# The Factor Finder CD-ROM
# User's Guide

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**DISCLAIMER**


This document and the Factor Finder program have been reviewed in accordance with U.S. Environmental Protection Agency policy and approved for publication.  Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

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# PREFACE

The National Center for Environmental Assessment (NCEA), within the U.S. Environmental Protection Agency's (EPA) Office of Research and Development (ORD), developed the Factor Finder program to assist exposure assessors and others in searching and locating data contained in two previously published NCEA documents quickly and efficiently. The *Exposure Factors Handbook* (EFH) (EPA/600/P-95/002Fa, Fb, and Fc) published in August 1997, and the *Sociodemographic Data Used for Identifying Potentially Highly Exposed Populations* (HEP) (EPA/600R-99/060) published in July 1999, are valuable tools for exposure assessors, containing vast amounts of information, but time consuming for exposure assessors to find.  In addition, data for a given population may be contained in both documents.  The Factor Finder program was developed to help users quickly search and cross reference data contained in both documents for populations of interest to the user.

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# 1. INTRODUCTION, SYSTEM REQUIREMENTS, AND INSTALLATION

The Exposure Factors Handbook (EFH) published in August 1997 (EPA/600/P-95/002Fa, Fb, and Fc) and Sociodemographic Data Used for Identifying Potentially Highly Exposed Populations (HEP) published in July 1999 (EPA/600R-99/060) are two NCEA products that are of great interest to risk assessors, risk managers, and communities concerned about exposure to environmental contaminants. The EFH provides guidance on selection of exposure factor values while the HEP helps assessors identify and enumerate populations that may experience greater exposures relative to the general population. Both documents, however, contain vast amounts of information including text and numerous tables, all of which can be time consuming and difficult to locate. The Factor Finder CD-ROM was developed to help users target specific data of concern from the EFH and the HEP documents. It provides a platform to perform user-friendly queries to search the contents of each document and to locate data of interest.

Users can either enter keywords into a user-defined search box or use pull-down menus to help pin-point specific information. The pull-down menu features general categories such as chemicals of concern, contaminated media, geographic region, exposure pathways and routes, age, food categories, and activities (along with other subcategories) to name just a few. Factor Finder searches both documents to retrieve the data specified by the user and displays the information on the user's personal computer (PC) screen.

## 1.1. FACTOR FINDER SYSTEM REQUIREMENTS

The Factor Finder CD-ROM requires the following hardware and software:
- CD-ROM drive,
- hard drive with at least 1 Mb of space for Factor Finder system files,
- Java 2.0, and
- Adobe Acrobat Reader version 3.0 or higher.

## 1.2. INSTALLATION

Installing Factor Finder is relatively simple and does not require more than a few minutes of time. Please refer to Appendix A for the installation procedures for different systems.

Factor Finder is written and compiled in Java 2.0, so that any platform can run it. If the system is equipped with a Windows 95 or higher platform, an installation package provided on the CD-ROM will install the Java Runtime Environment® (JRE) 2.0 from Sun Microsystems®. Otherwise, the Java Developer's Kit® (JDK) 2.0 can be downloaded free from the Sun or Apple® Internet sites.

The Factor Finder CD-ROM also contains the EFH and HEP in PDF format. The user must have Adobe Acrobat Reader® version 3.0 or higher to read these files. Acrobat Reader® can be obtained for free from the Adobe® Internet site. After the Factor Finder program is installed, Acrobat Reader® can be downloaded from the Factor Finder opening screen.

## 2. EXECUTION

### 2.1. FACTOR FINDER OPENING SCREEN

Once the user has begun to run Factor Finder, the opening screen (Figure 1) welcomes the user to Factor Finder. This screen has two menus and a number of buttons that allow access to various Internet sites, the EFH, the HEP, and Factor Finder.
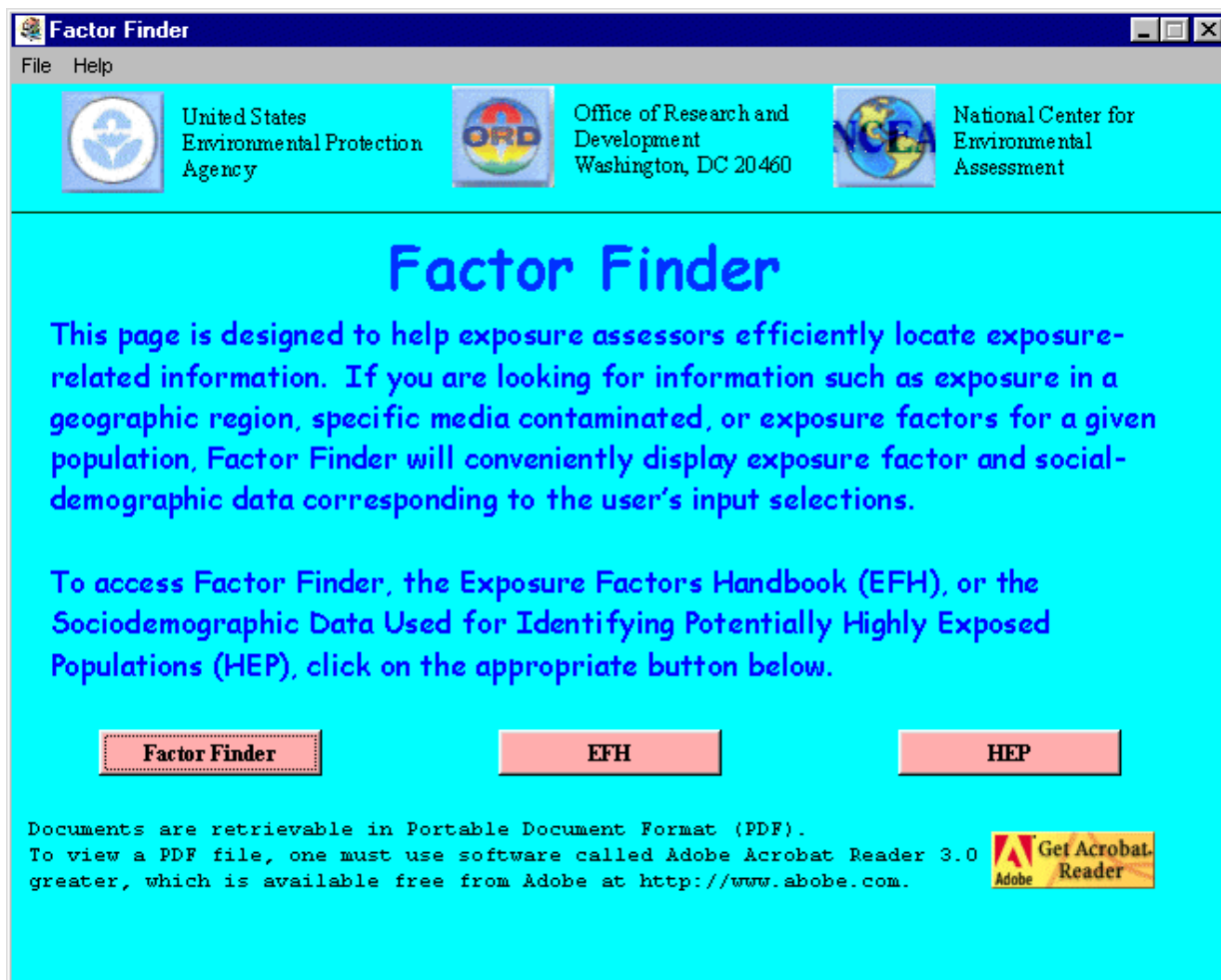


**Figure 1 - Factor Finder Opening Screen**

**Menus** - The Factor Finder opening screen has two menus, a *File* menu and a *Help* menu.

The *File* menu has a submenu selection that allows the user to exit Factor Finder (*Exit*).

The *Help* menu has two submenu selections: *Help,* which allows the user to access the Factor Finder help screens, and *About*, which displays a pop-up screen with information about Factor Finder's creation date and point of contact.

**Internet Site Buttons** - Four buttons on the opening screen allow the user to access various Internet sites, provided the user has Internet access. Three buttons, located across the top of the screen, allow the user to access the EPA, Office of Research and Development, and NCEA Internet sites. The fourth button, located at the bottom right of the screen, is the yellow "Get Acrobat Reader" button. In the event that the user does not have the Acrobat Reader® software installed on his/her PC, this button will transport the user to the Adobe® Internet site to download it.

Again, these buttons work only if the user has Internet access. Factor Finder will search for two popular Internet browsers, Internet Explorer® and Netscape®, on the user's system. If Factor Finder cannot locate either of these Internet browsers, it will prompt the user for the location of their Internet browser. Once inputted, Factor Finder will take the user to the selected Internet site.

Please note the graphics on the buttons linking to the Internet may disappear at times. However, the buttons remain fully functional, and the operation of Factor Finder is not affected.

**EFH and HEP Buttons** - These two buttons, located toward the bottom of the screen, open Adobe Acrobat Reader® and take the user to the EFH or the HEP. This feature is convenient if the user knows where the desired information is located and wants to access the documents quickly. If Factor Finder cannot locate Acrobat Reader®, the user will be prompted for its location before proceeding. Once the document is open, the user can navigate through the EFH or the HEP by clicking on the bookmarks located on the left-hand side of the document. Upon opening either document, the Acrobat Reader® search capability can be accessed through the find function (button with binoculars) on the tool bar. The user can perform searches limited to finding occurrences of a specific word or phrase throughout the text and tables of the selected document. Several tables are scanned images; thus the search function will not locate terms contained in these scanned tables. It is also important to note that the user can exit the documents at any time and return to Factor Finder by clicking on the "Return to Factor Finder" bookmark located in each document.

**Factor Finder Button** - The user should press this button to search the EFH and HEP using the Factor Finder search engine. The Factor Finder search engine differs from the Adobe Acrobat Reader® search index in that it searches the EFH and HEP tables only for criteria of

interest.  The advantage of using the Factor Finder search engine is it considers and returns tables for terms similar in meaning to a user-entered word.  For example, if the user inputs the term "African American," Factor Finder will identify the tables that also mention "Black."  Not all synonyms can be accounted for however.  Appendix A lists the synonyms used in Factor Finder grouped according to the predefined categories and qualifiers (subcategories).

To close Factor Finder, the user can select *Exit* from the *File* menu, click on the X box in the upper right-hand corner of the window, or click on the Factor Finder icon in the upper left-hand corner of the window and select "Close" from the appearing menu.

## 2.2.  FACTOR FINDER SEARCH ENGINE SCREEN

After selecting the Factor Finder search engine, a new screen will appear (Figure 2.)  This screen contains the following:

- two menus used for manipulating Factor Finder files and information,
- the search criteria section, and
- the results section.

**Menus** - The Factor Finder search engine screen has two menus, a *File* menu and a *Help* menu.

The *File* menu has several submenu selections which can be used to open Factor Finder files (*Open Query*), save Factor Finder files (*Save Results*), print Factor Finder searches and results (*Print Results*), and exit the Factor Finder search engine screen (*Exit*).  Please note that the printing feature in Factor Finder is very slow and requires a large amount of printer memory.  It is recommended that the user save their Factor Finder search criteria and results as a Factor Finder file, open the Factor Finder file in a word processing application, and print the file from the word processing application.

The *Help* menu allows the user to access the Factor Finder help screens.

**Search Criteria Section** - The search criteria section consists of the *Category* and *Qualifier* pull-down lists, the *Search for...* text box, and the *Add to Search*, *Submit Query*, and *Clear Query* buttons.  These are the tools the user can use to build their search criteria.  Factor

Finder conducts a case-insensitive search of the tables in the EFH and HEP based on the criteria the user selects and inputs.

The tables in the EFH and the HEP contain various categories under which the data have been grouped, i.e., many tables have data grouped by gender, either male, female, or both.  The *Category* and *Qualifier* pull-down lists provide the user with a number of predetermined

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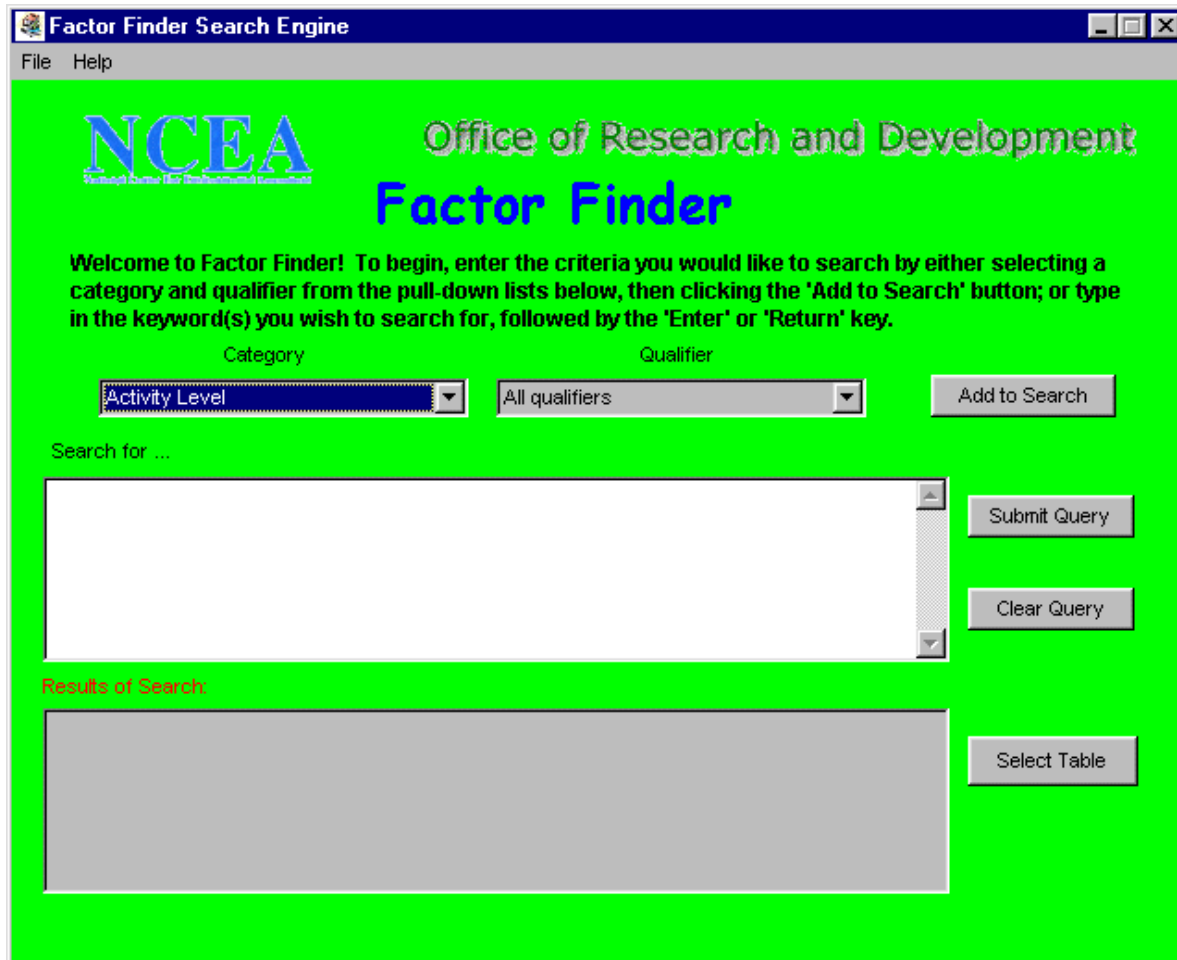
**Figure 2 - Factor Finder Search Engine Screen**

categories and subcategories (qualifiers) employed by tables in the EFH and the HEP. A list of synonyms for these categories and their corresponding qualifiers (subcategories) is provided in Appendix B. The user can highlight selections of these pull-down lists and press the ***Add to Search*** button to include these categories and qualifiers as search criteria in the ***Search for...*** text box. The category and qualifier will then appear in the ***Search for...*** text box with an equals sign between them, allowing Factor Finder to look in the tables where the category equals the qualifier.

If the user selects more than one category/qualifier pair, the word **OR** (in ALL CAPS) with a hard return will appear between each category/qualifier pair. For more information on the logic used in conducting Factor Finder searches, please refer to the Factor Finder Search Logic section of the user's guide.

The user also can enter words or phrases not contained in the ***Category*** and ***Qualifier*** pull-down lists as search criteria into the ***Search for...*** text box. To perform this, simply enter

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the *Search for...* text box (by placing the curser in the box) and start typing.  Quotation marks are not necessary.  If the user is searching for multiple words or phrases, separate the search terms with an **OR** or **AND** (in ALL CAPS) and a hard return.  For instance, if the user were searching for the occurrence of "residence" or "male" in the same table, then the user would enter **residence OR,** hit the **Enter** key, and then type in **male** as the search criteria in the *Search for...* text box.  For more information on the logic used in conducting Factor Finder searches, please refer to the Factor Finder Search Logic section of the user's guide.

The user also can combine the use of category/qualifier pairs and user-input words and phrases by combining the steps discussed above for the different cases.

To remove or edit a category/qualifier pair from the search criteria, or to remove or edit user-input text, the user must enter the *Search for...* text box and delete the undesired text.  To completely clear all of the criteria and results from a Factor Finder search run, press the *Clear Query* button.

**NOTE:**  Input of search data by selecting categories and their corresponding qualifiers (category/qualifier pairs) from the pull-down menu may provide results that differ from those obtained using user-input words entered into the search box.  The tables and figures of both documents were reviewed and key category/qualifier pairs were assigned based on this analysis.  These category/qualifier pairs were placed in a database which is searched every time a user makes input selections from the pull-down menu.  Text from the tables and figures of both documents also was placed in a separate searchable file.  When a user opts to search the documents using a user-input word or phrase, Factor Finder searches this file for a match.  Every effort has been made to reconcile differences between the two database files.  The user can input data using either option.  However, if a Factor Finder search using the category/qualifier pairs does not provide the user with the desired information, the user should try a Factor Finder search using user-input words.

Once the user has finished entering the search criteria, the user presses *Submit Query*, signaling Factor Finder to begin searching for the tables that meet the entered criteria.

**Results Section** - After Factor Finder has searched the tables in the EFH and the HEP for the required criteria, one of two events will occur:  either Factor Finder will display a pop-up box indicating that there were no tables in either document that met the user's criteria, or table numbers and table names will begin to appear in the *Results of Search* list.

If Factor Finder does not list any tables, the user is advised to make the search criteria more general (i.e., if the user is searching for **residence** and **male** in a table, the user should attempt searching for **residence** first and see what results occur.)

If results appear in the *Results of Search* list, the user can view a table by highlighting that table in the list and pressing the *Select Table* button.  Factor Finder will then open Acrobat

Reader® and the selected table will appear. Each table will have three bookmarks listed to the left of the table. The first bookmark will refer to the main document (***EFH*** or ***HEP***) and, if clicked, will transport the user to the main document. The second bookmark is labeled ***Discussion*** and, if clicked, will transport the user to the section of the main document that discusses the data depicted in the table. The third bookmark is labeled ***Return to Factor Finder*** and, if clicked, will close Acrobat Reader® and bring Factor Finder to the top of the screen.

## 3. FACTOR FINDER SEARCH LOGIC

Factor Finder must use certain logic when multiple search criteria are entered to retrieve the correct information. Factor Finder uses the terms **AND** and **OR** (in ALL CAPS) along with the use of parentheses **( )** to accomplish this.

- **AND** - used between two search terms instructs Factor Finder to look for tables where both terms appear.

- **OR** - used between two search terms instructs Factor Finder to look for tables where either term appears.

- **Parentheses ( )** - used around two or more sets of search terms instructs Factor Finder to look for tables where the criteria inside the parentheses are met first, then search for the remaining criteria.

Parentheses are required for multiple criteria searches where AND and OR are used together. For instance, suppose a user entered the following search criteria:

**residence AND**
**yardwork OR**
**male**

Factor Finder could search for the appropriate tables in one of two ways:

1. Search for tables with either the terms **residence** and **yardwork,** or the term **male** in them.
2. Search for tables with the term **residence** and either the terms **yardwork** or **male** in them.

To alleviate this dilemma, the user should employ parentheses around the terms to search for first. Again, if the user wished to search for tables with either the terms **residence** and **yardwork,** or the term **male** in them, the user would enter the following into the ***Search for...*** text box:

**(residence AND
yardwork) OR
male**

If parentheses are not used, Factor Finder will group multiple criteria in order of occurrence.

# APPENDIX A.  FACTOR FINDER CATEGORIES AND QUALIFIERS (SUBCATEGORIES)

| Category | Qualifiers | Category | Qualifiers | Category | Qualifiers |
|---|---|---|---|---|---|
| Season | Spring | State | Alabama | Employment | Full Time |
| | Summer | | Alaska | | Part Time |
| | Fall | | Arizona | | Not Employed |
| | Winter | | Arkansas | Education | K-8 |
| Region | North | | California | | High School |
| | South | | Colorado | | High School Graduate |
| | East | | Connecticut | | Undergraduate College |
| | West | | Delaware | | College Graduate |
| | Northeast | | District of Columbia | | Post Graduate |
| | Northwest | | Florida | Dermal Area | Arm |
| | Southeast | | Georgia | | Hand |
| | Southwest | | Hawaii | | Trunk |
| | Central | | Idaho | | Leg |
| Gender | Male | | Illinois | | Head |
| | Female | | Indiana | | Feet |
| Race | White | | Iowa | Meat | Beef |
| | Black | | Kansas | | Poultry, Other |
| | Hispanic | | Kentucky | | Pork |
| | Asian | | Louisiana | | Game |
| | Native American | | Maine | | Goat |
| | Other | | Maryland | | Rabbit |
| Urbanization | Central City | | Massachusetts | | Lamb |
| | Nonmetropolitan | | Michigan | | Veal |
| | Suburban | | Minnesota | | Turkey |
| | Rural | | Mississippi | | Chicken |
| Months | January | | Missouri | | Eggs |
| | February | | Montana | Dairy Products | Milk |
| | March | | Nebraska | | Cheese |
| | April | | Nevada | | Buttermilk |
| | May | | New Hampshire | | Cream |
| | June | | New Jersey | | Butter |
| | July | | New Mexico | | Margarine |
| | August | | New York | | Ice Cream |
| | September | | North Carolina | | Sherbet |
| | October | | North Dakota | | Yogurt |
| | November | | Ohio | Grain Products | Bread |
| | December | | Oklahoma | | Sweets |
| Income | User Input | | Oregon | | Snacks |
| Age | User Input | | Pennsylvania | | Breakfast Foods |
| Age Group | Adult (18-64 years) | | Rhode Island | | Pasta |
| | Adolescent (13-17 yr) | | South Carolina | | Cooked Cereal |
| | Child (1-12 years) | | South Dakota | | Rice |
| | Infant (<1 year) | | Tennessee | | Ready-to-Eat Cereal |
| | Senior (65+) | | Texas | | Baby Cereal |
| Fluids / Drinks | Tap Water | | Utah | | Oats |
| | Beer | | Vermont | | Wheat |
| | Cider | | Virginia | | Corn |
| | Wine | | Washington | | Rye |
| | Cold Water | | West Virginia | | Barley |
| | Hot Water Drinks | | Wisconsin | | Sorghum |
| | Coffee | | Wyoming | Tracer Element - | Aluminum |
| | Tea | Family | Single | PICA | Barium |
| | Hot Milk | Type | Married Couple | | Manganese |
| | Cocoa | | Married w/ children | | Silicon |
| | Fruit Juice | | Single w/ children | | Titanium |
| | Milk | | | | Vanadium |
| | Mineral Water | | | | Yttrium |
| | Carbonated Drinks | | | | Zirconium |
| | Breast Milk | | | | |

**APPENDIX A.  (Continued)**

| Category | Qualifiers | Category | Qualifiers | Category | Qualifiers |
|---|---|---|---|---|---|
| Vegetable | Artichoke | Fruit | Apple | Fish Type | Finfish |
| | Asparagus | | Apricot | | Anchovy |
| | Bean | | Banana | | Bass |
| | Beet | | Blackberry | | Bluefish |
| | Broccoli | | Blueberry | | Butterfish |
| | Brussels Sprout | | Boysenberry | | Carp |
| | Cabbage | | Cantaloupe | | Catfish |
| | Carrot | | Casaba | | Cod |
| | Cauliflower | | Cherry | | Croaker |
| | Celery | | Crabapple | | Dolphinfish |
| | Chard | | Cranberry | | Drum |
| | Corn | | Currant | | Flatfish |
| | Cucumber | | Elderberry | | Grouper |
| | Eggplant | | Grapefruit | | Haddock |
| | Herb | | Grape | | Halibut |
| | Kale | | Honeydew | | Herring |
| | Kohlrabi | | Kiwi | | Mackerel |
| | Leek | | Kumquat | | Monkfish |
| | Lettuce | | Lemon | | Mullet |
| | Okra | | Lime | | Ocean Perch |
| | Onion | | Loganberry | | Perch |
| | Oriental Vegetable | | Melon | | Pike |
| | Parsnip | | Mulberry | | Pollock |
| | Peanut | | Nectarine | | Rockfish |
| | Pea | | Orange | | Roughy |
| | Pepper | | Peach | | Salmon |
| | Potato | | Pear | | Sardine |
| | Pumpkin | | Pineapple | | Sea Bass |
| | Radish | | Plum | | Seatrout |
| | Rhubarb | | Quince | | Shad |
| | | | Raspberry | | Shark |
| | | | Strawberry | | Snapper |
| | Spinach | | Tangerine | | Sole |
| | Squash | | Watermelon | | Sturgeon |
| | Sunflower | Fish Habitat | Freshwater | | Sucker |
| | Sweet Potato | | Estuarine | | Sunfish |
| | Tomato | | Marine | | Swordfish |
| | Turnip | Chemicals of Concern | Arsenic | | Trout |
| Select Drugs / Substances | Cigarettes | | Benzene | | Tuna |
| | Alcohol | | Cadmium | | Turbot |
| | Marijuana | | Chloroform | | Whitefish |
| | Cocaine | | Chromium | | Whiting |
| | Smokeless Tobacco | | Hexachlorobutadiene | | Yellowtail |
| | Crack | | Lead | | Shellfish |
| | Inhalants | | Mercury | | Crab |
| | Hallucinogenics | | Pesticide | | Crayfish |
| | Stimulants | | Polychlorinated Biphenyl | | Lobster |
| | Sedatives | | Polycyclic Aromatic Hydrocarbon | | Shrimp |
| | Tranquilizers | | Tetrachloroethylene | | Clam |
| | Analgesics | | Trichloroethylene | | Spiny Lobster |
| | | | Vinyl Chloride | | Mussel |
| | | | | | Octopus |
| | | | | | Oyster |
| | | | | | Scallop |
| | | | | | Squid |

| Category | Qualifiers |
|---|---|
| **Activity Level** | Sedentary |
| | Light |
| | Moderate |
| | Heavy |
| | Severe |
| **Activity Type** | Employment |
| | Household Work |
| | Yard Work |
| | DIY Home Project |
| | Childcare |
| | Goods/Services |
| | Personal Care |
| | Education |
| | Organizational Activities |
| | Entertainment |
| | Athletics |
| | Recreation |
| | Passive Leisure |
| | Transit |
| **Location** | Home |
| | School |
| | Other Residence |
| | Shops |
| | In-transit |
| | Other |
| **Microenvironment** | Indoor - general |
| | Outdoor - general |
| | Vehicle |
| | Autoplace |
| | Restaurant |
| | Indoor - Physical |
| | Outdoor - Physical |
| | Work/study - residence |
| | Work/study - other |
| | Cooking |
| | Kitchen - other |
| | Chores |
| | Social |
| | Leisure/eat - indoor |
| | Sleep - indoor |
| **Consumer Products** | Cosmetic Hygiene |
| | Household Furnishings |
| | Garment Conditioning |
| | Household Maintenance |
| | Home Improvement |
| | Automobile-related |
| | Personal |
| **Water Use** | Shower or Bath |
| | Toilet |
| | Laundry |
| | Dishwashing |
| | Other |

# APPENDIX B.  FACTOR FINDER LIST OF SYNONYMS

| Category | Subcategory | Synonym |
|---|---|---|
| Race | Black | African American |
| Race | White | Caucasian |
| Race | Asian | Oriental |
| Race | Native American | Indian |
| Race | Native American | Eskimo |
| Race | Native American | Aleut |
| Race | Asian | Pacific |
| Race | Asian | Chinese |
| Race | Asian | Filipino |
| Race | Asian | Japanese |
| Race | Asian | Asian Indian |
| Race | Asian | Korean |
| Race | Asian | Vietnamese |
| Race | Asian | Laotian |
| Race | Asian | Cambodian |
| Race | Asian | Thai |
| Race | Asian | Hmong |
| Race | Asian | Pakistani |
| Race | Asian | Hawaiian |
| Race | Asian | Samoan |
| Race | Asian | Guamanian |
| Race | Hispanic | Mexican |
| Race | Hispanic | Puerto Rican |
| Race | Hispanic | Cuban |
| Gender | Female | Girl |
| Gender | Female | Woman |
| Gender | Male | Man |
| Gender | Male | Boy |
| Activity Level | Light | Not Very Active |
| Activity Level | Light | Not Active At All |
| Activity Level | Moderate | Somewhat Active |
| Activity Level | Moderate | Active |
| Activity Level | Heavy | Extremely Active |
| Activity Level | Heavy | Very Active |
| Activity Level | Light | Slow |
| Activity Level | Moderate | Medium |
| Activity Level | Heavy | Fast |
| Activity Level | Heavy | Hard |
| Activity Level | Sedentary | Sleep |
| Dermal Area | Trunk | Torso |
| Dermal Area | Leg | Thigh |
| Dermal Area | Leg | Calf |
| Dermal Area | Arm | Forearm |
| Region | Southeast | South Atlantic |
| Region | Northeast | New England |
| Region | East | Middle Atlantic |
| Region | Central | East North Central |
| Region | Central | West North Central |
| Region | Central | East South Central |
| Region | Central | Mountain |

| | | |
|---|---|---|
| Region | West | Pacific |
| Region | Southwest | West South Central |
| Region | Central | Midwest |
| Urbanization | Suburban | Outside Central City, 500K - 1M |
| Urbanization | Central City | Central City, 500K - 1M |
| Urbanization | Suburban | Outside Central City, 1M - 2M |
| Urbanization | Central City | Central City, 1M - 2M |
| Urbanization | Suburban | Outside Central City, 2M or more |
| Urbanization | Suburban | Outside Central City, 250K - 500K |
| Urbanization | Rural | Rural, non-SMSA |
| Urbanization | Central City | Central City, 50K - 250K |
| Urbanization | Central City | Central City, 2M or more |
| Urbanization | Suburban | Outside Central City, 50K - 250K |
| Urbanization | Nonmetropolitan | Other Urban |
| Urbanization | Central City | Central City, 250K - 500K |
| Meat | Lamb | Sheep |
| Grain Products | Sweets | Cake |
| Grain Products | Sweets | Cupcake |
| Grain Products | Sweets | Cookie |
| Grain Products | Sweets | Pie |
| Grain Products | Sweets | Doughnut |
| Grain Products | Snacks | Cracker |
| Grain Products | Snacks | Popcorn |
| Grain Products | Snacks | Pretzel |
| Grain Products | Snacks | Corn-based Salty Snack |
| Grain Products | Snacks | Tortilla |
| Grain Products | Breakfast Foods | Pancake |
| Grain Products | Breakfast Foods | Waffle |
| Grain Products | Breakfast Foods | French toast |
| Grain Products | Bread | Roll |
| Activity Type | Education | School |
| Activity Type | Education | Studying |
| Activity Type | Passive Leisure | Visiting |
| Activity Type | Passive Leisure | TV |
| Activity Type | Passive Leisure | Reading |
| Activity Type | Passive Leisure | Household Conversations |
| Activity Type | Recreation | Hobbies |
| Activity Type | Recreation | Playing |
| Activity Type | Recreation | Sports |
| Activity Type | Employment | Paid Work |
| Activity Type | Personal Care | Bathing |
| Activity Type | Personal Care | Showering |
| Activity Type | Personal Care | Washing Hands |
| Chemical of Concern | Pesticide | Fungicide |
| Chemical of Concern | Pesticide | Insecticide |
| Chemical of Concern | Pesticide | Molluscicide |
| Chemical of Concern | Pesticide | Rodenticide |
| Chemical of Concern | Pesticide | Herbicide |
| Chemical of Concern | Pesticide | Disinfectant |
| Chemical of Concern | Pesticide | Repellent |
| Chemical of Concern | Pesticide | DDT |
| Chemical of Concern | Pesticide | Chlordane |
| Chemical of Concern | Pesticide | Aldrin |
| Chemical of Concern | Pesticide | Dieldrin |

| | | |
|---|---|---|
| Chemical of Concern | Pesticide | Heptachlor |
| Chemical of Concern | Pesticide | Velsicol-1068 |
| Chemical of Concern | Pesticide | Octachlor |
| Chemical of Concern | Pesticide | Chlorkil |
| Chemical of Concern | Pesticide | Ortho-chlor |
| Chemical of Concern | Pesticide | Dowchlor |
| Chemical of Concern | Pesticide | Gold Crest C100 |
| Chemical of Concern | Pesticide | Topichlor 20 |
| Chemical of Concern | Vinyl Chloride | Chloroethylene |
| Chemical of Concern | Vinyl Chloride | Chloroethene |
| Chemical of Concern | Vinyl Chloride | Monochloroethylene |
| Chemical of Concern | Vinyl Chloride | Ethylene Monochloride |
| Chemical of Concern | Vinyl Chloride | Monochloroethene |
| Chemical of Concern | Vinyl Chloride | VCM |
| Chemical of Concern | Vinyl Chloride | Vinyl Chloride Monomer |
| Chemical of Concern | Benzene | Benzol |
| Chemical of Concern | Benzene | Carbon Oil |
| Chemical of Concern | Benzene | Coal Tar Naphtha |
| Chemical of Concern | Benzene | Cyclohexatriene |
| Chemical of Concern | Benzene | Phenyl Hydride |
| Chemical of Concern | Benzene | Pyrobenzole |
| Chemical of Concern | Polychlorinated Biphenyl | PCB |
| Chemical of Concern | Polychlorinated Biphenyl | Arochlor |
| Chemical of Concern | Polychlorinated Biphenyl | Arochlor 1254 |
| Chemical of Concern | Polychlorinated Biphenyl | Arochlor 1260 |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | PAH |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Acenaphthene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Acenaphthylene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Anthracene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Benz(a)anthracene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Benzo(a)pyrene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Benzo(b)fluoranthene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Benzo(g,h,i)perylene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Benzo(k)fluoranthene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Chrysene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Dibenz(a,h)anthracene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Fluoranthene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Fluorene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Indeno(1,2,2-cd)pyrene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Phenanthrene |
| Chemical of Concern | Polycyclic Aromatic Hydrocarbon | Pyrene |
| Chemical of Concern | Chloroform | Trichloromethane |
| Chemical of Concern | Chloroform | Methenyl Chloride |
| Chemical of Concern | Chloroform | Methane Trichloride |
| Chemical of Concern | Chloroform | Methyl Trichloride |
| Chemical of Concern | Chloroform | Formyl Trichloride |
| Chemical of Concern | Trichloroethylene | TCE |
| Chemical of Concern | Trichloroethylene | Trichloroethene |
| Chemical of Concern | Trichloroethylene | Ethylene Trichloride |
| Chemical of Concern | Trichloroethylene | 1-Chloro-2,2-dichloroethylene |
| Chemical of Concern | Trichloroethylene | 1,1-Dichloro-2-chloroethylene |
| Chemical of Concern | Trichloroethylene | 1,1,2-Trichloroethylene |
| Chemical of Concern | Trichloroethylene | TRI |
| Chemical of Concern | Hexachlorobutadiene | HCBD |
| Chemical of Concern | Hexachlorobutadiene | Perchlorobutadiene |
| Chemical of Concern | Hexachlorobutadiene | Dolen-Pur |

Chemical of Concern     Tetrachloroethylene                Tetrachloroethene

# APPENDIX C - INSTALLATION INSTRUCTIONS

## INSTALLATION FOR WINDOWS 95 OR HIGHER PCs

Note:  In the following instructions, D is used to designate your CD drive.  Please change this letter if your CD drive is a different designation.  Factor Finder was designed to work on a 800 x 600 resolution screen.

Factor Finder is a Java Version 2 program designed to run on your CD drive.  The setup program discussed below installs an INI file in the Windows directory of your computer to let Factor Finder know where Acrobat Reader® is on your system.  Factor Finder requires Acrobat Reader® to view the *Exposure Factors Handbook* (EFH) and the *Sociodemographic Data Used for Identifying Potentially Highly Exposed Populations* (HEP).  If you do not have Acrobat Reader® on your computer, you can download it free of charge from Adobe's Internet site.  Factor Finder also will provide you an opportunity to download Acrobat Reader® from the Adobe Internet site.

As mentioned above, Factor Finder is a Java Version 2 program.  As such, your system must have Java 2 to run Factor Finder properly.  The setup program contains Sun's Java Runtime Environment (JRE) for Windows, a compact version of Java 2.  If you already have the JRE or Java 2 installed on your system, simply finish the Factor Finder installation and click Cancel during the JRE installation.  The Factor Finder installation program will modify the AUTOEXEC.BAT file located on your hard drive to include the path for Java 2.  If you decide to install the JRE in a directory other than the default directory or have Java 2 in a different location on your system, you will have to modify your AUTOEXEC.BAT file to reflect this.  Java 2 and the JRE are available for other operating systems.  Please see the Sun Internet site for more details.

**STEP 1:   How To Install Factor Finder**
1. Insert the CD into the CD drive.
2. Go to the Start button and select Run.
3. At the prompt, type in
    D:\setup.exe
4. Factor Finder will begin to install itself.  Input the required information when prompted by the setup program.
5. After Factor Finder is installed, the JRE installation program will begin to install itself automatically.  This program enables Factor Finder to function properly.  Input the required information when prompted by the setup program.
6. Restart your computer so that changes made to your AUTOEXEC.BAT will take effect.

**STEP 2:  How to Install JRE**

      Note:  You will need to perform this step only if the Factor Finder setup program does not perform properly or if a problem arose during installation in Step 1.  To run this installation program:

1. Locate the ff directory on your CD.
2. Open the directory.
3. Double click the file
        jre1_2_2-001-win.exe
4. The JRE installation program will begin to install itself.  Input the required information when prompted by the setup program.


**STEP 3:  How to Run Factor Finder**

      Note:  Once the program is fully installed, you will always be able to initiate the program by following Step 3.

1. Click on the Factor Finder icon displayed on your desktop.


**Printing Factor Finder**

      Factor Finder requires a large amount of memory to print the criteria and results of a particular search.  This is an inherent problem with Java 2 and may result in extended periods of time to print relatively small documents or incomplete printing.  A solution to this is to save the search as a file and then print the file from a word processing program (i.e., Notepad, Wordperfect, MS Word, etc.).  The manufacturers of Java are aware of this shortcoming and are attempting to correct it.

**INSTALLATION FOR UNIX SYSTEMS**

Factor Finder is a Java Version 2 program designed to run on your CD drive. The setup program discussed below installs an INI file in your /usr/local/bin directory to let Factor Finder know where Acrobat Reader® is on your system. Factor Finder requires Acrobat Reader® to view the *Exposure Factors Handbook* (EFH) and the *Sociodemographic Data Used for Identifying Potentially Highly Exposed Populations* (HEP). If you do not have Acrobat Reader® on your computer, you can download it free of charge from Adobe's Internet site. Factor Finder also provide you an opportunity to download Acrobat Reader from the Adobe Internet site.

As mentioned above, Factor Finder is a Java Version 2 program. As such, your system must have Java 2 to run Factor Finder properly. Java Development Kit (JDK1.2) or Java Runtime Environment (JRE) can be downloaded from the Sun Internet site.

**How to Set Up Factor Finder**

Note: Usually, only a superuser has permission to copy files into your /usr/local/bin. If so, ask your system administrator to install it for you.)

1. The user needs Java Development Kit (JDK1.2) or Java Runtime Environment (JRE) to run Factor Finder. JDK or JRE can be downloaded from
    http://java.sun.com/cgi-bin/java-ports.cgi
    (Please set the path for JDK before running Factor Finder.)

2. Copy factfind.ini from the CD to /usr/local/bin.

3. Factor Finder needs Acrobat Reader® to display pdf files. You can find out if your PC has the Acrobat Reader® (acroread or xpdf or others) by typing:
    >where acroread (or xpdf)
    or
    >which acroread (or xpdf)
    The system will display whether Acrobat Reader is found by:
    >/usr/bin/acroread (or /usr/bin/xpdf)
    >acroread: Command not found. (or xpdf: Command not found.)

    /usr/bin is the directory where Acrobat Reader® is found. If the machine does not have Acrobat Reader®, you can download it from
    http://www.adobe.com/products/acrobat/readstep.html
    before running Factor Finder or download it when Fact Finder is running.

    There are two ways to set up the path for Acrobat Reader®.
    1. Type in the path for Acrobat Reader® in factfind.ini (make sure that you have permission to write to this file.)
       [Unix]                                 ------->                   [Unix]

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key1=                                          key1=/usr/bin/acroread
2.  Run Factor Finder to locate Acrobat Reader®.  The program will write the path into
    factfind.ini after the you locate the reader.  (If only a superuser has permission to
    write to /usr/local/bin, the permission will be denied for ordinary users.)


**How to Run Factor Finder**
1.  For the first time user:
    >cd
    >mount /mnt/cdrom
    >cp /mnt/cdrom/factfind_run
    >factfind_run

2.  For the experienced user:
    >cd
    >mount /mnt/cdrom
    >factfind_run