    Exposure can irritate the lungs, causing a buildup of fluid
      (pulmonary edema), a medical emergency.
 *    Long term exposure may damage the liver and brain.

 ↑/↓/PgUp/PgDn=Move     ENTER=Action Menu     ESC=Backup     F2 thru F5=Exit
            Ctrl PgUp/PgDn=New Document    ♫=Posted Note    Ctrl ←/→
```

To perform any of the selections in the **Action Menu**, use the up and down arrows to choose one of the selections. Once the highlighted bar is on the correct choice, press **<ENTER>**. You also can activate any of the selections in the **Action Menu** by pressing the keys displayed next to the choice. These keys are known as "Hot Keys". For example, to search, press the **<Alt>** and the **<s>** keys simultaneously to activate the search capability. For example, you may wish to search other Fact Sheets for a word that appears in the Fact Sheet you are viewing. Highlight the word you wish to search and press the **<ALT>** and the **<s>** keys simultaneously. A new search set containing Fact Sheets in which the highlighted word also appears will be created and displayed automatically. You can use these "Hot Keys" to activate a selection directly from the Fact Sheet without requesting the **Action Menu**. If you are in the **Action Menu** and do not wish to activate any of the selections, press **<ESC>** to leave the **Action Menu**.

3.6 Printing or Saving Fact Sheets

Once you have viewed the Fact Sheet information, you may want to keep it. You can use the print option to retain information. Access the F5 = Sets pull-down menu. Select the Print A Set choice. Enter the set number you would like to print to your local printer and press **<ENTER>**. The TRI software will display the message, "Now sending Set # to printer. ESCAPE cancels printing". If you press **<ESC>**, the screen will display the message, "Printed Set is Interrupted. Press any key to continue". You will leave the print option. If you do not press **<ESC>**, Fact Sheet information will be printed on your printer.

NOTE: Caution! Each Fact Sheet may be several pages in length.

3.7 Save Set List

There will be certain situations where you will create fact sheet sets that you would like to save in order to retrieve these sets at a later date. Set lists contain all the user defined sets. If you do not request a set to be saved, it will be erased when you exit from the TRI software and will have to be recreated. Saving a set avoids this problem. To save a set, access the F5 = Sets pull-down menu. Highlight the Save Set List option and press **<ENTER>**. The Save Set List Screen is displayed below:

```
                    TRI FACT SHEETS - KAware2 (tm) FullText V1.52
 F1 = Help      F2 = Options      F3 = Select       F4 = Search       F5 = Sets

 Set    #Found       (Page 1 of 1)

   1      3/3
   2      3/10            Save with what name on C
   3      3/13           (or include a drive spec)

                    (Ctrl-PgUp/PgDn changes Set List page)

          SEARCH SET=3     DISPLAY SET=3      WORKSPACE REMAINING=255997

 F6=Display   F7=Group ↓    F8=Group ↑    F9=Group √    F10=Exit    ESC=Backup
```

Make sure you save the correct set list. The name will appear on the screen. If this name or drive is incorrect, modify it and press **<ENTER>** to save the set. The suffix, .SSL, is provided to the set list file.

NOTE: It is recommended that set lists be saved to the C drive for easy retrieval. If you save your set lists to a drive other than the C drive, copy your set lists to the TRI directory on the C drive (c:\TRI).

3.8 Load Set List

Use the Load Set List option to retrieve a Fact Sheet set list that you have saved, as described in Section 3.7, Save Set List. Access the F5 = Sets pull-down menu. Highlight the Load Set List option and press **<ENTER>**. Enter the set number you want to retrieve and press **<ENTER>**. The set will appear on the screen and is available for access.

4.0 Toxics Release Inventory Data Base

This chapter describes in detail the steps used to search for data and display and print the results from these searches. It also illustrates techniques for designing your own reports, downloading data, and performing calculations on data sets that are of interest to you.

4.1 Choosing a Data File

The Toxics Release Inventory data base is produced on two CD-ROM discs. Disc One contains TRI submissions for 1987-1990, while Disc Two contains records from 1991-1995. Each of the discs can be used independently, or you can search the discs consecutively to identify longitudinal trends that have occurred since the inception of TRI. In addition to the data files, the CD-ROMs contain retrieval software that provides the capability to search for specific data on toxic chemicals released into the environment by manufacturing facilities. This software was transferred to your hard disk during the installation process.

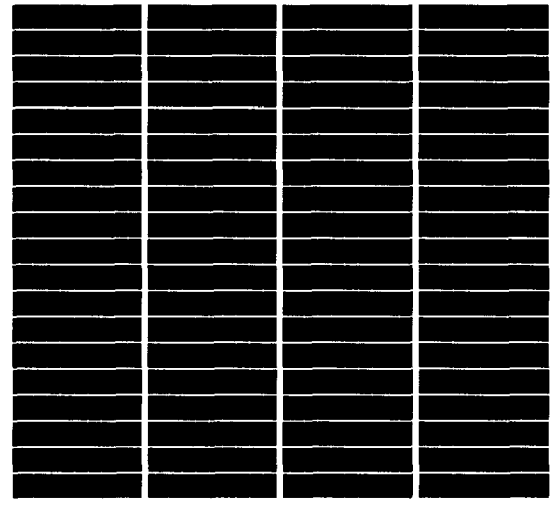
To begin using TRI, insert either Disc One or Disc Two into the CD-ROM drive. Change to the subdirectory where software for accessing that disc was installed. (The default directory, unless another directory name was chosen during the installation process, is called TRI.) Type **TRI <ENTER>** to retrieve the **DATA BASE SELECTION MENU**, shown below:

```
Toxics Release Inventory CD-ROM
United States Environmental Protection Agency

Highlight choice and press ENTER:

1 What is TRI?
2 Toxics Release Inventory 1987-90
3 Toxics Release Inventory 1991-95
4 Calculate Releases (KASTAT)
5 TRI Publications
6 Chemical Substance Fact Sheets
7 Quit TRI CD-ROM Disc

Choose #5, TRI Publications, for instructions on
viewing PDF information files on the CD-ROM disc
```

Using the cursor key, highlight **2 Toxics Release Inventory 1987-1990** or **3 Toxics Release Inventory 1991-1995** and press **<ENTER>**. (Most of the examples shown throughout this manual are based on the 1991-1995 TRI contained on Disc Two.)

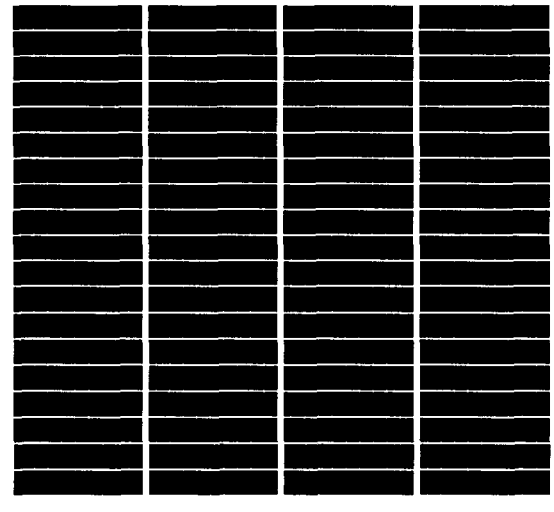
If the disc present in the CD-ROM drive does not match your selection, a message instructing you to change discs and press **<ENTER>** will appear on the screen.

Depending on your selection, one of two screens will be displayed:



```
                TRI
          RELEASES 1987-90
    ENVIRONMENTAL PROTECTION AGENCY

    For Information and Assistance:
 TOXIC RELEASE INVENTORY USER SUPPORT
            (202)260-1531

                                tm
       KAwareF RETRIEVAL SYSTEM
        copyright © 1985-91
    Knowledge Access International
       Mountain View, CA  94043

              PRESS ENTER TO CONTINUE
```

OR:



```
                TRI
          RELEASES 1991-95
    ENVIRONMENTAL PROTECTION AGENCY

    For Information and Assistance:
 TOXIC RELEASE INVENTORY USER SUPPORT
            (202)260-1531

                                tm
       KAwareF RETRIEVAL SYSTEM
        copyright © 1985-91
    Knowledge Access International
       Mountain View, CA  94043

              PRESS ENTER TO CONTINUE
```

Press **<ENTER>** and the **DATA FILES SCREEN** will be displayed:

```
KAwareF (tm) Retrieval System / Fielded V3.11E

 Select Data File or Press F4
RELEASES
TREATMNT

                                tm
   KAwareF RETRIEVAL SYSTEM
    copyright © 1985-91
Knowledge Access International
   Mountain View, CA  94043

F2 = Shell     F4 = New Path     F10 = Quit     ESC = Exit     ALT-C = Colors
```

The **DATA FILES SCREEN** lists the names of the two files, RELEASES and TREATMNT, that comprise the TRI:

> The RELEASES file is the most frequently-used file. This file provides comprehensive facility identification and chemical information. Use this file when searching for specific data on releases to the air, water, land, underground injection wells, publicly owned treatment works (POTWs, commonly called sewer plants) and offsite locations. The Releases file also describes pollution prevention methods, including waste reduction and recycling activities, employed by the facility. Examples of use could include searching for chemicals that were released in your town/community or into specific bodies of water like the Chesapeake Bay or Lake Erie. Searching RELEASES would also reveal transfers of chemical wastes to local POTWs or offsite commercial facilities by name (for example, transfers to ABC Waste Management Company) or by location (such as off-site locations in Houston, Texas).
>
> The TREATMNT file is used to search for data on waste treatment methods and efficiency, and waste minimization. It is generally more effective to conduct a search of the RELEASES file, then replicate the search in TREATMNT if waste treatment information is also desired.

To select a data file, use the cursor to highlight either RELEASES or TREATMNT and press **<ENTER>**. (Because it is the most commonly used file, many of the examples shown in this chapter are based on searching fields from the RELEASES file. Because the same software is used to retrieve data from both files, the same techniques can be used for searching the TREATMNT file, as well.)

The **DATA FILES SCREEN** displays several options, described below, at the bottom of the screen:

F2 = Shell - This option allows you to return to DOS. You would use this option to locate the drive and the directory where your data files are located. Once you are at the TRI directory prompt, you will see the message, "Type EXIT to return to KAwareF." Type **<EXIT>** and press **<ENTER>** to return to the TRI software.

F4 = New Path - This option allows you to change to the path and directory where data files are located. When this option is selected, the TRI Current Drive box, is displayed:

```
KAwareF (tm) Retrieval System / Fielded V3.11E

      Welcome to KAwareF
      Current Drive is:
         E:\TRIFIELD\
Select Data Files from which
Drive and Directory?  If you
are unsure where your files
are located,  you may press F2
and Shell to Dos to find them,
then type EXIT for KAwareF.
_

                          tm
   KAwareF RETRIEVAL SYSTEM
    copyright © 1985-91
Knowledge Access International
   Mountain View, CA  94043

F2 = Shell    F4 = New Path    F10 = Quit    ESC = Exit    ALT-C = Colors
```

The path for the TRI files on the CD-ROM is displayed, and the option to change the drive and directory by typing in new information is provided. If your system is properly configured to use the TRI data base, the path shown should contain the correct letter assigned to the drive where the TRI CD-ROM is located and the directory name TRIFIELD (e.g., E:\TRIFIELD\). If necessary, type the specified directory and file name and press **<ENTER>**.

If an incorrect path is entered, the message "Are you sure you want to exit ? (Y/N)" is displayed. If that happens, press **N <ENTER>** and reenter the correct path, substituting the correct letter for the CD-ROM drive based on your configuration.

F10 = Quit - For this option, a box is displayed:

```
KAwareF (tm) Retrieval System / Fielded V3.11E

      Welcome to KAwareF
      Current Drive is:
         E:\TRIFIELD\
Select Data Files from which
Drive and Directory?  If you
are unsure whe
are located,
and Shell to D
then type EXIT
_

                                  Are you sure you want to exit? (Y/N)

                                tm
   KAwareF RETRIEVAL SYSTEM
    copyright © 1985-91
Knowledge Access International
   Mountain View, CA  94043

F2 = Shell     F4 = New Path     F10 = Quit     ESC = Exit     ALT-C = Colors
```

Press **<Y>** to return to the **DATA BASE SELECTION MENU**. A similar screen containing the telephone number for TRI User Support will appear. Press **<ENTER>** to continue. Otherwise, press **<N>** to return to the **DATA FILES SCREEN**.

ESC = Exit - For this option, the ESC key performs the same function as the F10 key and will display the Exit TRI Data Base Screen (as described above). Proceed in the same manner as described for the F10 = Quit option.

ALT-C = Colors - When you press the Alt and C keys simultaneously, the screen will change from color to black and white. Press the keys again simultaneously to return the screen to color.

4.2 Overview of Conducting A Search

To conduct a search of TRI data, there are several simple steps. You will need to SELECT the data elements for the specific information you need, SEARCH for specific values related to those data elements, DISPLAY the data, and PRINT the data for later viewing or EXPORT (download) the data to other software formats. Use of the function keys for performing each of these operations is described in subsequent sections of this chapter.

NOTE: To obtain all the data for a single record, you must search both data files (RELEASES and TREATMNT), either by searching by the EPA submission number or using the same search criteria, if it is based on data elements common to both files. The EPA submission number is the unique record identifier that links records from the two files together. Common data elements that can be used to search both files include all facility information, chemical name and CAS number, and reporting year. To make the search easier, when you have completed the search with the first file, print the screen with the set list (using the print screen key on the keyboard). You can then use this print screen copy to duplicate the search for the other remaining file. The TRI software does not provide a way to merge data from the RELEASES and TREATMNT files to create a single, consolidated file. Instead, you can export the same records from each file in the same format and merge them using dBase or other software.

After you have selected a specific data file by pressing **<ENTER>**, the **TRI DATA FILES MAIN MENU** associated with the file that you have chosen is displayed automatically. If you selected the RELEASES file, the following **DATA FILES MAIN MENU** is displayed:

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets
                                 EPA SUBMISSION NUMBER
                                 TRI FACILITY ID
                                 REPORTING YEAR
                                 EPA REGION
Set   #Found   (Page 1 of 1)     FACILITY NAME
                                 FACILITY CITY
                                 FACILITY COUNTY
                                 FACILITY STATE
                                 FACILITY ZIP CODE
                                 FEDERAL STATUS
                                        (1 of 89)

                (Ctrl-PgUp/PgDn changes Set List page)

              SEARCH SET=0   OUTPUT SET=0   WORKSPACE: 256000

F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

If you have chosen the TREATMNT file, the following **DATA FILES MAIN MENU** will appear:

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets

                                EPA SUBMISSION NUMBER
                                TRI FACILITY ID
                                REPORTING YEAR
                                EPA REGION
Set    #Found    (Page 1 of 1)  FACILITY NAME
                                FACILITY CITY
                                FACILITY COUNTY
                                FACILITY STATE
                                FACILITY ZIP CODE
                                FEDERAL STATUS
                                        (1 of 17)

                 (Ctrl-PgUp/PgDn changes Set List page)

              SEARCH SET=0   OUTPUT SET=0   WORKSPACE: 256000

F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

4.3 Using Function Keys for Searching TRI

Several options in the form of function keys are displayed on the top and bottom of the screen. Some of these options have pull-down menus associated with the them.

NOTE: To remove a pull-down menu associated with a function key option, press the function key for that option and the pull-down menu will toggle off. Press the same function key to toggle the pull-down menu back on.

F1 = Help - This option provides context-sensitive help at any time during the program. The HELP option pull-down menu is displayed below:

```
                    TRI - KAwareF (tm) Fielded V3.11E
 F1 = Help     F2 = Options     F3 = Select      F4 = Search      F5 = Sets

 Function Keys
 Options
 Select
 Search
 Sets                e 1 of 1)
 Display
 Mailing Labels

                 (Ctrl-PgUp/PgDn changes Set List page)

                      SEARCH SET=0   OUTPUT SET=0

 F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

The HELP option includes assistance with function keys and their corresponding uses. The HELP option is available at any time while you are in the TRI Data Files by pressing the F1 key. Use the PgUp/PgDn keys to move within the HELP text. Press **<ESC>** to exit from HELP and return to the function that you were using.

F2 = Options - This option allows you to modify the default settings for the search, display, and output features of the retrieval software. The OPTIONS pull-down menu is displayed below:

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select      F4 = Search      F5 = Sets

                 Search Set:                  ENTIRE DATABASE (SET 0)
                 Group Search:                GROUP ONLY
                 Post Search:                 RETURN TO SELECT (F3)
                 Output Set:                  LAST SET CREATED
Set    #Found    Output Format:               RELEASES
                 Non-Label Print Format:      CONSECUTIVE PRINT
                 Output Order:                DEFAULT ORDER
                 Printout Title:              TRI
                 Printer Options
                 Save Current Settings

                 (Ctrl-PgUp/PgDn changes Set List page)

                 SEARCH SET=0    OUTPUT SET=0

F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

When the cursor is on a specific selection in the OPTIONS menu, press **<ENTER>** to toggle through all of the choices for that selection. To save your selections, use the down arrow to Save Current Settings. Press **<ENTER>**. The new settings will now become the default settings until they are changed again using the F2 key or for that session only using the F5 = Sets key.

F3 = Select and F4 = Search - These options are used to formulate and conduct a search. These keys are explained in greater detail in Section 4.4, Searching For TRI Data.

F5 = Sets - This option allows you to refine your search and presentation of the results by saving and printing the data. Options changed using the F5 key remain changed for that search session only, unlike settings that are changed then saved using the F2 = Options key. See Section 4.5, Refining the Search, for more information.

F6 = Display - This option allows you to view the results of a search record by record. It is described in more detail in Section 4.6, Displaying Search Results.

F7 = Group ↓, F8 = Group ↑ and F9 = Group √ - These options allow you to indicate specific terms from the index in order to refine your search. For a detailed description of how to use these options, see Section 4.4.1, Indexing of Data.

F10=Exit - If you press F10 at any time during a search session, a dialog box will appear with the message "Are you sure you want to exit? (Y/N)" Press **<Y>** to exit TRI and return to the **DATA BASE SELECTION MENU**. Press **<N>** to return to the **TRI DATA FILES MAIN MENU**.

ESC=Backup - This option will return you to the previous screen.

4.4 Searching For TRI Data

Searching for TRI data is the primary function for using the TRI system. Conducting a search is a two-step process. First, you need to determine which field or fields in the data base to search and then indicate the values of the fields that you identified. For example, you might decide to search by facility city. You would then indicate that "Boston," for example, is the city for which you are searching. The keys that you would use to accomplish these two steps are F3 = SELECT and F4 = SEARCH, respectively.

F3 = Select - This option displays all of the fields used to search for data in the TRI data files. The SELECT menu for the RELEASES file is displayed below:

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select      F4 = Search      F5 = Sets

                                EPA SUBMISSION NUMBER
                                TRI FACILITY ID
                                REPORTING YEAR
                                EPA REGION
Set    #Found    (Page 1 of 1)  FACILITY NAME
                                FACILITY CITY
                                FACILITY COUNTY
                                FACILITY STATE
                                FACILITY ZIP CODE
                                FEDERAL STATUS
                                            (1 of 89)

                (Ctrl-PgUp/PgDn changes Set List page)

                        SEARCH SET=0   OUTPUT SET=0

F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

The RELEASES SELECT option lists 89 fields that may be used to build search criteria. Searchable fields include the reporting year; facility name; facility location by zip code, city, county, or state, etc.; chemical name; release medium, i.e., air, water, etc.; amount of releases (in pounds); and many other fields. Use the PgDn key to scroll through all of the search field choices.

The **SELECT** menu for the TRI TREATMNT data file is displayed below:

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select      F4 = Search      F5 = Sets

                                 EPA SUBMISSION NUMBER
                                 TRI FACILITY ID
                                 REPORTING YEAR
                                 EPA REGION
Set   #Found   (Page 1 of 1)     FACILITY NAME
                                 FACILITY CITY
                                 FACILITY COUNTY
                                 FACILITY STATE
                                 FACILITY ZIP CODE
                                 FEDERAL STATUS
                                        (1 of 17)

                 (Ctrl-PgUp/PgDn changes Set List page)

                      SEARCH SET=0   OUTPUT SET=0

F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

There are a smaller number of fields to search for information with the TREATMNT file than with the RELEASES file. For the TREATMNT file, the SELECT option lists 17 fields for use in building search criteria. Identifying information about the facility, e.g., its name, address, etc., is included in both files (RELEASES and TREATMNT) for searching across files to obtain an entire record. Use the PgDn key to scroll through all of the search field choices.

F4 = Search - This option is directly related to the choices highlighted in the pull-down menus for the F3 = Select option. When you designate F3 = Select and choose a field, the TRI software will automatically present the corresponding pull-down menu for option F4 = Search. These two options are the core of the searching capabilities for the TRI Data Files. To leave this option, press <ESC>.

There are numerous fields for searching and various pull-down menus associated with specific search fields. Two sample fields are shown below to explain the searching capabilities of the TRI software. The first example appears in both the RELEASES and TREATMNT files:

> REPORTING YEAR - This choice provides the option to select from the reporting years for which data is available. Use the down arrow to identify reporting year on the pull down menu for F3 = Select and press **<ENTER>**. The F4 = Search menu listing all of the reporting years available on the disc in use will appear automatically (see screen below). Use the down arrow again to highlight 1994 as the year of choice (if you are using Disc Two) and press **<ENTER>**.

(Note that searching by reporting year is slower than most other searches because it will retrieve about 80,000 records for any given year if you are searching the entire data base. However, it is very useful if you are interested in calculating total annual releases by chemical substance or if you are using the reporting year to narrow an earlier search. See 4.5, Refining the Search.)

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select      F4 = Search      F5 = Sets
                                                 REPORTING YEAR
                                                 1991
                                                 1992
                                                 1993
                                                 1994
                                                 1995
Set    #Found    (Page 1 of 1)

                 (Ctrl-PgUp/PgDn changes Set List page)
                       SEARCH SET=0    OUTPUT SET=0
F6=Display   F7=Group ↓    F8=Group ↑    F9=Group √    F10=Exit    ESC=Backup
```

TREATMENT METHOD/SEQUENCE - This data element from the TREATMNT file provides a list of 76 types of treatment methods. To search by treatment method, highlight that data element on the pull down menu associated with the F3 = Select function and press **<ENTER>**. The F4 = Search menu listing 76 types of treatment methods will appear automatically. Use the PgDn key to scroll through the list of methods until you reach, as an example, Reuse As Fuel -- Other. Press **<ENTER>**.

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select      F4 = Search      F5 = Sets
                          TREATMENT METHOD/SEQUENCE
                 FLARE
                 FLARE
                 FLARE
                 CONDENSER
Set    #Found    SCRUBBER
                 ABSORBER
                 ELECTROSTATIC PRECIPITATOR
                 MECHANICAL SEPARATION
                 OTHER AIR EMISSION TREATMENT
                 BIOLOGICAL TREATMENT -- AEROBIC
                                    (1 of 76)

              (Ctrl-PgUp/PgDn changes Set List page)
                     SEARCH SET=0   OUTPUT SET=0
F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

NOTE: Some search tables display a search term or phrase more than once. Always choose the first occurrence, as the second and third occurrences will result in a null set.

4.4.1 Searching by Federal Status

Since the inception of TRI, government contractors operating Federal facilities have been required to submit reports. Until 1994, reporting by Federal agencies was strictly voluntary. Beginning in 1994, based on an executive order, Federal agencies were required submit TRI reports. As a result, for reporting year 1994 and beyond, both Federal agencies and government contractors were required in some instances to submit TRI reports for the same facilities. This change in reporting resulted in several important modifications to the 1987-1995 TRI CD-ROM.

For the first time, the CD-ROM data base can be searched by federal status, as outlined below, to determine whether a facility is a commercial facility, a government owned, contractor-operated (GOCO) facility, or a Federal agency. To properly understand the search results, you must first understand the contents of the TRI data base.

Prior to 1994, no particular distinction was made between TRI reports for commercial facilities and GOCO facilities. In 1994, a distinction became necessary when Federal agencies and government contractors were both required to submit TRI reports for GOCO facilities.

To avoid double-counting releases in these instances, a decision was made to include only Federal agency reports on the CD-ROM when reports were also received from government contractors for the same facility. Thus, even though EPA received reports from government contractors for GOCO facilities in 1994 and beyond, a search of the CD-ROM would reveal that it contains no reports submitted by government contractors for that year. Instead, only the Federal agencies' reports are included. (For information about obtaining government contractors reports, call TRI-US at (202) 260-1531.)

The years prior to 1994 when Federal agency reporting became mandatory are a different story. In fact, the CD-ROM contains reports for government contractors for all years prior to 1994. However, if you search 1987-1993 records looking for GOCO for the federal status, you may miss a few contractor-operated facilities. Records for GOCO facilities that reported in 1987-1993, <u>but not from 1994 on</u>, may still have 'commercial' as the federal status. (This is a very small number of records.)

To search the RELEASES file, press F3 and highlight Federal Status and press **<ENTER>**. When the F4=Search menu appears, you may either type **COMMERCIAL**, **FEDERAL**, or **GOCO** as the federal status you wish to search and press **<ENTER>**, or just press **<ENTER>**, If you press **<ENTER>,** the screen below will be displayed. Highlight the federal status of your choice and press **<ENTER>**.

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select      F4 = Search      F5 = Sets
                                                 FEDERAL STATUS
                                                COMMERCIAL
                                                FEDERAL
                                                GOCO
Set    #Found    (Page 1 of 1)

                 (Ctrl-PgUp/PgDn changes Set List page)
                        SEARCH SET=0    OUTPUT SET=0
F6=Display   F7=Group ↓    F8=Group ↑    F9=Group √    F10=Exit    ESC=Backup
```

To search the TREATMNT file, press F3 and highlight Federal Status and press **<ENTER>**. When the F4=Search menu appears, highlight the federal status of your choice and press **<ENTER>**.

4.4.2 Indexing Of Data

The two examples above illustrate searches where the value that you are seeking is selected from a table that displays a limited number of choices, for example, the years 1987-1990 or 1991-1995. However, there will also be instances when you will want to enter the value by which to search from the keyboard.

For many fields, the software allows you to type a term, partial term (followed by a question mark (?)), phrase, or boolean expression. This is possible because every word in the data base has been indexed. The example below illustrates this capability.

FACILITY NAME - To search by facility name, use the down arrow to highlight facility name on the F3 = Select menu and press **<ENTER>**. The pull down menu for F4 = Search appears:

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets
                                 FACILITY NAME
                          Enter a Term, Partial Term followed by a ?,
                          Phrase, or Boolean Expression (F1 for Help):
                          _
Set    #Found    (Page 1 of 1)

                 (Ctrl-PgUp/PgDn changes Set List page)
                       SEARCH SET=0    OUTPUT SET=0
F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

There are two methods to obtain the correct results when searching by facility name.
The first method requires you to know the exact name of the facility. Enter the complete name in the space provided. For example, type **Monsanto** and press **<ENTER>**. The TRI software will search for records where the individual word(s) in the facility name appear in the facility name field exactly the way you typed it (disregarding capitalization) and respond with a set number and the number of records matching the search criteria. If the value that you entered is not found, a box will appear that displays facility names that closely match the characters you have entered. Select the correct name and press **<ENTER>**.

NOTE: Fields are word-indexed only. If you enter a phrase, e.g., "General Electric", the TRI software searches for the words "General" and "Electric." **There is no proximity searching.** Therefore, a search for "General Electric" will retrieve records for "General Electric Co." and "General Dynamics Corp. Electric Boat Div." These two companies are unrelated. When entering multiple words for facility name, you may retrieve records that contain only one of the words in the facility, as well as records for facilities using the complete name. This may also result in retrieval of certain irrelevant records. For example, if you search for **Du Pont Waynesboro Plant**, you will receive all records with either Du Pont or Waynesboro in the facility name. To retrieve records for the Du Pont plant located in Waynesboro only, search first by Du Pont then Waynesboro, then combine the two searches using the boolean operator AND (see 4.5, Refining the Search).

The second method is to use the indexing capability within the TRI software. All fields in the TRI data base files are indexed. When searching for specific data, it is important to use the index feature to assist you. An example of a search where you will benefit from the use of the index is when you are looking for records where a term could consist of many variations. If you are unsure of the spelling of name, the indexing feature will allow you to browse through possible names. To illustrate this feature, suppose you would like to retrieve data on the facility name, "General Motors." First, you should search on the complete name, "General Motors." In addition, there are various abbreviations used for General Motors, such as GM, GMC or General Motors Company. Using the partial term option, type **<GM>** followed by a question mark (?) (e.g., GM?) and press **<ENTER>**. The message, "Searching" appears. A listing of facility names that start with the letters "GM" will appear.

This shows the index entries retrieved by GM? using the 1987-1990 disc:

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets
                                                 FACILITY NAME
                                                GM
                                                GM-BOC
                                                GM-DELCO
                                                GMB
Set   #Found   (Page 1 of 1)                    GMC
                                                GMC-CPC
  1   1790   FACILITY NAME: MONSANTO            GMC-DAYTON
                                                GMC-FLINT
                                                GMC-SAGINAW
                                                GMC-VANDALIA
                                                   (1 of 12)

                 (Ctrl-PgUp/PgDn changes Set List page)
              SEARCH SET=0   OUTPUT SET=1   WORKSPACE: 254210
F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

Here is the list retrieved by the same search term (GM?) for the 1991-1995 disc:

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets
                                                 FACILITY NAME
                                                GM
                                                GMC
                                                GMI
                                                GMP
Set   #Found   (Page 1 of 1)                    GMPT
                                                GMT
  1      993   FACILITY NAME: MONSANTO

                 (Ctrl-PgUp/PgDn changes Set List page)
                       SEARCH SET=0   OUTPUT SET=1
F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

Since there are many variations for the term GM, you can use the grouping capability in the TRI software to group together all the GM information you need. The function keys, F7, F8, and F9 are used to group terms together. You would use the grouping keys when you have decided what information is needed.

F7=Group ↓, F8=Group ↑, F9=Group √ - These options are used to search for specific data when you want to group searched terms together or to identify a specific term to retrieve.

To mark the beginning of a range of consecutive terms, move the highlight bar with the up and down arrows on the keyboard to the first term to start the range and press **<F7>**. A down arrow will appear next to the item. In our example of the GM terms for 1987-1990, mark *GM* with the F7 key. Move the highlight bar to the last item in the range that you want and press **<F8>**. An up arrow will appear next to that item. In our example, mark *GMC-Vandalia* with the F8 key. All the items contained between this range will be searched and listed individually or combined into sets. If you need to select items individually that are not listed consecutively, highlight each individual item using the up and down cursor keys and press **<F9>**. A check mark will appear next to each item selected.

When all items are marked, press **<ENTER>** to begin the search. If you want to expand your search, you can request information on the terms, General or Motor, using the question mark (?) as part of your search criteria. If you create more than one set of search criteria, you can combine these sets together to obtain a complete set. Combining sets is discussed in Section 4.5, Refining the Search.

4.5 Refining the Search

F5 = Sets - This option allows you to enhance the sets of data you create. The SETS pull-down menu is displayed below:

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets

                                                Change Output Set
                                                Change Search Set
                                                Combine Sets
Set   #Found   (Page 1 of 1)                    Delete a Set
                                                Delete All Sets
                                                Display a Set
  1      993   FACILITY NAME: MONSANTO          Export a Set
  2    21346   FACILITY STATE: CA               Load Set List
  3       20   COMBINE: MONSANTO IN CA          Print a Set
                                                Remove Empty Sets
                                                Save Set List
                                                Select New Data File
                                                Temp Exit to DOS

                (Ctrl-PgUp/PgDn changes Set List page)

                     SEARCH SET=0   OUTPUT SET=3

F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

There are various selections for this option which assist you in creating, printing, and displaying sets. Several examples are displayed below.

Change Output Set - This selection changes the output set number, that is, the set that will be displayed on the screen when you press F6=Display to display a record. The current output set number appears at the bottom of the screen (above the function key options). The set number entered must be zero or correspond to a set that you have already created. Zero (0) will cause the first record in the entire data base to be displayed when you press F6. The default setting for the output set number is the last set created (see 4.3, F2 = Options). The output set number changes automatically each time that you conduct a new search (unless it was changed from the default setting using the F2 or F5 key).

Change Search Set - This selection allows you to change the specific set number to assist in searching for information. If you do not specify a set, the TRI software will search the entire data base file (Search Set=0) . **Once the search set is changed, you must change it back to zero (0) if you wish to resume searching the entire database file**. Using the Change Search Set option saves time and memory space, as the software searches only records contained in the set identified as the search set, not the entire data base. Using the example described previously, you could search for the 1994 reporting year and Monsanto for the facility name. Search for the 1994 reporting year first. Press **<F5>**. Select *Change Search Sets* and press **<ENTER>**. Type the set number you want to search and press **<ENTER>**. Then search for Monsanto. The actual search often takes less time than using the *Combine Sets* option described below.

Combine Sets - This selection allows you to combine user-defined sets with additional conditions of AND, OR, or NOT. You would use this *Combine Sets* option **(Combine with OR)** to combine all the sets that were created in our example of GM in Section 4.4.1. To understand the difference between these three conditions, let us use an example for each condition. For purposes of this example, assume that you have already created one set containing records for facilities reporting releases of the chemical substance benzene and a second set for facilities of the Monsanto Corporation.

- Combine Set 1 (Benzene) AND Set 2 (Monsanto) - The TRI software will search the data base for records meeting both conditions; that is, Monsanto facilities that report releases of the chemical substance benzene.

- Combine Set 1 (Benzene) OR Set 2 (Monsanto) - The TRI software will search the data base and retrieve either records submitted by Monsanto regardless of the chemical substance or records for benzene releases regardless of the source of those releases. Records meeting both conditions would also be retrieved.

- Combine Set 1 (Benzene) but NOT Set 2 (Monsanto) - The TRI software will search the data base for records that meet the first condition but not the second condition. For example, this search would retrieve records identifying benzene releases except for benzene releases reported by Monsanto. **NOTE**: When combining with NOT, you will obtain different results depending on which condition (or set) you specify first.

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets


Set   #Found   (Page 1 of
                              Select an Operator:
  1      993   FACILITY NA    Combine With AND:
  2    21346   FACILITY ST    Combine With OR:
  3       20   COMBINE: MO    Combine With NOT:




                 (Ctrl-PgUp/PgDn changes Set List page)
                        SEARCH SET=0   OUTPUT SET=3
F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

Select the condition by moving the highlight bar and press **<ENTER>**. Set numbers are displayed on the search screen under the SET category. In the set box, type the first set number, press **<ENTER>**, type the second set number, press **<ENTER>**, etc., until all the set numbers to be combined have been identified. Press **<ENTER>** one additional time. You may give this newly created set a name. If you do not give the set a name, the software will generate a name automatically.

Delete a Set - This selection allows you to delete a specific set. Once you have requested a deletion, that set will be highlighted on the screen to indicate that it has been deleted.

Delete All Sets - This selection allows you to delete all sets containing search results at once. When you use this option, the system will ask you to confirm that you wish to delete all sets. If you answer YES by typing **<Y>** to the erasure of all sets, you will no longer be able to access any user-defined sets. All user-defined sets will have to be recreated. If you answer NO by typing **<N>**, no sets will be erased. (To save records for a particular search before deleting all sets, see Section 4.8.1, Exporting Sets.)

Display a Set - This selection allows you display any user-defined set.

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets

Set   #Found   (Page 1 of 1
                              Enter the number
 1      993   FACILITY NAM    of the set to be
 2    21346   FACILITY STA       used: _
 3       20   COMBINE: MON

                 (Ctrl-PgUp/PgDn changes Set List page)
                      SEARCH SET=0   OUTPUT SET=3
F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

Type the number of the user-defined set to be displayed and press **<ENTER>**. If the set number you have entered does not correspond with a set number displayed, the field in the box erases the value you have entered and displays a blank. Enter the correct set number.

Export a Set - This selection allows you to export a set to be used with other software. Six format options are provided: 1) comma-delimited; 2) fixed field; 3) dBase; 4) Lotus; 5) WP Merge; and 6) print-to-disk. (For a more detailed description of each of these formats and how to use the export function, see Section 4.8.1, Exporting Sets.) Enter the number of the set to be saved for exporting and the path and file name, if it is to be saved on the hard disk. If you wish to save the file to a drive other than the hard disk, enter the drive letter as well. A message will appear telling you the set has been saved.

Load Set List - This selection allows you to load a set list that you have previously saved. When you load a set list, the current set list will be erased unless it was previously saved. Enter the path and file name for the set list that you wish to load and press **<ENTER>**. The set list will appear on the screen just as though you had just finished searching the data base. (See Save Set List on the following page for more information.)

Print a Set - This selection allows you to print a set to a local printer. Enter the set number to be printed. You may print complete records or selected fields from the records in the set. You may also sort the records by designated data elements. (See Section 4.7, Printing Results, for more information.) If the set number you have entered does not correspond to an existing set number, the field in the box erases the value you have entered and displays a blank. Enter the correct set number. The set will be printed on a local printer.

Remove Empty Sets - This selection will rewrite your set list to remove sets that do not contain any records if, for example, you had conducted an unsuccessful search earlier.

Save Set List - This selection allows you to save a set list to any drive so that you can retrieve it at a later date.

It is important to distinguish between *Saving a Set List* and *Exporting a Set.* When you save a set list, you are preserving the search strategies and "record pointers" for earlier retrievals so you can build on them later (e.g., by combining them). When you export a set, you are manipulating the actual records retrieved as a result of conducting a search. Using the earlier example, if you conducted searches for the chemical benzene, then Monsanto facilities, and finally, combined those searches to create a third set, the three searches together would comprise a set list. If you saved the set list, you could later reload the set list and continue the session by creating a fourth set, then a fifth, etc. However, none of the actual TRI records representing benzene, Monsanto, etc., would be saved. To preserve the actual search results, that is the TRI records reported for benzene, Monsanto, etc. you would have to EXPORT each set one set at a time. See also Section 4.8, Downloading TRI Data.

Select New Data File - This selection returns you to the **SELECT DATA FILES SCREEN** to select another data file. Press **<ESC>** to return to the **DATA FILE MAIN MENU**. Exercising this option will cause you to lose any sets that you have already constructed.

Temp Exit to DOS - This selection allows you to temporarily exit to DOS. When you are finished using DOS and wish to return to TRI where you left off, type **<EXIT>** at the DOS prompt and press **<ENTER>**. (NOTE: This selection appears on the screen if Temp Exit to DOS was selected during the installation process.)

4.6 Displaying Search Results

After you have conducted a search, a summary of the search results (including the set number, the number of records found, and a description or name of the search) will appear on the screen. You will notice a status line at the bottom of the screen, which highlights the Search Set, Output Set, and Workspace.

- Search Set - identifies which set is being searched. Search Set = 0 (the default setting) means that the entire database will be searched. It may be changed to narrow a search using the Change Search Set option on the F5 = Sets menu, as outlined in Section 4.5. Remember, if you wish to resume searching the entire data base, you must change the search set back to zero.

- Output Set - identifies which set will be displayed when you press the F6 key. The number of the output set changes automatically each time you conduct a new search, or you may change it to review an earlier search using the Change Output Set option on the F5 = Sets menu, as outlined in Section 4.5.

- Workspace - identifies the amount of free space (in bytes) available for storing search results (without saving sets) during a search session.

If you are satisfied with the search results after viewing the summary, you are ready to view the actual records that resulted from it. Press F6 = Display. Or, if you wish to display results of an earlier search, select F5 = Sets option and the pull-down menu appears. Highlight the Display a Set selection and press **<ENTER>**. Enter the set number and press **<ENTER>**. To view results of an earlier example, enter the set number for facility name = Monsanto.

The third line of the **RECORD DISPLAY SCREEN** (under the function keys F1, F2, etc.) provides the name of the set you are currently reviewing. Directly below it, in the text box, the first record in the set is displayed. The first line indicates the number of the record you are viewing within the total records in that set as well as the line number in the record upon which the cursor is presently resting. These numbers will be helpful as you navigate through the display.

Each TRI record from the RELEASES file and the TREATMNT file requires 18 and 5 screens, respectively, to display in their entirety. Each line of data is preceded by a field name that identifies the information reported. In many instances, the field name is abbreviated. For instance, Facility D & B represents the Dun & Bradstreet Number assigned to the reporting facility. A complete list of the data elements is provided as an appendix to this document and in the Quick Reference Guide distributed with the TRI CD-ROM discs. In addition, definitions for each of the fields are contained on each disc in a file called FIELDS.TRI.

4.6.1 Reviewing Displayed Data

There are several other options to assist you in reviewing records. These options are provided at the bottom of the screen when a record is displayed. These options are:

- 0-9=Speed - This option allows you to control the speed of reviewing all the records in a set. Type 0 (stop) to 9 (fast) to scroll through the records. You will notice that the records will scroll at different speeds, depending on the number value that you have chosen. Type <0> to stop all scrolling.

- ← →=Change Record - This option allows you to scroll down through the records in a set by using the left arrow or to scroll up by using the right arrow.

- ↓↑=Scroll Record - This option allows you to scroll through all the data within the record displayed on the screen by using the down arrow to scroll down and the up arrow to scroll up through the record.

4.6.2 Sorting of Data

Sorting data into the order in which you wish to view, print, or download records may be a very important step in making the data more useful to you. For example, you may wish to list reports in descending order by the amount of chemicals that are released into the environment. Or, you may wish to rank all reports submitted for your locality by company name, then by the name of the chemical reported. TRI is very flexible in allowing you to order the output according your criteria.

The example we will use here will walk you through the steps for sorting data when you are preparing to display a set using the Display a Set option on the F5 = Sets pull-down menu. The same sequence of screens appear when you are printing and downloading records or using the Action Menu described in the following section for viewing records.

Select Display a Set using the pull-down menu for F5 = Sets. In response to the screen prompt, enter the number of the set that you would like to sort and press **<ENTER>**. A screen will appear asking you to choose from among 10 options the order in which you would like to have the data displayed. Choosing the first option, Display by Default Order, will result in records sorted by their TRI submission number. (The TRI submission number is a unique identifier assigned to each report as it is received at EPA's EPCRA Reporting Center. It is comprised of 15 alphanumeric characters ending with the state abbreviation.) You may also choose the facility name, its location, the chemical name, or the volume of releases. To make a choice, position the highlight bar over one of the options allowed and press **<ENTER>**.

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select      F4 = Search      F5 = Sets

Set    #Found    Display by Default Order
                 Display by FACILITY NAME
  1       993    Display by FACILITY CITY
  2     21346    Display by FACILITY COUNTY
  3        20    Display by FACILITY STATE
                 Display by FACILITY ZIP CODE
                 Display by SUBSTANCE NAME
                 Display by SUM ALL RELEASES TO ENVIRONMENT
                 Display by SUM POTW AND OFFSITE TRANSFERS
                 Display by User Defined Rank

                 (Ctrl-PgUp/PgDn changes Set List page)

                      SEARCH SET=0   OUTPUT SET=3

F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

The last option on the list, Display By User Defined Rank, offers the greatest flexibility of all. To demonstrate this alternative, position the highlight bar over User Defined Rank and press **<ENTER>.** A list of the field names will be displayed. For each field that you wish to sort by, position the highlight bar over the field name and press **<ENTER>**. Type in a number representing the order by which you wish to sort. For example, if you want to sort first by chemical name (Chem Name) then by the total amount of releases into the environment (Sum All Releases), type 1 next to Chem Name and 2 next to Sum All Releases. To sort Sum All Releases in descending order (highest releases to lowest releases), type 1 next to Chem Name and -2 next to Sum All Releases. Finally, use the up arrow to position the highlight bar over End Rank Selections at the top of the list of data elements and press **<ENTER>**. The TRI system will then sort the data.

Once you have sorted the data, you can select to view:

- RELEASES (all the fields in the record including blanks)
- RELEASES - BRIEF (all fields in the record containing data)
- USER SELECTED OUTPUT (gives you a list of fields that can be printed or viewed. Using the cursor, highlight the first field that you would like to view and press **<ENTER>**. Press **<ENTER>** to accept the number shown, or enter a new number and press **<ENTER>**. Repeat this step for each field you would like to include, incrementing the number assigned to each field (1, 2, 3, etc.). When you have finished selecting fields, highlight End Output Selections at the top of the field list and press **<ENTER>**.)

Make your selection and press **<ENTER>**.

4.6.3 Action Menu

When you display a set, there are several options available to enhance the display of the data. These options are available using the **ACTION MENU** which is accessed by pressing **<ENTER>** while you are viewing a TRI record on the screen.

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets
                         Set 4: COMBINE: 2 AND 3
RECORD #1 OF 133                                              LINE 1 of 243
EPA SUBMISSION NO   1394080028032WY
TRI FACILITY ID     82401HLLYS300FI
REPORTING YEAR      1994
EPA
FACI
FACI   Add User Input to Current Record (press Alt-U during display)
FACI   Jump to Record by Number         (press Alt-J during display)
FACI   Print Current Record             (press Alt-P during display)
FACI   Re-Rank Current Set              (press Alt-R during display)
FACI   New Display Form                 (press Alt-F during display)
PUBL
FACI
FIPS CODE           56043
FEDERAL FLAG        COMMERCIAL
ASSIGNED AGENCY
FEDERAL FACILITY    OTHERWISE
CAS NO              7664-41-7
CHEM NAME           AMMONIA
0-9=Speed     ← →=Change Records     ↑ ↓=Scroll Record     ENTER=Action Menu
```

To perform any of the selections on the **ACTION MENU**, use the up and down arrows to choose one of the selections. Once the highlighted bar is on the correct choice, press **<ENTER>**. You also can activate any of the selections in the **ACTION MENU** by pressing the keys displayed next to the choice. These keys are known as "hot keys." For example, to search, press the **<Alt>** and the **<J>** keys simultaneously to jump to another record. You can use these hot keys to activate a selection directly from the record display without requesting the **ACTION MENU**. If you are using the **ACTION MENU** and do not wish to activate any of the selections, press **<ESC>** to leave the **ACTION MENU**.

Add User Input to Current Record - This option will allow you to enter two 40 character fields to the record you are viewing. When you later display, print, or export a set, you can mark the user-defined fields to be included in the output.

Jump to Record by Number - If you wish to jump to another record within the set, highlight that choice on the Action Menu and press **<ENTER>** or use the "shortcut" keys by pressing the **<ALT>** and **<J>** key simultaneously. The Jump Record box appears:

```
                    TRI - KAwareF (tm) Fielded V3.11E
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets
                    Set 6: COMBINE: 1994 LA FACILITIES
RECORD #1 OF 2008                                              LINE 1 of 242
EPA SUBMISSION NO   1394080001314LA
TRI FACILITY ID     70121SZRCC803JE
REPORTING YEAR      1994
EPA REGION          6
FACILITY COVERAGE   A--
FACILITY NAME       SAZ
FACILITY ADDRESS    803   Jump to what record number?
FACILITY CITY       JEF            _
FACILITY STATE      LA
FACILITY ZIP CODE   701
PUBL CONTACT/PHONE  STANLEY SCHWAM/504-841-3410
FACILITY COUNTY     JEFFERSON
FIPS CODE           22051
FEDERAL FLAG        COMMERCIAL
ASSIGNED AGENCY
FEDERAL FACILITY    OTHERWISE
CAS NO              7647-01-0
CHEM NAME           HYDROCHLORIC ACID
0-9=Speed     ← →=Change Records     ↑ ↓=Scroll Record     ENTER=Action Menu
```

Type in the number of the record in the set that you would like to review. As an example, type **<98>** and press **<ENTER>**. The 98th record in the search set will be displayed.

Print Current Record - The current record will print on your local printer.

Re-Rank Current Set - A pop-up menu allows you to choose any one of ten options for changing the order of the records displayed to your screen.

New Display Form - Allows you to choose one of three formats for displaying data. You can choose from RELEASES (all fields, including blanks), RELEASES - BRIEF (omits blank fields), and USER DEFINED OUTPUT (allows you to choose which fields to display).

4.7 Printing Results

You can print a single record or a group of records (sets). Make sure you have a local printer attached to your computer that is turned on and ready to begin printing.

To print a single record, press <ENTER> to display the **ACTION MENU** while viewing a record on the screen. Use the down arrow to select *Print Current Record* and press **<ENTER>**. The current record will print on your local printer.

To print a set of records, use the selections from the F5 = Sets option. Press **<F5>**. Use the down arrow to choose *Print a Set* and press **<ENTER>**. Type the number of the set. Using the example in this text, type the number of one of the sets that you have created and press **<ENTER>**. Indicate the order in which data should appear. When the information appears, use the down arrow to choose one of the three formats and press **<ENTER>**:

- RELEASES (all the fields in the record including blanks)
- RELEASES - BRIEF (all fields in the record containing data)
- USER SELECTED OUTPUT (gives you a list of fields that can be printed. Using the cursor, highlight the first field that you would like to print and press **<ENTER>**. Press **<ENTER>** to accept the number shown, or enter a new number and press **<ENTER>**. Repeat this step for each field you would like to include, incrementing the number assigned to each field (1, 2, 3, etc.). When you have finished selecting desired fields, highlight End Output Selections at the top of the field list and press **<ENTER>**.

Use the down arrow to choose Consecutive Print or One Page At a Time. Check your printer and press **<ENTER>** when you are ready to print. Consecutive Print will result in one record printing after another, without regard to page breaks. Selection of One Page at a Time will cause each record to begin printing at the top of a new page.

4.8 Downloading from TRI

If you would like to download from TRI to reformat data or use it with another software program, you can use one of two methods provided by the TRI software. One way is to EXPORT your sets, using the Export A Set option provided on the F5 = Sets pull-down menu. You can export sets into any one of several widely used formats, including comma delimited (ASCII) format, fixed field, dBase (.dbf), or Lotus (.wks), or WP Merge (.sec) formats. You can also export data exactly as it appears on the computer screen (print to disk). Each of these formats are described in greater detail below (see 4.8.1).

In addition, the TRI CD-ROM provides a special capability for downloading data according to your particular specifications using a special feature called the Form Designer. (See Section 4.8.2.) Note that you must use the Form Designer, not Export a Set, when downloading data elements from records containing repeating fields. For example, a single facility may report up to six SIC codes representing industries in which it participates. In order to capture all six possible occurrences (not just the first), use the Form Designer and designate all six SIC Codes for inclusion in your report (see Section 4.8.2).

4.8.1 Exporting Sets

We will use the same set example that was used for printing (please refer to Section 4.7, Printing Results to review the example). Press **<F5>** to retrieve the pull-down menu for the F5 = SETS option. Use the down arrow to choose *Export a Set* and press **<ENTER>**. Type the number of one the sets created as an example set and press **<ENTER>**.

The next screen allows you to choose one of following five formats for downloading data:

Comma-Delimited - This format is the most flexible for using with a variety of other software. Data is saved in one long string. Text in each field is enclosed in quotes and fields are separated by comas (for example, "ABC Manufacturing Facility","1065 Davidson Pike","Andersonville","IN""78856-9976","","","Benzene"). The system automatically adds the suffix .csv to the filename that you specify when you save data.

Fixed-Field - Data is saved in one long string. Each field begins in the same position in each record. Unlike comma-delimited format, fields appear in the export set exactly as they are in the TRI record, including blanks at the end of the field (for example, ABC Manufacturing Company 1065 Davidson Pike Andersonville IN 78856-9976 Benzene). The system automatically adds the suffix .fff to the filename that you specify when you save data.

dBase - Data is saved in the data base format required by dBase IV programs. (Files created using the dBase export format do not always work with earlier versions of dBase. In order to use dBase III to manipulate data from TRI, create a new format using the Form designer and export the form to be used in dBase III.) The system automatically adds the suffix .dbf to the file name that you specify when you save data. In order to use the Calculate Releases feature, you must first create and export a file in dBase format (see Chapter Five).

Lotus - Data is saved in the spreadsheet format required by Lotus 1-2-3 programs. The system automatically adds the suffix .wks to the file name that you specify when you save data.

WP Merge - This format saves data in the format used by Word Perfect for use as a secondary file for printing form letters, etc. Records contain the codes required by Word Perfect. The system automatically adds the suffix .sec to the file name that you specify when you save the data.

Print to Disk - Data is saved on your disk exactly as it would appear on your screen, including field tags and with each data element beginning on a new line. The system automatically adds the suffix .p2d to the filename that you specify when you save data. An example of the print to disk format is shown below:

FACILITY NAME	ABC Manufacturing Company
FACILITY STREET	1065 Davidson Pike
FACILITY CITY	Andersonville
FACILITY STATE	IN
FACILITY ZIP	78856-9976
PUBL CONTACT/PHONE	
CAS NO	
CHEM NAME	Benzene

After you choose the output format from among the options described above, a screen allowing you to choose the order for sorting the records will appear. Choose one of the ten options allowed. (See 4.6.2 for a more detailed description of the sort options.)

A menu will appear allowing you to choose from among three options:

- RELEASES - Use this option with caution. It saves all fields in the record, including blank fields. The resulting file may be very large, depending on the data format that you have chosen. (For example, a sample file containing 100 RELEASES records in dBase format required 717,981 bytes of disk space.)

- RELEASES (BRIEF) - This format is often preferred for screen displays and the print to disk export option. This choice is not recommended for downloading. It saves only those fields containing data, causing records to vary in content and length from one to another. This may cause a problem later if you try to import the downloaded data into other software.

- USER SELECTED OUTPUT - This option allows you to choose which fields to download. Press **<ENTER>** to display a list of all fields. Using the cursor, highlight the first field that you would like to print and press **<ENTER>**. Press **<ENTER>** to accept the number shown, or enter a new number and press **<ENTER>**. Repeat this step for each field you would like to include, incrementing the number assigned to each field (1, 2, 3, etc.). When you have finished selecting desired fields, highlight End Output Selections at the top of the field list and press **<ENTER>**.

Type the name of the file to export and the path, if it is different than the path currently displayed. As an example, type **<94FILE>** and press **<ENTER>**. The system will add a suffix to the file name based on the format you have chosen for the data.

4.8.2 Form Designer

As described in earlier sections, the TRI software provides two standardized formats for printing and exporting data called RELEASES and RELEASES (BRIEF). You can also create a User Defined Format at the time you are printing or exporting the set. In addition, there is a fourth option which allows you to create your own customized format and save that format to use again and again. This option is called the Form Designer.

It is essential that you use the Form Designer when you wish to download partial records that include fields that occur more than once in a single record. Examples of fields that may occur more than once in a single record are the Standard Industrial Classification (SIC) and SIC Code, both of which may be present up to six times in each record. (To identify other fields with multiple occurrences, refer to the list of fields in the back of the Quick Reference Guide.) If you are downloading complete records, you can use the RELEASES option, but it may require a lot of disk space. If records containing repeating fields such as SIC are downloaded using the RELEASES (BRIEF) option or a User Defined Format (which is different from the Form Designer explained in this section), each record is a different length. When you try to import them into other software, you will find that additional occurrences of fields like the SIC code displace other data, resulting in fields containing the wrong data. The Form Designer prevents this from occurring by saving space for the additional occurrences in each record, regardless of whether or not data are actually present.

If you plan to download data that requires use of the Form Designer, design the form first, before performing the search. (If you have already performed your search, you can use F5 = Sets to Save Set List. After creating the form, use Load Set List to recreate your search in one easy step.) As you create a new form, you will give it a name of your choosing. After you have finished designing the form and exit the Form Designer, you will search the RELEASES or TREATMNT file to create the set that you wish to download. Then, press F5 = SETS, choose Export A Set, and follow the instructions in Section 4.8.1. This time, the form that you created using the Form Designer will appear with the other report formats.

Before you begin to use the Form Designer, you should consider first how you wish the data to appear, as you would when you create a report. It is especially important that you decide which fields the report should include and in what order you would like them listed. You may find it helpful to layout an example of the form first, before actually creating it on the computer.

To illustrate how to use the Form Designer, we will create a Form called "Toxic Releases by Facility and Industry." It will list, for every record in the search set we designate, the name of the reporting facility, the chemical released, the sum of all releases into the environment, and up to six SICs representing industries in which that facility is involved.

In order to use the Form Designer, you must exit the TRI CD-ROM. To exit, press F10. Enter **<Y>** to confirm that you wish to exit the system. Use the down arrow to highlight Quit TRI CD-ROM Disc on the **DATA BASE SELECTION MENU** and press **<ENTER>**. If prompted, type the exit password and press **<ENTER>.**

At the DOS prompt, type **KADFDES** @ followed by the complete path and the name of the file from which you wish to download data. For example, if you are using the Releases file that was installed in a directory called TRI, it should look like this:

C:\TRI>**KADFDES @Releases <ENTER>**

If the form you are designing will contain data from the TREATMNT file and is installed, for example, in a directory called TRI, enter:

C:\TRI>**KADFDES @Treatmnt <ENTER>**

The initial screen for the Form Designer will appear:

```
Version 1.30          KAware Disk Publisher/Fielded                    2:49 pm
╔═══════════════════════════════════════════════════════════════════════════╗
║                    KADF Form Designer for file releases                 ╒
╒═══ Form List ═══╗                                                       ╒
╒  1 RELEASES      ╒═══════════════════════════════════════╗              ╒
╒  2 RELEASES (BRIEF) ╒        Form Information            ╒              ╒
╒═══════════════════╒═══════════════════════════════════════╒              ╒
          ╒      Form Number: 1                            ╒              ╒
          ╒        Form Name: RELEASES                     ╒              ╒
          ╒        Form Type: P                            ╒              ╒
          ╒       Page Width: 76          Page Length: 60  ╒              ╒
          ╒    Maximum Lines:                              ╒              ╒
          ╒═══════════════════════════════════════════════╒              ╒
╒═══════════════════════════════════════════════════════════════════════════╒
Use cursor pad to choose form, then select operation.
  F1=Help   F2=Delete  F4=Edit  F5=Add  F6=Insert  F7=Copy  F8=Move   ESC=Menu
```

The first time that you use the Form Designer, only the RELEASES and RELEASES (BRIEF) or TREATMNT and TREATMNT (BRIEF) forms will be listed in the text box called the **FORM LIST** in the upper left-hand corner of the screen. After you have used the Form Designer to create your own reports, the names of the forms that you created will be added to the list.

Press **<F5>** to add a new form. A new window will appear in the center of the screen (see below). Following the step-by-step directions provided, you will Specify Form Information, Design Page Detail, Preview Form (if desired), and finally, Save Changes.

```
Version 1.30          KAware Disk Publisher/Fielded                    2:50 pm
╔═══════════════════════════════════════════════════════════════════════════╗
║                     KADF Form Designer for file releases                ╒
╒                                                                           ╒
╒          ╔═══════════════════════════════════════════════════════╗        ╒
╒          ╒                     Form Information                  ╒        ╒
╒          ╒                                                       ╒        ╒
╒          ╒     Form Number: 3                                    ╒        ╒
╒          ╒       Form Name:                                      ╒        ╒
╒          ╒       Form Type: P                                    ╒        ╒
╒          ╒      Page Width: 76          Page Length: 60          ╒        ╒
╒          ╒  Maximum Lines:                                       ╒        ╒
╒          ╒                 ╔═══════════════════╗                 ╒        ╒
╒          ╒                 ╒ Specify Form Information ╒          ╒        ╒
╒          ╒                 ╒ Design Page Header      ╒          ╒        ╒
╒          ╒                 ╒ Design Page Detail      ╒          ╒        ╒
╒          ╒                 ╒ Preview Form            ╒          ╒        ╒
╒          ╒                 ╒ Display Form Design     ╒          ╒        ╒
╒          ╒                 ╒ Print Form Design       ╒          ╒        ╒
╒          ╒                 ╒ Save Changes            ╒          ╒        ╒
╒          ╒                 ╚═══════════════════╝                 ╒        ╒
╒          ╒═══════════════════════════════════════════════════════╒        ╒
╒                                                                           ╒
╒                                                                           ╒
╒                                                                           
```

```
Version 1.30          KAware Disk Publisher/Fielded                    2:52 pm
┌──────────────────────────────────────────────────────────────────────────┐
│                     KADF Form Designer for file releases                 │
│                                                                          │
│          ┌──────────────────────────────────────────────────────────┐   │
│          │                      Form Information                    │   │
│          │                                                          │   │
│          │      Form Number: 3                                      │   │
│          │        Form Name: Toxic Releases by Facility and Industry│   │
│          │        Form Type: P                                      │   │
│          │       Page Width: 76            Page Length: 60          │   │
│          │   Maximum Lines:                                         │   │
│          │                                                          │   │
│          │                                                          │   │
│          │                                                          
```

Using the down arrow, highlight Design Page Detail and press **<ENTER>**. A new screen, **PAGE DETAIL FOR FORM**, will appear. Press **<ENTER>** and the **PAGE DETAIL LIST** window in the upper left will be replaced by the **DATA FIELD** menu in the lower right. (See the example below.)

The **DATA FIELD** menu lists a mnemonic tag for each of the data elements in the TRI file that you are using. In order to determine the meaning of a mnemonic tag, you must select it by highlighting it and pressing **<ENTER>** twice. The complete field name will then appear as the Item Label. If, after viewing the complete field name, you wish to choose another field instead, pres **ESC** and **<ENTER>**. The **DATA FIELD** menu will reappear, allowing you to make another selection. (See Appendix A for a description of each of the fields in the RELEASES and TREATMNT files.)

```
Version 1.30          KAware Disk Publisher/Fielded                    2:55 pm
╔═══════════════════════════════════════════════════════════════════════════╗
║                    KADF Form Designer for file releases                   ╒
╒                                                                           ╒
╒      ╔═══════════════════════════════════════════════════════════╗        ╒
╒      ╒                    Page Detail for form                   ╒        ╒
╒      ╒                                                           ╒        ╒
╒      ╒        Item Number: 1                                     ╒        ╒
╒      ╒         Data Field: SUBN                                  ╒        ╒
╒      ╒         Item Label:                                       ╒        ╒
╒      ╒                                                           ╒ Data Field ╒
╒      ╒          Label Row: +1          Label Column:             ╒  1 A1 SUBN ╒
╒      ╒           Data Row: +0           Data Column:             ╒  2 A1 TRIN ╒
╒      ╒         Data Width:             Maximum Lines:            ╒  3 T6 YR   ╒
╒      ╒                                                           ╒  4 T3 EPAR ╒
╒      ╒  Data Justification: L                                    ╒  5 T5 FCOV ╒
╒      ╒           Wrap Rule: D           Wrap Column:             ╒  6 A1 FNM  ╒
╒      ╒   Missing Data Rule: O          Missing Value:            ╒  7 A1 FAD  ╒
╒      ╒                                                           ╒  8 A2 FCTY ╒
╒      ╒ First Array Element:       Last Array Element:            ╒  9 A2 FCO  ╒
╒      ╒  Array Display Rule:          Array Separator:            ╒ 10 A2 FZIP ╒
╒      ╒═══════════════════════════════════════════════════════════╒           ╒
╒                                                                           ╒
╚═══════════════════════════════════════════════════════════════════════════╝
Select the field used for this item.  Use cursor pad to scroll choices.
    F1=Help   Tab=Prev   Enter=Next   F10=Edit Finished   ESC=Cancel Edit
```

For our example, the first data element we wish to choose is facility name (FNM). To select it, highlight number 6, FNM, and press **<ENTER>** twice..

The mnemonic tag (FMN) will appear on the screen next to Data Field and Facility Name will be shown as the Item Label. Press **<ENTER>** to accept the Item Label as shown or edit it as you would like it to appear on your report. The screen below shows the Item Label after it was changed from Facility Name to Reporting Facility.

```
Version 1.30          KAware Disk Publisher/Fielded                    2:56 pm
KADF Form Designer for file releases

                    Page Detail for form

          Item Number: 1
           Data Field: FNM
          Item Label: Reporting Facility

            Label Row: +1          Label Column: 1
             Data Row: +0           Data Column: +2
           Data Width: 60         Maximum Lines:

   Data Justification: L
            Wrap Rule: D            Wrap Column:
    Missing Data Rule: O          Missing Value:

  First Array Element:       Last Array Element:
   Array Display Rule:          Array Separator:

Enter the text to use for labeling this item.
    F1=Help   Tab=Prev   Enter=Next   F10=Edit Finished   ESC=Cancel Edit
```

Press **<ENTER>** repeatedly to accept default settings for the row, column, etc. until the cursor is positioned on Missing Data Rule. A pull-down menu highlighting several choices for Missing Data Rule will appear, as shown below:

```
Version 1.30          KAware Disk Publisher/Fielded                    2:56 pm
KADF Form Designer for file releases

                    Page Detail for form

          Item Number: 1
           Data Field: FNM
           Item Label: Facility Name

            Label Row: +1          Label Column: 1
             Data Row: +0           Data Column: +2
           Data Width: 60         Maximum Lines:

   Data Justification: L         Missing Data Rule
            Wrap Rule: D         L  Label + value
    Missing Data Rule: L         V  Value only
                                 B  Blank
  First Array Element:       Las O  Omit
   Array Display Rule:

Select the missing data rule of this field.  Use cursor pad to scroll choices.
    F1=Help   Tab=Prev   Enter=Next   F10=Edit Finished   ESC=Cancel Edit
```

Use the up arrow to move the cursor from O (Omit) to L (Label + value) and press **<ENTER>**. Press **<ENTER>** again to pass Missing Value. That completes the detailed description for Facility Name.

Press **<F5>** to begin describing the second data element that you would like to appear on your report. (Notice that the Item Number changes each time you press **<F5>** to identify a new data element.) To continue with our example, select number 18, NAME, representing the chemical. Follow the steps outlined above. When finished, press **<F5>** and follow the procedure again to enter number 40, SENV (Sum All Releases).

The fourth data element that we identified for our sample report, Standard Industrial Classification (SIC), is a little different because it can occur up to six times in a single record. It is possible to include just selected occurrences, for example, just the first SIC reported, or you can include all of the information, i.e., all six SICs or blank fields. For our report, we decided to include all six SICs.

To choose all six, we will need to go through the process of defining SIC, similar to the way we already defined facility name and chemical name, six times. To select SIC, press **<F5>**. Choose number 35, SIC, from the **DATA FIELD** menu. For the Item Label, change Standard Industrial Classification to **Industry (1)** to show that this is the first industrial classification that was reported. Press **<ENTER>** repeatedly until Missing L Rule is highlighted. This time, after you change the field from O (Omit) to L (Label + value) and press **<ENTER>**, the cursor will highlight First Array Element. Press **<ENTER>** to accept 1 (one) as the First Array Element. The cursor will move to Last Array Element. Type **<1>** again and press **<ENTER>**.

Repeat this process five times for the additional SICs, using Industry (2), Industry (3), etc. as the Item Label and changing the First Array Element and Last Array Element to 2, then 3, etc. (See the screen below, which shows the **Page Detail for Form** screen after the data was entered for the sixth SIC. Note the Item Label, First Array Element and Last Array Element all indicate that it is the sixth occurrence for that field.)

```
Version 1.30          KAware Disk Publisher/Fielded                2:59 pm
╔═══════════════════════════════════════════════════════════════════════════╗
║                     KADF Form Designer for file releases                ╒
╒                                                                           ╒
╒          ╔═══════════════════════════════════════════════════════╗        ╒
╒          ╒                  Page Detail for form                 ╒        ╒
╒          ╒                                                       ╒        ╒
╒          ╒        Item Number: 3                                 ╒        ╒
╒          ╒         Data Field: SIC                               ╒        ╒
╒          ╒         Item Label: Industry (6)                      ╒        ╒
╒          ╒                                                       ╒        ╒
╒          ╒          Label Row: +1          Label Column: 1       ╒        ╒
╒          ╒           Data Row: +0           Data Column: +2      ╒        ╒
╒          ╒         Data Width: 250        Maximum Lines:         ╒        ╒
╒          ╒                                                       ╒        ╒
╒          ╒  Data Justification: L                                 ╒        ╒
╒          ╒           Wrap Rule: D            Wrap Column:        ╒        ╒
╒          ╒   Missing Data Rule: L          Missing Value:        ╒        ╒
╒          ╒                                                       ╒        ╒
╒          ╒ First Array Element: 6     Last Array Element: 6       ╒        ╒
╒          ╒  Array Display Rule: 1        Array Separator: ,       ╒        ╒
╒          ╚═══════════════════════════════════════════════════════╝        ╒
╚═══════════════════════════════════════════════════════════════════════════╝
Enter the last array element to print for this data field.
        F1=Help   Tab=Prev   Enter=Next   F10=Add Finished   ESC=Cancel Add
```

When you have finished, all of the data elements that you wanted on your report should be listed in the box in the upper left hand corner of the screen:

```
Version 1.30          KAware Disk Publisher/Fielded                3:03 pm
╔═══════════════════════════════════════════════════════════════════════════╗
║                     KADF Form Designer for file releases                ╒
╒ Page Detail List ╗                                                      ╒
╒   1 FNM        ╒          ╔═══════════════════════════════════════╗     ╒
╒   2 NAME       ╒          ╒          Page Detail for form         ╒     ╒
╒   3 SENV       ╒          ╒                                       ╒     ╒
╒   4 SIC        ╒          ╒                                       ╒     ╒
╒   5 SIC        ╒          ╒  Number: 8                            ╒     ╒
╒   6 SIC        ╒          ╒a Field: SIC                           ╒     ╒
╒   6 SIC        ╒          ╒m Label: Industry (6)                  ╒     ╒
╒   8 SIC        ╒          ╒                                       ╒     ╒
╒   9 SIC        ╒          ╒bel Row: +1        Label Column: 1     ╒     ╒
╒                ╒          ╒ata Row: +0         Data Column: +2    ╒     ╒
╒                ╒          ╒Data Width: 250    Maximum Lines:      ╒     ╒
╒                ╒          ╒                                       ╒     ╒
╒                ╒          ╒Data Justification: L                  ╒     ╒
╒                ╒          ╒         Wrap Rule: D        Wrap Column:╒     ╒
╒                ╒          ╒Missing Data Rule: L       Missing Value:╒     ╒
╒                ╒          ╒                                       ╒     ╒
╒                ╒          ╒First Array Element: 6  Last Array Element: 6╒  ╒
╒                ╒          ╒Array Display Rule: 1     Array Separator: ,╒  ╒
╒                ╒          ╚═══════════════════════════════════════╝     ╒
╚═══════════════════════════════════════════════════════════════════════════╝
Use cursor pad to choose item, then select operation.   F9=Preview
  F1=Help   F2=Delete  F4=Edit  F5=Add  F6=Insert  F7=Copy  F8=Move   ESC=Menu
```

After you have verified that all desired data elements were defined, press **<ESC>**. The menu for entering specifications for your form will reappear in the center of the screen. Move the down arrow to highlight Save Changes and press **<ENTER>**. You should see the message "Forms being saved..." at the bottom of your screen.

```
Version 1.30          KAware Disk Publisher/Fielded                    3:03 pm
╔═══════════════════════════════════════════════════════════════════════════╗
║                    KADF Form Designer for file releases                   ╒
╒                                                                           ╒
╒          ╔═══════════════════════════════════════════════════════╗        ╒
╒          ╒                    Form Information                   ╒        ╒
╒          ╒                                                       ╒        ╒
╒          ╒     Form Number: 3                                    ╒        ╒
╒          ╒       Form Name:                                      ╒        ╒
╒          ╒       Form Type: P                                    ╒        ╒
╒          ╒      Page Width: 76          Page Length: 60          ╒        ╒
╒          ╒  Maximum Lines:                                       ╒        ╒
╒          ╒                 ╔═══════════════════════╗             ╒        ╒
╒          ╒                 ╒ Specify Form Information ╒           ╒        ╒
╒          ╒                 ╒ Design Page Header      ╒           ╒        ╒
╒          ╒                 ╒ Design Page Detail      ╒           ╒        ╒
╒          ╒                 ╒ Preview Form            ╒           ╒        ╒
╒          ╒                 ╒ Display Form Design     ╒           ╒        ╒
╒          ╒                 ╒ Print Form Design       ╒           ╒        ╒
╒          ╒                 ╒ Save Changes            ╒           ╒        ╒
╒          ╒                 ╚═══════════════════════╝             ╒        ╒
╒          ╚═══════════════════════════════════════════════════════╝        ╒
╚═══════════════════════════════════════════════════════════════════════════╝
Save changes made so far
                                F1=Help    ESC=Done
```

Press **<ESC>**. You will return to the original **FORM DESIGNER SCREEN**. This time, the Form List will include the title of the form that you just created. For our example, the title, "Toxic Releases by Facility and Industry" was added to the Form List, as shown below.

```
Version 1.30          KAware Disk Publisher/Fielded                    4:20 pm
╔═══════════════════════════════════════════════════════════════════════════╗
║                      KADF Form Designer for file releases                ╒
╔═══════════════ Form List ═══════════════╗
   1 RELEASES                              ║
   2 RELEASES (BRIEF)                      ╒
   3 Toxic Releases by Facility and Industry ╒
╚═══════════════════════════════════════════╝
         Form Name: RELEASES
         Form Type: P
        Page Width: 76            Page Length: 60
    Maximum Lines:
Use cursor pad to choose form, then select operation.
  F1=Help   F2=Delete  F4=Edit  F5=Add  F6=Insert  F7=Copy  F8=Move   ESC=Menu
```

This form is now ready to be used for displaying, printing, or exporting data, in accordance with the instructions provided in Sections 4.6.3, 4.7, and 4.8.1.

Press **<F10>** to exit to DOS. At the DOS prompt, type TRI. This will retrieve the **DATA BASE SELECTION MENU**. Choose **3 Toxics Release Inventory 1991-1995** and you are ready to begin using the TRI data base again. When you have retrieved the **TRI DATA FILES MAIN MENU**, proceed to perform the search that you would like to download or print. Using the F5 = Sets option, choose Export a Set or Print a Set. This time, in addition to the other output formats, the name of your new form will appear:

```
                    TRI - KAwareF (tm) Fielded V1.35
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets

Set   #Found   (
                 RELEASES
  1    1702   FAC
  2   11086   SUB  RELEASES (BRIEF)
  3      73   COM  Toxic Releases by Facility and Industry
  4      11   REP  User Selected Output

                 (Ctrl-PgUp/PgDn changes Set List page)

              SEARCH SET=0   OUTPUT SET=4   WORKSPACE: 243128

F6=Display   F7=Group ↓   F8=Group ↑   F9=Group √   F10=Exit   ESC=Backup
```

Use the down arrow to highlight the name of the form that you created. For our example, we created "Toxic Releases by Facility and Industry". Press **<ENTER>**. Records in the set will be displayed (or printed or exported) in the format that you designed, as the example below illustrates.

```
                    TRI - KAwareF (tm) Fielded V1.35
F1 = Help     F2 = Options     F3 = Select     F4 = Search     F5 = Sets
                    Set 3: COMBINE: 1 AND 2

RECORD #1 OF 22                                              LINE 1 of 9

Facility Name  MONSANTO CO.
Chemical  BENZENE
Total Releases 86000
Industry (1)  INDUSTRIAL ORGANIC CHEMICALS, N.E.C.*
Industry (2)  INDUSTRIAL INORGANIC CHEMICALS, N.E.C.*
Industry (3)  SOAP AND OTHER DETERGENTS, EXCEPT SPECIALTY CLEANERS
Industry (4)  PESTICIDES AND AGRICULTURAL CHEMICALS, N.E.C.*
Industry (5)
Industry (6)

0-9=Speed     ← →=Change Records     ↑ ↓=Scroll Record     ENTER=Action Menu
```

5.0 Performing Calculations

The calculation feature (also referred to as KASTAT) is used to compute the total amounts for specific sets of data. With the calculation feature, you must use the RELEASES data file which has numeric fields to retrieve information.

5.1 Calculating Data

KASTAT is a useful feature to obtain total release amounts. We will use the following example to explain this feature. We would like to determine the total amount of chlorine released in 1994 in the state of Ohio. Retrieve the following information first, before using the calculation feature:

- Substance Name - Chlorine
- Facility State - OH
- Reporting Year - 1994

Follow the search and combine instructions to retrieve as set of records matching the criteria above. Review Chapter 4, Toxics Release Inventory, to assist you

Export the set you have created by performing the following steps:

1. Choose **Export A Set** from the F5 menu **<ENTER>**.
2. Choose the set number **<ENTER>**.
3. Choose dBASE as the type of export file **<ENTER>**.
4. Choose default order **<ENTER>**.
5. Choose User Selected Output as the output format. Select the fields listed below by entering a sequential number next to each. When you have entered a field number for each of the chosen fields, scroll back to the top of the window that lists all of the field names. Highlight **End Output Selections** and press **ENTER>**.
   - Field 1: SUM AIR REL (SAIR)
   - Field 2: SUM WATER REL (SW)
   - Field 3: SUM LAND REL (SL)
   - Field 4: SUM UND INJECT REL (SU)
   - Field 5: SUM ALL RELEASES (SENV)
   - Field 6: SUM POTW TRANS (SPOTW)
   - Field 7: SUM OFFSITE TRANS (SOFF)
   - Field 8: SUM POTW/OTH TRANS (SPO)
   - Field 9: SUM REL/TRANS (SRT)

6. Name the file by typing a name and pressing **<ENTER>** (e.g., a:94OH-CHL.DBF <ENTER>). The filename ending (beginning with the period) must be .DBF or left blank. If it is left blank, the system will supply the ending .DBF.

After the export has taken place, press **<F10>** to exit to the **DATA BASE SELECTION MENU**.

Select **5 Calculate Releases (KASTAT)** from the **DATA BASE SELECTION MENU**. Use the down arrow to highlight Calculate Releases (KASTAT) and press **<ENTER>.**

```
Toxics Release Inventory CD-ROM
United States Environmental Protection Agency
```

```
Highlight choice and press ENTER:

1 What is TRI?
2 Toxics Release Inventory 1987-90
3 Toxics Release Inventory 1991-95
4 Calculate Releases (KASTAT)
5 TRI Publications
6 Chemical Substance Fact Sheets
7 Quit TRI CD-ROM Disc
```

```
Choose #5, TRI Publications, for instructions on
viewing PDF information files on the CD-ROM disc
```

A screen will appear requesting the name of the file containing the records for which you would like to calculate releases. Type the name of the dbase file you just created. (It is not necessary to include the file ending .dbf.)

```
KAware (tm) Statistical Summarizer V1.20
Computes, displays, saves, and prints statistics
for numeric fields in dBase (.DBF) export
format from the KAware2 Fielded Retrieval System.

Name of file saved in dBase (.DBF) format? a:94OH-CHL
```

There is one screen displayed for each field in the dBase file that you created. For our example, which contained nine fields containing numbers representing release amounts, nine screens were generated.

Use the right and left arrows to move from one screen to another. Press **<P>** to print each screen. When calculations are completed, a new file (.ANL) is created containing the screen text. In DOS you can print the screen displays out from the ANL file (e.g., 94OH-CHL.ANL for the example). Or, as the screens are displayed, press **<P>** repeatedly eight times, to receive a hard copy of each screen of information for the eight fields you have selected.

There is no HELP (F1) option available for the KASTAT selection, however, a description of the feature can be viewed or printed from the CD-ROM disc, i.e., L:\>**type KASTAT\KASTAT.TXT.** For a list of field labels for numeric fields that can be used for performing calculations, **type** or **print KASTAT\KASTAT.FLD**.

The first of the nine screens, showing releases to air (SAIR), is shown below.

```
KAware (tm) Statistical Summarizer V1.20
Computes, displays, saves, and prints statistics
   for numeric fields in dBase (.DBF) export
format from the KAware2 Fielded Retrieval System.
          For use with EPA TRI database

F1=Help   →=Next   ←=Previous   P=Print   ESC=Exit

File:                                  a:94de-chl.dbf
Number of records:                                  9
Number of fields:                                   9
Number of allowable numeric fields:                 9

Field name:                 SAIR     Field number:                1
Number of blanks:              3     Zeros:                       0
Lowest:                        5     Highest:                 10407
Range:                     10402     Sum:                     22837
Mean with 0:             3806.16     Mean w/o 0:            3806.16
     Press ENTER for optional calculation of median and mode
```

Press **<ENTER>.** Two new fields, Mean w/ 0 and Mean w/o 0 are added at the bottom of the screen:

```
KAware (tm) Statistical Summarizer V1.20
Computes, displays, saves, and prints statistics
   for numeric fields in dBase (.DBF) export
format from the KAware2 Fielded Retrieval System.
          For use with EPA TRI database

F1=Help   →=Next   ←=Previous   P=Print   ESC=Exit

File:                                  a:94de-chl.dbf
Number of records:                                  9
Number of fields:                                   9
Number of allowable numeric fields:                 9

Field name:                 SAIR     Field number:                1
Number of blanks:              3     Zeros:                       0
Lowest:                        5     Highest:                 10407
Range:                     10402     Sum:                     22837
Mean with 0:             3806.16     Mean w/o 0:            3806.16
Median w/o 0:               1410     Mode w/o 0:                  5
```

5.2 Defining Records in a KASTAT Record

A brief description of each field (in alphabetical order) is presented below:

Field Name - The field which the calculation was performed on (SAIR - Sum of All Releases).

Field Number - The number of the field that the calculation was performed on (field number 1 is SAIR).

File - The name of the dBASE file that was created (94OH-CHL.DBF).

Highest - The highest single release of Chlorine into the air in pounds (10407).

Lowest - The lowest single release of Chlorine to the air in pounds (5).

Mean with O - The average of the field for which the calculation is being processed, including records reporting 0 (zero) pounds released to air (3806.16).

Mean W/O 0 - The average of the field for which the calculation is being processed without records containing zeros in that field (3806.16).

Median w/o 0 - The middle number of the numbers reported for the field for which the calculation is being processed, not including records reporting 0 (zero) pounds released to air (1410). For example, if nine records are processed, the fifth number is the median [middle] number, regardless of its value.)

Mode w/o 0 - The value that occurs most frequently of the numbers that are reported for the field for which the calculation is being processed, not including records reporting 0 (zero) pounds released to air (--).

Number of Allowable Numeric Fields - The number of numeric fields (9).

Number of Blanks - The number of records which had a blank or no data in that field (3).

Number of Fields - The number of fields in the record (9).

Number of Records - The number of records in the set of data for which calculations have been performed (9).

Range - The difference between the highest and the lowest single release (10,407) (Highest) - 5 (Lowest) = 10,402) pounds.

Sum - The total sum of the field on which the calculation is being processed in pounds (26718).

Zeros - The number of zeros in the record (0).

Press **<ESC>** to exit from the **KASTAT** record and to return to the **DATA BASE SELECTION MENU**.

5.3 Special Keys

There are several special keys within the KASTAT option. There is one screen for each field. To move forward through the screens, use the right arrow. To move backward, use the left arrow. You can print each screen of data.

6.0 Accessing TRI Publications

For the first time, the CD-ROM contains electronic copies of several reports published by EPA *about* TRI, in addition to the data base itself. The discs also contain software for searching, viewing, and printing the reports. The purpose of this chapter is to assist users in effectively using these publications.

6.1 Publications on the CD-ROM

EPA publishes several reports every year to provide a comprehensive picture of the data that is reported to TRI by facilities all across the U.S. In addition, EPA publishes reporting guidance to assist the manufacturing community in accurately estimating chemical releases and reporting this information to EPA. Together, these documents provide an in-depth understanding of the scope of the information reported to TRI, how releases are calculated, which chemicals are released and in what volumes, trends and patterns of emissions over time, geographic distribution of releases by state, and much more. The reports on this CD-ROM, described in detail below, pertain to the 1995 TRI, the latest year for which TRI reports are available to the public.

6.1.1 Toxic Chemical Release Inventory Reporting Form R and Instructions (Revised 1996 Version)

This publication provides instructions for completing Form R, the official document submitted by reporting facilities and complied by EPA to create the national TRI data base. It describes, field by field, how to fill out the form. Sections of the book are numbered to correspond with the sections of Form R for ease of use. It reflects changes that became effective for that reporting year as a result of new legislation, executive orders, and agency rule making activities. The Reporting Instructions are the most helpful source available for data users seeking a detailed understanding of the meaning of each of the data elements. (EPA document no. EPA 745-K-97-001, May 1997, 148 pp.)

6.1.2 1995 Toxics Release Inventory Public Data Release Report

The TRI Public Data Release Report, so named because it is published each spring when the most up-to-date TRI information is made available to the public, is the most comprehensive source of information about TRI. It provides a national overview of TRI data by chemical, environmental medium (e.g., water, air, etc.), manufacturing sector, geographic location, and so on. Several analyses and rankings highlight information such as emissions of certain types of chemicals (like carcinogens, ozone depleters, etc.); pollution prevention activities; factors affecting changes in releases for 1995 as compared to earlier years; and how TRI data is useful, as well as limitations of the data. A separate chapter addresses TRI reporting by Federal facilities, which became mandatory for the first time in 1994. The text is interspersed with a number of tables and maps to illustrate different cuts of the data. (EPA document no. EPA 745-R-97-005, April 1997.)

6.1.3 1995 Toxics Release Inventory Public Data Release Executive Summary

The Executive Summary is included in the main body of the report referenced in Section 6.1.2. The Executive Summary provides an overview of TRI and highlights some of the findings contained in the 1995 Public Data Release Report. While not providing in-depth technical analyses, it covers the major aspects of TRI reporting through extensive use of illustrations, graphs, and tables.

6.1.4 1995 Toxics Release Inventory Public Data Release State Fact Sheets

This compilation of fact sheets provides a two-page "snapshot" of key TRI data for each state and territory, as well as names and telephone numbers of state and regional TRI program coordinators. It can be searched by state easily. (EPA document no. EPA 745-F-97-001)

6.2 Software for Accessing the Publications

The electronic versions of EPA publications that are on the CD-ROM are in Portable Document Format (PDF). This format, developed by a company called Adobe, Inc., is designed to allow files created using a variety of hardware and software packages to be read on many types of computers while retaining the original appearance of the publication. (For example, the TRI publications on this disc were first created on a Macintosh computer using Pagemaker software.)

Viewing, searching, and printing PDF files is accomplished using an Adobe product called an Acrobat Reader. Acrobat Reader software is contained on the CD-ROM and is also available free from Adobe. Because Acrobat Reader is so readily available, PDF format has become popular very quickly. It is used extensively for distributing files over the Internet.

The Acrobat Reader software provided on this disc is version 3.0. The earlier version (2.0), still installed on many computers, can also be used for accessing TRI. See Section 6.6, For More Information. Unlike the software for searching the TRI data base and Chemical Substance Fact Sheets, the software for reviewing the TRI-related publications runs under Windows. The procedure for installing Acrobat Reader is performed separately from installation of the data base search software. (See Section 2.1.3.2.)

6.3 Getting Started Using Acrobat Reader

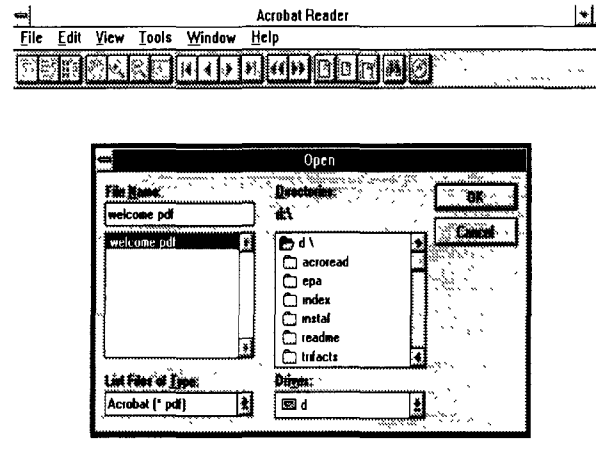
It is very easy to learn to use the Acrobat Reader. In no time at all, you will be able to use it effectively to navigate through a document, find the information you are looking for, and read or print the document, according to your needs.

6.3.1 Launching the Software

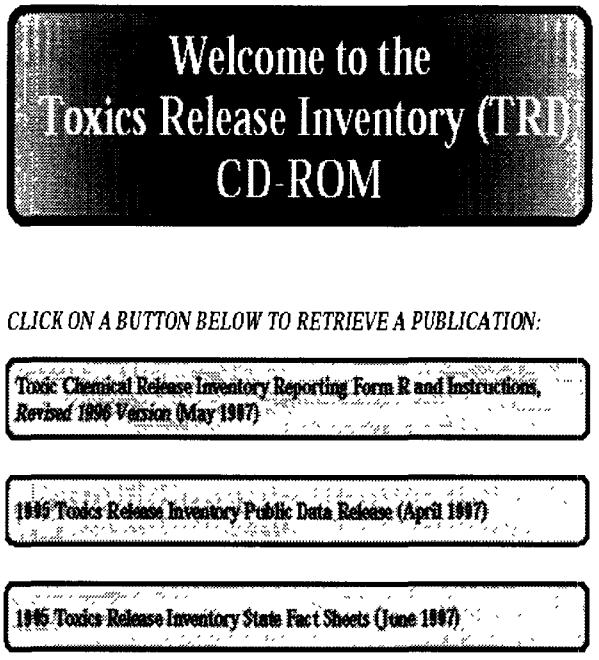
The first step is to execute the program. When it was installed, a Windows program group called Adobe Acrobat was created. (The name of the program group could be different on your desktop if you changed it.) Identify and click on the program group containing the icon for Acrobat Reader 3.0. This will bring up the signature screen for Acrobat Reader. In a few seconds, the initial screen will be replaced by another screen containing a dialog box requesting the name of the file you wish to open.

6.3.2 Opening a Document

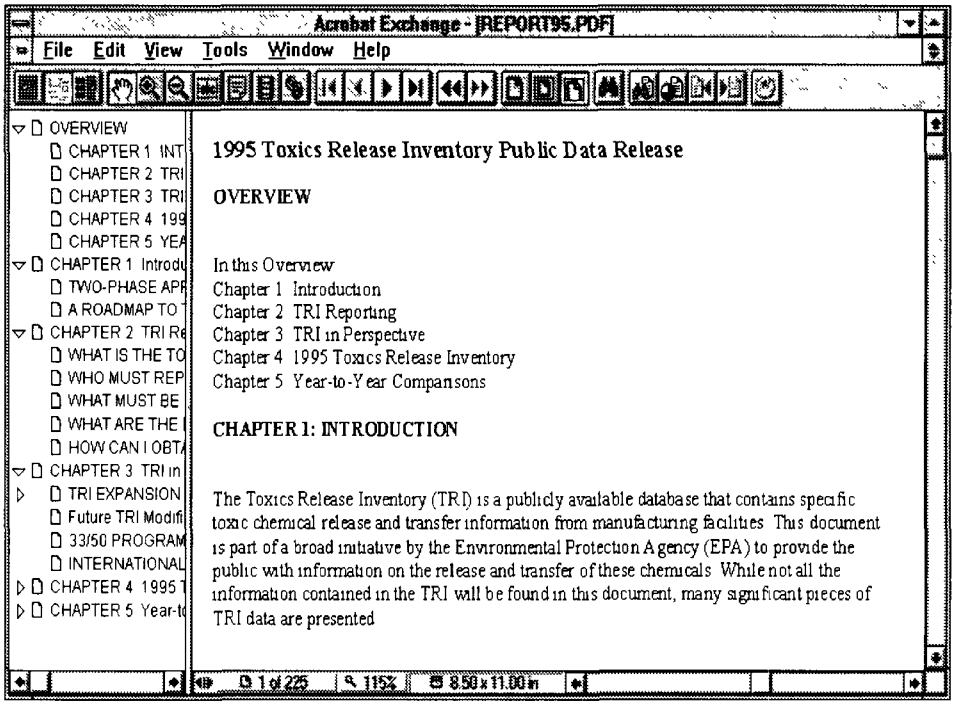
When you start running Acrobat Reader, a window for opening a document appears on the screen. If the window is not already open, click on File then Open on the menu bar. Select the letter for the CD-ROM drive using the pull-down list of drives, highlight and click on the file name WELCOME.PDF, and press <enter> or click on OK.



A menu screen listing the three TRI-related publications will appear. (Only two titles may be visible, depending on the magnification.)



Use the scroll bar to move down the menu. Click on the title of the publication that you wish to retrieve. A split window will appear containing an electronic table of contents on the left and the first page of the selected publication on the right.



6.3.3 Features of the Acrobat Reader Window

The Acrobat Reader window contains features common to many Windows applications. There is a menu bar across the top. Immediately under it is a tool bar with 18 tools. (The individual tools are discussed in greater detail below.) The scroll bar on the right allows you to navigate through the document displayed in the open area.

Across the bottom is a status bar comprised of four elements. The window splitter on the left side enables you to adjust the width of the two display boxes. Drag the icon in the direction where you want to divide the two areas. Next to it is a page number box; click on it to display a Go To Page dialog box. The magnification box shows the size of the current page.

Most Acrobat functions can be accomplished in any one of three ways: 1) using a pull-down menu bar; 2) clicking on a button from the tool bar or the status bar; or 3) using hot keys assigned to each function. Click on Tools on the menu bar to view a typical pull-down menu. Notice that the hot keys are listed next to each operation.

6.4 Navigating a Document

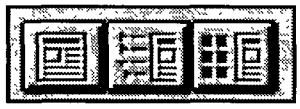
Acrobat Reader offers a great deal of flexibility to assist you in moving around in a document. The most important of these are highlighted in this chapter.

The two buttons shown above can be used to retrace your steps, moving to each view of a document in the order visited.

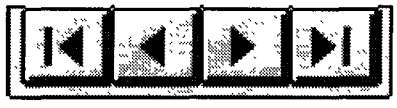
6.4.1 Displaying a Document

When you first open a document, you will notice a list of topics on the left and the image of the document itself on the right. The list of topics is very useful because it enables you to move around in the document (see Section 6.4.2, Using Bookmarks). There may be times, however, when you want to focus your attention on the document itself. There are several tools to help you do this.

One way to change the view is to resize the windows by "grabbing" the dividing line and moving it farther to the left, until most or all of the screen is used to display the document.



The three tools on the left side of the tool bar (pictured above) can also be used to resize a window. If you click on the button on the left, only the document is displayed. Clicking on the button on the right will cause "thumbnail" displays of several pages to be displayed, in addition to the document. (Click on a thumbnail to move to that page.) To return to the original display showing the list of topics on one side of the screen and the text of the document on the other, click on the button in the middle.



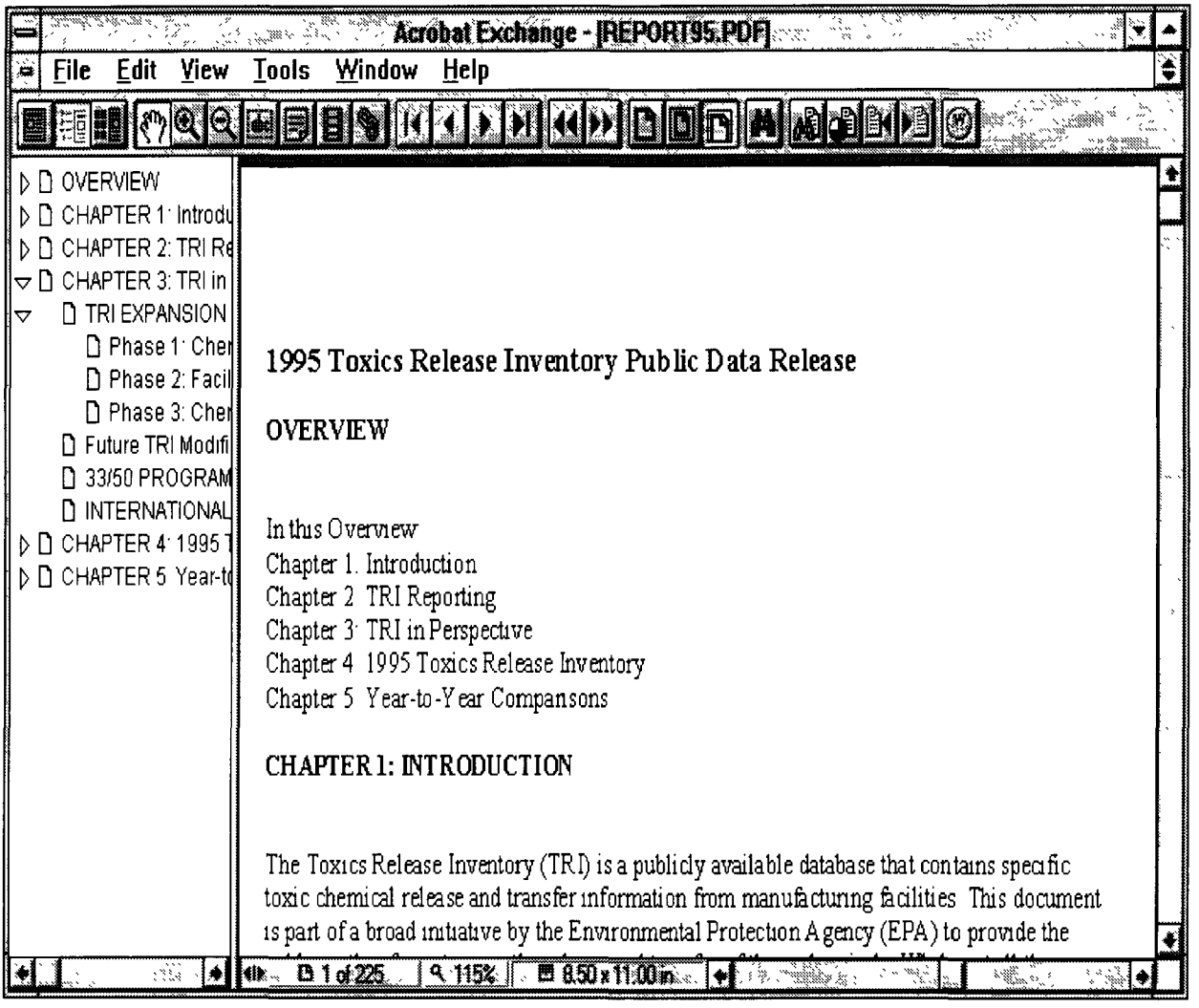
You may wish to move through a document one or more pages at a time. Four buttons are invaluable in navigating through the document. These buttons, shown left to right, allow you to move to the First Page, the Previous Page, the Next Page, and the Last Page of the open document.

6.4.2 Using Bookmarks

The screen on the left contains a list of topics corresponding to the sections of the publication that you are viewing. This electronic table of contents, or series of "bookmarks" as they are called, will enable you to move around in the document until you find the information for which you are looking.

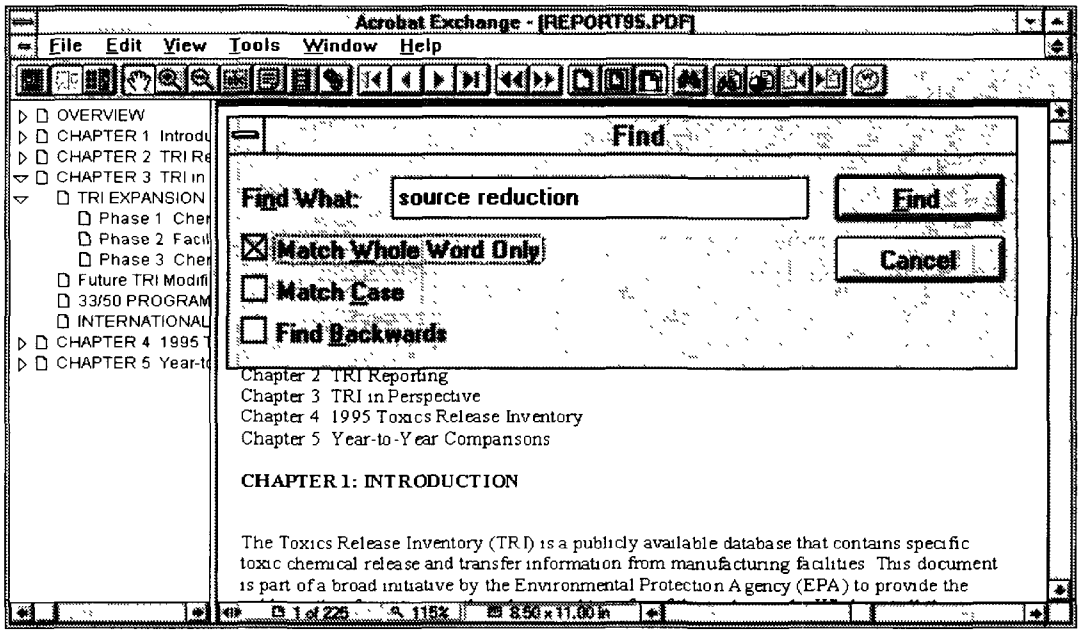
To move around in the text, click on the title of the desired topic listed on the left. The document display will immediately change to the first page of the section that you clicked on.

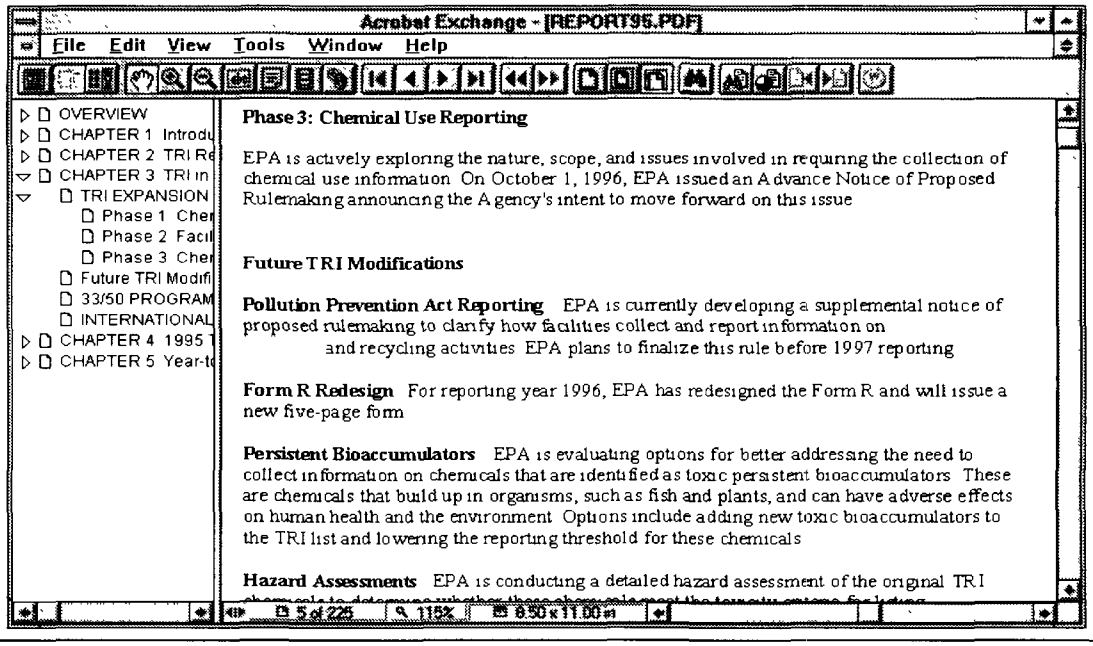
Bookmarks for publications on the TRI CD-ROM allow you to navigate through a document based on its structure. When you open a document and review the list of topics on the left, notice that each section of the book is listed. In some instances, the topics are marked by a triangle pointing towards the title. By clicking on the triangle, the list of topics is expanded to include subheadings. In the example below, clicking on the triangle adjacent to Chapter 3 and again on the subheading TRI Expansion resulted in display of more detailed topics for those sections. The triangles have changed so that they are pointing down. To collapse the list of topics to its original form, click on the inverted triangles.



6.4.3 Conducting a Search

The Acrobat Reader provides a means to search documents for a specific word or combination of words. Click on Tools then Find on the menu bar or double-click on the pair of binoculars on the tool bar. A dialog box will pop-up. Enter a search term in the space provided. You may also indicate whether or not to search on word variations, whether differences in capitalization are desired, and whether you wish to search forwards or backwards in the document. If found, the page where the search term first occurs will be displayed with the word(s) highlighted. To continue searching, use the menu bar or binoculars and click on Find Again. The screens below illustrate the pop-up menu and the results of a search.





6.5 Changing the Display

There are a number of tools that you can use to change the display. Three tools on the left side of the tool bar have already been discussed (see Section 6.4.1). These buttons enable you to toggle the screen between three displays: one display shows the document full-screen, another displays thumbnail sketches of pages on the left and the text of the document on the right, and the last shows bookmarks in the left window and the text of the document on the right.

There are several controls to aid you in zooming in and out to change the magnification. One way to do this is to resize the window by moving its edge. You can also use the window splitter or magnification box from the status bar underneath the document display.

The tool bar also contains two magnifying glasses, one with a plus sign (+) and one with a minus sign (-). These are used to zoom in, thus increasing magnification, or zoom out to see more of the page at once. To use these tools, click on either magnifying glass . When you place the mouse pointer over the document, the pointer changes to a magnifying glass. Click with the left mouse button and drag the pointer over an area of the document page. When you let go of the mouse button, the display will change to enlarge or shrink the page, depending on whether you are either zooming in (-) or out (+).

Three tools are used to resize the document display. The Actual Size button, pictured on the left, displays the image at 100% magnification. Fit Page, in the middle, scales the page to fit within the window. The button on the right, Fit Width, scales the page to fit the width of the window. The View menu can also be used to resize the document display to Actual Size, Fit Page, and Fit Width.

6.6 For More Information

The Acrobat Reader contains a Help function to assist you in learning to use the software. To use the Help function, launch Acrobat Reader and click on Help on the Menu bar. The Adobe Acrobat Online Guide can provide additional information about PDF format, use of the Acrobat Reader, and the availability additional products from Adobe.

Before installing Acrobat Reader from the TRI CD-ROM onto your hard disk, review the instructions provided in Chapter 2 of this manual.

The CD-ROM contains two Readme files pertaining to the use of Acrobat Reader. To learn more about how Acrobat Reader can be used to provide electronic access to TRI-related publications on this CD-ROM, highlight "5. TRI Publications" and press <enter>. To review information provided by Adobe, Inc, including system requirements and release notes for Acrobat Reader 3.0, read README.TXT in the ACROREAD directory of the CD-ROM..

Finally, you may wish to call Adobe, Inc at 1-800-521-1976 or visit their Internet Web site at http://www.adoblbe.com/acrobat/readstep.html.

APPENDIX A

APPENDIX A

Sources for Additional Assistance

EPA REGIONAL TRI COORDINATORS

In order to protect the environment and better serve the American public, EPA has established ten regional offices across the country, in addition to the EPA headquarters located in Washington, DC. Each regional office has designated a TRI coordinator, listed below, to serve as the focal point for TRI-related activities for their region.

USEPA Region I

Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont:

Dwight Peavey (SPT)
Assistance & Pollution Prevention Office
One Congress Street
Boston, MA 02203
(617) 565-3230; FAX (617) 565-1141

USEPA Region II

New Jersey, New York, Puerto Rico, Virgin Islands:

Nora Lopez (MS-105)
Pesticides and Toxics Branch
2890 Woodbridge Ave., Bldg. 10
Edison, NJ 08837-3679
(908) 906-6890
FAX (908) 321-6788

USEPA Region III

Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia

Bill Reilly (3AT31)
Industrial Domain Section
841 Chestnut Street Bldg.
Philadelphia, PA 19107
(215) 597-9302; FAX (215) 580-2011

USEPA Region IV

Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee

Ezequiel Velez
EPCRA Unit B
345 Courtland St. NE
Atlanta, GA 30365
(404) 347-3555 (Ext. 6984); FAX (404) 347-1681

USEPA Region V

Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin

Thelma Codina (DRT-14J)
Pesticides and Toxics Branch
77 W. Jackson Blvd.
Chicago, IL 60604
(312) 886-6219; FAX (312) 353-4342

USEPA Region VI

Arkansas, Louisiana, New Mexico, Oklahoma, Texas

Warren Layne (6PDT)
Toxics Section
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733
(214) 665-8013; FAX (214) 665-2164

USEPA Region VII

Iowa, Kansas, Missouri, Nebraska

Jim Hirtz (ARTD/TSPP)
Toxics Substances Prevention and Planning Branch
726 Minnesota Ave.
Kansas City, KS 66101
(913) 551-7020
FAX (913) 551-7065

USEPA Region VIII

Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming

Bruce Cooper (8P2-TX)
Office of Pollution Prevention,State and Tribal Assistance Toxics Program
999 18th St., Suite 500
Denver, CO 80202
(303) 312-6028; FAX (303) 312-6044

USEPA Region IX

Arizona, California, Hawaii, Nevada, American Samoa, Guam, Northern Marianas

Charles Berrey (A-4-4)
Toxics Management Section
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-1117; FAX (415) 744-1073

USEPA Region X

Alaska, Idaho, Oregon, Washington

Christina Colt (WCM-128)
Office of Waste & Chemicals Management
Solid Waste & Toxics Unit
1200 Sixth Avenue
Seattle, WA 98101
(206) 553-4016; FAX (206) 553-8509

STATE TRI COORDINATORS

The Emergency Planning and Community Right-to-Know Act (EPCRA) requires facilities eligible for TRI reporting to submit copies of their reports to the state in which they are located, as well as the U.S. EPA. Some states have very active TRI programs, providing guidance to reporting facilities, publishing state TRI reports, and assisting citizens in understanding the information reported to TRI. In other states, the scope of the state program is less broad, relying on the U.S. EPA to provide access to the data, etc. To learn more about the availability of services in your state, contact the appropriate state office listed below.

Alabama
Alabama Emergency Response Commission
Alabama Department of Environmental Management
P.O. Box 301463
Montgomery, AL 36130-1463
(334) 260-2717
Fax (334) 272-8131

Alaska
Camille Stephens
Department of Environmental Conservation
Government Preparedness and Response Program
410 Willoughby Ave., Suite 105
Juneau, AK 99801-1795
(907) 465-5220
Fax (907) 465-5244

American Samoa
Togipa Tausaga, Director
American Samoa Environmental Protection Agency
c/o Pat Young (E-4)
U.S. EPA Region IX
75 Hawthorn St.
San Francisco, CA 94105
(415) 744-1601
Fax (415) 744-1604

Arizona
Daniel Roe, Executive Director
Arizona Emergency Response Commission
5636 East McDowell Road
Phoenix, AZ 85008
(602) 231-6346
Fax (602) 231-6313

Arkansas
John Ward
Arkansas Department of Pollution Control and Ecology
8001 National Drive
Little Rock, AR 72209
(501) 682-0913
Fax (501) 682-0798

California
Steve Hanna
Office of Environmental Information Management
Department of Toxic Substances Control
400 P Street; P.O. Box 806
Sacramento, CA 95812-0806
(916) 324-9924
Fax (916) 322-6005

Colorado
Tamara Van Horn
Colorado Emergency Planning Commission
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, CO 80222-1530
(303) 692-3017
Fax (303) 759-5355

Connecticut
Joseph Pulaski
SERC Administrator
Department of Environmental Protection
Bureau of Waste Management
79 Elm Street
Hartford, CT 06106-5127
(203) 424-3373
Fax (203) 566-5255

Delaware
David Fees
Division of Air and Waste Management
Department of Natural Resources and
Environmental Control
89 Kings Highway
P.O. Box 1401
Dover, DE 19903
(302) 739-4791
Fax (302) 739-3106

District of Columbia
Jacqueline Love
SARA Title III
Office of Emergency Preparedness
Frank Reeves Center for Municipal
Affairs
2000 14th Street, Northwest
8th Floor
Washington, DC 20009
(202) 673-2101 Ext. 3151
Fax (202) 673-7054

Florida
Sam Brackett
Florida Emergency Response
Commission
Secretary, Florida Department of
Community Affairs
2555 Shumard Oak Blvd.
Tallahassee, FL 33399-2100
(904) 413-9970
(800) 635-7179 (in Florida)
Fax (904) 488-1739

Georgia
Kirby S. Olson, Ph.D.
Environmental Protection Division
Department of Natural Resources
7 Martin Luther King, Jr. Drive, Rm. 139
Atlanta, GA 30334
(404) 656-6905
Fax (404) 657-7893

Guam
Joseph Cruz
Guam Environmental Protection Agency
P.O. Box 22439-GMF
Barrigada, Guam 96911
International Number (671) 472-8863
Fax (671) 477-9402

Hawaii
Marsha Mealey
Hawaii State Emergency Response
Commission
Hawaii Department of Health
919 Ala Moana Blvd.
3rd Floor, Room 206
Honolulu, HI 96814
(808) 586-4249
Fax (808) 586-7537

Idaho
Lezlie Aller
Gowen Field
Idaho Emergency Response Commission
P.O. Box 83720
Boise, ID 83720-3401
(208) 334-3263
Fax (208) 334-3267

Illinois
Joe Goodner
Office of Chemical Safety
Illinois Environmental Protection Agency
P.O. Box 19276
2200 Churchill Road
Springfield, IL 62794-9276
(217) 785-0830
Fax (217) 782-1431

Indiana
Paula Smith
Indiana Department of Environmental Management
Office of Pollution Prevention and Technical Assistance
Indiana Government Center North
100 N. Senate Ave.
P. O. Box 6015
Indianapolis, IN 46206-6015
(317) 232-8172
Fax:(317) 233-5627

Iowa
Pete Hamlin
Department of Natural Resources
Wallace Office Building
900 East Grand Avenue
Des Moines, IA 50319
(515) 281-8852
Fax (515) 281-8895

Kansas
Jon Flint
Kansas Emergency Response Commission
Forbes Field Building 283
Topeka, KS 66620
(913) 296-1690
Fax (913) 296-1545

Kentucky
Alex Barber
Kentucky Department for Environmental Protection
14 Reilly Road
Frankfort, KY 40601-1132
(502) 564-2150
Fax (502) 564-4245

Louisiana
Linda Brown
Department of Environmental Quality
P.O. Box 82263
Baton Rouge, LA 70884-2263
(504) 765-0737
Fax (504) 765-0742

Maine
Rayna Leibowitz
State Emergency Response Commission
Station Number 72
Augusta, ME 04333
(207) 287-4080
Fax (207) 287-4079

Maryland
Patricia Williams
SARA Title III Reporting
Maryland Department of the Environment
Technical and Regulatory Services Administration
Business and Community Assistance Program
2500 Broening Highway
Baltimore, MD 21224
(410) 631-3800
Fax (410) 631-3321

Massachusetts
William Panos
Massachusetts Department of Environmental Protection
Bureau of Waste Prevention
Toxics Use Reduction Program
1 Winter Street
Boston, MA 02108
(617) 574-6820
Fax (617) 556-1090

Michigan
Robert Jackson
State Emergency Planning and Community Right-to-Know Coordinator
Michigan Department of Environmental Quality
Environmental Assistance Division
P.O. Box 30457
Lansing, MI 48909
(517) 373-8481
Fax (517) 335-3624

Minnesota
John Chikkala
Minnesota Emergency Response Commission
B5 State Capitol Building
75 Constitution Avenue
St. Paul, MN 55155
(612) 282-5396
Fax (612) 296-0459

Mississippi
John David Burns
Mississippi Emergency Response Commission
Mississippi Emergency Management Agency
P.O. Box 4501
Jackson, MS 39296-4501
(601) 960-9000
Fax (601) 352-8314

Missouri
Eugene Nickel
Technical Assistance Program
Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
(573) 526-6627
Fax (573) 526-3350

Montana
Tom Ellerhoff
Montana Emergency Response Commission
DEQ
Metcalf Bldg. #1520
East 6th Avenue
Helena, MT 59620
(406) 444-2544
Fax (406) 444-4386

Nebraska
Dale Busch
State of Nebraska Department of Environmental Quality
P.O. Box 98922
Lincoln, NE 68509-8922
(402) 471-4251
Fax (402) 471-2909

Nevada
Alene Coulson
Nevada Division of Environmental Protection
333 West Nye Lane
Capitol Complex
Carson City, NV 89710
(702) 687-4670 x3006
Fax (702) 687-6396

New Hampshire
Leland Kimball
New Hampshire Office of Emergency Management
Title III Program
State Office Park South
107 Pleasant Street
Concord, NH 03301
(603) 271-2231
Fax (603) 225-7341

New Jersey
Andrew Opperman
Department of Environmental Protection
Division of Environmental Safety, Health and Analytical Programs
SARA Title III Section 313
Bureau of Chemical Release Information & Prevention
401 East State Street, CN-405
Trenton, NJ 08625
(609) 984-3219
Fax (609) 633-7031

New Mexico
Max Johnson
New Mexico Emegency Response Commission
Technological Hazard Bureau
Emergency Management
P.O. Box 1628
Santa Fe, NM 87504-1628
(505) 827-9223
Fax (505) 827-3456

New York
William Miner
New York Emergency Response Commission
State Department of Environmental Conservation
Bureau of Spill Management
50 Wolf Road/Room 340
Albany, NY 12233-3510
(518) 457-4107
Fax (518) 457-4332

North Carolina
Emily Kilpatrick
North Carolina Emergency Response Commission
North Carolina Division of Emergency Management
116 West Jones Street
Raleigh, NC 27603-1335
(919) 733-3865
Fax (919) 715-7437 or 733-5336

North Dakota
Robert W. Johnston
North Dakota State Division of Emergency Management
P.O. Box 5511
Bismarck, ND 58502-5511
(701) 328-2111
Fax (701) 328-2119

Northern Marianas
John Castro, Director
Division of Environmental Quality
Commonwealth of the Northern Mariana Islands
c/o Jim Branch (E-4)
U.S. EPA Region IX
75 Hawthorn St.
San Francisco, CA 94105
(415) 744-1601
Fax (415) 744-1604

Ohio
Cindy DeWulf
Division of Air Pollution Control
P.O. Box 1049
Columbus, OH 43216-1049
(614) 644-3606
Fax (614) 644-3681

Oklahoma
Monty Elder
Department of Environmental Quality
Risk Communication
1000 Northeast Tenth Street
Oklahoma City, OK 73117-1212
(405) 271-8062
Fax (405) 271-1152

Oregon
Bob Albers, Manager
Hazardous Materials Section
Oregon Emergency Response Commission
State Fire Marshall
4760 Portland Road, Northeast
Salem, OR 97305-1760
(503) 378-3473 Extension 231
Fax (503) 373-1825

Pennsylvania
James Tinney, Director
Bureau of Worker and Community Right-to-Know
Room 1503/Labor and Industry Building
7th and Forster Streets
Harrisburg, PA 17120
(717) 783-2071
Fax (717) 783-5099

Puerto Rico
Genaro Torres
Director of Superfund and Emergencies
Title III-SARA Section 313
Environmental Quality Board
Fernandez Junco Station
P.O. Box 11488
Santurce, PR 00910
(809) 766-8056
Fax (809) 766-2483

Rhode Island
Martha Delaney Mulcahey
Department of Environmental Management
Division of Air Resources
ttention: Toxic Release Inventory
291 Promenade Street
Providence, RI 02908-5767
(401) 277-2808 Ext. 7032
Fax (401) 277-2017

South Carolina
Michael Juras
South Carolina SERC - EPCRA Reporting Point
Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201
(803) 896-4117
Fax (803) 896-4002

South Dakota
Lee Ann Smith
South Dakota Emergency Response Commission
Department of Environment and Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181
(605) 773-3296
Fax (605) 773-6035

Tennessee
Betty Eaves
Tennessee Emergency Response Council
Tennessee Emergency Management Agency
3041 Sidco Drive
Nashville, TN 37204
(615) 741-2986
Fax (615) 242-9635

Texas
Becky Kurka, Supervisor
Office of Pollution Prevention and Recycling
Natural Resources Conservation Commission
P.O. Box 13087 (MC112)
Austin, TX 78711-3087
(512) 239-3100
Fax (512) 239-3165

Utah
John Jones
Utah Hazardous Chemical Emergency Response Commission
Utah Department of Environmental Quality
Division of Environmental Response and Remediation
P.O. Box 144840
Salt Lake City, UT 84116
(801) 536-4100
Fax (801) 536-4113

Vermont
Gary Gulka
Environmental Assistance Division
103 South Main Street
Waterbury, VT 05671-0411
(802) 241-3626
Fax:(802) 241-3273

Virgin Islands
Ben Nazario
Department of Planning and Natural Resources
U.S. Virgin Islands Emergency Response Commission Title III
Nisky Center, Suite 231
Charlotte Amalie
St. Thomas, VI 00802
(809) 773-0565 (St. Croix)
(809) 773-9310 (St. Croix Fax)
(809) 774-3320 (St. Thomas)
(809) 774-5416 (St. Thomas Fax)

Virginia
Cathy Harris
Virginia Emergency Response Council
Virginia Department of Environmental Quality (9th Floor)
P.O. Box 10009
Richmond, VA 23240-0009
(804) 698-4489
Fax (804) 698-4346

Washington
Idell Hansen
Department of Ecology
Community Right-to-Know Unit
P.O. Box 47659
Olympia, WA 98504-7659
(206) 407-6727
Fax (206) 407-6715

West Virginia
Carl L. Bradford
West Virginia Emergency Response Commission
West Vrginia Office of Emergency Services
Main Capital Building 1, Room EB-80
Charleston, WV 25305-0360
(304) 558-5380
Fax (304) 344-4538

Wisconsin
Russ Dunst
Department of Natural Resources
101 South Webster
P.O. Box 7921
Madison, WI 53707
(608) 266-9255
Fax (608) 267-5231

Wyoming
Mike Davis
Hazardous Materials Planner
Wyoming Emergency Response Commission
Wyoming Emergency Management Agency
5500 Bishop Blvd.
Cheyenne, WY 82009-3302
(307) 777-7197
Fax (307) 638-7670

Navajo Nation
Harrilene Begay
Multimedia Program
Navajo Environmental Protection Agency
P.O. Box 339
Window Rock, AZ 86515
(520) 871-7692
Fax (520) 871-7818

APPENDIX B

APPENDIX B

Toxics Release Inventory (TRI)
Data Element Descriptions

Accidental Rel - See Accidental Release Total

Accidental Release Total - Total quantity of toxic chemical released resulting from events (accidental releases) not associated with production processes.

Based on Oper Data - See Based on Operating Data

Based on Operating Data - Indicates whether the waste treatment efficiency estimate is based on actual measurements of the wastestream before and after treatment at the reporting facility. A "no" means some other method was used, such as manufacturers' specifications for the capabilities of the treatment equipment.

Basis of Estimate (Land) See below.
Basis of Estimate (Nonpoint) See below.
Basis of Estimate (Offsite) See below.
Basis of Estimate (Point Air) See below.
Basis of Estimate (POTW) See below.
Basis of Estimate (Underground) See below.
Basis of Estimate (Water) - The method used to estimate each release. Reporting facilities may use several methods to estimate a release. The facility must report the principal method used or the one used to derive the greatest proportion of the release estimate. The codes are as follows:

- M Based on monitoring data or measurements, including direct measurements of the concentration of the chemical in wastes, discharges, or releases.
- C Based on mass balance equations, which involve, for example, determining the differences between the amount of the chemical in streams entering and leaving process equipment.
- E Based on published chemical emission factors.
- O Based on other approaches such as engineering calculations.

CAS NO - See CAS Registry Number.

CAS Registry Number - The Chemical Abstracts Service Registry Number (CASRN) consists of up to eight digits (and two hyphens) and uniquely identifies a specific chemical substance. The number is printed in hyphenated format: two to five digits, hyphen, two digits, hyphen, one digit. For example, formaldehyde is 50-00-0; chlorine is 7782-50-5. The CASRN is commonly used to index chemical data and can be useful in locating other information about the chemical. It may be withheld as a trade secret. A CASRN will not be provided for mixtures or trade name products containing an unidentified section 313 chemical. Chemical categories covered by Section 313 do not have CASRNs because they include many distinct chemical substances. CASRNs for chemicals that have not been reported are not listed on the CD-ROM.

Centroid Latitude - Centroid latitude in degrees (3 digits), minutes (2 digits) and seconds (2 digits) is the midpoint latitude of the area defined by the facility zip code. This information was added by EPA to all submissions and is not reported on EPA Form R. Though not as exact as site specific latitude, it is useful for geographic mapping.

Centroid Longitude - Centroid longitude in degrees (3 digits), minutes (2 digits) and seconds (2 digits) is the midpoint of the area defined by the facility zip code. This field is provided by EPA and is not reported on EPA Form R. Though not as exact as site specific longitude, it is useful for geographic mapping.

Chem/Max Onsite - See Maximum Amount Onsite.

Chem/Mix Component - See Mixture Component ID.

Chemical Name - The name of the section 313 chemical.

EPA ID Number - An identification number assigned by EPA to facilities subject to the Resource Conservation and Recovery Act (RCRA). The number can be used to obtain information from state and federal agencies on the type and amount of hazardous wastes transferred to or from a facility.

EPA Region - Identifies in which of the 10 EPA regions the reporting facility is located. EPA regions cover several states and are the local contacts for information about EPA programs.

Region 1 CT, MA, ME, NH, RI, VT
Region 2 NJ, NY, Puerto Rico-PR, Virgin Islands-VI
Region 3 DE, MD, PA, VA, WV, DC
Region 4 AL, FL, GA, KY, MS, NC, SC, TN
Region 5 IL, IN, MI, MN, OH, WI
Region 6 AR, LA, NM, OK, TX
Region 7 IA, KS, MO, NE
Region 8 CO, MT, ND, SD, UT, WY
Region 9 AR, CA, HI, NV, American Samoa-AS, Guam-GU, Trust Territories-MP
Region 10 AK, ID, OR, WA

EPA Submission No - See EPA Submission Number.

EPA Submission Number - A unique 15 character alphanumeric string assigned by EPA to identify each report received from a facility. The last two characters are the abbreviation of the state of the reporting facility.

Facility Address - Street address of the reporting facility.

Facility City - City in which the reporting facility is located.

Facility County - County in which the reporting facility is located.

Facility Coverage - A facility could submit a report on releases of the section 313 chemical from the entire facility at the location or on separate establishments within the facility at that location. This data field indicates whether the submission covers the entire facility or only an establishment within the facility. If a submission covers only part of a facility, several submissions may have to be considered to develop complete information on the total releases of the chemical from the entire facility. Two codes were used:

a An entire covered facility.
b A part of a covered facility.

Facility D & B Number - Facility Dun and Bradstreet Number consisting of nine-digits assigned to identify specific businesses.

Facility Name - The name of the reporting facility.

Facility State - State in which the reporting facility is located. Searchable by the two-letter U.S. Postal Service Code.

Facility Zip Code - Zip code of the reporting facility. Five or nine-digit zip codes are acceptable.

Federal Agency - Provides a code indicating the name of the Federal Agency or left blank for commericial facilities. Vadid codes are as follows:

AMTRAK	National Railroad Passenger Corporation
EPA	U.S. Environmental Protection Agency
DOD	U.S. Department of Defence
DOE	U.S. Department of Energy
DOI	U.S. Department of Interior
DOJ	U.S. Department of Justice
DOT	U.S. Department of Transportation
DTR	U.S. Department of the Treasury
HHS	U.S. Department of Health and Human Services

NASA National Aeronautics and Space Administration
TVA Tennessee Valley Authority
USDA U.S. Department of Agriculture
USEC U.S. Enrichment Corporation

Federal Facility - Indicates whether a facility is a commercial [C] facility or operated by or for the Federal [F] government. This determination is made by EPA. (See also Federal Status)

Federal Status - Indicates whether a facility is a Federal facility, based on the block checked on Form R Section 4.2. Valid codes are Y (Federal) or N (Otherwise).

FIPS Code - See State/County FIPS Code.

General Wastestream - Each wastestream that enters the environment containing the chemical must be identified separately on Form R. Wastes from several processes may be combined into a single wastestream prior to treatment. If the treatment process creates an additional wastestream, they will be listed separately. For example, treatment of a liquid waste by filtration may create a solid residue that is then treated; the liquid and solid are listed as separate wastestreams on Form R.
Wastestream types are identified by the following codes:

A Gaseous
W Wastewater
L Liquid waste other than dissolved in water
S Solid waste.

Genrl Wastestream - See General Wastestream.

Generic Chem Name - See Generic Chemical Name.

Generic Chemical Name - Provided only if the reporting facility has claimed the identity of the chemical as a trade secret. The generic name must be descriptive of the chemical structure.

Influent Concentr - See Influent Concentration.

Influent Concentration - The influent concentration is the percentage of the waste made up of the chemical as the waste enters the treatment process. This figure includes only the section 313 chemical for which the report was filed. For chemical categories, the concentrations are reported for the parent chemical rather than for the entire compound. Note that EPA requires reporting facilities to list only the concentration of the chemical as it enters the wastestream. If the wastestream is treated sequentially using different treatment methods, the reporting facility may enter the initial influent concentration for each treatment method, or may enter the actual concentration when the method is applied,

but is not required to enter either for any treatment method except the first applied to the wastestream. The codes used to identify the range of influent concentration are:

1 Greater than 1 percent
2 100 parts per million (0.01 percent) to 10,000 parts per million (1 percent)
3 1 part per million to 100 parts per million
4 1 part per billion to 1 part per million
5 Less than 1 part per billion.

Land Disposal - Releases to land must be reported by disposal methods. Four codes identify the disposal method used for on-site disposal of reported quantities of the chemical to land:

D02 Landfill
D03 Land treatment/application farming
D05 Surface impoundment
D99 Other disposal.

Land Range - See Range Estimate (Land)

Land Range/Estimate - See Range Estimate (Land).

Land Rel - See Land Release.

Land Rel/Basis - See Basis of Estimate (Land).

Land Release - The reported number of pounds of a chemical released to the environmental medium.

Latitude - Latitude of the reporting facility in degrees (3 digits), minutes (2 digits), and seconds (2 digits). Optional in 1987 reports.

Longitude - Longitude of the reporting facility in degrees (3 digits), minutes (2 digits), and seconds (2 digits). Optional in 1987 reports.

Manufacturing - See Manufacturing Uses.

Manufacturing Uses - Manufacturing activities involve the manufacture of the section 313 chemical or the importation of the chemical into the United States by the reporting facility. The chemical may be manufactured for use at the reporting facility, for sale, as a byproduct, or as an impurity. Multiple entries are possible:

Produce
Import
For on-site use/processing
For sale/distribution
As a product
As an impurity

Maximum Amount OnSite - The maximum amount of the chemical that was on-site at any one time during the reporting year, including the amount present in processing equipment, stockpiles, storage areas, and wastes. The amount is reported in ranges. The codes for the ranges (in pounds) are:

01 0-99
02 100-999
03 1,000-9,999
04 10,000-99,999
05 100,000-999,999
06 1 million-9,999,999
07 10 million-49,999,999
08 50 million-99,999,999
09 100 million-499,999,999
10 500 million-999,999,999
11 1 billion or more.

Mixture Component ID - A trade name, product name or some other generic chemical name that the reporting facility must provide when the facility knows that a section 313 chemical is present in the mixture, but does not know the exact chemical identity of the chemical. This indicates that the facility is processing or using a listed chemical in amounts that exceed the threshold.

Nonpoint Air/Basis - See Basis of Estimate (Nonpoint)

Nonpoint Air Rel - See Nonpoint Air Release.

Nonpoint Air Range - See Range Estmate (Nonpoint)

Nonpoint Air Release - The reported number of pounds of a chemical released to the environmental medium.

NPDES Permit No - See NPDES Permit Number.

NPDES Permit Number - The National Pollution Discharge Elimination System Permit Number issued by EPA under the Clean Water Act to cover liquid discharges to surface water. The permit number may be used to access information about the facility's permit requirements and discharges. This information is often available at state environmental regulatory offices and EPA regional offices. The permit may not, however, address the specific chemical being reported under section 313.

Offsite Address - The street address of the offsite location to which the reporting facility transfers waste.

Offsite/Basis - See Basis of Estimate (Offsite).

Offsite City - The city of the offsite facility to which the reporting facility transfers waste.

Offsite Control By - See Offsite Location Controlled By.

Offsite County - The county of the offsite facility to which the reporting facility transfers waste.

Offsite Energy/Cur - See Offsite Energy Recovery Current Year.

Offsite Energy/Fut - See Offsite Energy Recovery Future Year.

Offsite Energy/Nex - See Offsite Energy Recovery Next Year.

Offsite Energy/Pct - See Offsite Energy Recovery Percent Change, Prior/Current Year.

Offsite Energy/Pri - See Offsite Energy Recovery Prior Year.

Offsite Energy Recovery Current Year - Total quantity of toxic chemical in pounds used offsite for energy recovery during the current reporting year.

Offsite Energy Recovery Future Year - Total quantity of toxic chemical in pounds estimated to be used offsite for energy recovery in future year.

Offsite Energy Recovery Next Year - Total quantity of toxic chemical in pounds estimated to be used offsite for energy recovery next year.

Offsite Energy Recovery Percent Change, Prior/Current Year - Percent change in quantity of toxic chemical used offsite for energy recovery comparing current and previous year quantities.

Offsite Energy Recovery Prior Year - Total quantity of toxic chemical in pounds used off-site for energy recovery during previous year.

Offsite Location Controlled By - This indicates whether the reporting facility controls the off-site location to which it transfers wastes.

Offsite Locations EPA ID - The EPA-assigned identification number of the offsite location if it handles hazardous wastes subject to the Resource Conservation and Recovery Act regulations. The number can be used to obtain other information about the location from Federal and State authorities.

Offsite Name - The name of the offsite location which receives waste from a reporting facility.

Offsite Range - See Range Estimate (Offsite).

Offsite Recy/Cur - See Offsite Recycling Current Year.

Offsite Recy/Fut - See Offsite Recycling Future Year.

Offsite Recy/Nex - See Offsite Recycling Next Year.

Offsite Recy/Pct - See Offsite Recycling Percent Change, Prior/Current Year.

Offsite Recy/Pri - See Offsite Recycling Prior Year.

Offsite Recycling Current Year - Total quantity of toxic chemical in pounds recycled offsite during current year.

Offsite Recycling Future Year - Total quantity of toxic chemical estimated to be recycled offsite in future year.

Offsite Recycling Next Year - Total quantity of toxic chemical estimated to be recycled offsite next year.

Offsite Recycling Percent Change, Prior/Current Year - Percent change in quantity of toxic chemical used offsite for recycling purposes comparing prior and current year quantities.

Offsite Recycling Prior Year - Total quantity of toxic chemical in pounds recycled offsite during previous year.

Offsite State - The location of the offsite facility to which the reporting facility transfers waste.

Offsite Trans Amt - See Offsite Transfer Amount.

Offsite Trans ID - See Offsite Locations EPA ID

Offsite Transfer Amount - For each offsite location, the total amount, in pounds, of the toxic chemical contained in the waste transferred to that location for disposal, energy recovery, recycling, or waste treatment.

Offsite Treat/Cur - See Offsite Treatment Current Year.

Offsite Treat/Fut - See Offsite Treatment Future Year.

Offsite Treat Meth - See Type Treatment/Disposal Method.

Offsite Treat/Nex - See Offsite Treatment Next Year.

Offsite Treat/Pct - See Offsite Treatment Percent Change, Prior/Current Year.

Offsite Treat/Pri - See Offsite Treatment Prior Year.

Offsite Treatment Current Year - Total quantity of toxic chemical in pounds treated offsite for current year.

Offsite Treatment Future Year - Total quantity of toxic chemical in pounds to be treated offsite in future year.

Offsite Treatment Next Year - Total quantity of toxic chemical in pounds to be treated offsite next year.

Offsite Treatment Percent Change, Prior/Current Year - Percent change in quantity of toxic chemical treated off-site comparing prior and current year quantities.

Offsite Treatment Prior Year - Total quantity of toxic chemical in pounds treated offsite during the previous year.

Offsite Zip Code - The zip code area of the off-site facility to which the reporting facility transfers waste.

Onsite Energy/Cur - See Onsite Energy Recovery Current Year.

Onsite Energy/Fut - See Onsite Energy Recovery Future Year.

Onsite Energy/Nex - See Onsite Energy Recovery Next Year.

Onsite Energy/Pct - See Onsite Energy Recovery Percent Change, Prior/Current Year.

Onsite Energy/Pri - See Onsite Energy Recovery Prior Year.

Onsite Energy/Proc - See Onsite Energy Recovery Processes.

Onsite Energy Recovery Current Year - Total quantity of toxic chemical in pounds used onsite for energy recovery during current year.

Onsite Energy Recovery Future Year - Total quantity of toxic chemical in pounds estimated to be used onsite for energy recovery two years following current year reporting.

Onsite Energy Recovery Next Year - Total quantity of toxic chemical in pounds estimated to be used onsite for energy recovery next year.

Onsite Energy Recovery Percent Change, Prior/Current Year - Percent change in quantity of toxic chemical used on-site for energy recovery comparing prior and current year quantities.

Onsite Energy Recovery Prior Year - Total quantity of toxic chemical in pounds used onsite for energy recovery during the previous year for energy recovery.

Onsite Energy Recovery Processes - Onsite energy recovery methods used on the reported chemical. Four codes identify the Energy recovery method used for onsite energy recovery processes. The energy recovery codes are:

U01 Industrial Kiln
U02 Industrial Furnace
U03 Industrial Boiler
U04 Other Energy Recovery Methods

Onsite Recy/Cur - See Onsite Recycling Current Year.

Onsite Recy/Fut - See Onsite Recycling Future Year.

Onsite Recy/Nex - See Onsite Recycling Next Year.

Onsite Recy/Pct - See Onsite Recycling Current Year.

Onsite Recy/Pri - See Onsite Recycling Prior Year.

Onsite Recy/Proc - See Onsite Recycling Processes

Onsite Recycling Current Year - Total quantity of toxic chemical in pounds recycled onsite during current year.

Onsite Recycling Future Year - Total quantity of toxic chemical estimated to be recycled onsite in future year.

Onsite Recycling Next Year - Total quantity of toxic chemical in pounds estimated to be recycled onsite next year.

Onsite Recycling Percent Change, Prior/Current Year - Percent change in quantity of toxic chemical used onsite for recycling purposes comparing prior and current year quantities.

Onsite Recycling Prior Year - Total quantity of toxic chemical in pounds recycled onsite during previous year.

Onsite Recycling Processes - Onsite recycling method used on the listed toxic chemical. Fifteen codes identify the recycling methods used for onsite recycling processes. The recycling codes are:

R11 Solvents/Organics Recovery--Batch Still Distillation
R12 Solvents/Organics Recovery--Thin-Film Evaporation
R13 Solvents/Organics Recovery--Fractionation
R14 Solvents/Organics Recovery--Solvent Extraction
R19 Solvents/Organics Recovery--Other
R21 Metals Recovery--Electrolytic
R22 Metals Recovery--Ion Exchange
R23 Metals Recovery--Acid Leaching
R24 Metals Recovery--Reverse Osmosis
R26 Metals Recovery--Solvent Extraction
R27 Metals Recovery--High Temperature
R28 Metals Recovery--Retorting
R29 Metals Recovery--Secondary Smelting
R30 Metals Recovery--Other
R40 Acid Regeneration
R99 Other Reuse or Recovery

Onsite Treat/Cur - See Onsite Treatment Current Year.

Onsite Treat/Fut - See Onsite Treatment Future Year.

Onsite Treat/Nex - See Onsite Treatment Next Year.

Onsite Treat/Pct - See Onsite Treatment Current Year.

Onsite Treat/Pri - See Onsite Treatment Prior Year.

Onsite Treatment Current Year- Total quantity of toxic chemical in pounds treated on-site during current year.

Onsite Treatment Future Year - Total quantity of toxic chemical in pounds estimated to be treated on-site in future year.

Onsite Treatment Next Year - Total quantity of toxic chemical in pounds estimated to be treated on-site next year.

Onsite Treatment Percent Change, Prior/Current Year - Percent change in quantity of toxic chemical treated on-site comparing previous and current year quantities.

Onsite Treatment Prior Year - Total quantity of toxic chemical in pounds treated on-site during previous year.

Other Use - Other uses and activities of the chemical involve the use of the chemical in such a way that it does not become part of the facility's product. Chemicals may be used to aid processing or manufacturing or may be used in ancillary ways at the facility. Multiple entries are possible:

As a chemical processing aid
As a manufacturing aid
Ancillary or other use.

Parent Co Duns Number - See Parent Company Duns Number.

Parent Co Name - See Parent Company Name.

Parent Company Duns Number - The Dun and Bradstreet number of the company that owns the reporting facility.

Parent Company Name - The name of the company that owns the reporting facility.

Percent Stormwater - See Water Discharges/Percent Stormwater.

Point Air/Basis - See Basis of Estimate (Point Air)

Point Air Range - See Range Estimate (Point Air)

Point Air Rel - See Point Air Release.

Point Air Release - The reported number of pounds of a chemical released to the environmental medium.

POTW - Publicly Owned Treatment Works (also called sewer plants).

POTW Address - The street address of the POTW to which the reporting facility transfers waste.

POTW/Basis - See Basis of Estimate (POTW).

POTW City - The city of the Publicly Owned Treatment Works (also called sewer plant) facility to which the reporting facility transfers waste.

POTW County - The county of the POTW facility to which the reporting facility transfers waste.

POTW Name - The name of the POTW which receives waste from a reporting facility.

POTW Range - See Range Estimate (POTW).

POTW State - The location of the POTW to which the reporting facility transfers waste.

POTW Trans Amt - See POTW Transfer Amount.

POTW Transfer Amount - The reported number of pounds of a chemical transferred off-site of the facility.

POTW Zip Code - The zip code area of the off-site facility to which the reporting facility transfers waste.

Processing - See Processing Uses.

Processing Uses - Processing activities involve the incorporation of the chemical into the product(s) of the reporting facility. The chemical may be processed as a reactant, as a formulation component, or as a component of an article. The chemical may also be repackaged for sale. Multiple entries are possible:

As a reactant
As a formulation component
As an article component
Repackaging only.

Production Ratio - See Production Ratio or Activity Index.

Production Ratio or Activity Index - Ratio of current reporting year production quantities to previous year production.

Publ Contact/Phone - See Public Contact/Phone.

Public Contact/Phone - Name and phone number of the person at the reporting facility to contact for further information about the submission or the facility.

Publicly Owned Treatment Works - See POTW.

Quantity Rel/Cur - See Quantity Released Current Year.

Quantity Rel/Fut - See Quantity Released Future Year.

Quantity Rel/Nex - See Quantity Released Next Year.

Quantity Rel/Pct - See Quantity Released Percent Change, Prior/Current Year.

Quantity Rel/Pri - See Quantity Released Prior Year.

Quantity Released Current Year - Total quantity of the toxic chemical in pounds released during the current year.

Quantity Released Future Year - Total quantity of the toxic chemical in pounds estimated to be released in future year.

Quantity Released Next Year - Total quantity of the toxic chemical in pounds estimated to be released next year.

Quantity Released Percent Change, Prior/Current Year - Percentage change in quantity released comparing previous and current year reporting quantities.

Quantity Released Prior Year - Total quantity of the toxic chemical in pounds released during prior year.

Range Estimate (Land) - See below.
Range Estimate (Nonpoint) - See below.
Range Estimate (Offsite) - See below.
Range Estimate (Point-Air) - See below.
Range Estimate (POTW) - See below.
Range Estimate (Underground) - See below.
Range Estimate (Water) - A submitter may check a range to report releases of less than 1000 pounds to an environmental medium. The ranges are:

A. 1-10
B. 11-499
C. 500-999 pounds.

Reporting Year - The calendar year for which the FORM R was submitted.

SIC - See Standard Industrial Classification.

SIC Code - The Standard Industrial Classification (SIC) Code(s) of the reporting facility. The codes indicate the type of activities performed at the facility; several SIC codes may apply to a single facility. Facilities were required to report their four-digit code(s). Complete four-digit codes are listed in Table I in the *TRI Reporting Instructions* contained on both CD-ROMs. (See Section 5 in this manual or access TRI Publications from the CD-ROM menu). The two-digit codes for general manufacturing areas are:

20 Food and Kindred Products
21 Tobacco Manufacturers
22 Textile Mill Products
23 Apparel and other finished products made from fabrics and other similar materials
24 Lumber and Wood Products (except furniture)
25 Furniture and Fixtures
26 Paper and Allied Products
27 Printing, Publishing, and Allied Industries
28 Chemicals and Allied Products
29 Petroleum Refining and Related Industries (coal)
30 Rubber and Plastic Products
31 Leather and Leather Products
32 Stone, Clay, Glass, and Concrete Products
33 Primary Metal Industries
34 Fabricated Metal Industries (except machinery and transportation equipment)
35 Machinery (except electrical)
36 Electrical and Electronic Machinery, Equipment, and Supplies
37 Transportation Equipment
38 Measuring, Analyzing, and Controlling Instruments; Photographic, medical, and optical goods, watches and clocks
39 Miscellaneous Manufacturing Industries.

SIC Name - The Standard Industrial Classification code defined.

Source Reduct Act - See Source Reduction Activities.

Source Reduct Meth - See Source Reduction Methods.

Source Reduction Activities - Actions taken by the reporting facility to reduce the amount of a reported toxic chemical. Source Reduction Activities:

Good Operating Practices
Inventory Control
Spill and Leak Prevention
Raw Material Modifications
Process Modifications
Cleaning and Degreasing
Surface Preparation and Finishing
Product Modifications

Source Reduction Methods - Method(s) or information sources used to identify the possibility for a source reduction activity. Eleven codes identify the source reduction methods for source reduction activities. The source reduction methods codes are:

T01 Internal pollution prevention opportunity audit(s)
T02 External pollution prevention opportunity audit(s)
T03 Materials balance audits
T04 Participative team management
T05 Employee recommendation (independent of a formal company program)
T06 Employee recommendation (under a formal company program)
T07 State government technical assistance program
T08 Federal government technical assistance program
T09 Trade association/industry technical assistance program
T10 Vendor assistance
T11 Other

State/County FIPS Code - The five-digit FIPS (Federal Information Processing Standards) code can be used to identify the state and county of the reporting facility. EPA added the code to each submission.

Stormwater Percent - See Water Discharges/Percent Stormwater.

Stream Name - The name of the receiving stream(s) to which the facility releases listed chemicals. Estimates on Form R are specific to the receiving stream. If a reporting facility releases the chemical to more than one receiving stream, the releases to all streams must be added to determine total releases to water. Note that the reporting facility may list receiving streams to which it does not release the chemical covered by the submission.

Sum Air Rel - See Sum Air Releases.

Sum Air Releases - Summation of non-point and point chemical releases in pounds.

Sum All Releases - See Sum All Releases to Environment.

Sum All Releases to Environment - Summation of all chemical releases to the environment in pounds, including point air, nonpoint air, water, land, and underground injection well releases.

Sum Land Rel - See Sum Land Releases.

Sum Land Releases - Summation of all chemical releases to land in pounds.

Sum Offsite Trans - See Sum Offsite Transfers.

Sum Offsite Transfers - The reported number of pounds of a chemical transferred off-site of the facility.

Sum POTW/Oth Trans - See Sum POTW and Offsite Transfers.

Sum POTW and Off-Site Transfers - Summation of all POTW and off-site transfers in pounds.

Sum POTW Trans - See Sum POTW Transfers.

Sum POTW Transfers - Summation of all releases in pounds to publicly owned treatment works.

Sum Rel/Trans - See Sum Releases and Transfers.

Sum Releases and Transfers - Summation of all environmental releases and transfers to publicly owned treatment works in pounds.

Sum Und Inject Rel - See Sum Underground Releases.

Sum Underground Releases - Summation of all chemical releases injected underground in pounds.

Sum Water Rel - See Sum Water Rel.

Sum Water Releases - Summation of all chemical releases to water in pounds.

Treat Efficiency - See Treatment Efficiency.

Treatment Efficiency - Estimate of the percentage of the chemical physically removed, destroyed, or converted by the treatment methods. Treatment efficiencies for chemical compounds are reported for the chemical. Most treatment methods are more effective at higher influent concentrations so influent concentrations should be considered when comparing treatment efficiencies. For wastestreams treated sequentially by several treatment methods, reporting facilities may submit the treatment efficiency for all methods taken together. The reporting facility is not required to list treatment efficiency for any but the final step, but may list the aggregate efficiency for all steps in the sequence. For example, if the aggregate efficiency is 75 percent, the facility may list the 75 percent with the last step of the sequence or may enter 75 percent with each step.

Treat Meth/Seq - See Treatment Method/Sequence.

Treatment Method/Sequence - The method of treatment used on the wastestream to reduce the amount of the chemical being released. The codes fall into the following general categories:

A01-A07 Air Emissions Treatment
B11-B99 Biological Treatment
C01-C99 Chemical Treatment
F01-F99 Incineration/Thermal Treatment
P01-P99 Physical Treatment
R01-R99 Recovery/Reuse
G01-G99 Solidification/Stabilization.

TRI Facility ID - A facility identification number generated by EPA using facility name, address and zip code: Format: zzzzznnnnnsssss where zzzzz = zip code, nnnnn = first five consonants of the name, sssss = first five non-blank, non-special characters in the street address.

Type Treatment/ Disposal Method - This includes the type of treatment or disposal associated with the chemical at the off-site location. The codes are:

Disposal:

M10 Storage only--Indicates any means of storage
M71 Underground Injection
M72 Landfill/Disposal Surface Impoundment
M73 Land Treatment--Destruction of chemical by spreading on land
M79 Other Land Disposal
M94 Transfer to Waste Broker--Disposal

Recycling:

M20 Solvents/Organics Recovery
M24 Metals Recovery
M26 Other Reuse or Recovery
M28 Acid Regeneration
M93 Transfer to Waste Broker--Recycling

Waste Treatment:

M40 Solidification/Stabilization
M50 Incineration/Thermal Treatment
M54 Incineration/Insignificant Fuel Value
M61 Wastewater Treatment (Excluding POTW)
M69 Other Waste Treatment
M95 Transfer to Waste Broker--Waste Treatment

Energy Recovery:

M56 Energy Recovery
M92 Transfer to Waste Broker-Energy Recovery

Und Inject/Basis - See Basis of Estimate (Underground).

Und Inject ID - See Underground Injection ID

Und Inject Rel - See Underground Release.

Und/Range - See Range Estmate (Underground).

Underground Injection ID - The underground injection well code identification number assigned by EPA under the Safe Drinking Water Act to facilities that dispose of wastes in certain types of permitted underground injection wells. The number may be used to obtain information from State regulatory agencies on the reporting facility's waste disposal to underground wells.

Underground Range Estimate - See Range Estimate (Underground).

Underground Release - The reported number of pounds of a chemical released to the environmental medium.

Water/Basis - See Basis of Estimate (Water).

Water Discharges/Percent Stormwater - For releases to water, some percentage of the release may come from rainwater runoff from building roofs, storage piles, or other areas. The percentage of the release due to stormwater runoff must be estimated if the facility has monitoring data on the chemical.

Water/Range - See Range Estimate (Water).

Water Rel - See Water Release.

Water Release - The reported number of pounds of a chemical released to the environmental medium.

APPENDIX C

QUICK START INSTRUCTIONS FOR
UNDERSTANDING TRI

BACKGROUND: Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 required EPA to establish an inventory of toxic chemical emissions from manufacturing facilities. The purpose of this reporting requirement is to inform the public and government officials about routine and accidental releases of toxic chemicals to the environment. EPCRA established that the public has a "right-to-know" environmental information reported to EPA under the statute. The Toxic Release Inventory (TRI) has been used extensively for research, by neighborhood coalitions and public interest groups seeking reductions in toxic releases, and as the basis for industry participation in voluntary pollution prevention efforts. EPA also uses the data base to assist in development of environmental programs and rulemaking.

REPORTING REQUIREMENTS: Facilities subject to TRI reporting are required to submit an EPA Form R every July 1st for each chemical they released into the environment (e.g., air, water, etc.) or transferred offsite for treatment or disposal during the preceding calendar year. The reporting requirement applies to owners and operators of facilities that have 10 or more full-time employees; belong to Standard Industrial Classification (SIC) codes 20 through 39 (i.e., manufacturing facilities); and manufacture (including importing), process or otherwise use a toxic chemical in excess of specified thresholds. Over 300 chemicals have been designated as toxic for the years covered by these CD-ROMs (1987-1995). New chemicals can be duesignated as toxic through rulemaking and petitions, and in fact, 286 chemicals have been added, effective in reporting year 1995.

IMPACT OF TRI: The inception of a national toxics inventory has resulted in greater public and industry awareness of the extent and effects of chemical pollution. Since implementation of TRI, total annual chemical releases by U.S. manufacturing facilities have declined considerably. Many companies have instituted measures to prevent chemical pollution, such as substituting safer chemicals or reengineering processes. In 1990, Congress passed the Pollution Prevention Act (PPA), resulting in expansion of TRI. Beginning in 1991, companies were required to report additional data about pollution prevention activities and projected future releases. TRI is continuing to develop: EPA is planning to add more chemicals and is studying options for extending coverage to additional industries. In 1994, Clinton signed an Executive Order requiring Federal facilities to submit TRI reports.

This search guide is intended to supplement the CD-ROM User Manual and the Brief User Guide accompanying the CD-ROM. For help or more information contact: TRI User Support, (202) 260-1531

INSTALLATION OF CD-ROM SOFTWARE: The 1987-1995 CD-ROM set contains menu-driven installation software that allows you to choose from several optional features when it is loaded. For your convenience, installation software is provided on both discs; either disc (but not both) may be used to load the software. Follow instructions for installing the CD-ROM as outlined in the manual and the Quick Reference Guide.

DATA BASE STRUCTURE: The 1987-1995 TRI CD-ROM set, comprised of two discs, supersedes earlier editions of the CD-ROM. The TRI data on each disc is divided into two files:

The TRI **RELEASES** file, the larger and more frequently-used file, contains comprehensive facility identification information. The RELEASES file provides the total amounts of the chemical released to air, water, land, publicly owned treatment works (POTW) and transferred to offsite locations. It also describes how the chemical is used, the maximum amount onsite during the year, and pollution prevention efforts such as source reduction and recycling. **Use when:** Looking for general information about facilities (i.e. location, Dun & Bradstreet Numbers), chemicals (i.e. maximum amount on site or use of chemical), or industries (SIC codes and trends). Also search by releases to specific bodies of water (i.e., Lake Superior) or POTWs or commercial offsite locations where wastes are transported (i.e., ABC Waste Co). or names and addresses of offsite locations.

The TRI **TREATMNT** file contains data on waste treatment methods and efficiency, and waste minimization. **Use when:** Looking for information on waste treatment.

WHAT IS TRI? This screen show provides an overview of who reports to TRI, how reports are processed, the information contained in the database, and how it is used. It also highlghts other TRI products.

CHEMICAL SUBSTANCE FACT SHEETS: Each disc contains a complete set of fact sheets for each chemical listed on TRI. They describe, in layman's terms, ecological and health effects resulting from release and exposure; identifying and treating symptoms, and OSHA exposure limits and other standards pertaining to the chemical. **Use when:** After searching TRI to identify the chemicals released in a specific locality or other criteria.

TRI PUBLICATIONS: Contains the text of important TRI-related documents, including the *1995 TRI Reporting Instructions* which provide analyses of the latest TRI data available and *TRI Reporting Instructions* which describes the data as reported on Form R.

PERFORMING CALCULATIONS (KASTAT): This feature allows you to sum, average, and perform other calculations using a dBase file exported from TRI. There are eight numeric fields, representing different types of releases. The system allows you to page through screen displays showing calculations performed on each amount field contained in the dBase file.

README FILES: Three files provide documentation for the database and other information. To access the readme files, type the letter of your CD-ROM drive, the DOS command **type**, the readme file name, and |, which is the "pipe"symbol entered as uppercase of the backwards slash key, <enter>. For example, **e:type regions.epa|<enter>**, where "e" is the letter of your CD-ROM drive. The readme files are listed below:

README.NOW contains vital information about this disc.
REGIONS.EPA contains the names, addresses and phone numbers of the 10 Federal EPA regional contacts.
STATES lists address information for officials representing state TRI programs.

In addition, a readme file called README.PDF about accessing the electronic reports provided as .pdf reports on the discs, can be viewed by choosing "5 TRI Publications" from the TRI CD-ROM main menu. (The publications themselves can be accessed using Acrobat reader running under Windows.)

The complete CD-ROM User's is provided on the discs as an ASCII text file (MANUAL.TXT) and as a .pdf file (MANUAL.PDF) readable by the Acrobat reader software under Windows.

QUICK START INSTRUCTIONS FOR
SEARCHING TRI

Insert Disc 1. Use the main menu to choose TRI Data Base from the Data Base Selection Menu. When screen lists Releases data base, press <enter> twice.

SAMPLE SEARCH (Releases File)

EXAMPLE: Find all releases in Texas for 1991-1995.

1. Press **F3=SELECT**
2. Use arrow keys to go to **Facility State <enter>**
3. Enter search term **TX <enter>**

Set	# Found	
1	23963	FACILITY STATE: TX

TO OBTAIN ALL TRI DATA FOR ONE RECORD: When searching by data elements common to both the RELEASES file and the TREATMNT file (for example, by facility name or location or chemical), search each file separately, then sort records into the same order. Each file should contain the same number of records. Or, retrieve multiple sets of data and match records in each file by EPA Submission Number which uniquely identifies each record. (Linking files requires use of dBase or other software not on the CD-ROM.)

TO NARROW A SEARCH BY COMBINING SEARCH STATEMENTS WITH "AND"

There are two methods for combining search statements to narrow a search:

1. Combine sets with "AND" (method 1).
2. Change Search Set to limit searching to records within a previously created search set (method 2).

The most efficient method depends on the size the search set retrieved. If the sets are not too large, use boolean searching shown in example 1. Otherwise, if one search yields thousands of records, follow example 2. By Changing Search Set, you are limiting your search to records meeting the first criteria, instead of searching the entire data base. If you Change Search Set, you must change it back to 0 (zero) to resume searching the entire data base.

METHOD 1: Retrieve all releases for TX for 1994.

1. Search for TX as the Facility State. Press F3, highlight Facility State, press <enter>, type TX, press <enter>. 23,963 records retrieved.

2. Search for 1994 as the Reporting Year. Press F3, highlight Reporting Year, press <enter>, highlight 1994, press <enter>. 75,332 records retrieved. (Notice that searching the entire data base by Reporting Year is slow.)
3. Press F5=SETS. Highlight Combine Sets, press <enter>. Highlight Combine with AND, press <enter>. Type 1, <enter>, AND 2, <enter> AND <enter>. Name your set (optional). 5,620 records retrieved.

METHOD 2: Retrieve all releases for TX for 1994.

1. Search for TX as the Facility State. Press F3, highlight Facility State, press <enter>, type TX, press <enter>. 23,963 records retrieved.
2. Press F5=SETS. Highlight Change Search Sets, press <enter>. Type 1 for set to search in, press <enter>. (Note Search Set Number at bottom of screen now = 1.)
3. Search for 1994 as the Reporting Year. Press F3, highlight Reporting Year, press <enter>, highlight 1994 press <enter>. System searches only the 23,963 records from step 1. 5,620 records retrieved.

TO EXPAND A SEARCH BY COMBINING SEARCH STATEMENTS WITH "OR" AND USING THE INDEX

Follow the directions for NARROWING A SEARCH (Example 1) but choose to Combine Sets with OR. Plan to search as many synonyms for a term as possible by using the database's index. All searchable fields are indexed.

EXAMPLE: Search for all General Motors Company facilities.

General Motors can be found under GM or GMC or General Motors or General Motors Company. **Hint:** Search both the facility name and parent company name fields. If you enter General Motors, you will get a search equivilent to General <AND> Motors. There are no adjacency operators for searching this data base. False drops may occur. If you are unsure of terms or spelling, use truncation (?) to browse the index for available terms.

1. Press **F3=SELECT**
2. Use arrow keys to go to **Facility Name <enter>**
3. Enter search term with the question mark (?) to look at the index and choose the best term(s).**GM? <enter>**
4. Go to correct word(s) and use the grouping keys (F7 , F8 , and F9) to mark the term(s) you want searched. Go to first occurrence of GM, mark it with the F7( ) key. Use the arrow key to move down to last occurrence and mark it with the F8( ) key. To select a single name, use the F9( ) key.

SCREEN

```
F4=SEARCH                    F4=SEARCH
FACILITY NAME (PHRASE)       FACILITY NAME (PHRASE)
. GM                         GM
↑ GMC                        GMC
  GMP                        GMP
  GMPT                       GMPT
  GMT                        GMT
```

5. When all terms are marked, press **<enter>** to search.
6. Repeat steps with General or Motor? or other synonyms.
7. Combine sets created by using "OR".

QUICK START INSTRUCTIONS FOR
DISPLAYING AND SORTING TRI DATA

DISPLAY A SET

You can display the current output set by pressing F6=DISPLAY. You can display any set by pressing **F5=SETS** and choosing **Display a Set**. It is easy to re-rank data, change output fields, and print the record being viewed. When viewing any record, press <enter> and the Action Menu will appear. Choose New Display Form to specify selected fields and limit the display to fields meaningful to your inquiry. Sort records by designating multiple fields using the ranking feature. When you use **F5=SETS**, you are given the option of ranking the data and choosing the output fields before viewing the data.

SORT FEATURE

You may sort a set when displaying it to screen, printing it, or exporting it (F5). The default order for search results is by EPA Submission Number, unique to each record. To provide a more logical, useful arrangement, there are several choices for sorting your set. You can also display by User Defined Rank which allows you omIf the way you want to sort it is not shown, you can pick Display by User Defined Rank. You can use this feature to sort on more than one field.

EXAMPLE: I have a set of all releases in Texas. I want the data arranged alphabetically by facility name and each chemical arranged alphabetically under each facility.
e.g. ABC Co. - acetone
ABC Co. - toluene
DDD Co. - freon 113

1. Press **F5=SETS** and choose **Display a Set**.
2. Choose **Display by User Defined Rank**.
3. Use arrow keys to go to **Facility Name <enter>**
4. Type **1 <enter>** (This is the first field you want sorted by)
5. Use arrow keys to go to **Substance Name <enter>**
6. Type **2 <enter>** (This is the second field you want sorted by)
7. Use arrows to return to top of list to **End Rank Selection <enter>** to start sort.

NOTE: Sorting on more than 3 criteria will take the computer a long time to perform. If you want to sort release amounts in descending order, type a minus sign before the number. Example: Sort by Sum Air Release with highest releases first. Use arrow keys to go to Sum Air Release<enter>, and type -1 **<enter>**.

QUICK START INSTRUCTIONS FOR
EXPORTING FROM TRI

You may export a set in **comma delimited (ASCII), fixed field, DBASE, Lotus, WP [Word Perfect] Merge, or print to disk format**.

EXAMPLE: Export set #4 which contains releases in TX in 1994.

1. Press **F5=Sets.**
2. Use arrow keys to choose **Export a Set**, press <enter>.
3. Type set number 4, press <enter>.
4. Use arrow keys to highlight desired format, press <enter>.
5. Choose sort criteria. (See **SORTING TRI** for directions.)
6. Choose from among 3 output options:

   Releases or Treatmnt - includes all fields, including blanks.

   Releases (Brief) or Treatmnt (Brief) - includes only fields containing data. (Not recommended for exporting.)

   User Selected Output - allows you to choose fields to be included. Use the grouping keys (F7, F8, and F9) to mark the desired fields. **HINT**: Choose only those fields that you need. **You must use the form designer if you are downloading fields with repeating fields.**

7. Type name of file (and path if different than that shown) **a:TX94 <enter>.**

QUICK START INSTRUCTIONS FOR
PRINTING TRI DATA

To print a RECORD:

You may print a single record while you are viewing the record on your screen. Press **<enter>** to get the **ACTION MENU**. Use arrow to choose **PRINT CURRENT RECORD <enter>**.

To print a SET:
This can be done at any time. You are led through the choices you must make by menus found under F5=SETS.

EXAMPLE: Print search set #4.

1. Press **F5=SETS.**
2. Use arrows to choose **PRINT A SET <enter>.**
3. Type # of set: **4 <enter>**
4. Choose sort criteria. (See SORTING TRI DATA for directions.)
5. Choose output criteria:
   Releases - Contains all datat elements, including blanks.
   Releases (Brief) - Includes only fields containing data. (This format does not work when planning to import data into Lotus, dBase, etc., because each record is a different length, depending on which fields are blank.)
   User Selected Output - Gives you a list of all fields which can be printed. Use the grouping keys (F7, F8, and F9) to mark the fields which you want printed.
6. Use arrows to choose **Consecutive Print** or **Page at a Time**.
7. Align paper and press **<enter>** when ready.

QUICK START INSTRUCTIONS FOR
CALCULATING TRI

The KASTAT feature is used to compute the total amounts for a set of data. **You must use the <u>RELEASES</u> file to retrieve the data.**

EXAMPLE: Want to know the total amount of toluene released in Texas in 1994.
1. Follow search and combine instructions to retrieve a set for records which have TX only as the facility state, 1994 as the Reporting year, and toluene as the substance name.
2. Follow the export instructions. Choose set #, DBASE, and default order. Choose user selected output.
Mark these 8 fields <u>ONLY</u>
Field 1-Sum Air Release
Field 2-Sum Water Release
Field 3-Sum Land Release
Field 4-Sum Environmental Release
Field 5-Sum Transfer to POTWs
Field 6-Sum Transfer to Offsite
Field 7-Sum Transfer to POTWs and Offsite
Field 8-Sum Releases and Transfers
Name file--type **TX94TOL<enter>**
3. Exit to main menu **(F10)**
4. Choose KASTAT by using arrow keys to highlight **KASTAT <enter>**
5. Type file name **TX94TOL**<enter>
6. There is one screen for each field that is computed. Use the arrow keys to go from one to another. To print all records, press p then right arrow to change records until all eight screens are printed.

EXPLANATION OF KASTAT FIELDS

1. Field number refers to which field the calculation was performed on. **Field number: 1 is Sum Air Release.**
2. Number of records refers to the number of records in the set of data on which the calculations are being performed. **The Number of Records in the set of data was 232.**
3. Number of Blanks refers to the number of records which had a blank or no data in that field. **Six (6) records had Blanks in the Sum Air Release field.**
4. The Lowest single release of Toluene to the air was 3 pounds.
The Highest single release of Toluene to the air was 868,000 pounds.
5. The **Range** is the difference between the Highest and the Lowest single release. **In this instance Highest minus Lowest (868,000 - 3 = 867,997).**
6. ***The **Sum** is the total sum of the field on which the calculation is being processed (in this case the Sum Air Release field.) **Therefore the total release of Toluene in TX in 1994 to the air was 8,129,344 lbs.**
***The SUM data is the most useful.**
7. The **MEAN WITH and W/O 0** is the average of the field on which the calculation is being processed. **Therefore the average release of Toluene in TX for 1994 by each facility was 35,970.54 lbs.**
8. Press the right arrow to view the next field, Sum Water Rel. Repeat for each numeric field.

QUICK START INSTRUCTIONS FOR
DESIGNING FORMS FOR PRINTING

THE CD COMES WITH TWO FORMS ALREADY AVAILABLE FOR EACH FILE (RELEASES AND TREATMNT). THESE FORMS, FULL RECORD AND BRIEF RECORD, CAN BE USED IMMEDIATELY FOR EXPORT OR PRINTING.

Use the form designer when you want to download fields that may be repeated in a record. The form designer "saves a space" for fields that are blank. For example, a facility may have up to six Standard Industrial Classification Codes (SIC codes), but most have less than three. If you were to download a set of records in an ASCII, DBASE or Lotus format by using the User Selected Output to choose the fields, each record would be different be a different length, depending on the number of SIC codes in each. As a result, the downloaded file would be unusable by most software.

The form designer allows the user to choose specific fields, including repeating fields like SIC, and download them in a usable format. If you are downloading fields with multiple occurrences (but not the full record), it is highly recommended that you create a form for downloading. The Form Designer is menu-driven and relatively easy to use. In order to use the Form Designer, save your set list (F5) and exit to DOS.

At the DOS prompt, follow the instructions in the Quick User Guide precisely. You will be creating your own form which then appears with the other output choices. You can create as many forms as you like. When you are through, return to the CD-ROM, load your set list (F5) or repeat the search. This time, when you are ready to export or print the data, the name of the form that you just created will be listed along with the other choices for output formats.

The data exported by using the Form Designer and Comma Delimited are both comma and quote delimited. **NOTE: All fields are treated as character fields by the Form Designer.** If you are converting data into another format such as Paradox, you must create your file structure by specifying all fields as "character" fields. After conversion, it is a simple matter to change the field specification from "character" to "numeric" for fields which may be used for calculations.

When you use the Form Designer, consider how you would want the data displayed in a report. For example: For a created set of records, you want the first SIC code first and then the first SIC description, the second sic code second and then the second sic description, etc.

2951
Asphalt paving mixtures and blocks
2952
Asphalt felts and coatings

To do this you must choose sic/array 1, sic code/array 1, sic/array 2, sic code/array 2.

NOTE: Follow precisely the Quick User Guide provided with the CD-ROM. WHEN "MISSING DATA RULE" IS HIGHLIGHTED, YOU MUST TYPE L OR SELECT THE "L LABEL..." OPTION.

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