Lesson 1

Welcome and Overview

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INTRODUCTION

The Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313 Inspector Training Manual was designed to be used both as basic training for new inspectors and as refresher training for experienced inspectors. The manual provides general information to enable EPCRA Section 313 inspectors to conduct effective inspections consistently. Although the inspection process may vary by regions, this manual addresses the general inspection process.

Module I, Introduction, includes administrative information about the manual and presents the first lesson of the manual: Welcome and Overview.

GOAL AND OBJECTIVES

The goal of the EPCRA Section 313 Inspector Training Manual is to provide EPCRA Section 313 inspectors with the necessary information and tools that will enable them to conduct consistent and effective EPCRA Section 313 inspections. After reviewing this manual, students will be trained to:

- Follow the guidelines of EPCRA Section 313 regulations.
- Target facilities that are in potential violation of EPCRA Section 313 requirements.
- Perform pre-inspection activities necessary to conduct EPCRA Section 313 inspections.
- Perform on-site activities necessary to conduct EPCRA Section 313 inspections.
- Perform post-inspection activities necessary to validate data collected during EPCRA Section 313 inspections.

DESCRIPTION

This section of the manual describes each module, the layout of the modules, and the target audience.

Modules

The EPCRA Section 313 Inspector Training Manual consists of six modules, each containing several individual lessons. Because each module represents part of the EPCRA Section 313 inspection process, it is recommended that the manual be presented or reviewed in the sequence provided.

For experienced EPCRA Section 313 inspectors, refresher training may be conducted by using only selected lessons. By using the manual in this manner, the training is directed toward certain topics based on the student's experience as an EPCRA Section 313 inspector without having to repeat topics unnecessarily.

Module Descriptions

The following is a general description of the modules:

- Module I: Introduction. An introduction to the EPCRA Section 313 Inspector Training Manual. Module I contains the following lesson:

  - Lesson 1: Welcome and Overview.

- Module II: Background on the EPCRA Section 313 Regulations. An overview of EPCRA Section 313, how it evolved, and future trends. In addition, the Compliance Monitoring Strategy for EPCRA Section 313 inspections is discussed. Module II contains the following lessons:

  - Lesson 2: Background and Future Trends of EPCRA Section 313 Regulations
  - Lesson 3: EPCRA Section 313
  - Lesson 4: Compliance Monitoring Strategy for EPCRA Section 313 Inspections

- Module III: Targeting Inspections. A presentation of targeting resources and how to target facilities with potential non/late reporting or data quality violations. Module III contains the following lessons:

  - Lesson 5: Targeting Resources
  - Lesson 6: Non/Late Reporter Inspections
  - Lesson 7: Data Quality Inspections

- Module IV: Pre-Inspection Activities. A presentation of procedures for planning and scheduling inspections; gathering and identifying appropriate inspection documents and

analyzing specific chemical and facility data. Potential health and safety issues will also be presented. Module IV contains the following lessons:

- Lesson 8: Inspection Planning
- Lesson 9: Health and Safety

- Module V: On-Site Activities. An explanation of how to obtain facility entry, conduct the facility opening conference activities, and conduct closing conference activities. The basic components of on-site activities for non/late reporter and data quality inspections are also included. Module V contains the following lessons:

  - Lesson 10: Facility Entry and Opening Conference
  - Lesson 11: Non/Late Reporter Inspections
  - Lesson 12: Data Quality Inspections
  - Lesson 13: Closing Conference

- Module VI: Post-Inspection Activities. A discussion of how to identify appropriate follow-up activities such as review of documentation, additional requests for information, data analysis, and recalculations. Procedures for writing effective reports are also presented. Module VI contains the following lessons.:

  - Lesson 14: Follow-up Activities
  - Lesson 15: Report Writing

Manual Format

The following is a breakdown format of the modules and a brief description of each component and its function.

- Module Objectives and Contents. A description of what the student will be able to do after completing the training. Lists the lessons that are included in the module.

- Training Aids. Materials needed for the lessons. These include case studies and their answer keys, exercises and their answer keys, and reference materials. These aids are located in each lesson or in attachments to each lesson.

Recommended Schedule for EPCRA Section 313 Inspector Training Course

The training materials in this manual may be used in a classroom setting. A recommended schedule for presenting the various lessons is presented on the following page.

EPCRA Section 313 Inspector Training Course Schedule

Time	Day 1	Day 2	Day 3
8:30 am	Registration	Inspection Planning (Lesson 8) (continued)	Report Writing (Lesson 15)
8:45 am	Introduction: Welcome and Overview (Lesson 1)	Health and Safety (Lesson 9)	
9:15 am	Background and Future Trends of EPCRA Section 313 Regulation (Lesson 2)		
9:30 am		Facility Entry and Opening Conference (Lesson 10)	Wrap-Up
10:00 am	EPCRA Section 313 (Lesson 3)		
10:30 am			
11:00 am	Compliance Monitoring Strategy for EPCRA Section 313 Inspections (Lesson 4)	Non/Late Reporter Inspections (Lesson 11)	
11:30 am			
12:00 pm	Lunch		
12:30 pm		Lunch	
1:00 pm	Targeting Resources (Lesson 5)		
1:30 pm		Data Quality Inspections (Lesson 12)	
2:00 pm	Non/Late Reporter Inspections (Lesson 6)		
2:30 pm			
3:00 pm	Data Quality Inspections (Lesson 7)	Closing Conference (Lesson 13)	
3:30 pm			
4:00 pm	Inspection Planning (Lesson 8)	Follow-up Activities (Lesson 14)	
4:30 pm			

EPCRA SECTION 313
INSPECTOR TRAINING MANUAL

Module II

Background on EPCRA
Section 313 Regulations

MODULE OBJECTIVES

At the end of this module, students will be trained to:

- Explain how the Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313 evolved and its future trends.
- Explain the components of EPCRA Section 313.
- Explain the Compliance Monitoring Strategy for EPCRA Section 313 inspections.

CONTENTS

Module II contains:

- Lesson 2: Background and Future Trends of EPCRA Section 313 Regulations
- Lesson 3: EPCRA Section 313
- Lesson 4: Compliance Monitoring Strategy for EPCRA Section 313 Inspections

Lesson 2

Background and Future Trends of EPCRA Section 313 Regulations

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INTRODUCTION

Purpose

Section 313 of the EPCRA requires certain facilities to report particular facility information, as well as releases and other waste management activities for certain chemicals, to the U.S. Environmental Protection Agency (EPA). These facilities are also required to report their releases and other waste management quantities to the state in which the facility is located by July 1 of every year for the prior calendar year. The purpose of this lesson is to address the history and future of EPCRA Section 313 regulations, providing a greater understanding of the importance of this legislation and the legislative authority used to enforce it.

Objective

- Identify past and potential future trends in the implementation of the EPCRA program and recognize how EPCRA Section 313 relates to other regulations administered by EPA.

EPCRA SECTION 313

On October 17, 1986, the Federal Superfund Amendments and Reauthorization Act (SARA) was enacted into law. With the enactment of Title III of SARA, EPCRA was established. EPCRA is designed to inform communities about toxic chemicals being released and otherwise managed as waste by facilities in their communities. The goals of EPCRA provisions are to:

- Improve emergency planning for toxic and hazardous chemicals.
- Require facilities to identify hazardous chemicals used both onsite and released into the environment.
- Require facilities to report the releases and other waste management quantities associated with the manufacturing, processing, or otherwise use of certain toxic chemicals.
- Make the reported information available to the public.

History of EPCRA Section 313

Section 313 of EPCRA established requirements for annual reporting on releases and other waste management activities of certain toxic chemicals into the environment. Many attribute the passage of EPCRA to the release of methyl isocyanide in Bhopal, India, in December 1984. This release resulted in the deaths and injuries of thousands of people. This law was promulgated in the hope of preventing future tragic incidents of this nature.

In EPCRA Section 313's first program year (1987), EPA estimated that one out of every three facilities that should have reported did not. These absences equate to approximately 10,000 facilities. While more facilities have reported since the first program year, the concern remains that many facilities, particularly smaller ones, have not yet fully complied with the EPCRA Section 313 reporting requirements.

In the program's first years, EPA's enforcement program primarily focused on identifying and taking action against those facilities that failed to report (that is non/late reporters). These non/late reporter inspections remain high on EPA's priority list. However, EPA has taken steps to make data quality more of a focus of the enforcement program. This trend will be discussed in more detail later in this lesson.

Many of the requirements of EPCRA Section 313 that affect data quality have been phased in to ease the impact on reporting facilities. For example, for releases during the calendar year of 1987, facilities that manufactured or processed more than 75,000 pounds (lb) per year of a Section 313-listed toxic chemical were required to submit reports by July 1, 1988. Over the next two years, the manufacturing and processing threshold criteria decreased to 50,000 lbs per year for the reports due July 1, 1989. For the reporting deadline of July 1, 1990, the manufacturing and processing thresholds decreased to the current level to 25,000 lbs per year. Other significant changes to EPCRA Section 313 reporting resulted from the expansion of the list of EPCRA Section 313 chemicals in 1995, the addition of new industry sectors in 1998, and the Persistent Bioaccumulative Toxicities (PBT) rule, which added chemicals and lowered some reporting thresholds starting in reporting year 2000.

The information for each chemical is reported on a separate toxic chemical release inventory reporting form, also called a Form R. This is the instrument generally used by facilities to meet their annual reporting requirement dictated by EPCRA Section 313. There is also an alternate reporting form, called a Form A, used for low annual reportable amounts (less than 500 lbs) if other criteria are met. Form R and A reports will be discussed in greater detail in Module III, Targeting Inspections. Additionally, EPA is required to make publicly available the information submitted on the forms. This has been facilitated through the establishment of a database known as the Toxic Release Inventory (TRI). This database is a compilation of the toxic chemical data that is submitted to the EPA on Form Rs from those facilities that are regulated by EPCRA

Section 313 regulations. The TRI database also contains source reduction and recycling data as a result of the mandate in the Pollution Prevention Act of 1990 for EPA to collect this data through TRI Form R reports. This database will be discussed in greater detail in Lesson 5. However, making this chemical information available to the public is one of the main goals of EPCRA.

EPA Authority

Section 325 of EPCRA authorizes the EPA Administrator to enforce compliance with EPCRA, including the Section 313 requirements. EPCRA establishes Federal authority for civil, administrative, and, in the case of Section 304, criminal actions against owners and operators of facilities that do not comply with EPCRA requirements. EPCRA Section 313 does not, however, provide any authorization for states to take civil, administrative, or criminal actions against violators of the reporting requirements of Section 313. (Procedures for dealing with denial of entry situations will be discussed in greater detail in Lesson 10.) States cannot inspect facilities and assess penalties for EPCRA Section 313 under the Federal law, although they may enact state laws creating this authority.

Specifically, Section 326 of EPCRA authorizes states to bring civil suits against noncompliant owners/operators failing to comply with Sections 302(c), 311(a), 311(b), and 312(a), but NOT Section 313. Section 326(a)(1) of the Federal code does, however, authorize any "Person" to commence a civil action against an owner/operator of a facility for failure to complete and submit a toxic chemical release form — Form R. Section 329 provides a definition of a "Person" that includes states, municipalities, commissions, political subdivisions of states, and interstate bodies. Therefore, as a "Person," states may file civil suits under Section 326(a)(1) for noncompliance with Section 313. However, as a "Person," states do not have the ability to inspect potential violators to collect documentation that would support a case against the facility. As a result, this implicit authority from Section 326(a)(1) is of limited use to most states.

Compliance authority varies between states. Some states only collect the Form Rs, which is the minimum requirement, while others have passed enabling legislation and implemented extensive compliance programs. Although states are not given explicit enforcement authority under the federal law, states can still play a vital role in enforcement through the utilization of their unique knowledge regarding the chemical releases in their state. This will be discussed in further detail in Lesson 4.

Future Trends of EPCRA Program

Since the introduction of the EPCRA Section 313 program, the emphasis primarily has been on identifying and inspecting non/late reporting facilities. In recent years, EPA has begun to move towards standardized data quality inspections and explicitly addressing the nature of data quality violations in the Enforcement Response Policy (which is discussed in more detail in Lesson 4).

There has also been an expansion in the number of industry sectors subject to EPCRA Section 313 reporting requirements, an increase in the number of chemicals on the toxic chemical list, and a decrease in reporting thresholds for certain highly toxic chemicals. These changes have increased the importance of standardizing the inspection process and looking at more process-based investigations in the future.

This does not mean that non/late reporter inspections will be eliminated or that they are less important than data quality inspections. The following reasons illustrate why non/late reporter inspections are still important:

- Not every eligible facility is reporting, and this will probably always be the case. There will always be a facility that misinterprets the requirements for reporting, and therefore considers itself exempt from EPCRA Section 313 regulations.

- Non/Late reporter errors may be found during data quality inspections. The EPCRA Section 313 inspector needs to become familiar with all reporting requirements of the EPCRA Section 313 regulations. It is possible that while verifying the accuracy of a data quality report, you may discover that an eligible chemical was not reported. This could occur because of incorrect threshold determinations, release estimates, or any number of other reasons.

HOW EPCRA SECTION 313 RELATES TO OTHER REGULATIONS ADMINISTERED BY THE EPA

Recognizing some of the interrelationships between the various EPA program areas is increasingly important. Cultivating relationships with personnel from the other programs (such as Resource and Conservation Recovery Act [RCRA], Air, Water, and so on) can provide you with more information about potential target facilities for EPCRA Section 313. Additionally, familiarity with the other program areas, even with the other sections of EPCRA that may overlap or have similarities to the EPCRA reporting requirements, can provide you with beneficial data for your EPCRA inspections. This kind of similarity can produce opportunities for both you and inspectors from other program areas if utilized to their fullest advantage. For example, during one of your inspections you may identify facility practices that would make that site a good candidate for an National Pollutant Discharge Elimination System (NPDES) or Stormwater inspection.

Another example of when program areas intersect is the increase in the number of multimedia inspections. As the number of multimedia inspections increase, there is a greater potential that you will eventually participate in one. These inspections take advantage of all the data collected

by the different program area inspectors who are involved. Specifically, these inspections may provide tips, leads, or referrals to potential EPCRA Section 313 non/late reporting facilities.

The following are additional examples of how other program areas may overlap or be similar to the EPCRA Section 313 regulations.

- The releases that must be reported under EPCRA Section 304, which occur as a result of normal business operations, and emergency releases, may also be subject to reporting under EPCRA Section 313.

- Data submitted under the requirements are to be made available to the public, consistent with the trade secret provisions of these amendments.

- EPCRA Section 313 inspectors compliment Toxic Substances Control Act (TSCA) efforts in that:

  - EPA Regional and Headquarters offices are assisted through clerical support positions in TSCA compliance programs and provide other TSCA administrative and technical support, as needed.

  - EPA is assisted with on-site compliance inspections, case development, and outreach efforts for other programs under the rules and regulations pursuant to TSCA.

  - EPCRA Section 313 inspectors assist in the preparation of background materials that support enforcement actions against TSCA violators.

  - Outreach activities are conducted with the regulated community to improve awareness and understanding of TSCA compliance requirements.

  - Outreach and technical assistance programs are conducted for covered industries; state, regional, and local governments; and community groups to explain and initiate new pollution prevention activities that minimize or eliminate waste.

EXERCISE

In small groups, analyze the list of potential overlap between EPA program areas that are included above. Use any previous experience you may have had as an inspector, in another EPA program office or within the regulated industry, as a basis to analyze the list for both the benefits mentioned above and any potential problems that may occur as a result of these overlaps. Discuss same as a group.

SUMMARY

The purpose of this lesson was to introduce you to EPCRA, in particular Section 313, and provide you with some of the background of this legislation. Also, you were introduced to the future trend toward standardizing the data quality inspection process and the expansion of the toxic chemical list. One of the most important topics in this lesson that will impact you as an EPCRA Section 313 inspector is the issue of authority. It is this authority that will enable you, as an inspector, to support the enforcement strategy for the EPCRA legislation. Finally, this lesson addressed other sections of EPCRA, other legislation, and the associated program areas that may be related to EPCRA Section 313 efforts.

REVIEW QUESTIONS

The following questions are designed to assess your comprehension of the lesson. The answers to these questions are provided in Attachment 2-1.

1. How did EPCRA evolve ?

2. What are the goals of EPCRA's provisions? Which types of EPCRA Section 313 inspections are conducted?

3. Which section of the EPCRA legislation authorizes federal EPA enforcement?

4. What legislation enables State-level enforcement of EPCRA Section 313 and how?

5. Give some examples of how EPCRA may benefit, or may benefit from, the enforcement of other EPA program areas.

ATTACHMENT 2-1

ANSWERS TO LESSON 2 REVIEW QUESTIONS

(Two Pages)

ANSWERS TO LESSON 2 REVIEW QUESTIONS

1. How did EPCRA evolve?

   On October 17, 1986, SARA was enacted into law. With the creation of Title III of SARA, EPCRA was established. EPCRA is designed to help communities become aware of and deal safely and effectively with the numerous toxic and hazardous chemicals being used or released in our communities and nation as a whole. Many attribute the passage of Title III to the public's demand for legislation to prevent a recurrence of the situation that occurred in Bhopal, India, in 1984.

2. What are the goals of EPCRA's provisions? Which types of EPCRA Section 313 inspections are conducted?

   The goals are to:

   - Improve emergency planning for toxic and hazardous chemicals.
   - Require facilities to identify toxic and hazardous chemicals used both on site and released into the environment.
   - Require facilities to report manufacturing, processing, or other use of certain toxic chemicals, as well as the release of or other waste management activities for these chemicals on site and off site.
   - Make the reported information available to the public.

   There are two types of inspections: non/late reporter inspections and data quality inspections. Approximately one out of every three facilities that should have reported results in 1987 did not. This equals approximately 10,000 facilities. While more facilities have reported during the intervening years, the concern remains that there are facilities, particularly smaller ones, that have not yet fully complied with the EPCRA Section 313 reporting requirements. However, as the program continues to mature, it is expected that there will be a greater emphasis by EPA on inspecting to ascertain the accuracy and completeness of the submitted data.

3. Which section of the EPCRA legislation authorizes federal EPA enforcement?

   Section 325 of EPCRA authorizes the EPA Administrator to enforce compliance with EPCRA, including Section 313 requirements. EPCRA establishes Federal authority for civil, administrative, and criminal actions against owners and operators of facilities that do not comply with EPCRA requirements.

4. What legislation enables State-level enforcement of EPCRA Section 313 and how?

Section 326 (a)(1) authorizes any "Person" to commence a civil action against an owner/operator of a facility for failure to complete and submit a toxic chemical release form. Section 329 provides a definition of a "Person" that includes states, municipalities, commissions, political subdivisions of states, and interstate bodies. However, as a "Person", states do not have the ability to inspect potential violators to collect documentation that would support a case against the facility.

5. Give some examples of how EPCRA may benefit, or may benefit from, the enforcement of other EPA program areas.

- Identification of a release reported under EPCRA Section 313 that must be reported under EPCRA Section 304, as a result of normal business operations or emergency releases.

- Data submitted under the requirements are to be made available to the public, consistent with the trade secret provisions of these amendments.

- On-site compliance inspections, case development, and outreach efforts for other programs can be assisted under the rules and regulations pursuant to TSCA.

- EPCRA Section 313 inspectors assist in the preparation of background materials that support enforcement actions against TSCA violators.

Lesson 3

EPCRA Section 313

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INTRODUCTION

Purpose

In order to conduct effective EPCRA Section 313 inspections, you must be able to accurately interpret Section 313 regulations and you must be proficient in identifying potential violations of the reporting requirements. This level of comprehension is imperative, as there may be occasions when you will need to legally justify your actions or make appropriate inspection decisions while on site at a facility. The purpose of this lesson is: (1) to familiarize you with the requirements of the EPCRA Section 313 regulations in order to assist you during your EPCRA Section 313 inspections and (2) to provide a general overview of the requirements for being an EPCRA 313 inspector.

Objective

Given a written exercise:

- Review the EPCRA Section 313 Toxic Chemical List.

EPCRA SECTION 313 REGULATIONS

On October 17, 1986, SARA was enacted into law. Title III of SARA, also known as EPCRA, is designed to help communities deal safely and effectively with the numerous toxic and hazardous chemicals used daily within our society. EPCRA contains provisions to improve emergency planning for toxic and hazardous chemicals, and it requires facilities to identify hazardous chemicals that are present on site and, in some cases, released into the environment. Section 313 of EPCRA specifically addresses facility reporting requirements for the release or transfer of the toxic chemicals described above and the criteria that a facility must meet to be considered subject to the Section 313 requirements. (This criteria will be discussed in greater detail in the following section.)

Overall, EPCRA Section 313 has three primary components:

- Facilities that meet the reporting criteria established in EPCRA Section 313 must submit annual reports (Form Rs or Form As) to the States in which the facility is located and the EPA. These reports identify the amounts of toxic chemicals released into the environment and otherwise managed as waste. Toxic chemicals are defined as any

chemical on the Toxic Chemical List that is published by EPA and codified by the Federal Register (FR) by 40 Code of Federal Regulations (CFR) Part 372, Subpart D. A copy of the current EPCRA Section 313 Toxic Chemical List is available at EPA's TRI Internet site www.epa.gov/tri and is referenced in Attachment 3-1.

- EPA must establish an inventory of data that is collected from the facility reports (that is, Form Rs).

- States and EPA must make the collected release information available to the public through both a nationwide database and other publicly available means.

Facility Requirements

Facilities subject to EPCRA Section 313 are those that fit into the following activity categories: manufacture, process, or otherwise use of listed toxic chemicals in excess of an amount specified by the EPA. It is important that you understand the meaning of these activity categories (see Table 3-1).

These facilities must submit annual reports of the amounts of toxic chemicals released into the air, water, and land, or otherwise managed as waste. Currently, the reporting requirements must be complied with by the owners and/or operators of facilities that meet the following criteria:

- Have 10 or more full-time employees (or 20,000 employee and/or contractor hours) per year.

- Have a primary Standard Industrial Classification (SIC) Code of 10 (except 1011,1081, and 1094); 12 (except 1241); 20 through 39; 4911, 4931, and 4939 (limited to facilities in these codes that combust coal and/or oil for the purpose of generating power for distribution in commerce); 4953 (limited to facilities regulated under RCRA, Subtitle C); and 5169, 5171, and 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis). In addition, Federal Facilities subject to Executive Order 12856 must report. For a list of SIC groups subject to EPCRA Section 313 requirements, refer to Table 3-2. Also note the transition from SIC codes to the North American Industrial Classification (NAIC) System codes, which became effective in April 1997 (see 62 FR 172188 for a crosswalk between the codes).

- Manufacture, process, or otherwise use of a listed toxic chemical in excess of the specified threshold quantities for each EPCRA Section 313 chemical (see Table 3-3).

Table 3-1 Activity Categories

ACTIVITY CATEGORY DEFINITIONS
Manufacture: To produce, prepare, import, or compound one of the toxic chemicals on the list. For example, if you make a dye for clothing by taking raw materials and reacting them and thereby produce a toxic chemical, then you are manufacturing the chemical. You also would be covered if you were a textile manufacturer who imported a toxic chemical in a dye on the list for purposes of applying it to fabric produced at your plant. **Process:** To prepare a toxic chemical, after its manufacture, for distribution in commerce. This includes making mixtures, repackaging, or using a chemical as a feed-stock, raw material, or starting material for making another chemical. Examples of *processing* include: • Adding a solvent as a diluent when making a paint, coating, or other mixture • Using a chemical as a reactant in the manufacture of a pesticide (such as using chemical A to make chemical B). **Otherwise Use:** To apply to any use of a toxic chemical at a covered facility that is not covered by the terms "manufacture" or "process" and includes use of a toxic chemical contained in a mixture or trade name product. A toxic chemical that is *otherwise used* by a facility is not intentionally incorporated into a product distributed in commerce. Examples include: • Chemical processing aids (such as solvents) • Manufacturing aids (such as lubricants and refrigerants) • Ancillary activities (such as chemicals used to remediate wastes) Otherwise use of a Section 313 chemical also includes disposal, stabilization (without subsequent distribution in commerce), or treatment for destruction on site if: • Section 313 chemical was received from off site for the purposes of further waste management or • Section 313 chemical was manufactured as a result of waste management activities on materials received from off site for the purpose of further waste management. Waste management activities include recycling, combustion for energy recovery, treatment for destruction, waste stabilization and release (including disposal).

Table 3-2 SIC Code Groups

SIC Code	Industry Group
10 (except 1011,1081, and 1094)	Metal mining
12 (except 1241)	Coal mining
20	Food and kindred products
21	Tobacco products
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
30	Rubber and miscellaneous plastic products
31	Leather and leather products
32	Stone, clay, glass, and concrete products
33	Primary metal industries
34	Fabricated metal products, except machinery and transportation equipment
35	Industrial and commercial machinery and computer equipment
36	Electronic and other electrical equipment and components, except computer equipment
37	Transportation equipment

Table 3-2 SIC Group Subjects (Continued)

SIC Code	Industry Group
38	Measuring, analyzing, and controlling instruments; photographic, medical and optical goods; and watches and clocks
39	Miscellaneous manufacturing industries
4911,4931, and 4939	Electrical utilities, limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce
4953	Treatment, Storage and Disposal Facilities, limited to RCRA Subtitle C permitted or interim status facilities
5169	Chemical distributors
5171	Petroleum bulk terminals
7389	Solvent Recovery Services, limited to facilities primarily engaged in solvent recovery services on a contract or fee basis

The SIC Code is a mechanism for grouping business according to industry, as indicated in Table 3-2 (for example 23XX; the "XX" further specifies the type of facility within the "23" category). EPCRA Section 313 requires that reports be filed by "facilities." "Facilities" are defined in EPCRA Section 329(4) as "all buildings, equipment, structures, and other stationary items which are located on a single site or contiguous or adjacent sites and which are owned and operated by the same person (or by any person which controls, is controlled by, or under common control with, such person)." The SIC code system, however, classifies businesses not as "facilities" but as "establishments". Establishments are defined as "distinct and separate economic activities [that] are performed at a single location."

A facility may include multiple establishments that have different SIC codes. If at one facility, some establishments have primary SIC codes within the covered SIC codes and some have primary SIC codes outside of that range, then the facility must determine if the facility needs to report. This is done by comparing the economic value from the establishment(s) that are in the covered SIC codes to the total value of the products shipped or produced or services provided from the facility as a whole, or if one of those covered SIC code establishments has a value of services or products shipped or produced that is greater than any other establishment in the facility. The facility is considered to be primarily within the covered SIC codes and required to report if:

- Those establishments that are in the covered SIC codes have a combined value of more than 50 percent of the total value of services provided or products shipped or produced by the whole facility, or

- Any one establishment in a covered SIC code has a value of services or products shipped or produced that is greater than the value of services or products shipped or produced by any other establishment within the facility.

You need to be aware of any changes that are made to the SIC list, as this will expand or reduce the number of facilities with which you will be concerned.

Table 3-3 Reporting Thresholds

Activity Category	Threshold*
Manufacture (including import)	25,000 pounds per year
Process	25,000 pounds per year
Otherwise Use	10,000 pounds per year

* These reporting thresholds are for non-PBT chemicals. A final rule for PBT chemicals was promulgated on October 29, 1999, and applies to the reporting year beginning January 1, 2000. In this rule, EPA added seven chemicals and lowered the reporting thresholds for 18 chemicals and chemical categories that meet the EPCRA Section 313 criteria for persistence and bioaccumulation. The PBT chemicals and their thresholds can be found in the final PBT rule, which is available on the TRI Internet site and as Attachment 3-2.

Threshold Determination Example

If a facility manufactures 22,000 lbs of an EPCRA Section 313 chemical or chemical category and also uses 8,000 lbs of the same chemical or chemical category, it has not exceeded either threshold, and an EPCRA Section 313 report for that chemical or chemical category is not required. However, if the facility manufactures 28,000 lbs per year of an EPCRA Section 313 chemical or chemical category and otherwise uses 8,000 lbs of the same chemical or chemical category, it has exceeded the manufacturing threshold and ALL release and other waste management quantities (except those specifically exempted) of that chemical or chemical category must be reported on the Form R, including those from the otherwise use activity.

Facilities that meet these criteria annually submit a Toxic Chemical Release Form (generally EPA Form R unless the facility meets the criteria of the Alternate Threshold Rule, in which case Form A may be used). Additionally, facilities are required to retain copies of all Form Rs or As on site, along with the supporting documentation used to develop report information, for a period

of three years from the date of submission. These materials must also be readily available for inspection by EPA.

EPCRA Section 313 Toxic Chemical List

The original EPCRA Section 313 Toxic Chemical List was comprised of over 300 chemicals and chemical categories, and was based on lists already being used by the states of Maryland and New Jersey. This list is a continuously evolving document with chemicals being added and deleted. The EPA adds or deletes chemicals from the Toxic Chemical List by using a petition process. You constantly need to be aware of the chemicals for which you are inspecting. Attachment 3-1 identifies the Internet site where you can obtain a current list of TRI chemicals, prior year lists, and toxicity information. Note that even if a chemical is currently delisted, a facility may still be cited in violation of EPCRA Section 313, if the violation occurred while the chemical was still on the Toxic Chemical List.

A portion of this petition process relies on the Administrator of the EPA to decide, by using his/her judgment, which chemicals have shown sufficient evidence that a potential threat to health and safety exists. The considerations for this determination are detailed in Title III, Section 313, subsection (d). In particular, those chemicals which are included in the EPCRA Section 313 Toxic Chemical List have been judged to cause, or can be reasonably anticipated to cause significantly adverse:

- Acute Human Health Effects (such as severe chemical burns). The adverse effects described above must have the potential to occur beyond the facility boundaries. In other words, the surrounding community would be at risk, should an emergency occur during facility use of a particular toxic chemical.

- Chronic Human Health Effects (such as cancer or teratogenic effects, reproductive dysfunctions, and neurological disorders).

- Environmental Effects (such as gradual or sudden changes in the composition of plant and/or animal life abnormally high number of deaths or organisms in the surrounding environment).

There is one qualification to the criteria for toxic chemicals. The number of toxic chemicals that can be listed solely because of its suspected environmental impact, may not exceed 25% of the total number of listed chemicals. For instance, if the total number of listed chemicals is 300, no more than 75 of those chemicals can be listed solely because of their impact on the surrounding environment. If a chemical adversely impacts the environment and causes chronic human effects, then it is not counted among the 25%.

Types of EPCRA Section 313 Inspections

This section will describe the basic similarities and differences between non/late reporter and data quality inspections; however, both will be examined in greater detail throughout the remainder of the manual. Also, the concept of a "desktop" inspection and when it may be an appropriate alternative to a facility visit will be discussed.

Non/Late Reporter

Non/Late reporter inspections are triggered by a facility's "failure to comply in a timely manner." A facility that meets the criteria of EPCRA Section 313 and fails to submit a Form R reporting the usage of the applicable chemicals, has potentially committed a non/late reporter violation. Consequently, such facilities are not in compliance with the EPCRA Section 313 reporting requirements and will be subject to penalties.

Data Quality

Data quality errors, as defined in the current EPCRA Section 313 Enforcement Response Policy (ERP), are errors that cause erroneous data to be submitted to the EPA and the States. The primary difference between a data quality inspection and a non/late reporter inspection is facilities that have data quality errors have submitted Form Rs to the EPA by the due date, whereas non/late reporters have not reported at all or have reported after the due date. The purpose of a data quality inspection is to resolve suspected discrepancies between data reported versus the actual usage of a chemical. These errors can take many forms, and a detailed listing of potential data quality errors will be discussed in Lesson 7.

"Desktop" Versus Physical Plant Inspection

It is not always necessary to physically visit the facility in order to obtain the information you need. Sometimes a phone call and letter will suffice. A desktop inspection is appropriate when:

- The facility's operations and processes are relatively easy to understand.
- The facility is a small business (fewer than 100 employees and less than $10 million in annual sales).
- You are confident that the facility will willingly submit the information requested.

For a desktop inspection, document your contact with the facility. Before you send a certified letter, call the facility representative responsible for environmental reporting or the plant manager. Inform this person that EPA will be sending the facility a letter requesting that certain records be submitted to EPA and that any questions should be directed to you.

EPCRA SECTION 313 INSPECTORS

Federal EPA Inspectors

Federal EPA inspectors are employed by the Federal government and are therefore empowered with all of the corresponding rights and responsibilities. For example, in an EPCRA Section 313 inspection, a Federal EPA inspector is allowed to view and handle proprietary information, TSCA Confidential Business Information (CBI), and EPCRA trade secret information (which will be covered more thoroughly in the following section).

National Council for Senior Citizens Employees

Since 1976, the EPA and the EPA Agency on Aging have jointly sponsored older worker environmental programs. After a successful two-year, ten-state program, the EPA funded older worker programs through the Senior Environmental Employment (SEE) Program for several environmental programs, including EPCRA Section 313. The National Council for Senior Citizens (NCSC) became a grantee of the SEE program in 1985, and subsequently, NCSC employees began conducting EPCRA Section 313 inspections for the EPA. These programs complement each other, because the backgrounds of many NCSC employees are suited for conducting EPCRA Section 313 inspections. Many of the NCSC employees have reared from extensive careers within the community that is regulated by EPCRA. Therefore, they are sensitive to the concerns and possess insight into the processes at work within the facilities inspected for potential EPCRA Section 313 violations. In addition, SEEs predominantly have an engineering or related science background that adequately qualifies them as candidates for EPCRA Section 313 inspections.

As a result of the initiative to use NCSC employees, most of the current EPCRA Section 313 inspections have been conducted by SEEs, and SEEs outnumber EPA inspectors. All NCSC employees receive the exact same training as a Federal inspector, and are therefore equally qualified and prepared to conduct EPCRA Section 313 inspections for the EPA.

Training Requirements for EPCRA Inspectors

EPA Order 3500.1 established standardized minimum training requirements for all EPA inspectors (including SEE inspectors, contract inspectors, and part-time inspectors) and their supervisors. Completion of these requirements is necessary in order to lead an EPCRA inspection.

For new inspectors, the requirements include:

1. Basic Inspector Training Course, including

   - Multimedia environmental statute review (CD- ROM)

   - Region-specific multimedia compliance inspection procedures

2. Health and Safety Training

   - 40-hour course

   - 8-hour annual refresher training

   - Medical monitoring (if you have the potential to be exposed routinely to chemicals)

3. Program-Specific Training

   - 24 hour minimum. The EPCRA Section 313 Inspector Training Course meets this requirement. Regions can offer either as a classroom-style course or inspectors complete the training manual through study.

   - On-the-job training. The longer of: two 8-hour days, or participation in two inspections.

   - Annual EPCRA refresher training on new or revised policies, regulations, guidance, or procedures.

A draft sample record of training necessary to lead TSCA/EPCRA inspections that was developed by Region IX is included as Attachment 3-3. It includes region-specific requirements in addition to the minimum national requirements.

Inspection Credentials for Inspectors

EPA Regional offices generally issue an inspector's credential to EPA staff inspectors that will lead field inspections/investigations; SEE employees need a letter of authorization (see Lesson 8 Attachment 8-5, "Language for SEE Inspection Letter").

EPCRA TRADE SECRETS AND PROPRIETARY INFORMATION

As an EPCRA Section 313 inspector, you may encounter a facility eligible to claim some of their chemicals or chemical processes as trade secrets or proprietary information. There are provisions for trade secrets in the EPCRA Section 313 regulations, and for this reason, you must know the procedures for handling this situation.

Trade Secret Factors

By claiming a TRI toxic chemical as a trade secret (hereafter referred to as a toxic chemical), the facility may be able to claim the specific identity of the chemical as a trade secret. However, to exercise this right, a claimant facility must first meet all of the following requirements:

- The information has not been disclosed to any person other than one or all of the following:
  - Member of a local emergency planning committee
  - Officer or employee of the Federal, State, or local government
  - Persons bound by a confidentiality agreement who have, and will continue to have, taken reasonable measures to protect this information.
- Disclosure of the information to the public is not required under any other Federal or State law.
- Disclosure of the information is likely to cause substantial harm to the facility's competitive position.
- The chemical identity is not readily discoverable through reverse engineering.

Only upon approval from EPA and if the facility meets the above requirements, may it withhold the specific chemical information. However, if it withholds this information, the generic class or category of the toxic chemical must be entered instead.

Inspectors may gather process information during the course of the inspection that the facility wants to claim as confidential. However, EPCRA confidential business information (CBI) provisions do not apply to process information; they only apply to chemical identities.

Role of EPCRA Section 313 Inspector with Proprietary and Trade Secret Information

Proprietary Information and TSCA CBI. There are certain regulatory provisions that govern the procedures for dealing with proprietary and confidential information (40 CFR Part 2, Section 2.310). As a Federal EPA inspector, you are permitted to view both proprietary information and TSCA CBI. However, as an NCSC employee, you are not permitted to handle TSCA CBI, because you are considered to be a grantee under the SEE Program, not a Federal employee. There are special considerations when a facility claims information as CBI under TSCA. If this should occur, contact your Region to find out the appropriate procedures to follow.

EPCRA Trade Secrets. As a Federal EPA inspector, you are permitted to view trade secret information. NCSC employees also have access to trade secret information under EPCRA; however, the trade secret clearance for NCSC employees covers only the name of the chemical.

EXERCISE

In small groups, discuss your backgrounds and experiences for 10 to 15 minutes. Identify any experience or involvement you've had with trade secrets, proprietary information, or CBI. If any member of the group hasn't had any experience with trade secrets or CBI, he or she should identify any questions about how to deal with them. Each group should share with others an experience of or question from a group member they found particularly interesting. Allow time for discussion to resolve any issues that may arise.

SUMMARY

The main focus of this lesson has been to provide you with some of the specifics of the EPCRA Section 313 regulations that impact your future inspection activities and to provide an overview of EPCRA inspector requirements and restrictions. The lesson specifically addressed the reporting requirements for facilities and the EPCRA Section 313 Toxic Chemical List and provided a brief description of the types of EPCRA Section 313 inspections. Additionally, you should now be aware of the different types of EPCRA Section 313 inspectors, their respective roles in the handling of EPCRA trade secret and proprietary information, and the minimum training needed to be the lead inspector on an EPCRA 313 inspection.

REVIEW QUESTIONS

The answers to the following review questions are provided in Attachment 3-4.

1. What are the criteria a facility must meet to be subject to the EPCRA Section 313 reporting requirements?

2. What are the adverse effects that a chemical from the EPCRA Section 313 Toxic Chemical List may cause?

3. Name the two different programs an EPCRA Section 313 inspector may come from and briefly describe the differences in their authority.

ATTACHMENT 3-1

TOXICS RELEASE INVENTORY CHEMICALS WEBPAGE

(Two Pages)

EPA United States Environmental Protection Agency Toxics Release Inventory: Community Right-to-Know

Toxics Release Inventory Chemicals

The TRI toxic chemical list includes over 640 individually listed chemicals and chemical categories. EPA has made chemical list changes through the chemical petitions process and EPA-initiated review. For more information about the toxic effects of some of the TRI chemicals, EPA has developed chemical fact sheets.

Toxics Chemical Lists

Current List of TRI Chemicals (PDF, 116KB)

The current TRI chemical list contains 579 individually listed chemicals and 28 chemical categories (including 2 delimited categories containing 39 chemicals). Note: Three chemicals on the current list (methyl mercaptan, hydrogen sulfide, and 2,2-dibromo-3-nitrilopropionamide) are under administrative stays and are not currently reportable.

1997 Reporting Year List of TRI Chemicals (PDF, 113KB)

For reporting year 1997, the reportable TRI chemical list contains 576 individually listed chemicals and 28 chemical categories. The only differences between the 1997 chemical list and the current chemical list discussed above are that the three chemicals under administrative stays are not included in the 1997 list. Reports for 1997 are due to EPA and the states by July 1, 1998 and the 1997data will be available to the public in the spring of 1999.

TRI Chemical Guidance Documents

EPA has developed a common synonyms document and a number of guidance documents to help reporting facilities identify TRI chemicals. The guidance documents help facilities meet reporting requirements by identifying reportable chemicals and by providing examples of how to make calculations involving the reporting thresholds releases, and other quantities.

TRI Chemical List Changes

EPA has modified the original list of TRI chemicals through a petition process and by EPA-initiated actions. The status of each petition reviewed or currently under review is available as well as a summary of reporting years affected by each change to the chemical list.

Regulatory Program Information

TITLE III List of Lists (PDF, 586KB)

This is a consolidated list of chemicals subject to reporting requirements under Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) with references to their reporting status under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund), The Resource Conservation and Recovery Act (RCRA), and Sections 302 and 313 of The Emergency Planning & Community Right-To-Know Act (EPCRA).

Regulatory Matrix of TRI Chemicals in other Federal Programs (PDF, 183KB)

A matrix has been developed for each TRI chemical indicating whether it is regulated under other selected environmental laws.

Toxicity Information

TRI CHEMICAL FACT SHEETS

Hazard Information on Toxic Chemicals Added to EPCRA Section 313 Under Chemical Expansion. This page provides summary hazard information on the 286 chemicals that were added to the Toxics Release Inventory in 1994.

EPA has developed information summaries on 40 selected TRI chemicals to describe how you might be exposed to these chemicals, how exposure to them might affect you and the environment, what happens to them in the environment, who regulates them, and whom to contact for additional information.

Chemical fact sheets based largely upon the state of New Jersey's Hazardous Substance Fact Sheets are available for over 200 TRI chemicals. They can be accessed online using the TRIFACTS database, which is part of the National Library of Medicine's TOXNETsystem. EXIT EPA

TRI Chemicals Classified as OSHA Carcinogens

This is a list of TRI chemicals that are classified as carcinogens under the requirements of the Occupation Safety and Health Administration (OSHA) and, the basis of the classifications. OSHA carcinogens have a 0.1% de minimis concentration limit instead of 1%. Amounts of TRI chemicals present below the de minimis concentration limit in mixtures do not have to be included in threshold determinations or release and other waste management calculations.

ATSDR TOXFAQS

These are a series of summaries developed by the Agency for Toxic Substances and Disease Registry (ATSDR) that contain frequently asked questions about the health effect for 60 hazardous substances. About 50 of these chemicals are also TRI chemicals. EXIT EPA

PLEASE NOTE: Some of the documents mentioned in this Section are in Adobe's Portable Document Format (PDF). To view or print them you will need to have the Adobe Acrobat Reader program installed on your computer. The Reader can be downloaded and used with no charge; click here for more information.

ATTACHMENT 3-2

REPORTING THRESHOLDS FOR EPCRA SECTION 313 LISTED PBT CHEMICALS

(One Page)

Reporting Thresholds for EPCRA Section 313 Listed PBT Chemicals

Chemical Name or Chemical Category	CASRN	Section 313 Reporting Threshold (in pounds unless noted other-wise)
Aldrin	309-00-2	100
Benzo(g,h,i)perylene	191-24-2	10
Chlordane	57-74-9	10
Dioxin and dioxin-like compounds category (manufacturing; and the processing or otherwise use of dioxin and dioxin-like compounds if the dioxin and dioxin-like compounds are present as contaminants in a chemical and if they were created during the manufacturing of that chemical)	NA	0.1 grams
Heptachlor	76-44-8	10
Hexachlorobenzene	118-74-1	10
Isodrin	465-73-6	10
Methoxychlor	72-43-5	100
Octachlorostyrene	29082-74-4	10
Pendimethalin	40487-42-1	100
Pentachlorobenzene	608-93-5	10
Polycyclic aromatic compounds category	NA	100
Polychlorinated biphenyl (PCBs)	1336-36-3	10
Tetrabromobisphenol A	79-94-7	100
Toxaphene	8001-35-2	10
Trifluralin	1582-09-8	100
Mercury	7439-97-6	10
Mercury compounds	NA	10

U.S. EPA also added two chemicals to the polycyclic aromatic compounds (PACs) category that is listed above:

Benzo(j,k)fluorene (fluoranthene)
3-methylchloanthrene

These two chemicals are not to be reported individually; rather, they should be included within the PACs compound category.

ATTACHMENT 3-3

DRAFT RECORD OF TRAINING TO LEAD INSPECTIONS

(One Page)

DRAFT - DO NOT QUOTE OR CITE
RECORD OF TRAINING TO LEAD INSPECTIONS
TOXICS SECTION
June 29, 1999

*Name:*_____ *Date Requirements Completed:*_____

Mandatory Training (Indicate date completed, except for medical monitoring)

1. Basic Inspector Training
2. Health and Safety Training (24 hour)
3. Annual Refresher Training (8 hour)
4. Medical Monitoring (if you have the potential to be routinely exposed to chemicals)

Program Specific Training

Type of Activity	Number of Hours	Accomplishments (Description, Date, Number of Hours)
1. TSCA/EPCRA Introduction/Orientation - guided self-study with senior mentor to learn about your assigned program(s)	80 hours	
2. OJT Office Preparation for Field Work - inspection targeting, learning about the industry, planning logistics for field work, learning inspection procedures from coworkers	40 hours	
3. a. Field Experience accompanying an experienced inspector who is conducting the inspection, participating as appropriate in data gathering and documentation	3 to 5 inspections or 40 hours	
b. Field Experience conducting inspections, accompanied by a more senior inspector	3 to 5 inspections or 40 hours	
4. Experience writing inspection reports, including review and approval by Section Chief or designee	5 reports or 20 hours	

G:\USER\SHARE\CMD\Toxics Release Inventory\Standard Operating Procedures\2_ Inspection\Inspector Requirements, Toxics Section.wpd

ATTACHMENT 3-4

ANSWERS TO LESSON 3 REVIEW QUESTIONS

(Two Pages)

ANSWERS TO LESSON 3 REVIEW QUESTIONS

1. What are the criteria a facility must meet to be subject to the EPCRA Section 313 reporting requirements?

   - Have 10 or more full-time employees (or 20,000 paid personnel and/or contractor hours) per year.

   - Are in SIC codes 10 (except 1011, 1081, and 1094); 12 (except 1241); 20 through 39, 4911, and 4931 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce); 4953 (limited to facilities regulated under RCRA, Subtitle C); and 5169, 5171, and 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis). In addition, Federal Facilities subject to Executive Order 12856 must report.

   - Manufacture, process, or otherwise use a listed toxic chemical in excess of the specified threshold of quantities.

2. What are the adverse effects that a chemical from the EPCRA Section 313 Toxic Chemical List may cause?

   Acute human health effects (such as severe chemical burns)

   - The adverse effects described above must have the potential to occur beyond the facilities' boundaries. In other words, the surrounding community would be at risk, should an emergency occur during facility use of a particular toxic chemical.

   Chronic human health effects (such as cancer or teratogenic effects, reproductive dysfunctions and neurological disorders)

   Environmental effects (such as gradual or sudden changes in the composition of plant and/or animal life or abnormally high number of deaths of organisms in the surrounding environment)

3. Name the two different programs an EPCRA Section 313 inspector may come from and briefly describe the differences in their authority.

   NCSC Employee (SEEs) - Grantees under the SEE Program and employees of NCSC. Possess the full inspection authority of Federal EPA inspectors, except for viewing TSCA CBI. Permitted limited viewing of EPCRA trade secret information.

Lesson 4

Compliance Monitoring Strategy for EPCRA Section 313 Inspections

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INTRODUCTION

Purpose

The purpose of this lesson is to inform you of EPA's Strategy for Monitoring Compliance with EPCRA Section 313 regulations. Additionally, the EPA's Enforcement Response Policy (ERP), Regional Memoranda of Agreements (MOA), and Audit Policy will be discussed as the three major tools that support EPA's nationwide compliance and enforcement efforts.

Objectives

Given a small group exercise:

- Discuss the Compliance Monitoring Strategy for EPCRA Section 313 inspections.
- Discuss the ERP, Regional Agreements MOAs, and Audit Policy as support tools to EPA's nationwide compliance and enforcement strategy.
- Explain how the Compliance Monitoring Strategy impacts current job responsibilities of EPCRA Section 313 inspectors.

COMPLIANCE MONITORING STRATEGY

Purpose of the Compliance Monitoring Strategy

EPA's Compliance Monitoring Strategy serves to establish a foundation of reporting requirements for States and Regions on which to base the development of their individual compliance programs and MOAs. This foundation establishes guidelines and minimum compliance standards, nationwide, that States and Regions are responsible for upholding.

Goal of EPCRA Section 313 Compliance Monitoring Strategy

One of EPA's goals is to reduce toxic chemical releases that are emitted into the environment. EPCRA Section 313 and PPA Section 6607 were enacted to require reporting of releases, off-site transfers, and other waste management activities to the Federal and State governments. The goal of EPA's compliance strategy for EPCRA Section 313 is to:

- Enforce Section 313 compliance through facility inspections.

- Provide technical and educational support to industry and the community through outreach programs and compliance assistance (such as workshops, seminars, and EPCRA Section 313 literature).

- Encourage entities subject to EPCRA Section 313 requirements to voluntarily discover, promptly disclose, and expeditiously correct violations of EPCRA Section 313.

Inspectors have primary responsibility for the first goal. You have a more limited role in providing outreach and compliance assistance to industry on EPCRA Section 313. The majority of outreach and educational support is provided by the Regional TRI Coordinators and Headquarters staff in the TRI Program Division in the Office of Environmental Information.

Components of the Compliance Monitoring Strategy

Federal compliance activities focus on three main areas: conducting facility inspections, providing outreach programs for facilities and communities, and encouraging voluntary audits and disclosures by facilities of their compliance with EPCRA Section 313.

Facility Inspections. Facility inspections focus on two types of violators: non/late reporting facilities and reporting facilities that submit incomplete or inaccurate Form R reports (data quality). Therefore, the Federal compliance program consists of two types of inspections:

- Non/Late Reporter Inspection. This inspection process identifies suspected non/late reporter facilities and investigates whether these facilities are subject to EPCRA Section 313 reporting requirements.

- Data Quality Inspection. This inspection process identifies and takes action against reporting facilities that have submitted Form Rs with identifiable errors or incomplete submissions.

These inspections have often been conducted as discrete activities but may be combined into one process-based inspection/investigation.

None of EPCRA Section 313 has been delegated to the States; however, some states have enacted similar legislation. In those cases where the State has its own inspection authority, you should coordinate with the State in order to prevent duplication of effort.

Outreach Programs/Efforts. Another important component of the Compliance Monitoring Strategy is outreach to facilities through national, state, and local outreach programs. Such activities may include:

- Education of, and coordination with, other state environmental programs
- Training (seminars and workshops)
- Fostering cooperation with trade associations by providing technical assistance
- Publicizing the purpose of enforcement, including issuing "Enforcement Alerts" of identified EPCRA Section 313 compliance problems
- Publicizing Voluntary Reduction Programs and the availability of compliance incentives, (for example, EPA's "Incentives for Self-Policing: Discovery, Disclosure, Correction Prevention of Violations" Policy, also known as "Audit Policy")
- Coordination with the state agencies conducting outreach activities
- Ongoing communications with reporting facilities

By conducting these activities, you will provide EPCRA-Section 313-specific information to facilities and the community. This dissemination of information increases program visibility throughout State governments, the regulated community, and the public. The more visible the program is within State governments and the community, the more support you, as EPCRA Section 313 inspectors are likely to receive in promoting specific outreach activities and conducting inspections. An up-front investment in educating State and local governments, citizens, and the regulated community about EPCRA Section 313 requirements is also expected to improve compliance.

Encouraging and Evaluating Voluntary Audits and Disclosures of Violations. There are not enough inspectors to routinely inspect all subject facilities for compliance with EPCRA Section 313 requirements. Therefore, EPA encourages facilities to take more responsibility for auditing for compliance, disclosing any violations that are discovered, and promptly correcting them. In return, EPA agrees to reduce or eliminate penalties. Since the policy took effect in 1996, a large percentage of audit disclosures have been for EPCRA violations. Although the Audit Policy does not apply to compliance issues identified during an inspection, inspectors should be familiar with the Audit Policy and help disseminate information about its availability. Additional information on the Audit Policy is available at: http://www.epa.gov/oeca/ore/auditupd.html.

EPCRA SECTION 313 ENFORCEMENT RESPONSE POLICY

To support the National Compliance Monitoring Strategy, the EPA issued an ERP in December 1988 that addressed EPCRA Section 313 violations. Since that time, EPA has reviewed several years of compliance and enforcement data and revised the policy on August 10, 1992 to increase effectiveness of enforcement actions against EPCRA Section 313 violators. As of October 2000, EPA is developing another revised ERP. When the revised ERP is approved, EPA will make it available on the Internet at http://es.epa.gov/oeca/ore/tped/index.html.

The ERP's purpose is to ensure that enforcement actions for EPCRA Section 313 violations are determined in a fair and consistent manner and that the penalty is commensurate with the violation committed. Through effective enforcement, the EPA hopes to deter facilities from committing additional EPCRA Section 313 violations.

Strategy for Effective Enforcement

Effective administration of the EPCRA Section 313 enforcement program is dependent upon the teamwork between the Office of Enforcement and Compliance Assurance (OECA) and the EPA Regions. On an annual basis, the Regions individually prepare MOAs with Headquarters. Management at both Regions and Headquarters agree upon the MOA program goals, flexibility, and discretion. These agreements detail how each Region will implement its compliance and enforcement programs to achieve EPA's National program objectives, while recognizing the relevant circumstances and/or conditions of the Region and/or specific State(s) within that Region. Although there is a recognized demand for more administrative resources to meet the array of program priorities, the objective of Headquarters and Regions is to use all existing State, Regional, and National resources to fully address both Regional and National priorities.

Levels of Actions

When a facility violation occurs, there are five levels of enforcement actions that can be taken. Each level and a brief description are presented below.

No Action. Generally, enforcement actions are not taken when voluntary changes are submitted to correct original Form R report data under the following circumstances:

- Revisions reflecting new or improved information that was not available when the facility completed its original Form R submission
- New or improved procedures that were not available when the facility completed its original submission of the Form R

A facility that submits a revision that does not meet either of these descriptions or a revision that calls into question the basis for the initial data reported on the original Form R report will be subject to an enforcement action. Additionally, a Form R submitted after the July 1 deadline, which was not previously submitted, is not considered to be a revision and is subject to a civil administrative penalty for failure to report in a timely manner.

Notices of Noncompliance (NON). A NON is the appropriate response for certain types of errors detected on Form R reports. Generally, these reporting errors prevent Headquarters from entering the Form Rs into the TRI database. EPA issues a NON to the facility, which requests that the incorrect information be updated within thirty days. Failure to correct any error for which a NON is issued may be the basis for issuance of a Civil Administrative Complaint. Civil Administrative Complaints will be discussed in further detail as the next level of action. Examples of errors that may warrant the issuance of a NON include:

- Form R reports that are assembled incorrectly
- Form R reports submitted with missing or invalid facility or chemical identification information
- Submission of EPCRA Section 313 or PPA information on an invalid form
- Magnetic media submissions that cannot be processed
- Submission of a Form R report with trade secrets without a sanitized version or the submission of the sanitized version of the Form R report without the trade secret information
- Form R reports that are sent to a wrong address

You will be provided more information about these examples in Module III, Targeting Inspections.

Civil Administrative Complaints. A Civil Administrative Complaint is the appropriate enforcement action for the following errors and/or delinquencies:

- Failure to report in a timely manner
- Data quality errors (EPA may issue a Notice of Technical Error (NOTE) or a Notice of Significant Error (NOSE) for certain data quality errors)
- Failure to respond to a NON

- Repeat violation
- Failure to supply notification
- Failure to maintain records

Civil Judicial Referrals. The EPA, under EPCRA Section 325(c), may refer civil cases to the U.S. Department of Justice for assessment and/or collection of a penalty in the appropriate U.S. District Court. EPCRA Section 313 violations may also be included in civil complaints that charge respondents with violations of other environmental statutes

Criminal Sanctions. EPCRA Section 313 does not provide for criminal sanctions for violations of Section 313. However, 18 U.S. Code (U.S.C.) Section 1001 makes it a criminal offense to falsify information submitted to the U.S. Government. This would specifically apply to, but not be limited to, EPCRA Section 313 Form Rs where information was intentionally falsified, then submitted. In addition, the knowing failure to file an EPCRA Section 313 Form R report may warrant prosecution for concealment, as prohibited by 18 U.S.C. 1001.

ROLE OF THE EPCRA SECTION 313 INSPECTOR

The EPCRA Section 313 inspector is the heart of the Compliance Monitoring Strategy. Your thorough efforts throughout the inspection process are what enables each Region and Headquarters to enforce EPCRA Section 313 effectively, and increases industrial and community awareness. Effective targeting and thorough on-site inspections are critical to regional and national enforcement. Additionally, your participation in outreach efforts during the closing conference on site or while conducting workshops within the community help to educate people about toxic releases and other waste management practices, which in turn, increases public awareness and industry compliance.

EXERCISE

Divide into groups according to the number of Regions that are represented. Given the information just presented and reviewed, your Regional group should discuss and write down how your Region meets the national objectives for compliance and enforcement. After a 15-minute small group discussion, each Region should share with the class their strategy for achieving national goals and identify what goals or implementation activities have worked well and any that have proven to be problematic.

SUMMARY

The Compliance Monitoring Strategy focuses on two main areas for promoting awareness and increasing compliance. The first area is conducting facility inspections. The second strategic area focuses on outreach programs for industries and communities. These seminars and workshops provide technical support, which improves compliance and educational support, and in turn, promotes awareness.

The ERP was created to support compliance through enforcement of EPCRA Section 313. This document details the levels of enforcement actions that can be taken when facilities do not report toxic chemicals as required.

MOAs are established on a bi-annual basis between each Region and OECA in EPA Headquarters. MOAs address the individual agreements with each Region, and/or States within that Region, for meeting the national goals.

REVIEW QUESTIONS

The answers to these review questions are presented in Attachment 4-1.

1. List and give a brief description of the two main elements of the Compliance Monitoring Strategy.

2. What is the purpose of the Compliance Monitoring Strategy?

3. What is the ERP, and why was it created?

4. What is an MOA?

5. What is the EPCRA 313 inspector's role in the Compliance Monitoring Strategy?

6. In the levels of enforcement actions, what constitutes a No Action decision?

7. Name at least three types of errors whereby the EPA can issue a NON.

8. Name at least three errors and/or discrepancies that could result in a Civil Administrative Complaint.

9. Name some circumstances in which Civil Judicial Referrals are warranted.

10. Are criminal sanctions imposed on facilities that violate EPCRA Section 313 requirements?

ATTACHMENT 4-1

ANSWERS TO LESSON 4 REVIEW QUESTIONS

(Three Pages)

ANSWERS TO REVIEW QUESTIONS

1. List and give a brief description of the two main elements of the Compliance Monitoring Strategy.

   Inspections. Facility inspections focus on two types of violators: non/late reporters and reporters who submit incomplete or inaccurate Form R reports. The non/late reporter inspection process identifies suspected non-reporters and investigates whether these facilities are subject to EPCRA Section 313 reporting requirements, as well as addressing TRI reporters who are very or habitually late in reporting. The data quality inspection process identifies and investigates reporters who have submitted forms with errors or omissions.

   Outreach. The program consists of seminars, workshops, a hotline, and literature. This dissemination of information increases program visibility within State governments, the regulated community, and the public.

2. What is the purpose of the Compliance Monitoring Strategy?

   The purpose of EPA's Compliance Monitoring Strategy is to establish a foundation for states and EPA Regions to follow their own individual compliance programs with support from EPA Headquarters. This foundation establishes guidelines and minimum compliance standards nationwide that Regions are responsible for upholding.

3. What is the ERP, and why was it created?

   The EPCRA Section 313 Enforcement Response Policy is an important tool for implementing the Compliance Monitoring Strategy. Its purpose is to ensure that enforcement actions for EPCRA Section 313 violations are determined in a fair and nationally consistent manner and that the penalty is commensurate with the violation committed. Through effective enforcement, the EPA hopes to deter facilities from committing additional EPCRA Section 313 violations.

4. What is an MOA?

   Every two years, each Region prepares a Memorandum of Agreement in response to MOA guidance developed by Headquarters. Both Regional and Headquarters management agree upon the MOA program goals and commitments. These agreements detail how the Region will implement its EPCRA enforcement and compliance program to achieve EPA's national program objectives, while recognizing the relevant circumstances and/or conditions of the Region.

5. What is the EPCRA Section 313 inspector's role in the Compliance Monitoring Strategy?

The thorough efforts of EPCRA 313 inspectors are what enable each Region and Headquarters to effectively enforce the law and increase industrial and community awareness. Effective targeting and thorough inspections are critical to effective enforcement. Additionally, inspectors' outreach efforts during the closing conference and participation in workshops help to educate the community, subject facilities, and state and local governments about toxic releases and EPCRA Section 313 requirements.

6. In the levels of enforcement actions, what constitutes a No Action decision?

- Revisions reflecting new or improved information that was not available when the facility completed its original Form R submission
- New or improved procedures that were not available when the facility completed its original submission of the Form R

7. Name at least three types of errors whereby the EPA can issue a NON.

- Form R reports that are assembled incorrectly
- Form R reports submitted with missing or invalid facility or chemical identification information
- Submission of EPCRA Section 313 or PPA information on an invalid form
- Magnetic media submissions that cannot be processed
- Submission of a Form R report with trade secrets without a sanitized version or the submission of the sanitized version without the trade secret information
- Form R reports that are sent to a wrong address

8. Name at least three errors and/or discrepancies that could result in a Civil Administrative Complaint.

- Failure to report in a timely manner
- Data quality errors (A NOTE or NOSE may be issued for certain data quality errors.)
- Failure to respond to a NON
- Repeat violation
- Failure to supply notification

- Failure to maintain records

9. Name some circumstances in which Civil Judicial Referrals are warranted.

   - Under EPCRA Section 325(c), EPA may refer civil cases to the Department of Justice for assessment and/or collection of a penalty in the appropriate U.S. District Court.

   - EPCRA Section 313 violations may be included in civil complaints that charge respondents with violations of other environmental statutes.

10. Are criminal sanctions imposed on facilities that violate EPCRA Section 313 requirements?

    EPCRA Section 313 does not provide for criminal sanctions for violations. However, 18 U.S.C. Section 1001 makes it a criminal offense to falsify information submitted to the U.S. Government. This would specifically apply to, but not be limited to, EPCRA Section 313 Form Rs where information was intentionally falsified. In addition, the knowing failure to file an EPCRA Section 313 Form R report may warrant prosecution for concealment, which is prohibited by 18 U.S.C. 100.

EPCRA SECTION 313
INSPECTOR TRAINING MANUAL

Module III

Targeting

MODULE OBJECTIVES

At the end of this module, students will be able to:

- Identify targeting resources.
- Target facilities with potential non/late reporting or data quality violations.

CONTENTS

Module III contains:

- Lesson 5: Targeting Resources
- Lesson 6: Non/Late Reporter Inspections
- Lesson 7: Data Quality Inspections

Lesson 5

Targeting Resources

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INTRODUCTION

Purpose

The purpose of this lesson is to provide an extensive resource list, with brief descriptions, that can be used when targeting facilities for possible data quality and non/late reporter EPCRA Section 313 violations. Although many resources are presented here, the list provided is not comprehensive. There may be other State and regional sources that are being used effectively, and the opportunity to discuss such resources will be provided during this lesson.

Objective

- Discuss the applicable resources that are required to target facilities.

TARGETING RESOURCES

Purpose

Researching and analyzing targeting resources is the first step in the EPCRA Section 313 inspection process. The resources that follow are categorized into four separate headings: Database/Internet Resources, Publication Resources, Report Resources, and Other Resources. It is important to be aware of all available targeting resources, because each Region's access to these resources varies.

Database/Internet Resources

The following databases are frequently used as cross-reference tools, as well as separate entities, while targeting for EPCRA Section 313 inspection sites.

EPA's TRI Internet Site - http://www.epa.gov/tri
TRI Explorer - http://www.epa.gov/triexplorer
ENVIROFACTS Database Internet Site - http://www.epa.gov/enviro
Right-to-Know Network (RTK NET) - http://www.rtk.net
The Chemical Scorecard (EDF) Internet Site - http://www/scorecard.org
The Sector Facility Indexing Project (SFIP) - http://www.epa.gov/oeca/sfi

These sites provide information on facilities reporting to TRI. They generally contain information on each facility, identify the toxic chemical(s) being reported, the amount of chemical released or transferred, and the media to which it was released. In the case of the

Chemical Scorecard (EDF), the information is organized by facilities in specified geographical areas, and in SFIP, by industry sector.

Dun and Bradstreet (D&B). This database contains facility information on sales, employment, SIC code(s), and product(s) manufactured. However, because access is by subscription, this database may or may not be available in your Region.

Facility Index System (FINDS) or Facility Registry System (FRS). This database is designed to link facilities subject to various Federal environmental laws, including RCRA, NPDES, and the Clean Air Act (CAA). It is available through on-line access to the EPA National Computer Center.

Integrated Data for Enforcement Analysis System (IDEA). This database, developed by OECA, integrates information from various databases maintained by different program offices. It is used for enforcement targeting, case screening, and multimedia initiatives. Specifically, it tracks an individual facility's compliance records for most of the EPA statutes. The database is accessible to EPA and State staff who have completed required training and have been authorized to use it. A public version is also available that provides more limited access.

The Online Targeting Information System (OTIS) - http://intranet.epa.gov/oeca/oc/eptdd/teb/otis. OTIS is an Intranet site with a variety of targeting tools for EPA headquarters and regional users. OTIS provides an easy-to-use interface with the IDEA system for current facility-level inspection and enforcement history, compliance status, and permit information. There are also tools on OTIS that allow for facility mapping and multimedia analysis by industry sector or geographic area.

SFIP - http://www.epa.gov/oeca/sfi. Mentioned briefly at the start of this section, SFIP brings together environmental and other information on facilities in five industry sectors - petroleum refining, iron and steel production, primary nonferrous metal refining and smelting, pulp manufacturing and auto assembly. Federal facilities will be added shortly. SFIP information includes compliance and inspection history and TRI and spill information, as well as demographics of the population surrounding each facility.

TRI Explorer - http://www.epa.gov/triexplorer. This program allows users to analyze, sort and compile data from the TRI, providing results by facility, chemicals, geographic, area or industry sector, through an easy-to-use, interactive platform. Release trends reports are also available.

ENVIROFACTS - http://www.epa.gov/enviro. EPA's ENVIROFACTS Warehouse provides environmental information from five of EPA's largest databases containing Superfund data, Safe Drinking Water Act information, hazardous waste information, water discharge permits, air releases, and TRI information. ENVIROFACTS allows the user to search the databases by facility name, geographic location, SIC code, or chemical name and to produce reports on the

facilities and map their locations. ENVIROFACTS also provides access to TRI data that is continually updated with the latest revisions.

Air Information Retrieval System (AIRS). This system provides information on volatile organic compounds (VOC) emissions by total tonnage of emission from a facility. It also provides some information on air toxic releases for specific chemicals. Detailed AIRS data can be accessed through IDEA. Some AIRS data is also available on OTIS.

Biennial Report System. This database provides off-site transfer information for hazardous wastes by facility (such as the types of hazardous wastes generated by the facility, the quantities of hazardous waste shipped off site, and the destinations, treatment methods, and disposal methods used for the hazardous waste). This database can be accessed through ENVIROFACTS.

USA Business Directory on CD ROM. This database identifies all U.S. businesses, with the ability to extract information by setting specific criteria. It is located on the CD ROM portion of the local area network, which is accessible through the Regions.

Emergency Response Notification System (ERNS). This EPA database provides information on releases to the environment that were reported as an unplanned release with emergency status. An emergency status release is a release that is potentially harmful to the environment and the surrounding communities. ERNS data can be accessed through IDEA, OTIS, or SFIP.

Publication Resources

The following publications are used as technical references, as well as targeting mechanisms. Most frequently they are used as cross-reference tools and supporting documentation for targeting inspections.

EPCRA Section 313 Release Reporting Guidance Documents. These reports contain brief descriptions of the industry, identify potential release points, and model calculations for estimating releases. Although these documents provide useful information, caution should be exercised, because the information may be out of date. Therefore, any data extracted should be cross-checked with current data.

- **Industry-specific** technical guidance documents include: Rubber and Plastics Manufacturing; Printing; Food Processing; Metal and Coal Mining; treatment, storage, and disposal (TSD) and Solvent Recovery; Petroleum and Chemical Distribution; and Electricity Generating Facilities. This is only a partial list; check the TRI home page at http://www.epa.gov/tri for a complete list of available guidance documents.

- **Chemical-specific** guidance documents include: Sulfuric Acid Aerosols, Glycol Ethers, Nitrate Compounds, Chlorophenols, Hydrochloric Acid Aerosols, and PBT chemicals.

This is a partial list; check the TRI home page for a complete list of available guidance documents.

EPCRA Section 313 Questions and Answers. This document is updated periodically and is intended to help clarify TRI reporting requirements. It is formatted as a series of commonly asked questions with the corresponding answers.

Consolidated List of Chemicals Subject to Reporting Under the Act (Title III List of Lists). The most recent version of the list can be found on the Internet at http://www.epa.gov/swercepp/pubs.html. The current listing of TRI chemicals can also be found on the TRI home page.

VOC Species Data Manual. The VOC Species Data Manual also provides information on many air emission sources. This allows the user to estimate releases of specific toxic compounds based on the total amount of VOCs emitted from a particular source.

County Business Patterns. This resource lists the number of establishments by employment size class: 1 to 4, 5 to 9, 10 to 19, 20 to 49, 50 to 99, 100 to 249, 250 to 499, 500 to 999, and 1,000 or more establishments.

Kirk-Othmer Encyclopedia of Chemical Technology. This source contains detailed, documented information on almost every type of chemical process. The bibliography after each section is an excellent source of additional information. The author of each section is an expert in the field who is typically knowledgeable of current trends in the industry.

SRI Directory of Chemical Producers. This directory contains information on over 1,500 facilities and can be used to confirm that all EPCRA Section 313 chemicals reported in SRI as manufactured at that site, are reported in TRI. SRI's lower limit for reporting in the Directory is 5,000 pounds or $5,000, which is below the 25,000-pound TRI reporting threshold.

State Manufacturing Directories. These directories can be used to resolve discrepancies of name, address, or SIC code. It also identifies establishments that are obviously (by name or address) not covered facilities.

Effluent Guideline Series. This source contains information on releases of many pollutants to wastewater for industries that are major sources of wastewater releases.

Compilation of Air Pollutant Emission Factors (AP- 42). This source contains process descriptions, emission factor estimates, and control information on more than 120 processes. Additionally, there are sections on the storage and transfer of organic liquids that are particularly useful in calculating releases. The source is available at the Technology Transfer Network Internet site: http://www.epa.gov/ttn, along with Water 9 and ChemDat 8 program information.

Industrial Process Profiles for Environmental Uses. This source contains detailed process flow diagrams, including input materials, process conditions, and release estimates for 29 broad industries.

National Institute of Occupational Safety and Health (NIOSH) Health Hazard Evaluations and Industry-wide Surveys. These sources contain well documented occupational exposure measurements and general process descriptions.

New Source Performance Standards. This source contains air release limitations that apply to new sources in 58 industries. Many standards involve particulates or VOCs that may be useful in determining reasonable releases of EPCRA Section 313 chemicals.

Estimating Releases and Waste Treatment Efficiencies for the Toxic Chemical Release Inventory Form - "The Green Book". This resource details many methods used for calculating release estimations.

Report Resources

These documents are reports submitted by facilities to State, Regional, and National EPA offices for compliance purposes. Depending upon where and how the EPA program is implemented, these reports can be obtained from at least one of the offices mentioned above.

RCRA Generator Information. These manifest and hazardous waste generator reports are particularly useful in estimating off-site transfers for EPCRA Section 313 chemicals, because the facility that receives the waste must analyze it prior to recycling, treatment, or disposal. Some of the analyses will be Toxic Characteristic Leachate Procedure (TCLP) measurements. TCLP measurements report leachable contaminant concentrations, not total contaminant concentrations.

Wastewater Monitoring Reports. Wastewater monitoring data on pH, metals, or other constituents may be used, along with wastewater release quantities, to estimate releases of EPCRA Section 313 chemicals to water or publicly-owned treatment works (POTW).

Stack Tests. These tests provide information on the magnitude of air releases for major point sources at a facility. While these results may be applicable for particulates or VOCs, they can be used in conjunction with published chemical specification data to estimate releases.

VOC Emissions Factors of National Acid Precipitation Assessment Program (NAPAP) Emission Inventory. This resource provides emission factors for VOCs, which can be used with actual process vent measurements of volatile organics or particulates to estimate emissions of a specific compound.

Office of Air Quality Planning and Standards Report. This report provides information on facilities that must report VOC releases to state agencies as a condition of their permit. These

reported releases may be used in conjunction with specification data to estimate air releases of EPCRA Section 313 chemicals.

Tier II Reports. Tier II reports for a facility provide detailed descriptions for each hazardous chemical listed on the Material Safety Data Sheets (MSDS), the maximum and average amounts of the chemical present, storage conditions, location of the chemical, and confidential status of the location information.

Other Resources

Tips and Referrals. These targets come from other EPA inspectors who suspect EPCRA Section 313 violations while conducting other EPA inspections and/or members of the community who have filed a complaint against a facility.

Facilities that have received a NON, a NOTE or a NOSE. Checking a facility's prior history for receipt of any of these notices can help determine whether there has been any pattern of reporting problems. The notices function as a check-up system for facilities who submit Form Rs, but their submittals have been identified as having technical errors, omissions, or other errors.

Newspapers/Magazines/Television Broadcasts. These resources are useful for researching facility background, and in some instances, targeting an actual site.

Library. The library is used to conduct technical research and gather background information on specific industries and companies.

EXERCISE

In small groups, discuss the types of resources that you use in your Region(s), how you use them, and which ones you have found most effective and why. After 15 minutes, come back together and discuss any new or other resources that are not covered in this lesson.

SUMMARY

You have learned that researching and analyzing targeting resources is the first step in the EPCRA Section 313 inspection process. The resources introduced in this lesson were categorized into four separate headings: Database/Internet Resources, Publication Resources, Report Resources, and Other Resources.

This lesson introduced a list of resources that will be used when targeting facilities for inspection; however, they are not the only resources that can be utilized. It is important to thoroughly investigate the resources your Region has available and to use them to their fullest extent.

Lesson 6

Non/Late Reporter Inspections

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INTRODUCTION

Purpose

The purpose of this lesson is to assist EPCRA Section 313 Inspectors in targeting possible non/late reporting facilities that meet EPCRA Section 313 requirements. It provides some methods that will help identify facilities that are subject to the EPCRA Section 313 reporting but who have not submitted Form Rs for their releases and other waste management activities. There are many different methods for targeting non/late reporters. Many of these methods are effective, some are not. The methods explained in this lesson are ones that have proven to be effective. Throughout this lesson, consider how you may modify or adapt these methods to fit your needs and the resources available within your Region.

Objective

- Discuss the basic process of non/late reporter targeting.

NON/LATE REPORTER TARGETING

Targeting potential non/late reporters of EPCRA Section 313 could, to some degree, be compared to the work of a detective. Your job is to collect and assimilate the information that will lead you to facilities that have not complied with EPCRA Section 313 reporting requirements. To obtain this information, you must be able to access and use the resources (see Lesson 5) that will help you target these facilities. The remainder of this lesson will suggest some methods to first identify industries and then facilities, who are likely candidates. If your Region does not have access to some of the resources discussed, feel free to suggest modifications that would make targeting methods more applicable to your own situation,

Using the TRI Database

The TRI database can be a valuable resource in targeting for EPCRA Section 313 non/late reporter violations. Under Section 313 of EPCRA, facilities that meet certain criteria are required to report their releases and other waste management activities for listed toxic chemicals, The specific criteria established by the statute are:

- Facility has ten (10) or more full-time employees or the equivalent.

- A "full-time employee," for the purposes of EPCRA Section 313 reporting, is defined as an employee who completes 2,000 work hours per year.

- Facility is in a covered SIC code

- Facility meets or exceeds the threshold limits established for the specific reporting year.

Facilities meeting all of the above criteria must submit Form Rs, estimating releases and other waste management activities of those EPCRA Section 313 toxic chemicals. It is the data collected from the Form Rs that are entered into the TRI database. The TRI database is a valuable tool in identifying facilities that have already reported.

Identification of Possible Non/Late Reporting Facilities. You can compare establishments listed in the County Business Patterns, D&B, and other targeting resource guides, having covered SIC codes and 10 or more employees, to facilities listed in the TRI database for a specific geographic area (city, county, or state). However, keep in mind that a TRI facility may consist of more than one establishment, so for this reason alone, there will probably be a larger number of establishments listed for a particular area than appears in TRI. The establishment's name, address, and SIC code can be checked against the TRI data to determine if the establishment has reported to the TRI. You can check for non/late reporters by seeing if the establishment reported for TRI in past years versus the most current reporting year.

There may be valid reasons why the establishment is not subject to reporting. Its SIC code may have changed; it may be part of a multi-establishment facility whose activities are primarily in non-covered SIC codes; or it may no longer have ten or more full-time employees. Other reasons may be that an establishment or facility may not manufacture, process, or otherwise use any of the listed toxic chemicals in excess of the reporting thresholds or that their activities involving toxic chemicals may qualify for one of the TRI reporting exemptions.

While legitimate reasons may exist to explain why a facility is no longer subject to the EPCRA Section 313 filing requirements, at a minimum, the discovery of the facility's absence in the TRI database for one or more years merits further investigation on your part.

Problems with Database Identification. Identification of non/late reporting facilities using public databases presents several problem areas:

- Four-digit SIC codes in many industries are not clearly understood.

  Problem: Some databases collect information by establishment; some collect data on the facility.

- Different company names and addresses (Post Office [P.O.] box versus street address) for the same facility appear in different databases.

  Problem: Facilities could be listed according to their corporate name and P.O. box in one database and by their subsidiary or division name and street address in another.

- Companies have different branch offices.

  Problem: A company could have an office where no EPCRA Section 313 chemicals are used but which is included among the establishments on a database listing.

- Some facilities have more than one SIC code, but the database only reflects one entry.

  Problem: These operations are difficult to identify by SIC code alone.

- Different completion dates between databases.

  Problem: Company ownership changes are difficult to track and identify between databases that are updated at different intervals.

National EPCRA Targeting Efforts

EPA Headquarters has developed a number of tools to assist the Regions with targeting EPCRA inspections. The Enforcement Planning, Targeting and Data Division (EPTDD) in the Office of Compliance (OC) is available to provide assistance in EPCRA reporting and data quality targeting. The Targeting and Evaluation Branch of EPTDD has developed many tools and analyses that are available on their Intranet site, OTIS. In addition, the staff have conducted analyses that examine chemicals reported to the TRI to determine potential reporting violations by comparing reported chemicals with expected chemicals based on facility type or other reported data. Non-reporters may be identified by comparing facilities with permits in other program data systems (for example, the Aerometric Information Retrieval System Facility Subsystem [AFS]) with those reporting to TRI.

The EPCRA Targeting System (ETS) provides automated support to the seven-step targeting methodology, discussed in the previous section, for identifying non/late reporting facilities. In conjunction with Regional cooperation, this system was developed to provide Regional inspectors with a tool to identify facilities that are potential non/late reporters. However, this system required installation and programming support in each EPA Regional office. The ETS may not be available and operational in every region.

ETS is a hybrid personal computer (PC)/Mainframe computer system that provides local access to, and manipulation of, facility information for the creation of prioritized inspection targeting

lists. It also supports tracking of facility contacts and tips and complaints and is able to support outreach efforts. It merges information to create an actual target list.

The ETS derives its list of facilities from D&B and the TRI database for facilities with the covered SIC codes and 10 or more full-time employees. This list is created at the national level, but can then be partitioned into ten Regional segments. Each Region can then download its own data to a PC for local use. Each Region's segment contains only facilities located in that Region.

The cross-matched information provides the Inspector with the following facility information:

- Parent Company
- Corporate Information
- Geographic Information
- TRI Reporting Status and Dates

The inspector also has fields in ETS in which information on facility history, previous facility contact, comments, and tips and complaints can be manually entered into the system. Tips, complaints, and facility contact information can be used as criteria in the development of new inspection targeting lists.

Common Non/Late Reporter Targeting Procedure

The methodology proposed below for identifying non/late reporting facilities consists of seven steps. These steps are based on some of the resources have proven to be useful in targeting potential non/late reporter facilities. This process is as follows:

1. Select industries where non/late reporting appears to be a problem and identify one or more 4-digit SIC codes that define this industry.

2. Identify facilities as a result of Step 1.

3. Compare an establishment reported in County Business Patterns, D&B, and the new industry listings with over 10 full-time employees against the TRI database.

4. Check the log of facilities previously contacted and/or inspected, if one is maintained by your Region.

5. If you did a search by SIC code, recheck the TRI database by name and location to ensure that a facility has not reported under a different SIC code.

6. Gather data on sales, employment, and other information.

7. Select candidate facilities.

The following is a more detailed explanation of each step of the methodology for targeting a non/late reporting facility.

Selecting Industries. Perhaps the most important task in effectively identifying non/late reporters is the selection of industries to be investigated. This selection should be based on the following types of criteria:

- Likelihood of manufacturing, processing, or otherwise using chemicals in significant quantities.

- Experience of the Regional office with this industry in areas such as:

  - Record of other environmental violations
  - Sophistication of the industry in understanding environmental requirements

- Certain processes are identified by specific SIC codes. For example, metal degreasers, spray painting, or electroplating could be identified by individual SIC codes.

Identify Facilities. Within the industry you have targeted, choose facilities who meet the EPCRA Section 313 reporting criteria. Narrowing your field to facilities at this point will help focus your targeting and make it more efficient.

Compare Facilities and Establishments with Other Databases. Using the 4-digit SIC codes, compare the facility in the TRI with an establishment in County Business Patterns. County Business Patterns presents the number of establishments by employment size class: 1 to 4, 5 to 9, 10 to 19, 20 to 49, 50 to 99, 100 to 249, 250 to 499, 500 to 999, and 1,000 or more establishments, The decisions you will make may follow these "if, then" patterns:

- **If**, in the industry selected, it is likely that all facilities with 10 or more full-time employees would use at least one EPCRA Section 313 chemical in excess of the threshold, **then** the number of establishments with over 10 full-time employees should be selected for comparison with the TRI database.

- **If** only larger facilities would be expected to exceed the threshold on a consistent basis, **then** a facility with over 20 or 50 full-time employees may be used for this TRI comparison.

Also, obtain the number of establishments in the same 4-digit SIC code in D&B. A current list of D&B is available in DIALOG D&B File 515, which was discussed in Lesson 5. The total

number of facilities in the SIC code over a specified employment size may be printed out without listing the facilities. Compare the establishment in County Business Patterns and D&B with the facility and/or establishment in the TRI database (by Region, State, or other desired area).

Compare D&B Listing With TRI Database. Remove the facility if you find that they have reported in the TRI database by the facility comparing against the D&B list. For facilities in SIC Codes 20 through 39, you can use State manufacturing directories to resolve discrepancies on name, address, or SIC code, Remove other establishments that are obviously (by name or address) not a covered facility, such as headquarter facilities.

Check Your Regional Records for Facilities Previously Contacted. If your Region maintains a record on those facilities that have been contacted by other representatives from your Region, you should consult this record now. This simple reference can eliminate much duplicative effort and ensure that your efforts will not be wasted by contacting a facility that has recently been either contacted and/or inspected by another EPCRA Section 313 inspector.

Recheck the TRI Database by Name and Location. Because facilities may report to the TRI and D&B using different SIC codes, recheck the TRI database to be sure that the facility has not submitted information under a different SIC code. Remove those facilities found.

Gather Sales, Employment, and Other Information. For each facility, gather the number of employees and the sales numbers for the facility. This information can be obtained from the State Manufacturing Directories or from DIALOG D&B Files 515 and 516. (Note that the DIALOG D&B Files 515 and 516 should not be your sole source for this information.) Any other databases available to the Regional office that help prioritize the remaining facilities on the list (such as information from states in the Region) should also be added.

Select Candidate Facilities. Select facilities with high sales, employees, or RCRA volumes as the best candidate facilities. Also, pre-screen the facility by telephone to ensure that the location is primarily a covered facility and not just an office or warehouse location.

Other Targeting Methods

Although the above is procedure effective to target non/late reporter facilities, do not forget to use other resources available to you, particularly tips and referrals. These could come from any number of sources. For example:

- State Referrals
- Community Groups
- Environmental Groups

- Other EPA Inspectors
- Anonymous Tips
- Other Program Areas

All of these are viable sources that could provide you with valuable leads if you cultivate these relationships. Additionally, you are a potential source of tips. As you travel from facility to facility for EPCRA Section 313 inspections, keep your own eyes and ears open. For instance, you may see facilities that look like potential Section 313 candidates. In discussions with facility officials, other facilities with which they conduct business may also be mentioned.

EXERCISE

In groups of three to four, develop questions or scenarios involving the process of non/late reporter targeting (do this for approximately 10 minutes). These questions/scenarios may be Region-specific. Write down the concerns and present them for discussion of possible solutions.

SUMMARY

This lesson has focused on the process of non/late reporter targeting. By identifying those facilities that are not reporting their usage of EPCRA Section 313 toxic chemicals, you will reduce the potential for continued damage to the environment. Effectively targeting these facilities depends upon your ability to collect and interpret the data available to you in these facilities. The methods explained in this lesson should assist you in this effort. By using the targeting resources and procedures identified in this chapter, your non/late reported targeting activities should become more efficient and effective. The seven-step method to targeting walks you through the entire targeting process, from industry selection to facility selection. Regardless of which method presented in this lesson is best for you, always be sure to use all the resources available to your advantage.

REVIEW QUESTIONS

The answers to these review question are presented in Attachment 6-1.

1. What are the criteria for facilities having to report in accordance with EPCRA Section 313?

2. What are some of the problems an inspector may face when trying to conduct non/late reporter targeting through databases?

3. What are the seven steps for non/late reporter targeting?

ATTACHMENT 6-1

ANSWERS TO LESSON 6 REVIEW QUESTIONS

(Two Pages)

ANSWERS TO LESSON 6 REVIEW QUESTIONS

1. What are the criteria for facilities having to report in accordance with EPCRA Section 313?

   - Ten or more full-time employees or the equivalent
   - Meets or exceeds the threshold limits for the designated EPCRA Section 313 chemicals established for that specific reporting year
   - Falls into one of the covered SIC codes

2. What are some of the problems an inspector may face when trying to conduct non/late reporter targeting through databases?

   Possible Answers:

   - Inconsistency in the use of the 4-digit SIC codes. Some databases collect information by establishment; some collect data on the facility.
   - Different company names and addresses (P.O. box versus street address) for the same facility appear in different databases. Facilities may be listed according to their corporate name and P.O. box in one database and by their subsidiary or division name and street address in another.
   - Companies have different branch offices. A company could have an office where no EPCRA Section 313 chemicals are used, but which is included among manufacturing establishments or other covered industry listings in a database.
   - Some facilities have more than one SIC code, but the database only inputs one.
   - There are different update dates between databases. This can cause problems tracking company ownership and other pertinent information if the databases are updated at different intervals.

3. What are the seven steps for non/late reporter targeting?

   1. Select industries where non/late reporting appears to be a problem and identify one or more 4-digit SIC/NAIC codes that define this industry.
   2. Identify facilities as a result of Step 1.
   3. Compare an establishment reported (with over 10 full-time employees) in County Business Patterns and D&B against the TRI database.

4. Check the log of facilities previously contacted and/or inspected, if one is maintained by your Region.

5. If you searched by SIC/NAIC code, recheck the TRI database by name and location to ensure that a facility has not reported under a different SIC code.

6. Gather data on sales, employment, and other areas.

7. Select candidate facilities.

Lesson 7

Data Quality Inspections

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INTRODUCTION

Purpose

Targeting is a crucial step in the EPCRA Section 313 data quality inspection process. An effective approach is needed to identify facilities subject to, or in violation of, EPCRA Section 313. Without such an approach, valuable time and resources may be wasted on unnecessary data quality inspections. There are as many different Regional targeting methods as there are companies being targeted. Regardless of the approach, all targeting methods have the same inherent goal: identify those facilities that are likely to be in violation of EPCRA Section 313 and could present a significant risk to the environment.

This lesson outlines a general process to use when targeting facilities with potential data quality violations. Throughout this lesson, bear in mind that this approach may be modified by each Region to better use the resources available to that Region. For example, each Region may encounter companies with different SIC codes; in this case, a different targeting mechanism may be more effective. This lesson provides you with an overview of a method that can be used to target data quality inspections and suggests ways in which this process may be modified to better suit your Regional needs.

Objective

- Discuss the basic process of data quality targeting.

FORM R REPORTS

Form R reports are an integral part of data quality targeting. These reports are the mechanism through which most companies report their use of EPCRA Section 313 toxic chemicals to the EPA. Therefore, these documents serve as the primary source of information for an inspector's targeting review.

Each report contains eight types of information:

- Facility Identification Data
- Chemical-Specific Data

- Manufacturing, Processing, Otherwise Use Data
- On- and Off-Site Release Data (including off-site location)
- Other On- and Off-Site Waste Management Data (including off-site location)
- Waste Treatment Methods
- Pollution Prevention Data

Every facility that meets the EPCRA Section 313 reporting criteria (see Lesson 6) must submit a Form R or Form A report. The information from these reports is reviewed by EPA Headquarters and entered into the TRI database. The information is entered into the database for the use of EPA personnel and the public. The TRI database will be covered in greater detail later in this lesson, but it is important to note that this database is the starting point for most data quality targeting activities.

There are also exemptions for reporting, including:

- De Minimis Exemption
- Laboratory Activities
- Other Use Exemptions
- Article Exemption
- Extraction Exemption for Coal Mining
- Metal Mining Overburden Exemption

These exemptions will be covered in greater detail in Lesson 12, Data Quality Inspections. For now, however, be aware that there are exemptions to the EPCRA Section 313 reporting requirements.

Form R Organization

The Form R is a five-page document, and it is divided into two parts:

- Part I. Facility Identification Information
- Part II. Chemical-Specific Information

These parts are further divided into sections and subsections. The following discussion will provide a brief description of each section and a list of the associated subsections. For more information, please refer to the Form R Packet (Attachment 7-1). It provides more detailed instruction on the actual completion of each section and subsection.

Part I. Facility Identification Information. This part is divided into five sections and is located, in its entirety, on the first page of the Form R. These sections solicit general information about the reporting facility:

- Section 1. Reporting Year

  Identifies the calendar year to which the reported information applies.

- Section 2. Trade Secret Information

  Contains two subsections that address the issue of trade secrets. These sections can only be completed after the remainder of the form has been completed.

- Section 3. Certification

  Requires a signature from either the owner, operator, or senior official with management responsibility for those employees completing the form. This signature must be original and certifies the accuracy of the report.

- Section 4. Facility Identification

  Provides the general information necessary for locating the facility and identifying the appropriate contact person. This section will also contain some general information that will begin to classify the facility in some of the targeting resources mentioned in Lesson 5.

  4.1 Facility Name and Location
  4.2 Full or Partial Facility Indication
  4.3 Technical Contact
  4.4 Public Contact
  4.5 SIC Codes (Primary and Secondary codes)
  4.6 Latitude and Longitude
  4.7 Dun and Bradstreet Number
  4.8 EPA Identification Number
  4.9 NPDES Permit Number
  4.10 Underground Injection Well Code (UIC) Identification Number

- Section 5. Parent Company Information

  Parent Company is defined as the highest level company, located in the United States, that directly owns at least 50% of the facility's voting stock.

  5.1 Name of the Parent Company
  5.2 Parent Company's Dun & Bradstreet Number

Part II. Chemical-Specific Information. This part is located on pages two through five of the Form R report. This requires reporting on:

- Toxic chemical being reported
- General uses and activities of toxic chemicals at the facility
- Releases of the toxic chemical from the facility into air, water, and land
- Quantities of toxic chemical transferred to off-site locations for further waste management, including disposal
- Information for on-site and off-site waste treatment, energy recovery, disposal, and recycling of the toxic chemical
- Source reduction activities

Additionally, this Part is broken into eight separate sections that will provide the technical data of the report.

- Section 1. Toxic Chemical Identity

  Provides the data necessary to specifically identify the chemical in question as an EPCRA Section 313 toxic chemical. This section will categorize the type of chemical according to a standardized, accepted naming format.

  1.1 Chemical Abstracts Service (CAS) Number
  1.2 Toxic Chemical or Chemical Category Name
  1.3 Generic Chemical Name

- Section 2. Mixture Component Identity

  Section 2 should only be completed if Part II, Section 1 was not completed. Reports the generic names provided by the supplier, if that supplier is claiming the chemical identity proprietary or trade secret. Trade secret substantiation forms are not required for this

toxic chemical, because it is the supplier who is claiming the chemical identity to be a trade secret.

2.1 Generic Chemical Name Provided by Supplier

- Section 3. Activities and Uses of the Toxic Chemical at the Facility

Indicates whether the toxic chemical is manufactured (including imported), processed, or otherwise used at the facility, and the general nature of such activities and uses at the facility during the calendar year.

3.1 Manufacture the Toxic Chemical
3.2 Process the Toxic Chemical (incorporative activities)
3.3 Otherwise Use the Toxic Chemical (non-incorporative activities)

- Section 4. Maximum Amount of the Toxic Chemical On-Site at Any Time During the Calendar Year

Indicates the maximum quantity of the toxic chemical (in storage tanks, process vessels, on-site shipping containers, or any other on-site containers) at the facility at any time during the calendar year. If the toxic chemical was present at several locations of a facility, the maximum total amount present at any one time is used.

- Section 5. Quantity of the Toxic Chemical Entering Each Environmental Medium On-site

Accounts for the total aggregate on-site releases of the toxic chemical to the environment from the facility for the entire calendar year. On-site releases to the environment include emissions to the air, discharges to surface waters, and on-site releases to land and underground injection wells. All releases to the air must be classified as either a point or non-point emission and be included in the total quantity reported for these releases in Sections 5.1 and 5.2.

5.1 Fugitive or Non-Point Air Emissions
5.2 Stack or Point Air Emissions
5.3 Discharges to Receiving Streams or Water Bodies
5.4.1 Underground Injection On-Site to Class I Wells
5.4.2 Underground Injection On-Site to Class II-V Wells
5.5 Disposal to Land On-Site

5.5.1A RCRA Subtitle C Landfills
5.5.1B Other Landfills
5.5.2 Land treatment/application farming

5.5.3	Surface impoundment
5.5.4	Other disposal
Column A	Total Release
Column B	Basis of Estimate
Column C	Percent from Stormwater

- Section 6. Transfers of the Toxic Chemical in Wastes to Off-site Locations

Reports the total annual quantity of the toxic chemical in wastes sent to any off-site facility for the purposes of waste treatment, disposal for off-site release, recycling, or energy recovery. As of 1991, off-site transfers for the purposes of recycling and energy recovery are required to be reported. Additionally, all boxes for reporting the information for each POTW or other off-site location in Sections 6.1 and 6.2 must be numbered.

If a transfer of a listed toxic chemical is reported to one or more POTW, the boxes in 6.1.B must be numbered as 6.1.B.1, 6.1.B.2, and so on. If the listed chemicals are transferred to more than two POTWs, Page 5 of the Form R must be photocopied as many times as necessary and the boxes numbered consecutively for each POTW. The bottom of Page 5 has instructions for indicating the sequence and total number of pages that you are submitting as part of Form R.

If a transfer of a listed toxic chemical is reported to one or more off-site locations, the boxes in 6.2. must be numbered as 6.2.1, 6.2.2, and so on. If the listed chemicals are transferred to more than two off-site locations, Page 6 of the Form R must be photocopied as many times as necessary and the boxes numbered consecutively for each POTW. The bottom of Page 6 has instructions for indicating the sequence and total number of pages that you are submitting as part of Form R.

6.1 Discharges to POTWs

6.1.A.1	Total Transfers
6.1.A.2	Basis of Estimate

6.2 Transfers to Other Off-Site Locations

Column A	Total Transfers
Column B	Basis of Estimate
Column C	Type of Waste Treatment/Disposal/Recycling/ Energy Recovery

- Section 7. On-Site Waste Treatment, Energy Recovery, and Recycling Methods

Reports the methods of waste treatment, energy recovery, and recycling applied to the reported toxic chemicals in wastes on site.

7A. On-Site Waste Treatment Methods and Efficiency

Provides the following information:

a. Types of general waste streams containing reported toxic chemicals
b. Waste stream methods or sequence used on all waste streams containing the toxic chemicals
c. Toxic chemical range of concentration in the influent to the waste treatment method
d. Efficiency or each waste treatment method or sequence in removing the toxic chemical
e. Whether the waste treatment efficiency figure was based on actual operating data

Column A	General Waste Stream
Column B	Waste Treatment Method(s) Sequence
Column C	Range of Influent Concentration
Column D	Waste Treatment Efficiency Estimate
Column E	Based on Operating Data ? [Yes/No]

Section 7B. On-Site Recovery Processes

Indicates the on-site energy recovery methods used on the reported toxic chemical. Only listed toxic chemicals that have a significant heating value and are combusted in an energy recovery unit, such as an industrial furnace, kiln, or boiler, can be reported as combusted for energy recovery in this section.

Section 7C. On-Site Recycling Processes

Reports the recycling methods used on the listed toxic chemical. Uses codes listed in this section to report only those methods in place at the facility that are applied to the toxic chemical.

- Section 8. Source Reduction and Recycling Activities

Includes data elements mandated by the PPA of 1990. Provides information about source reduction and recycling activities related to the toxic chemical for which releases are being reported. Reports only the quantity, in pounds, of the reported toxic chemical. All amounts are reported in whole numbers, and up to two significant figures can be provided. Sections 8.1 through 8.9 must be completed for each toxic chemical. Section 8.10 is required only if a source reduction activity was newly implemented. Specifically, wholly, or in part, for the reported toxic chemical during the reporting year.

Column A	Prior Year
Column B	Current Reporting Year
Column C	Following Year
Column D	Second Following Year

8.1	Reported Releases Pursuant to EPCRA Section 329(8)
8.2 and 8.3	Toxic Chemical or Energy Recovery On-site, or Is Sent Off-site for Energy Recovery, Unless Commercially Available for Fuel
8.4 and 8.5	Toxic Chemical or Mixture Containing a Toxic Chemical Recycled On-site or Sent Off-site
8.6 and 8.7	Toxic Chemical or Mixture Containing a Toxic Chemical Treated On-site or Sent to a POTW or Other Off-site Location for Waste Treatment
8.8	Quantity Released to the Environment as a Result of Remedial Actions, Catastrophic or One Time Events not Associated with Production Processes
8.9	Production Ratio or Activity Index
8.10	Did Your Facility Engage in any Source Reduction Activities for this Chemical During the Reporting Year?

Common Errors in Completing Form R Reports

Recognizing common Form R completion errors is important, because these documents can serve as valuable targeting tools when identifying facilities with potential data quality violations. There are three areas in which these common errors occur:

- Form R Entry Errors
- Threshold Determination Errors
- Release Estimation Errors

These errors may effectively prevent the entry of any information from submitted Form Rs into the TRI database. In these cases, the facility owner/operator could be issued a NON, a NOTE, or NOSE from EPA. As you learned in Lesson 5, these notices, in this capacity, may serve as targeting resources used to identify those facilities with past compliance incidents. For most severe data quality errors, generally in threshold determinations or release estimations, the facility could face enforcement action taken by the EPA. Certain aspects of data quality errors make them good or bad candidates for formal enforcement actions. In general, the criteria for a good enforcement candidate are:

- The error should be easy to quantify and clearly document.

- The rules and guidance associated with the error are clear and specific regarding correct reporting methodology.
- The error should not arise strictly from the use of a different estimation method.
- A facility's estimation method is invalid only if EPA can prove that the method (1) is unreasonable or (2) does not use all readily available data.

Form R Completion Errors

The following table details the mistakes most commonly made in the Form R report. After naming the type of error, the next column provides information on what page of the Form R you will find this information. The third column has brief descriptions of the types of errors, and the last column indicates the repercussion (a NON, NOTE, or NOSE issued) of committing that error. Some of the errors may result in a more severe penalty, such as an enforcement action, being taken by EPA. Those errors are denoted in the first column by asterisks. You should also reference the Common Form R Error document produced in 1998.

Table 7-1 Common Form R Reporting Errors

Type of Error	Page #	Brief Description of Errors	Action Taken
Invalid Chemical Identification	3	The CAS number and chemical name reported on Page 3 must exactly match the listed EPCRA Section 313 CAS number and toxic chemical name. No mixture names.	NON
Missing Certification Signature	1	An original signature is required on Page 1 of every Form R submitted.	NOTE
Incomplete Forms	n/a	A complete packet consists of minimally 5 unique pages stapled together for any toxic chemical/category (that is no multiple Pages 2, 3, and so on).	NON
Maximum Amount On-Site	3	Part II, Section 4 on Page 3 is left blank.	NOTE
"Questionable" Entries	n/a	Examples: missing/incorrect zip codes, missing county names, non-numeric SIC codes, invalid D&B numbers, and incomplete off-site information	NOTE
Latitude/Longitude Coordinates	n/a	Incorrect coordinates provided. Must be determined using the correct map and measuring techniques reported in degrees, minutes, and seconds.	NOTE

Table 7-1 Common Form R Reporting Errors (continued)

Type of Error	Page #	Brief Description of Errors	Action Taken
Trade Secret Information	n/a	Must have consistent responses to the trade secret questions in Parts I, Facility Identification Information & Part II, Chemical-Specific Information.	NON
Unidentified Revisions	1	Must clearly identify any revisions in red ink on a copy of the original submission and comply with all revision procedures. Failure to do this may result in entry of unrevised data into the TRI database of unrevised data.	n/a
Unidentified Duplicate Submissions	1	If duplicate copies are sent, must indicate "DUPLICATE" in red ink at the top of Page 1.	n/a
Failure to Report Waste Treatment	n/a	Information must be entered for all waste streams, even if the waste treatment does not affect the toxic chemical.	NOTE
Incorrect Reporting: Waste Treatment Methods	n/a	Must indicate the type of waste stream, influent concentration, and waste treatment method for each waste stream, using specific codes, along with the waste treatment efficiency expressed as percent removal	NOTE
Reporting Delisted Chemicals	n/a	Form R reports for delisted or non-listed chemicals are neither required nor part of the TRI database.	n/a
Reporting Neutralized Discharges of Mineral Acids	n/a	If a waste stream containing a mineral acid is neutralized to a pH of 6 or more, the mineral acid is considered to be 100% neutralized. Therefore, the release of neutralized acid discharge should be reported a zero.	NOTE[1]
Incomplete Form R	n/a	All sections of the Form R must contain either data or "n/a".	NOTE
Duplicative Data (1)	n/a	Reporting identical values as a discharge to a receiving stream in Part II, Section 5.3 and as a transfer to a POTW in Part II, Section 6.1 is interpreted as duplicative data.	NOTE
Duplicative Data (2)	n/a	Facility duplicates reporting of transfer material and on-site material, because they are on the same page of the Form R.	NOTE

Table 7-1 Common Form R Reporting Errors (continued)

Type of Error	Page #	Brief Description of Errors	Action Taken
Documentation*	n/a	Information used by a facility to complete Form R must be documented and maintained at the facility for 3 years from submission of form.	n/a
Overlooked Chemical Activity*	n/a	Any activity involving the manufacture, process, or otherwise use of a listed toxic chemical must be included in the threshold determination. This error includes overlooking chemicals in the compound categories. Omission can lead to enforcement action of a Civil Administrative Complaint.	n/a
Misclassification*	n/a	Misclassifying a toxic chemical activity may result in an incorrect threshold determination, leading to failure to submit a required Form R for that activity.	n/a
Incorrect Interpretation*	n/a	Only toxic chemicals meeting every condition of the exemption clause may be omitted from the reporting requirements. Incorrect interpretation may lead to a failure to submit a Form R because of an incorrect threshold determination. This can result in a Civil Administrative Complaint.	n/a
Misinterpretation of Toxic Chemical List	n/a	Must use the correct CAS number associated with each toxic chemical name	NON
Non-consideration to Listed Toxic Chemical Qualifiers	n/a	Only forms of the toxic chemicals meeting the qualifiers require reporting under EPCRA Section 313 and should be reported on Form R with the appropriate qualifier.	n/a
Misinterpreting Threshold Definition*	n/a	Not reporting a toxic chemical because the threshold determination was incorrectly computed could result in enforcement action.	n/a
Zero VOC Air Emissions Reported	n/a	VOCs readily evaporate at room temperature and therefore cause air emissions. Rarely are there zero emissions of VOCs.	n/a

Notes:

* Error may result in a more severe penalty, such as an enforcement action.

[1] NOTEs can be issued for reporting a large amount of neutralized acid as a release.

Note that one of the most common errors in the Overlooked Chemical Activity category is:

Coincidental Manufacture

The coincidental manufacture of an EPCRA Section 313 chemical or chemical category, outside of the primary product process line but in direct support of the process, is frequently overlooked. In many processes, nitric acid is typically discharged, collected, and sent to an on-site treatment plant, where it is neutralized and discharged to a POTW. Nitrate compounds are coincidentally manufactured during the neutralization of nitric acid and are subject to the 25,000 pounds per year reporting threshold. If the threshold is exceeded, corresponding releases should be reported as a "Discharge to POTW" in Section 6.1 and included in Section 8.7, "Quantity Treated Offsite", of the Form R, and not reported under Section 6.2, "Transfers to Other Offsite Locations." The quantity of nitrate compounds coincidentally manufactured can be estimated, as discussed in detail in *Toxics Release Inventory, List of Chemicals Within the Water Dissociable Nitrate Compounds Category and Guidance on Reporting* (May 1996).

Another coincidental manufacturing example would be the production of metal oxides (metal compounds) during fuel combustion (that is, burning of coal and/or oil to generate power).

See Attachment 7-2 for information on questions and facts to consider for identifying release errors.

FORM A REPORTS

There is an alternative to the TRI Reporting Form R called the Form A - Alternative Threshold Reporting. EPA published a final rule on November 30, 1994 (59 FR 61488), which created an alternative threshold of one million pounds for certain facilities. The Form A provides certain facilities the option of submitting a substantially shorter form with a reduced reporting burden. Facilities that meet the SIC code, employee, and chemical activity thresholds but the facility's amounts "manufactured," "processed," or "otherwise used" do not exceed one million pounds and the facility's total annual reportable amount is less than 500 pounds for the toxic chemical, may submit a Form A instead of a Form R. A facility that meets these criteria could begin using the Form A in the 1995 reporting year, and the owner/operator of the facility must annually certify, by Form A, that the facility met the requirements for use of the alternate thresholds for a specific chemical. The facility must also maintain and make available upon request, records substantiating the claim.

The Form A includes basic information regarding the facility's identification, the chemical in question, and a statement of accuracy to be signed by a senior management official of the facility.

Common Errors - Form A Reporting

Listed below are some key points to remember when deciding if a facility should have submitted a Form A or Form R for an EPCRA Section 313 chemical or chemical category.

1. The 500 pound per year (lb/yr) annual reportable amount criteria refers to a single EPCRA Section 313 chemical (or chemical category) and is the sum of the on-site amounts released (including disposal), treated, recycled, and combusted for energy recovery, combined with amounts transferred off site for further waste management activities. This total is the sum of the data elements 8.1 through 8.7 of the 1999 Form R for a single chemical (or chemical category).

2. The 1,000,000-lb/yr alternate threshold refers to the amount of a single EPCRA Section 313 chemical (or chemical category) manufactured, OR the amount of a single EPCRA Section 313 chemical (or chemical category) processed, OR the amount of a single EPCRA Section 313 chemical (or chemical category) otherwise used. The quantities are mutually exclusive and must be evaluated independently. If the quantity for any one of these activities exceeds 1,000,000 pounds, a Form A cannot be used.

   Example: Your site otherwise uses a total of 750,000 lb/yr of chromium compounds and processes an additional 300,000 lb/yr of chromium compounds. Chromium compound disposal (based on the pare metal chromium) totals 250 lb/yr to an off-site landfill and 100 lb/yr discharged to a POTW. No recycling or treatment of chromium compounds occurs. Your site did not exceed the 1,000,000-pound alternate threshold for processing, nor did your site exceed the alternate threshold for otherwise use. The total annual reportable amount of 350 lb/yr falls below 500 lb/yr. Therefore, you may complete a Form A for chromium compounds, rather than a Form R.

When determining if you are eligible to complete a Form A, rather than a Form R, remember that each EPCRA Section 313 chemical (or chemical category) should be reviewed individually. For example, you may need to complete a Form R for Chemicals A, B, and C; however, a Form A may be completed for Chemical D (assuming that the eligibility requirements are met).

Example: Your site otherwise uses 300,000 lb/yr of methanol and 200,000 lb/yr copper compounds. The total annual reportable amount for methanol is 10,000 lb/yr, and the total annual reportable amount for copper compounds is 200 lb/yr. You must complete a Form R for methanol; however you are eligible to complete a Form A for copper compounds.

If your facility consists of multiple establishments, only a single Form A can be submitted for the entire facility (separate establishments at a facility cannot submit separate Form As for the same

chemical or chemical category, one Form A can be submitted for multiple chemicals or chemical categories).

> Example: Your site has three establishments and all otherwise use methanol. The first establishment otherwise uses 500,000 lb/yr of methanol. The second and third establishments each otherwise uses 300,000 lb/yr of methanol. The total amount of methanol otherwise used at the facility equals 1,100,00 lb/yr (500,000 + 300,000 + 300,000). You may not submit a Form A for methanol. You may either submit one Form R for the entire facility, or you may submit three Form Rs (one for each establishment) for methanol.

TARGETING FOR POTENTIAL DATA QUALITY VIOLATIONS

Data quality targeting varies greatly from Region to Region. In some cases, Headquarters offices, such the OC's EPTDD within OECA may provide your Region with lists of facilities that are considered to be potential targets based on analyses of national data. At other times, you may be required to begin your initial analysis of data at the Regional level to identify a group of facilities with potential data quality violations. Regardless of the targeting system used in your Region, you should have an understanding of the steps necessary to target a facility, as it will also help you in the research phase of your pre-inspection activities.

You must realize that targeting does not necessarily follow a regimented process. When you begin targeting your own inspections, you may develop an approach that is best suited to meet your needs, using the resources available to you.

Data quality errors may involve a number of different situations. They may include both overestimates, underestimates, and misreporting of chemical releases and other waste management activities. Errors also include not reporting chemicals because of calculation errors or not understanding reporting requirements (such as exemptions or threshold determination). The remainder of this lesson will discuss methods that may be used to identify potential errors. For example, potential errors may be identified by comparing other data sources, identifying common errors associated with different calculation methods, and other targeting methods.

Databases

As you recall from Lesson 5, there are many databases that can be used to target facilities for data quality violations. You will find that your Region will have access to some databases, but not to others. For that reason, we will go into detail for only one, the TRI database. Remember that the purpose of all databases is to provide you with specific information necessary to detect potential data quality violations. In other words, you may use one database to identify the type of facility, manufacturing or not, and the number of employees, while another database may be

able to provide you with information on the average air emissions of a particular SIC code. In targeting, it is your responsibility to put together all the pieces of the information collected from the various databases and the other targeting resources discussed in Lesson 5. You will then need to analyze this data to determine if there are sufficient grounds to conduct an EPCRA Section 313 data quality inspection. You should be aware of, and utilize all of, the resources available to make this determination.

TRI Database. The "launching pad" for data quality targeting is the TRI database, as it is probably the best source of industry-wide data. As discussed earlier, all companies who manufacture, process, or otherwise use EPCRA Section 313 toxic chemicals, must report, by Form R or Form A, their usage to EPA. The Form R data is then entered into the TRI database and can be referenced for identifying facilities with potential data quality errors. Because all facilities that reported will be entered into this database system, the TRI database is often the best source to use to begin your targeting process.

Be aware that every Region will differ to some degree in the way that they target facilities. Your Region may participate heavily in multimedia inspections, in which case these targets would have already been determined. Some Regions conduct a risk analysis to help determine which targets to inspect. Therefore, become familiar with the targeting method which is used in your Region.

The TRI database can be manipulated to create an industry profile. To produce meaningful results, however, any TRI analysis must be performed at the 4-digit SIC level. The analysis may be performed on a national, regional, or state level. The SFIP database is an example of such a tool. It provides national TRI data, as well as a compliance and enforcement history of facilities in five industry sectors, as well as federal facilities. The most useful information is data on the number of facilities in an industry that report use of a particular EPCRA Section 313 chemical. For example, if 90 percent of the facilities in an industry report for xylene and the plant in question does not, this difference should be investigated. In general, chemicals used by more than a third or half of the target population may be useful for a quick comparative analysis. Chemicals that are common substitutes for each other should be grouped into categories such as chlorinated solvents, organic solvents, and metals/metal compounds. For example, the TRI data may only indicate the type of chemical or chemical category. It may not necessarily indicate the exact chemical name. Therefore, as an EPCRA Section 313 inspector, you need to recognize that chemical by any commonly used name.

However, the best method, if available, is to identify facilities using similar chemical categories. Information in the TRI database (such as maximum quantity on site) should not be used, because it often is not reliable and does not correlate well with release and other waste management activity quantities. Similar facilities may be identified through inspector knowledge of the facilities or through comparison of sales or number of employees in state manufacturer directories. Comparisons can be made by using only a few facilities. However, if any statistical analysis is attempted, such as calculation of a mean release, minimally 10 or more facilities

should be selected in order to have some level of statistical significance. Although there may be very good reasons for differences in releases and other waste management activity quantities between identical facilities (such as better control or different production rates in a given year), significant differences from the mean should be questioned.

TRI Comparisons

Year-to-year comparisons of reported releases and other waste management activities of EPCRA Section 313 chemicals can detect calculation errors or errors in the methods used to calculate releases and other waste management activities. While year-to-year fluctuations may be explained by changes in usage (such as changes in paints used) or the addition of control equipment, large changes can also indicate errors made in one or more of the reporting years. This is especially true if no changes were made in the type or efficiency of the reported controls for this chemical.

Discrepancies in year-to-year release and other waste management activity estimates are not always an indication of a data quality error. This is especially true if release and other waste management activity estimates are declining. Discrepancies may be an indication of the use of a more sophisticated estimation methodology (these will be discussed in detail in the next section). For example, use of monitoring data will typically result in a lower emission estimate than use of an emission factor or mass balance method of calculation. Basing emission estimates on leak detection systems or stratified factors can also result in lower reported releases. In general, more sophisticated methodologies are more expensive and tend to be used by larger companies.

Releases reported in Section 5, plus transfer or disposal in Section 6.2, should equal the quantity released in Section 8.1. Transfers for Waste Treatment/Recycling/Energy Recovery in Section 6 should agree with the equivalent reported quantities in Section 8 (adjusted for rounding). Additionally instructions regarding the relationships between Sections 5, 6, and 8 are included in the Section 8 reporting instructions for the Form R packet (Attachment 7-1). In conclusion, inconsistencies in reporting within a TRI submittal may indicate errors in the calculation of releases and off-site transfers.

Errors Associated With Calculation Methods

There are specific types of errors that should be looked for with each calculation method. The following four calculation method codes are reported on the Form R: M, monitoring data; C, mass balance; E, published emission factor, and O, other approaches.

Monitoring Data (M). Monitoring data (M) is usually the best method for calculating releases and other waste management activity quantities for an individual waste stream. These estimates always boil down to a measured waste stream chemical concentration, multiplied by the mass or volume of the waste stream. Several errors can occur in using this method. These errors tend to be caused by primal calculations that are off by several orders of magnitude and would be

reflected in the estimated releases and other waste management activity. These errors would be identifiable by year-to-year or industry-wide comparisons. Use of improper units causes calculational errors in the result. An inappropriate measurement may be used. The use of the TCLP measurement will underestimate releases, because these tests measure leachable contaminant concentrations, not total contaminant concentrations, in the sample.

An additional error may be associated with estimates with the M calculation code. A sample measurement that is used in estimate calculations may not represent the average concentration in the waste stream for the entire year. For example, concentrations in wastewater will vary during low or high wastewater flow periods, and annual average concentration must represent a sufficient number of measurements to account for this. Often, the facility will have only one data point for a chemical in a waste stream. Nonrepresentative monitoring data should not be used to calculate releases and other waste management activity quantities; however, it is often the only reasonable method that the facility can use to calculate an estimate.

Mass Balance (C). Mass balance (C) provides a means of calculating the gross inputs and outputs of process chemicals. A mass balance is useful for estimating releases and other waste management activity quantities when measured data are not available or when other inlet and output streams are quantified separately. The amounts entering or leaving a process are either measured or estimated. A mass balance can be performed on the process as a whole or on a subprocess. Individual operations or procedures within the process usually must be evaluated using process diagrams.

Mass balance calculation is the best overall method to use to account for the total usage of the chemical for otherwise used chemicals. Mass balance calculations are not appropriate when releases and other waste management activity quantities represent only a small percentage of the chemical throughput. If mass balance calculations are used to estimate very small releases or other waste management activity quantities for manufactured or processed chemicals, the results should be questioned.

Published Emission Factors (E). A third technique for estimating releases and other waste management activity quantities from processes involves the use of published emission factors (E). One type of emission factor relates a quantity of a pollutant to some process-related parameter or measurement. The amount of pollutant per quantity of product is frequently used. Many emission factors are expressed in terms of total VOCs or particulates rather than a single chemical compound. Emission factors for VOCs are available in VOC Emission Factors for the NAPAP Emission Inventory. The NAPAP data can be used with actual process vent measurements of volatile organics or particulates to estimate emissions of a specific compound. Another good source of information is Toxic Air Pollutant Emissions Factors - A Compilation for Selected Air Toxic Compounds and Sources. Any non-chemical-specific emission factors usage should be reported as engineering calculations (see "Other Approaches").

Errors can result in the use of emission factors if inappropriate factors are used or if these factors are "adjusted" by the facility using questionable rationale. If the facility reports the use of an emission factor, the calculation should be reviewed using accepted EPA factors for comparison.

Other Approaches (O). Engineering calculations or "Other Approaches (O)" can be used when parameters related to emissions cannot be directly measured. Emissions can be estimated or inferred through engineering calculations or measurement of other secondary parameters (such as physical/chemical properties of the materials involved, design information on the unit operation for which the estimate is being made, or emission information from similar processes). Engineering calculations are generally used to "fill in" information needed for other emission estimation methods.

Physical and/or chemical information derived from the ideal gas law, vapor pressure, and equilibrium relationships can frequently be applied when gaseous concentrations of a particular compound are estimated. Some releases, such as VOC releases from storage tanks, can be estimated by use of engineering calculations. For example, the EPA publication AP-42 "Compilation of Air Pollutant Emission Factors" provides equations for estimating air emissions from organic liquid storage and handling operations. These equations contain factors that depend on tank parameters and service conditions. More specific information on storage tank emissions, including example calculations for horizontal tanks and chemical mixtures, can be found in the AP-42 section "Estimating Air Toxics Emissions from Organic Liquid Storage Tanks." The only way to identify errors in engineering calculations is to check the rationale and the actual calculation, including units.

Finally, the methods and data presented in the Estimating Releases and Waste Treatment Efficiencies for the Toxic Chemical Release Inventory Form are useful to check estimates of release and other waste management activity quantities reported by the facility.

Using Other Targeting Resources. Remember that when you are targeting for data quality, you can use any resources at your disposal that will benefit your targeting efforts. The resources covered in Lesson 5 should all be exploited to the fullest extent in order to obtain the necessary information. The process of targeting involves finding bits of information in many sources, analyzing it to create a "whole" picture, then making the determination whether the gaps in the information merit further investigation. The resources that have been explained to you in this module will help you obtain information that is necessary to piece together the entire data quality picture.

Other Targeting Methods

As mentioned throughout this lesson, there are targeting methods and resources other than those discussed in this module. A few of these are listed below:

- Targeting in conjunction with other cross-program multimedia inspections (such as, RCRA, and Clean Water Act [CWA])
  - In fact, data quality inspections are occurring most frequently as part of multimedia inspections.
- Targeting using tips or complaints from other media programs on questionable submissions
  - Although Regions presently receive relatively few tips and complaints from other media programs, this number could increase as a result of multimedia enforcement programs.
- Targeting in conjunction with other OECA-controlled program inspections (such as TSCA Sections 5 and 8 or polychlorinated biphenyls)
- Targeting facilities that may have overlooked chemicals, according to an examination of their MSDSs
- Targeting a facility with a significant discrepancy between the facility's Form R report and information included on a NPDES or other permit
- Targeting as a follow-up or add-on to a non/late reporter inspection
- Targeting a geographic area where there are a large number of facilities, thereby reducing inspection costs
- Targeting by inspecting facilities that have violations of other regulations (IDEA)
- Targeting using newspaper or broadcast accounts of chemical usage or release
- Targeting facilities that have received NONs, NOSEs, NOTEs, and so on
- Targeting facilities that are large emitters or emitters of specific toxic chemicals.

In July 1998, Region VII developed an EPCRA Section 313 Data Quality Inspection Workshop, Manual, and Compact Disc, which provide more detailed information on potential data quality targeting strategies. In May 2000, these were revised to address other media and became the Process-based Investigations Workshop, Manual, and videotape of the workshop. Copies are available in every Regional office, or you can contact the Toxics and Pesticide Enforcement Division of OECA by calling 202-564-4071.

EXERCISE

Individually or in groups, take ten minutes to develop a potential data quality targeting scenario that you could envision conducting in your Region. Outline the steps you would take to initiate such a scenario or initiative and identify any questions or potential problems with implementation. Share and solicit recommendations for solutions to identified questions or problems.

SUMMARY

This lesson has addressed the subject of targeting facilities with potential data quality violations. The discussion of Form Rs and Form As and the common errors facilities make when completing them should assist you in future targeting efforts. Additionally, consider incorporating the various data quality targeting methods into your own targeting approach, including using the TRI database to your best advantage, as explained in this lesson.

You have been introduced to the four primary calculation methods, and these methods will be expanded upon in future lessons. The process of targeting data quality violations may vary greatly depending upon such factors as Regional preferences, whether there are National or Regional initiatives to consider, and available resources.

ATTACHMENT 7-1

TOXIC RELEASE INVENTORY REPORTING FORMS AND INSTRUCTIONS

(187 Pages)

United States
Environmental Protection
Agency

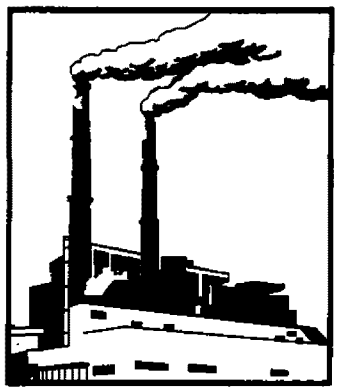
Office of Information
Analysis and Access
Washington, DC 20460

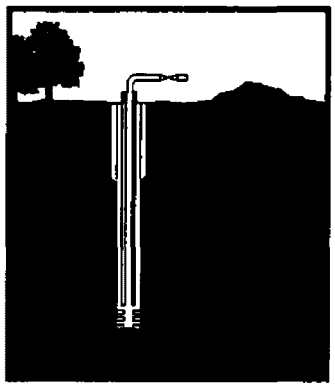
February 2000
EPA 745-B-00-001

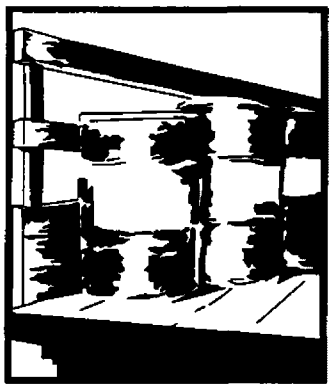
EPA

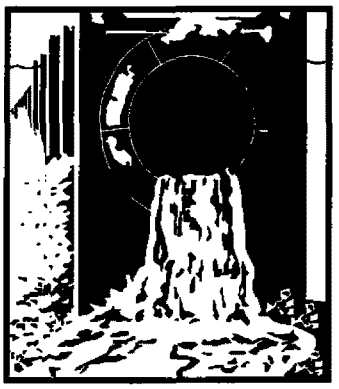
Toxic Chemical Release Inventory Reporting Forms and Instructions

Revised 1999 Version









Section 313

of the Emergency Planning and Community Right-to-Know Act

(Title III of the Superfund Amendments and Reauthorization Act of 1986)

WHERE TO SEND REPORTS
REGULAR, CERTIFIED MAIL, OVERNIGHT
OR HAND DELIVERED
(SECTION A.7 (PAGES 4-5))

FOR ATRS SOFTWARE SUPPORT CALL:
ATRS Technical Support Hotline
(703) 816-4434
OR
Email: atrs.tech.support@epcra.org
Hours of Operation:
8:00 AM to 4:30 PM E.T.

For questions regarding Form R or Form A call:
EMERGENCY PLANNING AND
COMMUNITY RIGHT-TO-KNOW HOTLINE
1-(800) 424-9346 OR (703) 412-9877
HOURS OF OPERATION:
9:00 AM TO 6:00 PM E.T.
(SECTION A.8 (PAGE 5))

HOW TO OBTAIN FORMS
AND OTHER
INFORMATION
(SECTION A.8 (PAGE 5))

Please send either: (1) one copy of each Form R or Form A, or (2) an ATRS99 diskette to EPA at the appropriate address listed in Section A.7 *(PAGE 4)* and an electronic or hard copy of each to your state. Be aware that not all states accept electronic versions of the Forms. Do not send a copy to your EPA Regional Office

STATE DESIGNATED
SECTION 313 CONTACTS
(APPENDIX F)

SECTION 313 EPA REGIONAL
CONTACTS
(APPENDIX G)

Important Information for Reporting Year 1999

The following information updates or corrects the Forms and Instructions for Reporting Year 1998. No other changes or modifications have been made to the Forms and Instructions other than these here.

- All references to reporting year 1999 and all other date related references have been changed to reflect the current reporting year. (i.e., reporting year 1998 has been changed to reporting year 1999; prior year 1997 was changed to prior year 1998, etc.) This change was made for both the Form R and the instructions.

- Starting with the reporting year 1998, voluntary revisions must be submitted by July 31st of the same year as the reporting deadline for the revised data to be included in the next TRI data release. In previous years this deadline was October 15th.

- The back side of the pages of the Form R include a box stating, "This page intentionally left blank". Please do not copy double-sided.

- Appendix A contains reporting instructions specific to Federal facilities that are required to report under Executive Order 12856. Further guidance for Federal facilities may be obtained from the EPCRA Hotline at 1 (800) 424-9346, or (703) 412-9877.

- Appendix C, "Common Errors in Completing Form R Reports and Making Data Available" has been updated.

- The State and Regional contact lists have been updated (Appendices F and G).

- The Alternate Threshold provides eligible facilities with the option of submitting a simplified Form A instead of the full Form R report.

- The EPCRA Section 313 Chemical List (Table II) has not changed since last year.

- A list of Section 313 industry-specific guidance documents and chemical-specific guidance documents and information on ordering these documents free of charge is provided on page vii.

- Included in this reporting package is a compact disk (CD) that contains several industry-specific regulatory guidance documents, including documents specific to the newly added industry groups, the EPCRA Section 313 Questions and Answers book and all versions of ATRS99 (Windows 95, 98 and NT; Windows 3.1) and the ATRS Users Guide.

- These documents are also available on the Internet at http://www.epa.gov/tri.

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Automated TRI Reporting Software

About ATRS

ATRS99 is EPA's Automated TRI Reporting Software for reporting TRI data for 1999 and any preceding year. Listed below are some features which are new this year:

ATRS Features

- ### ATRS99 on CD

Distributing our software on compact disk (CD) allows us to provide you with several of our industry-specific regulatory guidance documents and the EPCRA Section 313 Questions and Answers book in addition to all versions of ATRS99: Windows 32-bit (Windows 95, 98, and NT compatible); Windows 16-bit (Windows 3.1 compatible).

- ### "Recycle" Your Old Data

The "reload data function" allows you to reload existing TRI data from any of the following sources which you may have saved from previous TRI reporting: (1) any AFR/ATRS submission diskette (for reporting years 1991 to 1998), (2) AFR97 and ATRS98 for DOS database, or (3) AFR97 and ATRS98 for Windows database. Once reloaded these data can easily be edited to update it as needed for 1999 reporting.

- ### DOS Version Discontinued

We have discontinued the DOS version of the software due to low demand (approximately 100 filers last year used the DOS version of ATRS).

- ### Create Diskette for State Submission

The create diskette screen now presents an option to create a diskette and cover letter for submission to a state agency.

- ### Diskette Creation Message

The state disk, copy all, and copy selected diskette creation routines now feature a message upon successful completion of the diskette creation routine.

- ### Additional Validation Check for Waste Management Codes

For most metals and metal compound categories, only waste management codes for disposal and certain recycling activities are accepted. This is because metals and metal category compounds are neither treated nor destroyed, and therefore, these chemicals and chemical compounds can only be managed through some form of disposal or recycling/recovery process. The only exceptions to this are for those cases where the listed metal contains a qualifier (e.g., aluminum – fume or dust) where the listed form of the metal may be transformed to a non-listed form. Use of waste management codes other than these will produce an invalid code in section 6.2.X.c. The user will be notified of this error upon validation under the error code #339.

- ### Distinction Among Standard Industrial Classification (SIC) Codes

EPA has provided guidance in the "Forms and Instructions" package each year directing facilities to enter their "Primary" SIC code in the first place holder in Part 1, "Facility Information" section. This year, both Form R and Form A have been slightly modified to include the title of "Primary SIC code" in the position of the first SIC code. Please enter the "primary" SIC code for the facility in this field.

Automated TRI Reporting Software

- **Disabling of the Warning Message for over 50,000 pounds**

ATRS has been modified so that the current warning message that appears at the first entry value over 50,000 pounds may be disabled by the submitter of the form.

Chemical and Industry Guidance Documents

To receive a copy of any of the section 313 documents listed below, check the box(es) next to the desired document(s). There is no charge for any of these documents. Be sure to type or clearly print your full mailing address in the space provided on the third page of this form (page viii). Send this request form or call toll-free 1-800-490-9198.

U.S. EPA/NCEPI
P.O. Box 42419
Cincinnati, OH 45242-2419
(800) 490-9198
Fax: (513) 489-8695
Internet:
http://www.epa.gov/ncepihom/index.html

❑ **40 CFR 372, Toxic Chemical Release Reporting; Community Right-to-Know; Final Rule**

A reprint of the final section 313 rule as it appeared in the *Federal Register* (FR) February 16, 1988 (53 FR 4500) (OTSFR 021688).

❑ **Toxics Chemical Release Inventory Reporting Forms and Instructions for 1999**
February 2000 (EPA 740-K-00-001)

❑ **Consolidated List of Chemicals Subject to Reporting Under the Act**
(Title III List of Lists) (EPA 550-B-98-017)

A consolidated list of specific chemicals covered by the Emergency Planning and Community Right-to-Know Act. The list contains the chemical name, CAS Registry Number, and reporting requirement(s) to which the chemical is subject.

❑ **The Emergency Planning and Community Right-to-Know Act: Section 313 Release Reporting Requirements**
June 1999 (EPA 745/K-99-002)

The brochure alerts businesses to their reporting obligations under section 313 and assists in determining whether their facility is required to report. The brochure contains the EPA regional contacts, the list of section 313 toxic chemicals and a description of the Standard Industrial Classification (SIC) codes subject to section 313.

❑ Supplier Notification Requirements,
(EPA 560-4-91-006)

This pamphlet assists chemical suppliers who may be subject to the supplier notification requirements, gives examples of situations which require notification, describes the trade secret provision, and contains a sample notification.

❑ **Trade Secrets Rule and Form**
(53 FR 28772)

A reprint of the final rule that appeared in the *Federal Register* of July 29, 1988. This rule implements the trade secrets provision of the Emergency Planning and Community Right-to-Know Act (section 322) and includes a copy of the trade secret substantiation form.

❑ **Common Synonyms for Chemicals Listed Under Section 313 of the Emergency Planning and Community Right-to-Know Act**
(EPA 745-R-95-008)

This glossary contains chemical names and their synonyms for substances covered by the reporting requirements of EPCRA section 313. The glossary was developed to aid in determining whether a facility manufactures, processes, or otherwise uses a chemical subject to section 313 reporting.

❑ **Executive Order 12856 — Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements: Questions and Answers**
February 1999 (EPA 745-R-99-001)

This document assists federal facilities in complying with Executive Order 12856. This information has been compiled by EPA from questions received from Federal facilities. This document is intended for the exclusive use of Federal facilities in complying with sections 302, 303, 304, 311, 312, and 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 and the Pollution Prevention Act of 1990, as directed by the Executive Order.

❑ **Section 313 of the Emergency Planning and Community Right-to-Know Act; Questions and Answers**
December 1998 (EPA 745-B-98-004)

The revised *1998 EPCRA Section 313 Questions and Answers* document assists regulated facilities in complying with the reporting requirements of EPCRA section 313. This updated document presents interpretive guidance in the form of answers to many commonly asked questions on compliance with EPCRA section 313. In addition, this document includes comprehensive written directives to assist covered facilities in understanding some of the more complicated regulatory issues. This updated guidance document is intended to supplement the instructions for completing the Form R and the Alternate Threshold Certification Statement (Form A).

- **Toxics Release Inventory: Reporting Modifications Beginning with 1995 Reporting Year**
  February 1995 (EPA 745-R-95-009)

Chemical-Specific Guidance

EPA has developed a group of guidance documents specific to individual chemicals and chemical categories.

- **Toxics Release Inventory List of Toxic Chemicals within the Polychlorinated Alkanes Category and Guidance for Reporting**
  February 1995 (EPA745-R-95-001)

- **Toxics Release Inventory List of Toxic Chemicals within the Water Dissociable Nitrate Compounds Category and Guidance for Reporting**
  May 1996 (EPA745-R-96-003)

- **Toxics Release Inventory List of Toxic Chemicals within the Polyclic Aromatic Compounds Category**
  February 1995 (EPA745-R-95-004)

- **Toxics Release Inventory List of Toxic Chemicals within the Nicotine and Salt Category and Guidance for Reporting**
  February 1995 (EPA745-R-95-004)

- **Toxics Release Inventory List of Toxic Chemicals within the Strychnine and Salts Category and Guidance for Reporting**
  February 1995 (EPA745-R-95-005)

- **Toxics Release Inventory List of Toxic Chemicals within the Glycol Ethers Category and Guidance for Reporting**
  May 1995 (EPA745-R-95-006)

- **Emergency Planning and Community Right-to-Know Section 313: List of Toxic Chemicals within the Chlorophenols Category**
  November 1994 (EPA745-B-95-004)

- **Emergency Planning and Community Right-to-Know Section 313: Guidance for Reporting Aqueous Ammonia**
  July 1995 (EPA745-R-95-012)

- **Emergency Planning and Community Right-to-Know Section 313: Guidance for Reporting Sulfuric Acid (acid aerosols including mists, vapors, gas, fog and other airborne forms of any particle size)**
  November 1997 (EPA745-B-97-007)

- **Emergency Planning and Community Right-to-Know Section 313: Guidance for Reporting Hydrochloric Acid (acid aerosols including mists, vapors, gas, fog and other airborne forms of any particle size)**
  December 1999 (EPA 745-B-99-014)

Industry-Specific Guidance

EPA has developed a group of individual guidance documents for certain industries.

- **Section 313 of the Emergency Planning and Community Right-to-Know Act; Toxic Chemical Release Inventory; Data Quality Checks to Prevent Common Reporting Errors on Form R/Form A**
  August 1998 (EPA 745-R-98-012)

- **Emergency Planning and Community Right-to-Know Act Section 313 Reporting Guidance for Spray Application and Electrodeposition of Organic Coatings**
  December 1998 (EPA 745-R-98-014)

- **Emergency Planning and Community Right-to-Know Act Section 313 Reporting Guidance for Food Processors**
  September 1998 (EPA 745-R-98-011)

- **Emergency Planning and Community Right-to-Know Act Section 313 Reporting Guidance for Rubber and Plastics Manufacturing**
  December 1998 (EPA 745-R-99-017)

- ☐ **Emergency Planning and Community Right-to-Know Act Section 313 Reporting Guidance for Semiconductor Manufacturing**
  December 1998 (EPA 745-R-98-007)

- ☐ **Emergency Planning and Community Right-to-Know Act Section 313: Guidance for Metal Mining Facilities**
  January1999 (EPA 745-B-99-001)

- ☐ **Emergency Planning and Community Right-to-Know Act Section 313: Guidance for Coal Mining Facilities**
  January 1999 (EPA 745-B-99-002)

- ☐ **Emergency Planning and Community Right-to-Know Act Section 313: Guidance for Electricity Generating Facilities**
  January 1999 (EPA 745-B-99-003)

- ☐ **Emergency Planning and Community Right-to-Know Act Section 313: Guidance for RCRA Subtitle C TSD Facilities and Solvent Recovery Facilities**
  January 1999 (EPA 745-B-99-004)

- ☐ **Emergency Planning and Community Right-to-Know Act Section 313: Guidance for Chemical Distribution Facilities**
  January 1999 (EPA 745-B-99-005)

- ☐ **Emergency Planning and Community Right-to-Know Act Section 313: Guidance for Petroleum Bulk Storage Facilities**
  January 1999 (EPA 745-B-99-006)

PLEASE TYPE MAILING ADDRESS HERE (DO NOT ATTACH BUSINESS CARDS)

Name/Title _____

Company Name _____

Mail Stop _____

Street Address _____

P.O. Box _____

City/State/Zip Code _____

Paperwork Reduction Act Notice: The annual public burden related to the Form R, which is approved under OMB Control No. 2070-0093, is estimated to average 52.1 hours per response. The annual public burden related to the Form A, which is approved under OMB Control No. 2070-0143, is based on a combination of the estimated burdens for 1) determining whether a listed toxic chemical is eligible for certification under the alternate threshold, and 2) completing the Form A. The burden of determining eligibility for certification is estimated to average 33.2 hours for each chemical that is certified. The burden of completing the Form A is estimated to average 1.4 hours, regardless of the number of chemicals being certified. The total burden per response is the combination of these two, and will vary depending on the number of listed toxic chemicals being certified.

According to the Paperwork Reduction Act, "burden" means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. For this collection it includes the time needed to review instructions; train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for this information collection appear above and on the forms. In addition, the OMB control numbers for EPA's regulations, after initial display in the final rule, are listed in 40 CFR part 9.

Send comments on the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, OP Regulatory Information Division, U.S. Environmental Protection Agency (Mail Code 2137), 401 M Street, S.W., Washington, D.C. 20460. Include the OMB control number in any correspondence, but do not submit the requested information to this address. The completed forms should be submitted in accordance with the instructions accompanying the form, or as specified in the corresponding regulation.

EPA United States Environmental Protection Agency

FORM R

TOXIC CHEMICAL RELEASE INVENTORY REPORTING FORM

Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986, also known as Title III of the Superfund Amendments and Reauthorization Act

WHERE TO SEND COMPLETED FORMS: 1. EPCRA Reporting Center, P.O Box 3348, Merrifield, VA 22116-3348, ATTN: TOXIC CHEMICAL RELEASE INVENTORY 2. APPROPRIATE STATE OFFICE (See instructions in Appendix F)

Enter "X" here if this is a revision

For EPA use only

Important: See instructions to determine when "Not Applicable (NA)" boxes should be checked.

PART I. FACILITY IDENTIFICATION INFORMATION

SECTION 1. REPORTING YEAR _____

SECTION 2. TRADE SECRET INFORMATION

2.1	Are you claiming the toxic chemical identified on page 2 trade secret? ☐ Yes (Answer question 2.2; Attach substantiation forms) ☐ No (Do not answer 2.2; Go to Section 3)	2.2	Is this copy ☐ Sanitized ☐ Unsanitized (Answer only if "YES" in 2.1)

SECTION 3. CERTIFICATION (Important: Read and sign after completing all form sections.)

I hereby certify that I have reviewed the attached documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and values in this report are accurate based on reasonable estimates using data available to the preparers of this report.

Name and official title of owner/operator or senior management official:	Signature:	Date Signed:

SECTION 4. FACILITY IDENTIFICATION

4.1		TRI Facility ID Number	
Facility or Establishment Name		Facility or Establishment Name or Mailing Address(if different from street address)	
Street		Mailing Address	
City/County/State/Zip Code		City/County/State/Zip Code	

4.2	This report contains information for: (Important : check a or b; check c if applicable)	a. ☐ An entire facility	b. ☐ Part of a facility	c. ☐ A Federal facility
4.3	Technical Contact Name		Telephone Number (include area code)	
4.4	Public Contact Name		Telephone Number (include area code)	

4.5	SIC Code (s) (4 digits)	Primary a.	b.	c.	d.	e.	f.

4.6	Latitude	Degrees	Minutes	Seconds	Longitude	Degrees	Minutes	Seconds

4.7	Dun & Bradstreet Number(s) (9 digits)	4.8	EPA Identification Number (RCRA I.D. No.) (12 characters)	4.9	Facility NPDES Permit Number(s) (9 characters)	4.10	Underground Injection Well Code (UIC) I.D. Number(s) (12 digits)
a.		a.		a.		a.	
b.		b.		b.		b.	

SECTION 5. PARENT COMPANY INFORMATION

5.1	Name of Parent Company	NA ☐	
5.2	Parent Company's Dun & Bradstreet Number	NA ☐	

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EPA FORM R
PART II. CHEMICAL-SPECIFIC INFORMATION

TRI Facility ID Number

Toxic Chemical, Category or Generic Name

SECTION 1. TOXIC CHEMICAL IDENTITY (Important: DO NOT complete this section if you completed Section 2 below.)

1.1	CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)
1.2	Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)
1.3	Generic Chemical Name (Important: Complete **only** if Part 1, Section 2.1 is checked "yes". Generic Name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1 above.)

2.1	Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)

SECTION 3. ACTIVITIES AND USES OF THE TOXIC CHEMICAL AT THE FACILITY
(Important: Check all that apply.)

3.1 Manufacture the toxic chemical:	3.2 Process the toxic chemical:	3.3 Otherwise use the toxic chemical:
a. ☐ Produce b. ☐ Import		
If produce or import:		
c. ☐ For on-site use/processing	a. ☐ As a reactant	a. ☐ As a chemical processing aid
d. ☐ For sale/distribution	b. ☐ As a formulation component	b. ☐ As a manufacturing aid
e. ☐ As a byproduct	c. ☐ As an article component	c. ☐ Ancillary or other use
f. ☐ As an impurity	d. ☐ Repackaging	

SECTION 4. MAXIMUM AMOUNT OF THE TOXIC CHEMICAL ONSITE AT ANY TIME DURING THE CALENDAR YEAR

4.1	☐ (Enter two-digit code from instruction package.)	

SECTION 5. QUANTITY OF THE TOXIC CHEMICAL ENTERING EACH ENVIRONMENTAL MEDIUM ONSITE

			A. Total Release (pounds/year) (Enter range code or estimate*)	B. Basis of Estimate (enter code)	C. % From Stormwater
5.1	Fugitive or non-point air emissions	NA ☐			
5.2	Stack or point air emissions	NA ☐			
5.3	Discharges to receiving streams or water bodies (enter one name per box)				
	Stream or Water Body Name				
5.3.1					
5.3.2					
5.3.3					
5.4.1	Underground Injection onsite to Class I Wells	NA ☐			
5.4.2	Underground Injection onsite to Class II-V Wells	NA ☐			

If additional pages of Part II, Section 5.3 are attached, indicate the total number of pages in this box ☐
and indicate the Part II, Section 5.3 page number in this box. ☐ **(example: 1,2,3, etc.)**

* Range Codes: A= 1 - 10 pounds; B= 11- 499 pounds; C= 500 - 999 pounds.

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EPA FORM R

PART II. CHEMICAL - SPECIFIC INFORMATION (CONTINUED)

TRI Facility ID Number
Toxic Chemical, Category or Generic Name

SECTION 5. QUANTITY OF THE TOXIC CHEMICAL ENTERING EACH ENVIRONMENTAL MEDIUM ONSITE (Continued)

		NA	A. Total Release (pounds/year) (enter range code* or estimate)	B. Basis of Estimate (enter code)
5.5	Disposal to land onsite			
5.5.1A	RCRA Subtitle C landfills	☐		
5.5.1B	Other landfills	☐		
5.5.2	Land treatment/application farming	☐		
5.5.3	Surface Impoundment	☐		
5.5.4	Other disposal	☐		

SECTION 6. TRANSFERS OF THE TOXIC CHEMICAL IN WASTES TO OFF-SITE LOCATIONS

6.1 DISCHARGES TO PUBLICLY OWNED TREATMENT WORKS (POTWs)

6.1.A Total Quantity Transferred to POTWs and Basis of Estimate

6.1.A.1. Total Transfers (pounds/year) (enter range code* or estimate)	6.1.A.2 Basis of Estimate (enter code)

6.1.B. __	POTW Name						
POTW Address							
City		State		County		Zip	
6.1.B. __	POTW Name						
POTW Address							
City		State		County		Zip	

If additional pages of Part II, Section 6.1 are attached, indicate the total number of pages in this box ☐ and indicate the Part II, Section 6.1 page number in this box ☐ (example: 1,2,3, etc.)

SECTION 6.2 TRANSFERS TO OTHER OFF-SITE LOCATIONS

6.2. ___ Off-Site EPA Identification Number (RCRA ID No.)							
Off-Site Location Name							
Off-Site Address							
City		State		County		Zip	

Is location under control of reporting facility or parent company? ☐ Yes ☐ No

* Range Codes: A = 1 - 10 pounds; B = 11 - 499 pounds; C = 500 - 999 pounds.

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EPA FORM R

PART II. CHEMICAL-SPECIFIC INFORMATION (CONTINUED)

TRI Facility ID Number
Toxic Chemical, Category or Generic Name

SECTION 6.2 TRANSFERS TO OTHER OFF-SITE LOCATIONS (Continued)

A. Total Transfers (pounds/year) (enter range code* or estimate)	B. Basis of Estimate (enter code)	C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (enter code)
1.	1.	1. M
2.	2.	2. M
3.	3.	3. M
4.	4.	4. M

6.2. ___ Off-Site EPA Identification Number (RCRA ID No.)

Off-Site location Name

Off-Site Address

City | State | County | Zip

Is location under control of reporting facility or parent company? ☐ Yes ☐ No

A. Total Transfers (pounds/year) (enter range code* or estimate)	B. Basis of Estimate (enter code)	C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (enter code)
1.	1.	1. M
2.	2.	2. M
3.	3.	3. M
4.	4.	4. M

SECTION 7A. ON-SITE WASTE TREATMENT METHODS AND EFFICIENCY

☐ Not Applicable (NA) - Check here if no on-site waste treatment is applied to any waste stream containing the toxic chemical or chemical category.

a. General Waste Stream (enter code)	b. Waste Treatment Method(s) Sequence [enter 3-character code(s)]						c. Range of Influent Concentration	d. Waste Treatment Efficiency Estimate	e. Based on Operating Data ?
7A.1a	7A.1b	1		2			7A.1c	7A.1d	7A.1e
	3	4		5				%	Yes ☐ No ☐
	6	7		8					
7A.2a	7A.2b	1		2			7A.2c	7A.2d	7A.2e
	3	4		5				%	Yes ☐ No ☐
	6	7		8					
7A.3a	7A.3b	1		2			7A.3c	7A.3d	7A.3e
	3	4		5				%	Yes ☐ No ☐
	6	7		8					
7A.4a	7A.4b	1		2			7A.4c	7A.4d	7A.4e
	3	4		5				%	Yes ☐ No ☐
	6	7		8					
7A.5a	7A.5b	1		2			7A.5c	7A.5d	7A.5e
	3	4		5				%	Yes ☐ No ☐
	6	7		8					

Additional pages of Part II, Section 6.2/7A are attached, indicate the total number of pages in this box ☐ and indicate the Part II, Section 6.2/7A page number in this box : ☐ (example: 1,2,3, etc)

* Range Codes: A = 1 - 10 pounds; B = 11 - 499 pounds; C = 500 - 999 pounds.

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EPA FORM R

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PART II. CHEMICAL-SPECIFIC INFORMATION (CONTINUED)

TRI Facility ID Number
Toxic Chemical, Category or Generic Name

SECTION 7B. ON-SITE ENERGY RECOVERY PROCESSES

☐ Not Applicable (NA) - Check here if no on-site energy recovery is applied to any waste stream containing the toxic chemical or chemical category.

Energy Recovery Methods [enter 3-character code(s)]

1 ☐ 2 ☐ 3 ☐ 4 ☐

SECTION 7C. ON-SITE RECYCLING PROCESSES

☐ Not Applicable (NA) - Check here if no on-site recycling is applied to any waste stream containing the toxic chemical or chemical category.

Recycling Methods [enter 3-character code(s)]

1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

6. ☐ 7. ☐ 8. ☐ 9. ☐ 10. ☐

SECTION 8. SOURCE REDUCTION AND RECYCLING ACTIVITIES

		Column A Prior Year (pounds/year)	Column B Current Reporting Year (pounds/year)	Column C Following Year (pounds/year)	Column D Second Following Year (pounds/year)
8.1	Quantity released **				
8.2	Quantity used for energy recovery onsite				
8.3	Quantity used for energy recovery offsite				
8.4	Quantity recycled onsite				
8.5	Quantity recycled offsite				
8.6	Quantity treated onsite				
8.7	Quantity treated offsite				
8.8	Quantity released to the environment as a result of remedial actions, catastrophic events, or one-time events not associated with production processes (pounds/year)				
8.9	Production ratio or activity index				

8.10	Did your facility engage in any source reduction activities for this chemical during the reporting year? If not, enter "NA" in Section 8.10.1 and answer Section 8.11.			
	Source Reduction Activities [enter code(s)]	Methods to Identify Activity (enter codes)		
8.10.1		a.	b.	c.
8.10.2		a.	b.	c.
8.10.3		a.	b.	c.
8.10.4		a.	b.	c.
8.11	Is additional information on source reduction, recycling, or pollution control activities included with this report ? (Check one box)			YES ☐ NO ☐

**Report releases pursuant to EPCRA Section 329(8) including "any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment." Do not include any quantity treated onsite or offsite.

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Please do not copy double-sided!

United States Environmental Protection Agency

TOXIC CHEMICAL RELEASE INVENTORY
FORM A

WHERE TO SEND COMPLETED FORMS: 1. EPCRA Reporting Center, P.O Box 3348, Merrifield, VA 22116-3348, ATTN: TOXIC CHEMICAL RELEASE INVENTORY 2. APPROPRIATE STATE OFFICE (See instructions in Appendix F)

Enter "X" here if this is a revision

For EPA use only

Important: See instructions to determine when "Not Applicable (NA)" boxes should be checked.

PART I. FACILITY IDENTIFICATION INFORMATION

SECTION 1. REPORTING YEAR _____

SECTION 2. TRADE SECRET INFORMATION

2.1	Are you claiming the toxic chemical identified on page 2 trade secret? ☐ Yes (Answer question 2.2; Attach substantiation forms) ☐ No (Do not answer 2.2; Go to Section 3)	2.2	Is this copy ☐ Sanitized ☐ Unsanitized (Answer only if "YES" in 2.1)

SECTION 3. CERTIFICATION (Important: Read and sign after completing all form sections.)

I hereby certify that to the best of my knowledge and belief, for each toxic chemical listed in the statement, the annual reportable amount as defined in 40 CFR 372.27 (a), did not exceed 500 pounds for this reporting year and that the chemical was manufactured, processed, or otherwise used in an amount not exceeding 1 million pounds during this reporting year.

Name and official title of owner/operator or senior management official:	Signature:	Date Signed:

SECTION 4. FACILITY IDENTIFICATION

4.1		TRI Facility ID Number	
Facility or Establishment Name		Facility or Establishment Name or Mailing Address(if different from street address)	
Street		Mailing Address	
City/County/State/Zip Code		City/County/State/Zip Code	

4.2	This report contains information for: (Important : check c if applicable)	c. ☐	A Federal facility
4.3	Technical Contact Name	Telephone Number (include area code)	
4.4	Intentionally left blank		

4.5	SIC Code (s) (4 digits)	Primary a.	b.	c.	d.	e.	f.

4.6	Latitude	Degrees	Minutes	Seconds	Longitude	Degrees	Minutes	Seconds

4.7	Dun & Bradstreet Number(s) (9 digits)	4.8	EPA Identification Number (RCRA I.D. No.) (12 characters)	4.9	Facility NPDES Permit Number(s) (9 characters)	4.10	Underground Injection Well Code (UIC) I.D. Number(s) (12 digits)
a.		a.		a.		a.	
b.		b.		b.		b.	

SECTION 5. PARENT COMPANY INFORMATION

5.1	Name of Parent Company	NA ☐	
5.2	Parent Company's Dun & Bradstreet Number	NA ☐	

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Please do not copy double-sided!

IMPORTANT: Type or print; read instructions before completing form

EPA FORM A

PART II. CHEMICAL IDENTIFICATION

TRIFID:

SECTION 1. TOXIC CHEMICAL IDENTITY

Report ___ of ___

1.1	CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)
1.2	Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)
1.3	Generic Chemical Name (Important: Complete only if Part I, Section 2.1 is checked "yes". Generic Name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1 above.)

2.1	Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces and punctuation.)

SECTION 1. TOXIC CHEMICAL IDENTITY

Report ___ of ___

1.1	CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)
1.2	Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)
1.3	Generic Chemical Name (Important: Complete only if Part I, Section 2.1 is checked "yes". Generic Name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1 above.)

2.1	Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces and punctuation.)

SECTION 1. TOXIC CHEMICAL IDENTITY

Report ___ of ___

1.1	CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)
1.2	Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)
1.3	Generic Chemical Name (Important: Complete only if Part I, Section 2.1 is checked "yes". Generic Name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1 above.)

2.1	Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces and punctuation.)

SECTION 1. TOXIC CHEMICAL IDENTITY

Report ___ of ___

1.1	CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)
1.2	Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)
1.3	Generic Chemical Name (Important: Complete only if Part I, Section 2.1 is checked "yes". Generic Name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1 above.)

2.1	Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces and punctuation.)

(Make additional copies of this page, if needed)

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Please do not copy double-sided!

A. General Information

Reporting to the Toxic Chemical Release Inventory (TRI) is required by section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA, or Title III of the Superfund Amendments and Reauthorization Act of 1986), Public Law 99-499. The information contained in the Form R constitutes a "report," and the submission of a report to the appropriate authorities constitutes "reporting."

The Pollution Prevention Act, passed into law in October, 1990 (Pub. L. 101-508), added reporting requirements to Form R. These requirements affect all facilities required to submit Form R under section 313 of EPCRA. The data were required beginning with reports for calendar year 1991.

Reporting is required to provide the public with information on the releases of EPCRA Section 313 chemicals in their communities and to provide EPA with release information to assist the Agency in determining the need for future regulations. Facilities must report the quantities of both routine and accidental releases of EPCRA Section 313 chemicals, as well as the maximum amount of the EPCRA Section 313 chemical on-site during the calendar year and the amount contained in wastes managed on-site or transferred off-site.

A completed Form R or Form A must be submitted for each EPCRA Section 313 chemical manufactured, processed, or otherwise used at each covered facility as described in the reporting rules in 40 CFR Part 372 (originally published February 16, 1988, in the Federal Register and November 30, 1994, in the Federal Register (for Form A)). These instructions supplement and elaborate on the requirements in the reporting rule. Together with the reporting rule, they constitute the reporting requirements. All references in these instructions are to sections in the reporting rule unless otherwise indicated.

A.1 Who Must Report

Section 313 of EPCRA requires that reports be filed by owners and operators of facilities that meet all of the following criteria.

- The facility has 10 or more full-time employees; and
- The facility is included in Standard Industrial Classification (SIC) Codes 10 (except 1011, 1081, and 1094), 12 (except 1241), 20-39, 4911 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4931 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4953 (limited to facilities regulated under the RCRA Subtitle C, 42 U.S.C. section 6921 *et seq.*), 5169, 5171, and 7389 (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis); and
- The facility manufactures (defined to include importing), processes, or otherwise uses any EPCRA Section 313 chemical in quantities greater than the established threshold in the course of a calendar year.

A.2 How to Assemble a Complete Report

A.2.a. The Toxic Chemical Release Reporting Form, EPA Form R

The five-page EPA Form R consist of two parts:

- Part I, Facility Identification Information (page 1); and
- Part II, Chemical-Specific Information (pages 2-5).

Most of the information required in Part I of Form R can be completed, photocopied, and attached to each chemical-specific report. However, Part I of each Form R submitted must have an original signature on the certification statement and the trade secret designation must be entered as appropriate. Part II must be completed separately for each EPCRA Section 313 chemical or chemical category. Because a complete Form R consists of at least five unique pages, any submission containing less than five unique pages is not a valid submission.

A complete report for any EPCRA Section 313 chemical that is not claimed as a trade secret consists of the following completed parts:

- Part I with an original signature on the certification statement (section 3); and
- Part II (Note: Section 8 is mandatory).

Staple all five pages of each report together. If you check yes on Part II, Section 8.11, you may attach additional information on pollution prevention activities at your facility.

A.2.b. The Alternate Toxic Chemical Release Inventory Form, EPA Form A

EPA Form A was established in 1994 as a substitute for reporting Form R information. This is based on an alternate threshold for facilities with low amounts of an EPCRA Section 313 chemical in waste. The Form A serves as an alternate to Form R, such that completion of the Form A is in lieu of Form R. Like the Form R described above, the Form A consists of two parts, but only consists of a total of two pages.

- Part I, Facility Identification Information, which also includes the "certification" regarding the eligibility to use the Form A (page 1 and the top of page 2); and
- Part II, Chemical Identification (the bottom of page 2).

Since 1998, the Form A may be used to report multiple chemicals. Four chemicals may be reported on page 2 of the form. If more than four chemicals are to be reported, additional copies of page 2 can be used to report qualifying chemicals. The Form A must have an original certification statement on page 1 and contain an appropriate trade secret designation for the form. A complete report for Form A consists of at least two pages for each submission.

A.3 Trade Secret Claims

For any EPCRA Section 313 chemical whose identity is claimed as trade secret, you must submit to EPA two versions of the substantiation form as prescribed in 40 CFR Part 350, published July 29, 1988, in the Federal Register (53 FR 28772) as well as two versions of the EPCRA Section 313 report. One set of reports, the "unsanitized" version, should provide the actual identity of the EPCRA Section 313 chemical. The other set of reports the "sanitized" version, should provide only a generic identity of the EPCRA Section 313 chemical. If EPA deems the trade secret substantiation form valid, only the sanitized set of forms will be made available to the public.

Use the order form in this document to obtain copies of the rule and substantiation form. Further explanation of the trade secret provisions is provided in Part I, Sections 2.1 and 2.2, and Part II, Section 1.3, of the instructions.

In summary, a complete report to EPA for an EPCRA Section 313 chemical claimed as a trade secret must include all of the following:

- A completed "unsanitized" version of Form R or Form A report including the EPCRA Section 313 chemical identity (staple the pages together);
- A sanitized version of a completed Form R or Form A report in which the EPCRA Section 313 chemical identity items (Part II, Sections 1.1 and 1.2) have been left blank but in which a generic chemical name has been supplied (Part II, Section 1.3) (staple the pages together);
- A completed "unsanitized" version of a trade secret substantiation form (staple the pages together); and
- A sanitized version of a completed trade secret substantiation form (staple the pages together).

Securely fasten all four reports together.

Some states also require submission of both sanitized and unsanitized reports for EPCRA Section 313 chemicals whose identity is claimed as a trade secret. Others require only a sanitized version. Facilities may jeopardize the trade secret status of an EPCRA Section 313 chemical by submitting an unsanitized version of the EPCRA Section 313 report to a state agency or Indian tribe that does not require unsanitized forms. You may identify an individual State's submission requirements by contacting the appropriate state-designated Section 313 contact (see Appendix F).

A.4 Recordkeeping

Sound recordkeeping practices are essential for accurate and efficient TRI reporting. It is in the facility's interest, as well as EPA's, to maintain records properly.

Facilities must keep a copy of each report filed for at least three years from the date of submission. These reports will be of use when completing future reports.

Facilities must also maintain those documents, calculations, worksheets, and other forms upon which they relied to gather information for prior reports. In the event of a problem with data elements on a facility's Form R or Form A report, EPA may request documentation from the facility that supports the information reported.

EPA may conduct data quality reviews of Form R or Form A submissions. An essential component of this process involves reviewing a facility's records for accuracy and completeness. Facilities should keep a record for those EPCRA Section 313 chemicals for which they did not file EPCRA Section 313 reports.

A partial list of records, organized by year, that a facility should maintain include:

- Previous years' EPCRA Section 313 reports;
- Section 313 Reporting Threshold Worksheets;
- Engineering calculations and other notes;
- Purchase records from suppliers;
- Inventory data;
- EPA (NPDES) permits and monitoring reports;
- EPCRA Section 312, Tier II Reports;
- Monitoring records;
- Flowmeter data;
- RCRA Hazardous Waste Generator's Report;
- Pretreatment reports filed by the facility with the local government;
- Invoices from waste management companies;
- Manufacturer's estimates of treatment efficiencies;
- RCRA Manifests;
- Process diagrams that indicate emissions and other releases; and
- Records for those EPCRA Section 313 chemicals for which they did not file EPCRA Section 313 reports.

A.5 How to Prepare a Voluntary Revision of a Previous Submission

Starting with the 1998 reporting year, voluntary revisions must be submitted by July 31st of the same year as the reporting deadline for the revised data to be included in the next TRI data release. You may submit hardcopy revisions or electronic versions using ATRS or other approved reporting software.

Hardcopy revisions may be submitted using the most recent form available or the most recent version of the ATRS software (for Reporting Years after 1990). Certify and date the form on Page 1 or provide a cover letter with the software created data revision. Alternatively, you may submit a photocopy of your original submission (from your file) with the corrections made in blue ink. Re-sign and re-date the certification statement on Page 1. For revisions to 1990 and earlier reporting year submissions, use the paper form and write "VOLUNTARY REVISION" on page 1 of the form. For revisions to 1991 and later reporting year submissions, enter "X" in the space marked "Enter "x" here if this is a revision", on page 1 of the form.

The EPA magnetic media software allows you to revise your form data and submit your revisions for any reporting year after 1990. The documentation provided with the magnetic media submission software contains specific instructions, or you may call the magnetic media technical support hotline at (703) 816-4434. The Technical Support Hotline number is to be used for the ATRS and does not provide regulatory support. If you submitted your Form R data using software developed by an EPA approved Form Software developer, you must contact the software developer to determine if their software is capable of creating revisions. If not, you can use either the ATRS software or the current hardcopy paper form. Please be careful when submitting magnetic media revisions to resubmit only the revised submissions. Do not resubmit a diskette containing all of your original submissions if you are only revising one or several of them. Whenever you submit a diskette to EPA, do not also submit a printout of what is on the diskette because they will both be processed through data entry causing duplicate records for your facility.

A.5.a. Where to Submit a Voluntary Revision of a Previous Submission

Revisions should be submitted to EPA and the appropriate state agency (or the designated official of an Indian tribe) to whom you submitted the original Form (see Section A.6.a).

Please note: Submissions for the next reporting year are NOT considered revisions of the previous year's data.

A.6 When the Report Must Be Submitted

The report for any calendar year must be submitted on or before July 1 of the following year whether using Form R or Form A. Any voluntary revision to a report can be submitted anytime during the calendar year for the current or any previous reporting year.

A.7 Where to Send the Forms

Submissions must be sent to both EPA and the State (or the designated official of an Indian tribe). If a report is not received by both EPA and the State (or the designated official of an Indian tribe), the submitter is considered out of compliance and subject to enforcement action.

Send reports to EPA by regular mail to:

EPCRA Reporting Center
P.O. Box 3348
Merrifield, VA 22116-3348
Attn: Toxic Chemical Release Inventory
Certified mail, overnight mail, and hand-delivered submissions only should be addressed to:
EPCRA Reporting Center

c/o Computer Based Systems Inc.
Suite 300
4600 North Fairfax Drive
Arlington, VA 22203
(703) 816-4445

Also send a copy of the report to the State in which the facility is located. ("State" also includes: the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, Marshall Islands, the U.S. Virgin Islands, the Northern Mariana Islands, and any other territory or possession over which the U.S. has jurisdiction.) Refer to Appendix F for the appropriate State submission addresses.

Facilities located on Indian land should send a copy to the Chief Executive Officer of the applicable Indian tribe. Some tribes have entered into a cooperative agreement with States; in this case, report submissions should be sent to the entity designated in the cooperative agreement.

Submission of Section 313 reports in magnetic media and computer-generated facsimile formats has been approved by EPA. EPA has developed a package called the "Automated Toxic Chemical Release Inventory Reporting Software (ATRS)." The easy-to-use CD-ROM comes with complete instructions for its use. It also provides prompts and messages to help you report according to EPA instructions. For copies of the CD-ROM you may call the National Service Center for Environmental Publications at 1-800-490-9198.

Many firms are offering computer software to assist facilities in producing magnetic media submissions for computer-generated facsimiles of EPCRA Section 313 reports. To ensure accuracy, EPA will only accept magnetic media submissions and computer-generated facsimiles that meet basic specifications established by EPA. To determine if the software offered by a firm meets these specifications, EPA reviews and approves all software upon request. Call the EPCRA Hotline or visit EPA's website at http://www.epa.gov/tri to obtain a list of EPA-approved vendors.

It should be noted, however, that some States may accept only hard copies of EPCRA Section 313 report. If this is the case, a magnetic media or computer-generated facsimile may be unacceptable.

A.7.a. How to Send Your Disks Containing Form R(s) and/or Form A(s)

Included in this reporting package (on the enclosed CD-ROM) is the Automated TRI Reporting Software (ATRS). If you use the ATRS, please follow the instructions below for submitting your TRI forms on magnetic media.

A.7.a.1 Labeling Your Submission Diskette

A label must be attached to each diskette. The label may be typed or legibly handwritten. A sample label with the necessary information is shown below.

TRIS Report	
Company Name	
Date: 6/30/2000 Report Year: 1999	Density: HD Number: 1 of 1
Contact: Technical Contact Name (505) 555-5369	

The types of packaging and shipping used for magnetic media are left to the discretion of the submitting facility. Please send completed diskettes, along with a cover letter and an original certification signature from each submitting facility to:

EPCRA Reporting Center
P.O. Box 3348
Merrifield, VA 22116-3348
Attn: TRI Magnetic Media Submission

If you are submitting reports on magnetic diskette to EPA, you must enclose a cover letter signed by the official listed in section 3 of Part I of the Form R or Form A (name and official title of owner/operator or senior management official) for *each separate facility*. Beginning reporting year 1999, ATRS allows you to also print a cover letter for submission to a state agency. These letters can be printed from ATRS. The letter on page 6 is a sample. Since you are filing electronically, do not include paper copies of the reports that are on the diskette.

A.7.a.2 Submitting Electronically to States

Submitters must submit a copy of each Form R or Form A to the appropriate state agency. As of the publication of this book, the following states confirmed that they accept electronic submissions:

AK	ID	NC	SC
AZ	IL	ND	SD
CA	IN	NJ	TX
CO	KS	NM	UT
DC	LA	NY	VA
DE	MD	NV	VT
FL	MI	OH	WA
GA	MN	OK	WI
HI	MO	OR	WV
IA	MT	PA	WY

If your state is not listed here, please contact your state office to confirm that paper submissions are required. A list of state contacts can be found in Appendix F.

A.8 How to Obtain Forms and Other Information

A copy of both forms is included in this booklet. Remove the appropriate form and produce as many photocopies as needed. Related guidance documents may be obtained from:

EPA's TRI Website (http:// www.epa.gov/tri) and the Emergency Planning and Community Right-to-Know Information Hotline.

U.S. EPA/NSCEP
P.O. Box 42419
Cincinnati, OH 45242-2419
(800) 490-9198
Fax (513) 489-8695
Internet: http://www.epa.gov/ncepihom/

See Chemical and Industry Specific Documents section for the document request form and more information on available documents.

Questions about completing Form R or Form A may be directed to the EPCRA Hotline at the following address or telephone numbers.

Emergency Planning and Community Right-to-Know Information Hotline
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., SW (5101)
Washington, DC 20460
1 (800) 424-9346 or (703) 412-9877;
TDD# (800) 553-7672
from 9:00 a.m.- 6:00 p.m. Eastern Time
(Mon. - Fri., except Federal Holidays)

EPA Regional Staff may also be of assistance. Refer to Appendix G for a list of EPA Regional Offices.

Sample Letter — one copy to EPCRA Reporting Center and one to appropriate state agency (see Appendix F).

June 20, 2000

To Whom It May Concern:

You will find enclosed one (1) diskette containing toxic chemical release reporting information for:

YOUR FACILITY NAME

This information is submitted as required under Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and the Pollution Prevention Act of 1990.

A total of two (2) reports is included from our facility, concerning the following chemicals:

Chemical Name	RY	CAS Number
Lead compounds	1999	NA420
Zinc (fume or dust)	1999	7440-66-6

Our technical point of contact is:

TECHNICAL CONTACT NAME, Telephone Number: (505) 555-1212

[NAME] is available should any questions or problems arise as you process these diskettes.

I hereby certify that I have reviewed the attached documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and values in this report are accurate, based on reasonable estimates using data available to the preparers of this report.

Signature: *Chris Submitter*

B. Facility Eligibility Determination for Submitting an EPCRA Section 313 Report

This section will help you determine whether you must submit an EPCRA Section 313 report. This section discusses EPCRA Section 313 reporting requirements such as the number of full-time employees, primary SIC code, and chemical activity threshold quantities. The EPCRA Section 313 chemicals and chemical categories subject to reporting are listed in Table II (also see 40 CFR 372.65). (See Figure 1 for more information)

B.1 Full-Time Employee Determination

The number of full-time "employees" is dependent only upon the total number of hours worked by all employees and other individuals (e.g., contractors) for the facility during the calendar year and not the number of persons working. Therefore, a "full-time employee," for purposes of Section 313 reporting, is defined as 2,000 work hours per year and includes paid leave and holidays. To determine the number of full-time employees working for your facility, add up the hours worked by all employees during the calendar year, including contract employees and sales and support staff working for the facility, and divide the total by 2,000 hours. In other words, if the total number of hours worked by all employees is 20,000 hours or more, your facility meets the ten employee threshold.

Examples include:

- A facility consists of 11 employees who each worked 1,500 hours for the facility in a calendar year. Consequently, the total number of hours worked by all employees for the facility during the calendar year is 16,500 hours. The number of full-time employees for this facility is equal to 16,500 hours divided by 2,000 hours per full-time employee, or 8.3 full-time employees. Therefore, even though 11 persons worked for this facility during the calendar year, the number of hours worked is equivalent to 8.3 full-time employees. This facility does not meet the employee criteria and is not subject to Section 313 reporting.

- Another facility consists of six workers and three sales staff. The six workers each worked 2,000 hours for the facility in the calendar year. The sales staff also each worked 2,000 hours in the calendar year although they may have been on the road half of the year. In addition, five contract employees were hired for a period during which each worked 400 hours for the facility. The total number of hours is equal to the time worked by the workers at the facility (12,000 hours), plus the time worked by the sales staff for the facility (6,000 hours), plus the time worked by the contract employees at the facility (2,000 hours), or 20,000 hours. Dividing the 20,000 hours by 2,000 yields 10 full-time employees. This facility has met the full time employee criteria and may be subject to reporting if the other criteria are met.

B.2 Primary SIC Code Determination

Standard Industrial Classification (SIC) codes 10 (except 1011, 1081, and 1094), 12 (except 1241), 20-39, 4911 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4931 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4953 (limited to facilities regulated under the RCRA Subtitle C, 42 U.S.C. section 6921 *et seq.*), 5169, 5171, and 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis) are covered by the rule and are listed in Table I. The first two digits of a 4-digit SIC code define a major business sector, while the last two digits denote a facility's specialty within the major sector. For a detailed description of 4-digit SIC codes, refer to the "Standard Industrial Classification Manual 1987." The facility should determine its own SIC code (s), based on its activities on-site, using the SIC Manual. State agencies and other organizations may assign SIC codes on a different basis than the one used by the SIC Manual. However, for purposes of TRI reporting, these state assigned codes should not be used if they differ from ones assigned using the SIC Manual.

The EPCRA Hotline can assist facilities with determining which SIC codes are assigned for specific business activities as referenced in the SIC Manual. Clothbound editions of the SIC Manual are available in most major libraries or may be ordered through the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, (703) 605-6000. The access number for the clothbound manual is PB87-100012, and the price is $30.00.

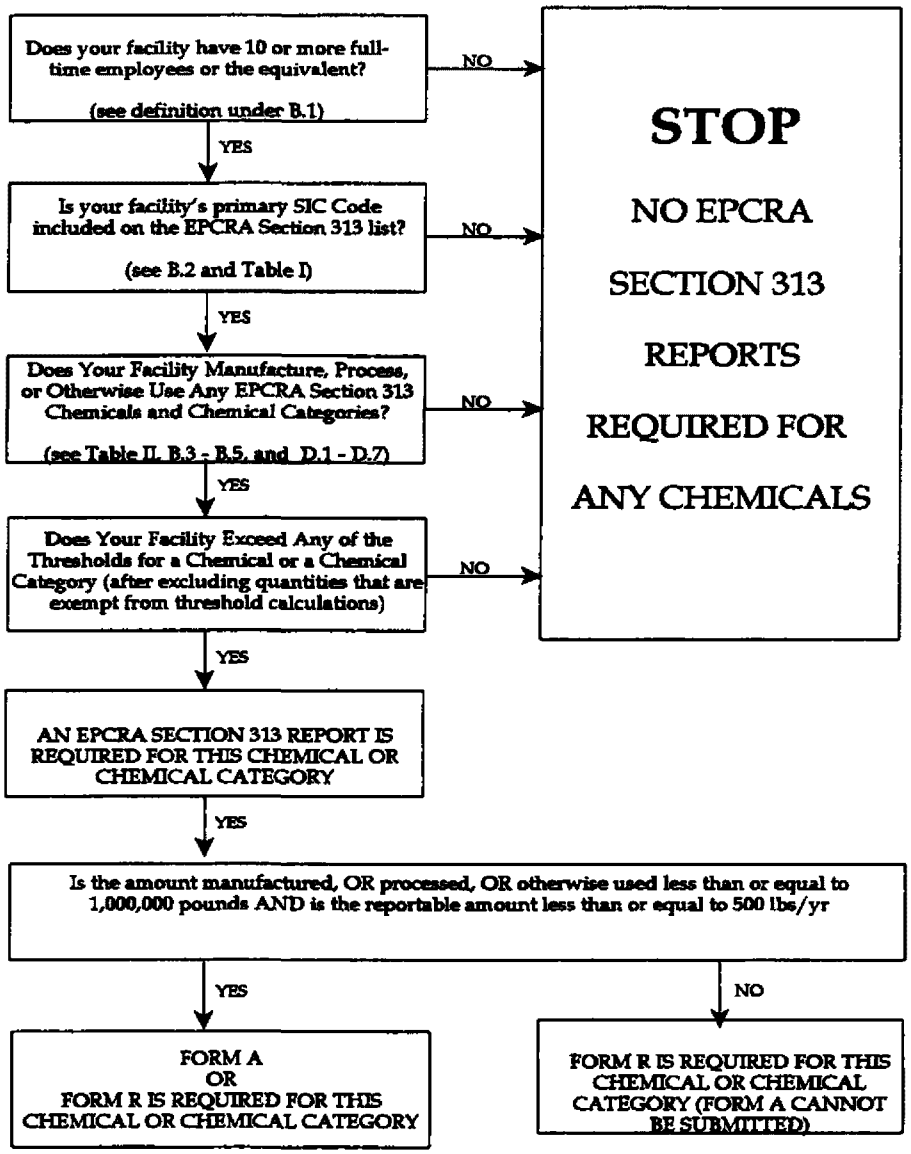

Figure 1 EPCRA Section 313 Reporting Decision Diagram

The North American Industry Classification System (NAICS), is a new economic classification system that will replace the 1987 SIC code system. EPA will address the SIC code change, as it relates to EPCRA in an upcoming Federal Register notice. This upcoming change does NOT affect the 1999 EPCRA Section 313 reporting.

B.2.a. Multi-Establishment Facilities

Your facility may include multiple establishments that have different SIC codes. A multi-establishment facility is a facility that consists of two or more distinct and separate economic units. If your facility is a multi-establishment facility, calculate the value of the products produced, shipped, or services provided from each establishment within the facility and then use the following rule to determine if your facility meets the SIC code criterion:

- If the total value of the products produced, shipped, or services provided at establishments with SIC codes 10 (except 1011, 1081, and 1094), 12 (except 1241), 20–39, 4911 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4931 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4953 (limited to facilities regulated under the RCRA Subtitle C, 42 U.S.C. section 6921 *et seq.*), 5169, 5171, and 7389 (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis) is greater than 50 percent of the value of the entire facility's products and services, the entire facility meets the SIC code criterion.

- If any one establishment with an SIC code 10 (except 1011, 1081, and 1094), 12 (except 1241), 20–39, 4911 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4931 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4953 (limited to facilities regulated under the RCRA Subtitle C, 42 U.S.C. section 6921 *et seq.*), 5169, 5171, or 7389 (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis) produces or ships products or provides services whose value exceeds the value of products and services produced or shipped by any other establishment within the facility, the facility also meets the SIC code criterion.

The value of production or service attributable to a particular establishment may be isolated by subtracting the product value obtained from other establishments within the same facility from the total product or service value of the facility. This procedure eliminates the potential for "double counting" production and services in situations where establishments are engaged in sequential production or service activities at a single facility.

Examples include:

- A facility in coating, engraving and allied services has two establishments. The first establishment, a general automotive repair service, is in SIC code 7537, which is not a covered SIC code. However, the second establishment, a metal paint shop is in SIC code 3479, which is a covered SIC code. The metal paint shop paints the parts received from general automotive repair service. The facility determines the product is worth $500/unit as received from the general automotive repair service (in non covered SIC code 7537) and the value of the product is $1500/unit after processing by the metal paint shop (in covered SIC code 3479). The value added by the metal paint shop is obtained by subtracting the value of the products from the general automotive repair service from that of the value of the products of the metal paint shop. (In this example, the value added = $1,500/unit - $500/unit = $1,000/unit.) The value added ($1,000/unit) by the establishment in SIC code 3479 is more than 50% of the product value. Therefore, the facility's primary SIC code is 3479, which is a covered SIC code.

- A food processing establishment in a facility processes crops grown at the facility in a separate establishment. The facility could base the value of the products of each establishment on the total production value of each establishment.

Alternatively, the facility could first determine the value of the crops grown at the agricultural establishment, and then calculate the contribution of the food processing establishment by subtracting the crop value from the total value of the product shipped from the processing establishment (value of product shipped from processing - crop value = value of processing establishment)

A covered multi-establishment facility must make EPCRA Section 313 chemical threshold determinations and, if required, must report all relevant information about releases and other waste management activities, and source reduction activities associated with an EPCRA Section 313 chemical for the entire facility, even from establishments that are not in SIC codes 10 (except

1011, 1081, and 1094), 12 (except 1241), 20-39, 4911 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4931 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4953 (limited to facilities regulated under the RCRA Subtitle C, 42 U.S.C. section 6921 *et seq.*), 5169, 5171, and 7389 (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis). EPA realizes, however, that certain establishments in a multi-establishment facility can be, for all practical purposes, separate business units. Therefore, individual establishments may report releases and other waste management activities separately, provided that the total releases and other waste management quantities for the whole facility are represented by the sum of the releases and other quantities managed as waste reported by each of the separate establishments and the compliance determination is based on the entire facility.

B.2.b. Auxiliary Facilities

An auxiliary facility is one that supports another covered establishment's activities (e.g., research and development laboratories, warehouses, and storage facilities). An auxiliary facility can assume the SIC code of another covered establishment if its primary function is to service that other covered establishment's operations. For the purposes of EPCRA Section 313, auxiliary facility is defined as one primarily engaged in performing support services for another covered establishment or multiple establishments of a covered facility and is in a different physical location than the primary facility. In addition, an auxiliary facility performs an integral role in the primary facility's activities. In general, an auxiliary facility's basic administrative services (paperwork, payroll, employment) are performed by the primary facility. Thus, a separate warehouse facility (i.e., one not located within the physical boundaries of a covered facility) may become a covered facility because it services a covered establishment in SIC codes 10 (except 1011, 1081, and 1094), 12 (except 1241), 20-39, 4911 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4931 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4953 (limited to facilities regulated under the RCRA Subtitle C, 42 U.S.C. section 6921 *et seq.*), 5169, 5171, and 7389 (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis). Auxiliary facilities that are in these aforementioned codes are required to report if they meet the employee criterion and reporting thresholds for manufacture, process, or otherwise use.

B.2.c. Property Owners

You are not required to report if you merely own real estate on which a facility covered by this rule is located; that is, you have no other business interest in the operation of that facility (e.g., your company owns an industrial park). The operator of that facility, however, is subject to reporting requirements.

B.3 Activity Determination

B.3.a. Definitions of "Manufacture," "Process," and "Otherwise Use"

Manufacture: The term "*manufacture*" means to produce, prepare, compound, or import an EPCRA Section 313 chemical. (See Part II, Section 3.1 of these instructions for further clarification.)

Import is defined as causing the EPCRA Section 313 chemical to be imported into the customs territory of the United States. If you order an EPCRA Section 313 chemical (or a mixture containing the chemical) from a foreign supplier, then you have imported the chemical when that shipment arrives at your facility directly from a source outside of the United States. By ordering the chemical, you have "caused it to be imported," even though you may have used an import brokerage firm as an agent to obtain the EPCRA Section 313 chemical.

Do Not Overlook Coincidental Manufacture

The term manufacture also includes coincidental production of an EPCRA Section 313 chemical (e.g., as a byproduct or impurity) as a result of the manufacture, processing, otherwise use, or treatment of other chemical substances. In the case of coincidental production of an impurity (i.e., an EPCRA Section 313 chemical that remains in the product that is distributed in commerce), the *de minimis* exemption, discussed in Section B.3.b of these instructions, applies. The *de minimis* exemption does not apply to byproducts (e.g., an EPCRA Section 313 chemical that is separated from a process stream and further processed or disposed). Certain EPCRA Section

313 chemicals may be manufactured as a result of wastewater treatment or other treatment processes. For example, neutralization of acid wastewater can result in the coincidental manufacture of ammonium nitrate (solution), reportable as a member of the nitrate compound category.

Process: The term "*process*" means the preparation of a listed Section 313 chemical, after its manufacture, for distribution in commerce. Processing is usually the intentional incorporation of a Section 313 chemical into a product (see Part II, Section 3.2 of these instructions for further clarification). Processing includes preparation of the EPCRA Section 313 chemicals in the same physical state or chemical form as that received by your facility, or preparation that produces a change in physical state or chemical form. The term also applies to the processing of a mixture or other trade name product (see Section B.4.b of these instructions) that contains a listed Section 313 chemical as one component.

Otherwise Use: The term "*otherwise use*" usually means any use of an EPCRA Section 313 chemical, including an EPCRA Section 313 chemical contained in a mixture or other trade name product, or waste that is not covered by the terms "manufacture" or "process." Otherwise use of an EPCRA Section 313 chemical does not include disposal, stabilization (without subsequent distribution in commerce), or treatment for destruction unless:

(1) The EPCRA Section 313 chemical that was disposed, stabilized, or treated for destruction was received from off-site for the purposes of further waste management; or

(2) The EPCRA Section 313 chemical that was disposed, stabilized, or treated for destruction was manufactured as a result of waste management activities on materials received from off-site for the purposes of waste management activities. Relabeling or redistributing of the EPCRA Section 313 chemical where no repackaging of the EPCRA Section 313 chemical occurs does not constitute an otherwise use or processing of the EPCRA Section 313 chemical." (See 62 FR 23846 and Part II, Section 3.3 of these Instructions for further clarification).

Example 1: Coincidental Manufacture

Your company, a nitric acid manufacturer, uses aqueous ammonia in a waste treatment system to neutralize an acidic wastewater stream containing nitric acid. The reaction of ammonia and nitric acid produces a solution of ammonium nitrate. Ammonium nitrate is reportable under the nitrate compounds category and is manufactured as a byproduct. If the ammonium nitrate is produced in a quantity that exceeds the 25,000-pound manufacturing threshold, the facility must report under the nitrate compounds category.

The aqueous ammonia is considered to be otherwise used and 10% of the total aqueous ammonia would be counted towards the 10,000-pound otherwise use threshold. Reports for releases of ammonia must also include 10% of the total aqueous ammonia from the solution of ammonium nitrate (see the qualifier for the ammonia listing).

As another example, combustion of coal or other fuel in boilers/furnaces can result in the coincidental manufacture of metal category compounds and sulfuric acid (acid aerosols), hydrochloric acid (acid aerosols), and hydrogen fluoride.

Example 2: Typical Process and Manufacture Activities

- Your company receives toluene, an EPCRA Section 313 chemical, from another facility, and reacts the toluene with air to form benzoic acid, which the company distributes in commerce. Your company processes toluene and manufactures and processes benzoic acid. Benzoic acid, however, is not an EPCRA Section 313 chemical and thus does not trigger reporting requirements.

- Your facility combines toluene purchased from a supplier with various materials to form paint. Your facility processes toluene.

- Your company receives a nickel compound (nickel compounds is a listed Section 313 chemical category) as a bulk solid and performs various size-reduction operations (e.g., grinding) before packaging the compound in 50-pound bags, which the company sells. Your company processes the nickel compound.

- Your company receives a prepared mixture of resin and chopped fiber to be used in the injection molding of plastic products. The resin contains a listed Section 313 chemical that becomes incorporated into the plastic, which the company distributes in commerce. Your facility processes the EPCRA Section 313 chemical.

- In the combustion of coal or oil, metal category compounds may be produced from either the parent metal or a metal compound contained in the coal or oil. If a metal undergoes a change of valence, a metal compound is considered to be manufactured. For example, during the combustion process copper in valence state zero changes to copper in valence state +2 in a compound such as copper (II) oxide (CuO). Furthermore, a metallic compound could be transformed to another metallic compound without a change in valency (e.g., copper (II) chloride ($CuCl_2$) is transformed to copper (II) oxide). The transformation to a new compound by combustion without a change in valence state is also considered to be "manufactured" for purposes of EPCRA Section 313.

Example 3: Typical Otherwise Use Activities

- When your facility cleans equipment with toluene, you are otherwise using toluene. Your facility also separates two components of a mixture by dissolving one component in toluene, and subsequently recovers the toluene from the process for reuse or disposal. Your facility otherwise uses toluene.

- A covered facility receives a waste containing 12,000 pounds of Chemical A, an EPCRA Section 313 chemical, from off-site. The facility treats the waste, destroying Chemical A and in the treatment process manufactures 10,500 pounds of Chemical B, another EPCRA Section 313 chemical. Chemical B is disposed on-site. Since the waste containing Chemical A was received from off-site for the purpose of waste management, the amount of Chemical A must be included in the otherwise use threshold determination for Chemical A. The otherwise use threshold is 10,000 pounds and since the amount of Chemical A exceeds this threshold, all releases and other waste management activities for Chemical A must be reported. Chemical B was manufactured in the treatment of a waste received from off-site. The facility disposed of Chemical B on-site. Since Chemical B was generated from waste received from off-site for treatment for destruction, disposal, or stabilization, the disposal of Chemical B is considered to be otherwise used. Thus, the amount of Chemical B must be considered in the otherwise used threshold determination. Thus, the reporting threshold for Chemical B has also been exceeded and all releases and other waste management activities for Chemical B must be reported.

B.3.b. Activity Exemptions

Otherwise Use Exemptions. Certain otherwise uses of listed Section 313 chemicals are specifically exempted:

- Otherwise use as a structural component of the facility;
- Otherwise use in routine janitorial or facility grounds maintenance;
- Personal uses by employees or other persons;
- Otherwise use of products containing EPCRA Section 313 chemicals for the purpose of maintaining motor vehicles operated by the facility; or
- Otherwise use of EPCRA Section 313 chemicals contained in intake water (used for processing or non-contact cooling) or in intake air (used either as compressed air or for combustion).

The exemption of an EPCRA Section 313 chemical otherwise used 1) as a structural component of the facility; or 2) in routine janitorial or facility grounds maintenance; or 3) for personal use by an employee cannot be taken for activities involving process-related equipment.

Articles Exemption. EPCRA Section 313 chemicals contained in articles that are processed or otherwise used at a covered facility are exempt from threshold determinations and release and other waste management calculations. The exemption applies when the facility receives the article from another facility or when the facility produces the article itself. The exemption applies only to the quantity of EPCRA Section 313 chemical present in the article. If the EPCRA Section 313 chemical is manufactured (including imported), processed, or otherwise used at the covered facility other than as part of the article, in excess of an applicable threshold quantity, the facility is required to report (40 CFR Section 372.38(b)). For an EPCRA Section 313 chemical in an item to be exempt as part of the article, the item must meet all the following criteria in the Section 313 article definition; that is, it must be a manufactured item that is formed to a specific shape or design during manufacture, that has end use functions dependent in whole or in part upon its shape or design during end use, and that does not release an EPCRA Section 313 chemical under normal circumstances of processing or otherwise use of the item at the facility.

If the processing or otherwise use of all like items results in a total release of 0.5 pound or less of an EPCRA Section 313 chemical in a reporting year to any environmental media, EPA will allow this release to be rounded to zero, and the manufactured items remain exempt as articles. The 0.5-pound limit does not apply to each individual article, but applies to the sum of all releases from processing or otherwise use of all like articles. If all the releases of like articles over a reporting year are completely captured and sent for recycling/reuse on-site or off-site, the items may remain exempt as articles. Any amount that is released and is not recycled/reused will count toward the 0.5 pound per year cut-off value.

The articles exemption applies to the normal processing or otherwise use of articles. This exemption does not apply to the manufacture of the article. EPCRA Section 313 chemicals incorporated into articles produced at a facility must be factored into threshold determinations and release and waste management calculations.

If, in the course of processing or otherwise use, an item retains its initial thickness or diameter, in whole or in part, it meets the first part of the article definition described above. If the item's basic dimensional characteristics are totally altered during processing or otherwise use, the item does not meet the first part of the definition. An example of items that do not meet the definition would be items which are cold extruded, such as lead ingots which are formed into wire or rods. On the other hand, cutting a manufactured item into pieces that are recognizable as the article would not change the original dimensions as long as the diameter or the thickness of the item remained the same; the articles exemption would continue to apply. Metal wire may be bent and sheet metal may be cut, punched, stamped, or pressed without losing their article status as long as the diameter of the wire or tubing or the thickness of the sheet is not totally changed.

An important aspect of the articles exemption is what constitutes a release of an EPCRA Section 313 chemical. Any processing or otherwise use of like articles that results in a release to the environment (of more than 0.5 pounds) negates the exemption. Cutting, grinding, melting, or other processing of manufactured items could result in a release of an EPCRA Section 313 chemical during normal conditions of processing or otherwise use and therefore negate the exemption as articles. Scrap pieces that are recognizable as an article do not constitute a release.

Example 4: Articles Exemption

- **Lead that is incorporated into a lead acid battery is processed to manufacture the battery, and therefore must be counted toward threshold determinations and release and other waste management determinations. However, the use of the lead acid battery elsewhere in the facility does not have to be counted. Disposal of the battery after its use does not constitute a "release;" thus, the battery remains an article.**

- **If an item used in the facility is fragmented, the item is still an article if those fragments being discarded remain identifiable as the article (e.g., recognizable pieces of a cylinder, pieces of wire). For instance, an eight-foot piece of wire is broken into two four-foot pieces of wire, without releasing any EPCRA Section 313 chemicals. Each four-foot piece is identifiable as a piece of wire; therefore, the article status for these pieces of wire remains intact.**

- **EPCRA Section 313 chemicals received in the form of pellets are not articles because the pellet form is simply a convenient form for further processing of the material.**

***De Minimis* Exemption.** The *de minimis* exemption allows facilities to disregard certain minimal concentrations of chemicals in mixtures or other trade name products they process or otherwise use when making threshold determinations and release and other waste management calculations. The *de minimis* exemption does not apply to the manufacture of an EPCRA Section 313 chemical except if that EPCRA Section 313 chemical is manufactured as an impurity and remains in the product distributed in commerce, or if the EPCRA Section 313 chemical is imported below the appropriate *de minimis* level. The *de minimis* exemption does not apply to a byproduct manufactured coincidentally as a result of manufacturing, processing, otherwise use, or any waste management activities.

When determining whether the *de minimis* exemption applies to an EPCRA Section 313 chemical, the owner/operator should consider only the concentration of the EPCRA Section 313 chemical in mixtures and other trade name products in process streams in which the EPCRA Section 313 chemical is undergoing a reportable activity. If the EPCRA Section 313 chemical in a process stream is manufactured as an impurity, imported, processed, or otherwise used and is below the appropriate *de minimis* concentration level, then the quantity of the EPCRA Section 313 chemical in that process stream does not have to be applied to threshold determinations nor included in release or other waste management determinations. If an EPCRA Section 313 chemical in a process stream is below the appropriate *de minimis* level, all releases and other waste management activities associated with the EPCRA Section 313 chemical in that stream are exempt from EPCRA Section 313 reporting. It is possible to meet an activity (e.g., processing) threshold for an EPCRA Section 313 chemical on a facility-wide basis, but not be required to calculate releases or other waste management quantities associated with a particular process because that process involves only mixtures or other trade name products containing the EPCRA Section 313 chemical below the *de minimis* level.

Once an EPCRA Section 313 chemical concentration is at or above the appropriate *de minimis* level in the process stream, threshold determinations and release and other waste management calculations must be made, even if the chemical later falls below the *de minimis* level in the same process stream. Thus, all releases and other quantities managed as waste that occur after the *de minimis* level has been met or exceeded are subject to reporting. If an EPCRA Section 313 chemical in a mixture or other trade name product at or above *de minimis* is brought on-site, the *de minimis* exemption never applies.

De minimis levels for EPCRA Section 313 chemicals and chemical categories are set at concentration levels of either at 1% or 0.1%. The 0.1% *de minimis* levels are dictated by determinations made by the National Toxicology Program (NTP), Annual Report on Carcinogens, the International Agency for Research and Cancer (IARC) Monographs, or 29 CFR part 1910, subpart Z. Therefore, once a chemical's status under NTP, IARC, or 29 CFR part 1910, subpart Z indicates that the chemical is a carcinogen or potential carcinogen, the reporting facility may disregard levels of the chemical below the 0.1% *de minimis* concentration provided that the other criteria for the *de minimis* exemption are met.

De minimis levels for chemical categories apply to the total concentration of all chemicals in the category within a mixture, not the concentration of each individual category member within the mixture.

De Minimis Application to the Processing or Otherwise Use of a Mixture

The *de minimis* exemption applies only to the processing or otherwise use of an EPCRA Section 313 chemical in a mixture. Threshold determinations and release and other waste management calculations begin at the point where the chemical meets or exceeds *de minimis*. If an EPCRA Section 313 chemical is present in a mixture at a concentration below the *de minimis* level, this quantity of the substance does not have to be included for threshold determinations, release and other waste management reporting, or supplier notification requirements. The exemption will apply as long as the mixture containing *de minimis* amounts of an EPCRA Section 313 chemical never equals or goes above the *de minimis* limit. Provided below are two examples in which a manufacturing activity would qualify for the *de minimis* exemption.

De Minimis Application in the Manufacture of the Listed Chemical in a Mixture

The *de minimis* exemption generally does not apply to the manufacturing of an EPCRA Section 313 chemical. The *de minimis* exemption may apply to mixtures and other trade name products containing EPCRA Section 313 chemicals that are imported into the United States.

Another exception applies to EPCRA Section 313 chemicals that are coincidentally manufactured as impurities that remain in the product distributed in commerce below the *de minimis* levels. The amount remaining in the product is exempt from threshold determinations. If the chemical is separated from the final product, thereby classifying the chemical as a byproduct, it cannot qualify for the exemption. Any amount that is separated, or is separate, from the product, is considered a byproduct and is subject to threshold determinations and release and other waste management calculations. Any amount of an EPCRA Section 313 chemical that is manufactured in a wastestream must be considered toward threshold determinations and release and other waste management calculations and accounted for on Form R.

The *de minimis* exemption also does not apply to situations where the manufactured chemical is released or transferred to wastestreams and thereby diluted to below the *de minimis* level.

Laboratory Activities Exemption

Laboratory Activities: EPCRA Section 313 chemicals that are manufactured, processed, or otherwise used in laboratory activities at a covered facility under the direct supervision of a technically qualified individual do not have to be considered for threshold determinations and release and other waste management calculations. However, pilot plant scale and specialty chemical production do not qualify for this laboratory activities exemption, nor do the use of EPCRA Section 313 chemicals for laboratory support activities, such as the use of chemicals for equipment maintenance.

Coal Extraction Activities Exemption

If an EPCRA Section 313 chemical is manufactured, processed, or otherwise used in extraction by facilities in SIC code 12, a person is not required to consider the quantity of the EPCRA Section 313 chemical so manufactured, processed, or otherwise used when considering threshold determinations and release and other waste management calculations. Reclamation activities occurring simultaneously with coal extraction activities (e.g., cast blasting) are included in the exemption. However, otherwise use of ash, waste rock, or fertilizer for reclamation purposes are not considered part of extraction; non-exempt amounts of Section 313 chemicals contained in these materials must be considered toward threshold determinations and release and other waste management calculations.

Metal Mining Overburden Exemption

If an EPCRA Section 313 chemical that is a constituent of overburden is processed or otherwise used by facilities in SIC code 10, a person is not required to consider the quantity of the EPCRA Section 313 chemical so processed or otherwise used when considering threshold determinations and release and other waste management calculations.

For purposes of EPCRA section 313 reporting, overburden is the unconsolidated material that overlies a deposit of useful material or ore. It does not include any portion of the ore or waste rock.

Example 5: *De Minimis* Applications to Process and Otherwise Use Scenarios

There are many cases in which the *de minimis* "limit" is crossed or recrossed within a process or otherwise use scenario. The following examples are meant to illuminate these complex reporting scenarios.

Increasing Concentration To or Above De Minimis Levels During Processing

A manufacturing facility receives toluene that contains less than the *de minimis* concentration of chlorobenzene. Through distillation, the chlorobenzene content in process streams is increased over the *de minimis* concentration of 1 percent. From the point at which the chlorobenzene concentration equals 1 percent in process streams, the amount present must be factored into threshold determinations and release and other waste management estimates. The facility does not need to consider the amount of chlorobenzene in the raw material, i.e., when below *de minimis* levels, when making threshold determinations. The facility does not have to report emissions of chlorobenzene from storage tanks or any other equipment where the chlorobenzene content is less than 1 percent.

Fluctuating Concentration During Processing

A manufacturer produces an ink product that contains toluene, an EPCRA Section 313 chemical, below the *de minimis* level. The process used causes the percentage of toluene in the mixture to fluctuate: it rises above the *de minimis* level for a time but drops below the level as the process winds down. The facility must consider the chemical toward threshold determinations from the point at which it first equals the *de minimis* limit. Once the *de minimis* limit has been met the exemption cannot be taken.

Example 6: Concentration Ranges Straddling the *De Minimis* Value

- A facility processes 8,000,000 pounds of a mixture containing 0.25 to 1.25% manganese. Manganese is eligible for the 1% *de minimis* concentration exemption. The amount of mixture subject to reporting is the quantity containing manganese at or above the *de minimis* concentration:

(8,000,000) × (1.25% - 0.99%) ÷ (1.25% - 0.25%)

The average concentration of manganese that is not exempt (above the *de minimis)* is:

(1.25% + 1.00%) ÷ (2)

$$\left[\frac{(8{,}000{,}000) \times (1.25\% - 0.99\%)}{(1.25\% - 0.25\%)}\right] \times \left[\frac{(1.25\% + 1.00\%)}{(2)}\right] = 23{,}400 \text{ pounds}$$

Therefore, the amount of manganese that is subject to threshold determination and release and other waste management estimates is:

= 23,400 pounds manganese (which is below the processing threshold)

In this scenario, because the facility's information pertaining to manganese was available to two decimal places, 0.99 was used to determine the amount below the *de minimis* concentrations. If the information was available to one decimal place, 0.9 should be used, as in the scenario below.

- As in the previous example, manganese is present in a mixture, of which 8,000,000 pounds is processed. The MSDS states the mixture contains 0.2% to 1.2% manganese. The amount of mixture subject to reporting (at or above *de minimis*) is:

(8,000,000) × (1.2% - 0.9%) ÷ (1.2% - 0.2%)

The average concentration of manganese that is not exempt (at or above *de minimis*) is:

(1.2% + 1.0%) ÷ (2)

Therefore, the amount of manganese that is subject to threshold determinations and release and other waste management estimates is:

$$\left[\frac{(8{,}000{,}000) \times (1.2\% - 0.9\%)}{(1.2\% - 0.2\%)}\right] \times \left[\frac{(1.2\% + 1.0\%)}{(2)}\right] = 26{,}400 \text{ pounds}$$

= 26,400 pounds manganese (which is above the processing threshold)

Example 7: *De Minimis* Application in the Coincidental Manufacture in a Mixture

Coincidental Manufacture as a Product Impurity

Toluene-2,4-diisocyanate reacts with trace amounts of water to form trace quantities of 2,4-diaminotoluene. The resulting product contains 99 percent toluene-2,4-diisocyanate and 0.05 percent 2,4-diaminotoluene. The 2,4-diaminotoluene would not be subject to Section 313 reporting nor would supplier notification be required because the concentration of 2,4-diaminotoluene is below its *de minimis* concentration of 0.1 percent in the product. Coincidental manufacture/production refers only to production of a chemical via a chemical reaction. It would not include separation of a byproduct from a purchased mixture during a processing operation.

Coincidental Manufacture as a Commercial Byproduct and Impurity

Chloroform is a reaction byproduct in the production of carbon tetrachloride. It is removed by distillation to a concentration of less than 150 ppm (0.0150%) remaining in the carbon tetrachloride. The separated chloroform at 90 percent concentration is sold as a byproduct. Chloroform is subject to a 0.1% (1000 ppm) *de minimis* level. Any amount of chloroform manufactured and separated as byproduct must be included in threshold determinations because the *de minimis* exemption does not apply to manufacture of a chemical. Releases of chloroform prior to and during purification of the carbon tetrachloride should be reported. The *de minimis* level can, however, be applied to the chloroform remaining in the carbon tetrachloride as an impurity. Because the concentration of chloroform remaining in the carbon tetrachloride is below the *de minimis* level, this quantity of chloroform is exempt from threshold determinations, release and other waste management reporting, and supplier notification.

Coincidental Manufacture as a Waste Byproduct

A small amount of formaldehyde is manufactured as a reaction byproduct during the production of phthalic anhydride. The formaldehyde is separated from the phthalic anhydride as a waste gas and burned, leaving no formaldehyde in the phthalic anhydride. The amount of formaldehyde produced and removed must be included in threshold determinations and release and other waste management estimates even if the formaldehyde were present below the *de minimis* level in the process stream where it was manufactured or in the wastestream to which it was separated.

Coal mining extraction activities. Included among these are explosives for blasting operations, solvents, lubricants, and fuels for extraction related equipment maintenance and use, as well as overburden and mineral deposits. The EPCRA section 313 chemicals contained in these materials are exempt from threshold determinations and release and other waste management calculations, when processed or otherwise used during extraction activities at coal mines.

B.4 Threshold Determinations

Section 313 reporting is required if threshold quantities are exceeded. Separate thresholds apply to the amount of the EPCRA Section 313 chemical that is manufactured, processed, or otherwise used.

You must submit a report for any EPCRA Section 313 chemical that is manufactured or processed at your facility in excess of the following threshold:

- 25,000 pounds during the course of a calendar year.

You must submit a report if the quantity of an EPCRA Section 313 chemical that is otherwise used at your facility exceeds:

- 10,000 pounds during the course of a calendar year.

B.4.a. How to Determine if Your Facility Has Exceeded Thresholds

To determine whether your facility has exceeded a Section 313 reporting threshold, compare quantities of EPCRA Section 313 chemicals that you manufacture, process, or otherwise use to the respective thresholds for those activities. A worksheet is provided in Figure 2 to assist facilities in determining whether they exceed any of the reporting thresholds. This worksheet also provides a format for maintaining reporting facility records. Use of this worksheet is not required and the completed worksheet(s) should not accompany Form R reports submitted to EPA and the State.

Complete a separate worksheet for each EPCRA Section 313 chemical or chemical category. Base your threshold determination for EPCRA Section 313 chemicals with qualifiers only on the quantity of the EPCRA Section 313 chemical satisfying the qualifier.

Use of the worksheet is divided into three steps:

Step 1 allows you to record the gross amount of the EPCRA Section 313 chemical or chemical category involved in activities throughout the facility. Pure forms as well as the amounts of the EPCRA Section 313 chemical or chemical category present in mixtures or other trade name products must be considered. The types of activity (i.e., manufacturing, processing, or otherwise using) for which the EPCRA Section 313 chemical is used must be identified because separate thresholds apply to each of these activities. A record of the information source(s) used should be kept. Possible information sources include purchase records, inventory data, and calculations by a process engineer. The data collected in Step 1 will be totaled for each activity to identify the overall amount of the EPCRA Section 313 chemical or chemical category manufactured (including imported), processed, or otherwise used.

Step 2 allows you to identify uses of the EPCRA Section 313 chemical or chemical category that were included in Step 1 but are exempt under Section 313. Do not include in Step 2 exempt quantities of the EPCRA Section 313 chemical not included in the calculations in Step 1. For example, if Freon contained in the building's air conditioners was not reported in Step 1, you would not include the amount as exempt in Step 2. Step 2 is intended for use when a quantity or use of the EPCRA Section 313 chemical is exempt while other quantities require reporting. Note the type of exemption for future reference. Also identify, if applicable, the fraction or percentage of the EPCRA Section 313 chemical present that is exempt. Add the amounts in each activity to obtain a subtotal for exempted amounts of the EPCRA Section 313 chemical or chemical categories at the facility.

Step 3 involves subtracting the result of Step 2 from the results of Step 1 for each activity. Compare this net sum to the applicable activity threshold. If the threshold is met or exceeded for any of the three activities, a facility must submit a Form R for that EPCRA Section 313 chemical or chemical category. Do not sum quantities of the EPCRA Section 313 chemical that are manufactured, processed, and otherwise used at your facility, because each of these activities requires a separate threshold determination. For example, if in a calendar year you processed 20,000 pounds of an EPCRA section 313 chemical and you otherwise used 6,000 pounds of that same chemical, your facility has not met or exceeded any applicable threshold and thus is not required to report for that chemical.

This worksheet should be retained to document your determination for reporting or not reporting, but should not be submitted with the report.

You must submit a report if you exceed any threshold for any EPCRA Section 313 chemical or chemical category. For example, if your facility processes 22,000 pounds of an EPCRA Section 313 chemical and also otherwise uses 16,000 pounds of that same EPCRA Section 313 chemical, it has exceeded the otherwise use threshold (10,000 pounds) and your facility must report even though it did not exceed the process threshold. However, in preparing your reports, you must consider all non-exempted activities and all releases and other waste management quantities of the EPCRA Section 313 chemical from your facility, not just releases and other waste management quantities from the otherwise use activity.

Also note that threshold determinations are based upon the actual amounts of an EPCRA Section 313 chemical manufactured, processed, or otherwise used over the course of the calendar year. The threshold determination may not relate to the amount of an EPCRA Section 313 chemical brought on-site during the calendar year. For example, if a stockpile of 100,000 pounds of an EPCRA Section 313 chemical is present on-site but only 20,000 pounds is applied to a process, only the 20,000 pounds processed is counted toward a threshold determination, not the entire 100,000 pounds of the stockpile.

B.4.b. Threshold Determinations for On-Site Reuse Operations

Threshold determinations of EPCRA Section 313 chemicals that are reused at the facility are based only on the amount of the EPCRA Section 313 chemical that is added during the year, not the total volume in the system. For example, a facility operates a refrigeration unit that contains 15,000 pounds of anhydrous ammonia at the beginning of the year. The system is charged with 2,000 pounds of anhydrous ammonia during the year. The facility has therefore "otherwise used" only 2,000 pounds of the EPCRA Section 313 chemical and is not required to report (unless there are other "otherwise use" activities of ammonia, that when taken together, exceed the reporting threshold). If, however, the whole refrigeration unit was recharged with 15,000 pounds of anhydrous ammonia during the year, the facility would exceed the otherwise use threshold, and be required to report.

This does not apply to EPCRA Section 313 chemicals "recycled" or "reused" off-site and returned to a facility. Such EPCRA Section 313 chemicals returned to a facility are treated as the equivalent of newly purchased material for purposes of Section 313 threshold determinations.

B.4.c. Threshold Determinations for Ammonia

The listing for ammonia includes the modifier "includes anhydrous ammonia and aqueous ammonia from water dissociable ammonium salts and other sources; 10 percent of total aqueous ammonia is reportable under this listing". The qualifier for ammonia means that anhydrous forms of ammonia are 100 percent reportable and aqueous forms are limited to 10 percent of total aqueous ammonia. Therefore, when determining threshold quantities, 100 percent of anhydrous ammonia is included but only 10 percent of total aqueous ammonia is included. If any ammonia evaporates from aqueous ammonia solutions, 100 percent of the evaporated ammonia is included in threshold determinations.

For example, if a facility processes aqueous ammonia it has processed 100 percent of the aqueous ammonia in that solution. If the ammonia remains in solution, then 10 percent of the total aqueous ammonia is counted towards threshold. If there are any evaporative losses of anhydrous ammonia, then 100 percent of those losses must be counted towards the processing threshold. If the manufacturing, processing, or otherwise use threshold for the ammonia listing are exceeded, the facility must report 100 percent of these evaporative losses in Sections 5 and 8 of the Form R.

B.4.d. Threshold Determinations for Chemical Categories

A number of chemical compound categories are subject to reporting. See Table II for a listing of these EPCRA Section 313 chemical categories. When reporting for one of these EPCRA Section 313 chemical categories, all individual members of a category that are manufactured, processed, or otherwise used must be counted. However, threshold determinations must be made separately for each of the three activities. Do not include in these threshold determinations for a category any chemicals that are also individually listed EPCRA Section 313 chemicals (see Table II) or individually listed EPCRA Section 313 chemicals that have been deleted from the category (e.g., a class of copper phthalocyanine compounds has been deleted from the copper compounds category). Individually listed EPCRA Section 313 chemicals are subject to their own, individual threshold determination.

Organic Compounds

For the organic compound categories, you are required to account for the entire weight of all compounds within a specific compound category (e.g., glycol ethers) at the facility for BOTH the theshold determination and release and other waste management estimates.

Metal-Containing Compounds

Threshold determinations for metal-containing compounds present a special case. If, for example, your facility processes several different lead compounds, base your threshold determination on the total weight of all lead compounds processed. However, if your facility processes both the "parent" metal (lead) as well as one or more lead compounds, you must make threshold determinations for both because they are separately listed EPCRA Section 313 chemicals. If your facility exceeds thresholds for both the parent metal and compounds of that same metal, EPA allows you to file one combined report (e.g., one report for lead compounds, including lead) because the release information you will report in connection with metal category compounds will be the total pounds of the parent metal released. If you file one combined report, you should put the name of the metal

compound category on the Form R. Do not put both names on the Form R.

The case of metal compounds involving more than one metal should be noted. Some metal compounds may contain more than one listed metal. For example, lead chromate is both a lead compound and a chromium compound. In such cases, if applicable thresholds are exceeded, you are required to file two separate reports, one for lead compounds and one for chromium compounds. Apply the total weight of the lead chromate to the threshold determinations for both lead compounds and chromium compounds. (Note: Only the amount of each parent metal released or otherwise managed as waste (not the amount of the compound), would be reported on the appropriate sections of both Form Rs. See B.5.)

Nitrate Compounds (water dissociable; reportable only when in aqueous solution)

For the category nitrate compounds (water dissociable; reportable only when in aqueous solution), the entire weight of the nitrate compound is counted towards the threshold. A nitrate compound is covered by this listing only when in water and only if dissociated. If no information is available on the identity of the type of nitrate that is manufactured processed or otherwise used, assume that the nitrate compound exists as sodium nitrate.

B.4.e. Mixtures and Other Trade Name Products

EPCRA Section 313 chemicals contained in mixtures and other trade name products must be factored into threshold determinations and release and other waste management calculations.

If your facility processed or otherwise used mixtures or other trade name products during the calendar year, you are required to use the best information available to determine whether the components of a mixture are above the *de minimis* concentration and, therefore, must be included in threshold determinations and release and other waste management calculations. If you know that a mixture or other trade name product contains a specific EPCRA Section 313 chemical, combine the amount of the EPCRA Section 313 chemical in the mixture or other trade name product with other amounts of the same EPCRA Section 313 chemical processed or otherwise used at your facility for threshold determinations and release and other waste management calculations. If you know that a mixture contains an EPCRA Section 313 chemical but no concentration information is provided by the supplier, you do not have to consider the amount of the EPCRA Section 313 chemical present in that mixture for purposes of threshold determinations and release and other waste management calculations.

Observe the following guidelines in estimating concentrations of EPCRA Section 313 chemicals in mixtures when only limited information is available:

- If you know the lower and upper bound concentrations of an EPCRA Section 313 chemical in a mixture, use the midpoint of these two concentrations for threshold determinations.
- If you know only the lower bound concentration, you should subtract out the percentages of any other known components to determine a reasonable upper bound concentration, and then determine a midpoint.
- If you have no information other than the lower bound concentration, calculate a midpoint assuming an upper bound concentration of 100 percent.

Figure 2. EPCRA Section 313 Reporting Threshold Worksheet

Facility Name: _____
EPCRA Section 313 Chemical or Chemical Category: _____
CA$ Number: _____
Reporting Year: _____

Date Worksheet Prepared: _____
Prepared By: _____

Amounts of the EPCRA Section 313 chemical or chemical category manufactured, processed, or otherwise used.

Mixture Name or Other Identifier	Information Source	Total Weight (lb)	Percent EPCRA Section 313 Chemical by Weight	EPCRA Section 313 Chemical Weight (lb)	Amount of the EPCRA Section 313 Chemical or Chemical Category by Activity (lb.):		
					Manufactured	Processed	Otherwise Used
1.							
2.							
3.							
4.							
Subtotal:					(A)_____lb	(B)_____lb	(C)_____lb

Exempt quantity of the EPCRA Section 313 chemical or chemical category that should be excluded.

Mixture Name as Listed Above	Applicable Exemption (*de minimis*, article, facility, activity)	Fraction or Percent Exempt (if Applicable)	Amount of the EPCRA Section 313 Chemical Exempt from Above (lb):		
			Manufactured	Processed	Otherwise Used
1.					
2.					
3.					
4.					
Subtotal:			(A_1)_____lb	(B_1)_____lb	(C_1)_____lb
Amount subject to threshold:			($A-A_1$)_____ lb	($B-B_1$)_____ lb	($C-C_1$)_____ lb
Compare to threshold for EPCRA Section 313 reporting.			25,000 lb	25,000 lb	10,000 lb

If any threshold is exceeded, reporting is required for all activities. Do not submit this worksheet with Form R or Form A; retain it for your records.

- If you only know the upper bound concentration, you must use it for threshold determinations.
- In cases where you only have a concentration range available, you should use the midpoint of the range extremes.

B.5 Release and Other Waste Management Determinations for Metals, Metal Category Compounds, and Nitrate Compounds

Metal Compounds

Although the complete weight of the metal compound must be used for threshold determinations for the metal category compounds, for release and other waste management determinations, only the parent metal portion of the metal category compound must be considered. Remember that for metal compounds that consist of more than one metal, release and other waste management reporting must be made for each metal, provided that the appropriate thresholds have been exceeded.

Metals and Metal Category Compounds

As stated above, for compounds within the metal compound categories only the metal portion of the metal category compound should be considered in determining release and other waste management quantities for the metal category compounds. Therefore, if thresholds are separately exceeded for the "parent" metal and its compounds, EPA allows you to file a combined Form R for the "parent" metal and its category compounds. This Form R would contain all of the release and other waste management information for both the "parent" metal and metal portion of the related metal category compounds. For example, you exceed thresholds for chromium. You also exceed thresholds for chromium compounds. Instead of filing two Form Rs you can file one combined Form R. This Form R would contain information on quantities of chromium released or otherwise managed as waste and the quantities of the chromium portion of the chromium compounds released or otherwise managed as waste. When filing one combined Form R for an EPCRA Section 313 metal and metal compound category, facilities should identify the chemical reported as the metal compound category name and code in Section 1 of the Form R. Note that this does not apply to the Form A. See the section in these instructions on the Form A.

Nitrate Compounds (water dissociable; reportable only in aqueous solution)

Although the complete weight of the nitrate compound must be used for threshold determinations for the nitrate compounds category, for release and other waste management determinations only the nitrate portion of the compound must be considered.

Example 9: Mixtures and Other Trade Name Products

Scenario #1: Your facility otherwise uses 12,000 pounds of an industrial solvent (Solvent X) for equipment cleaning. The Material Safety Data Sheet (MSDS) for the solvent indicates that it contains at least 50 percent methyl ethyl ketone (MEK), an EPCRA Section 313 chemical; however, it also states that the solvent contains 20 percent non-hazardous surfactants. This is the only MEK-containing mixture used at the facility.

Follow these steps to determine if the quantity of the EPCRA Section 313 chemical in solvent X exceeds the threshold for otherwise use.

1) Determine a reasonable maximum concentration for the EPCRA Section 313 chemical by subtracting out the non-hazardous surfactants (i.e., 100%–20% = 80%).

2) Determine the midpoint between the known minimum (50%) and the reasonable maximum calculated above (i.e., (80% + 50%)/2 = 65%).

3) Multiply total weight of Solvent X otherwise used by 65 percent (0.65).

   12,000 pounds x 0.65 = 7,800 pounds

4) Because the total amount of MEK otherwise used at the facility was less than the 10,000-pound otherwise use threshold, the facility is not required to file a Form R for MEK.

Scenario #2: Your facility otherwise used 15,000 pounds of Solvent Y to clean printed circuit boards. The MSDS for the solvent lists only that Solvent Y contains at least 80 percent of an EPCRA Section 313 chemical that is only identified as chlorinated hydrocarbons.

Follow these steps to determine if the quantity of the EPCRA Section 313 chemical in the solvent exceeds the threshold for otherwise use.

1) Because the specific chemical is unknown, the Form R will be filed for "chlorinated hydrocarbons." This name will be entered into Part II, Section 2.1, "Mixture Component Identity." (Note: Because your supplier is claiming the EPCRA Section 313 chemical identity a trade secret, you do not have to file substantiation forms.)

2) The upper bound limit is assumed to be 100 percent and the lower bound limit is known to be 80 percent. Using this information, the specific concentration is estimated to be 90 percent (i.e., the mid-point between upper and lower limits).

   (100%+80%)/2 = 90%

3) The total weight of Solvent Y is multiplied by 90 percent (0.90) when calculating for thresholds.

   15,000 x 0.90 = 13,500

4) Because the total amount of chlorinated hydrocarbons exceeds the 10,000-pound otherwise use threshold, you must file a Form R for this chemical.

Part I. Facility Identification Information

Section 1. Reporting Year

This is the calendar year to which the reported information applies, not the year in which you are submitting the report. Information for the 1999 reporting year must be submitted on or before July 1, 2000.

Section 2. Trade Secret Information

2.1 Are you claiming the EPCRA Section 313 chemical identified on page 2 trade secret?

Answer this question only after you have completed the rest of the report. The specific identity of the EPCRA Section 313 chemical being reported in Part II, Section 1, may be designated as a trade secret. If you are making a trade secret claim, mark "yes" and proceed to Section 2.2. Only check "yes" if you manufacture, process, or otherwise use the EPCRA Section 313 chemical whose identity is a trade secret. (See page 2 of these instructions for specific information on trade secrecy claims.) If you checked "no," proceed to Section 3; do not answer Section 2.2.

2.2 If "yes" in 2.1, is this copy sanitized or unsanitized?

Answer this question only after you have completed the rest of the report. Check "sanitized" if this copy of the report is the public version that does not contain the EPCRA Section 313 chemical identity but does contain a generic name in its place, and you have claimed the EPCRA Section 313 chemical identity trade secret in Part I, Section 2.1. Otherwise, check "unsanitized."

Section 3. Certification

The certification statement must be signed by the owner or operator or a senior official with management responsibility for the person (or persons) completing the form. The owner, operator, or official must certify the accuracy and completeness of the information reported on the form by signing and dating the certification statement. Each report must contain an original signature. Print or type in the space provided the name and title of the person who signs the statement. This certification statement applies to all the information supplied on the form and should be signed only after the form has been completed.

Section 4. Facility Identification

4.1 Facility Name, Location, and TRI Facility Identification Number

Enter the name of your facility (plant site name or appropriate facility designation), street address, mailing address, city, county, state, and zip code in the space provided. Do not use a post office box number as the street address. The street address provided should be the location where the EPCRA Section 313 chemicals are manufactured, processed, or otherwise used. If your mailing address and street address are the same, enter NA in the space for the mailing address.

If your facility is not in a county, put the name of your city, district (for example District of Columbia), or parish (if you are in Louisiana) in the county block of the Form R and Form A as well as in the County field of the ATRS software. "NA" or "None" are not acceptable entries.

If you have submitted a Form R for previous reporting years, a TRI Facility Identification Number has been assigned to your facility. The TRI Facility Identification Number appears (with other facility-specific information) on a pre-printed page 1 of the Form R that is attached to the cover of this Toxic Chemical Release Inventory Instructions for 1999. Please do not destroy this page 1. When completing your Form R reports for 1999, you may use this pre-printed page 1 instead of filling out a new page one.

If your pre-printed page 1 is missing information required by Form R, insert that information in the appropriate box in Part I, Section 4.1. For example, if your pre-printed page 1 contains your street address and not your mailing address, enter your mailing address in the space provided. If you receive a pre-printed page 1 which contains incorrect information, you may edit the page.

If you do not have a pre-printed page 1, but know your TRI Facility Identification Number, complete Section 4. If you do not know your TRI Facility Identification Number, contact the EPCRA Hotline (see page 4). If your facility has moved, do not enter your TRI facility identification number, enter "New Facility."

Enter "New Facility" in the space for the TRI Facility Identification number if this is your first submission of a Form R.

4.2 Full or Partial Facility Indication

A covered facility must report all releases and other waste management activities and source reduction activities of an EPCRA Section 313 chemical if the facility meets a reporting threshold for that EPCRA Section 313 chemical. However, if the facility is composed of several distinct establishments, EPA allows these establishments to submit separate reports for the EPCRA Section 313 chemical as long as all releases and other waste management activities of the EPCRA Section 313 chemical from the entire facility are accounted for. Indicate in Section 4.2 whether your report is for the entire covered facility as a whole or for part of a covered facility.

Section 313 requires reports by "facilities," which are defined as "all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person."

The SIC code system defines business "establishments" as "distinct and separate economic activities [that] are performed at a single physical location." Under section 372.30(c) of the reporting rule, you may submit a separate Form R for each establishment, or for groups of establishments in your facility, provided all releases and other waste management activities and source reduction activities involving the EPCRA Section 313 chemical from the entire facility are reported. This allows you the option of reporting separately on the activities involving an EPCRA Section 313 chemical at each establishment, or group of establishments (e.g., part of a covered facility), rather than submitting a single Form R for that EPCRA Section 313 chemical for the entire facility. However, if an establishment or group of establishments does not manufacture, process, or otherwise use or release or otherwise manage as waste an EPCRA Section 313 chemical, you do not have to submit a report for that establishment or group of establishments for that particular chemical. (See also Section B.2a of these instructions.)

4.3 Technical Contact

Enter the name and telephone number (including area code) of a technical representative whom EPA or State officials may contact for clarification of the information reported on Form R. This contact person does not have to be the same person who prepares the report or signs the certification statement and does not necessarily need to be someone at the location of the reporting facility. However, this person must be familiar with the details of the report so that he or she can answer questions about the information provided.

4.4 Public Contact

Enter the name and telephone number (including area code) of a person who can respond to questions from the public about the report. If you choose to designate the same person as both the technical and the public contact, you may enter "Same as Section 4.3" in this space. This contact person does not have to be the same person who prepares the report or signs the certification statement and does not necessarily need to be someone at the location of the reporting facility. If this space is left blank, the technical contact will be listed as the public contact in the TRI database.

4.5 Standard Industrial Classification (SIC) Code

Enter the appropriate 4-digit primary Standard Industrial Classification (SIC) Code for your facility. Table I lists the SIC codes within 10 (except 1011, 1081, and 1094), 12 (except 1241), 20–39, 4911 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4931 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4953 (limited to facilities regulated under the RCRA Subtitle C, 42 U.S.C. section 6921 *et seq.*), 5169, 5171, and 7389 (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis). If the report covers more than one establishment, enter the primary 4-digit SIC code for each establishment starting with the primary SIC code for the entire facility. You are required to enter SIC codes only for those establishments within the facility that fall within SIC codes 10 (except 1011, 1081, and 1094), 12 (except 1241), 20–39, 4911 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4931 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4953 (limited to facilities regulated under the RCRA Subtitle C, 42 U.S.C. section 6921 *et seq.*), 5169, 5171, and 7389 (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis). If you do not know your SIC code, consult the 1987 SIC Manual.

The North American Industry Classification System (NAICS) is a new economic classification system that will replace the 1987 SIC code system. EPA will address the

SIC code change, as it relates to EPCRA, in an upcoming Federal Register notice. This upcoming change does NOT affect the 1999 EPCRA Section 313 reporting.

4.6 Latitude and Longitude

Enter the latitudinal and longitudinal coordinates of your facility. Sources of these data include EPA permits (e.g., NPDES permits), county property records, facility blueprints, and site plans. Instructions on how to determine these coordinates can be found in Appendix E. Enter only numerical data. Do not preface numbers with letters such as N or W to denote the hemisphere.

Latitude and longitude coordinates of your facility are very important for pinpointing the location of reporting facilities and are required elements on the Form R. EPA encourages facilities to make the best possible measurements when determining latitude and longitude. As with any other data field, missing, suspect, or incorrect data may generate a Notice of Technical Error to be issued to the facility. (See Appendix C: Common Errors in Completing Form R Reports and Making Data Available).

4.7 Dun & Bradstreet Number

Enter the nine-digit number assigned by Dun & Bradstreet (D & B) for your facility or each establishment within your facility. These numbers code the facility for financial purposes. This number may be available from your facility's treasurer or financial officer. You can also obtain the numbers from your local Dun & Bradstreet office (check the telephone book White Pages). If a facility does not subscribe to the D & B service, a "support number" can be obtained from the D & B center located in Allentown, Pennsylvania, at (610) 882-7748 (8:30 AM to 8:00 PM, Eastern Time). If none of your establishments has been assigned a D & B number, enter not applicable, NA, in box (a). If only some of your establishments have been assigned D & B numbers, enter those numbers in Part I, section 4.7.

4.8 EPA Identification Number

The EPA I.D. Number is a 12-character number assigned to facilities covered by hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA). Facilities not covered by RCRA are not likely to have an assigned I.D. Number. If your facility is not required to have an I.D. Number, enter not applicable, NA, in box (a). If your facility has been assigned EPA Identification Numbers, you must enter those numbers in the spaces provided in Section 4.8.

4.9 NPDES Permit Number

Enter the numbers of any permits your facility holds under the National Pollutant Discharge Elimination System (NPDES) even if the permit(s) do not pertain to the EPCRA Section 313 chemical being reported. This nine-character permit number is assigned to your facility by EPA or the State under the authority of the Clean Water Act. If your facility does not have a permit, enter not applicable, NA, in Section 4.9a.

4.10 Underground Injection Well Code (UIC) Identification Number

If your facility has a permit to inject a waste containing the EPCRA Section 313 chemical into Class 1 deep wells, enter the 12-digit Underground Injection Well Code (UIC) identification number assigned by EPA or by the State under the authority of the Safe Drinking Water Act. If your facility does not hold such a permit(s), enter not applicable, NA, in Section 4.10a. You are only required to provide the UIC number for wells that receive the EPCRA Section 313 chemical being reported.

Section 5. Parent Company Information

You must provide information on your parent company. For purposes of Form R, a parent company is defined as the highest level company, located in the United States, that directly owns at least 50 percent of the voting stock of your company. If your facility is owned by a foreign entity, enter not applicable, NA, in this space. Corporate names should be treated as parent company names for companies with multiple facility sites. For example, the Bestchem Corporation is not owned or controlled by any other corporation but has sites throughout the country whose names begin with Bestchem. In this case, Bestchem Corporation would be listed as the parent company. Note that a facility that is a 50:50 joint venture is its own parent company.

5.1 Name of Parent Company

Enter the name of the corporation or other business entity that is your ultimate U.S. parent company. If your facility has no parent company, check the NA box.

5.2 Parent Company's Dun & Bradstreet Number

Enter the D & B number for your ultimate U.S. parent company, if applicable. The number may be obtained from the treasurer or financial officer of the company. If your parent company does not have a D & B number, check the NA box.

Part II. Chemical Specific Information

In Part II, you are to report on:

- The EPCRA Section 313 chemical being reported;
- The general uses and activities involving the EPCRA Section 313 chemical at your facility;
- On-site releases of the EPCRA Section 313 chemical from the facility to air, water, and land;
- Quantities of the EPCRA Section 313 chemical transferred to off-site locations;
- Information for on-site and off-site disposal, treatment, energy recovery, and recycling of the EPCRA Section 313 chemical; and
- Source reduction activities.

Section 1. EPCRA Section 313 Chemical Identity

1.1 CAS Number

Enter the Chemical Abstracts Service (CAS) registry number in Section 1.1 exactly as it appears in Table II of these instructions for the chemical being reported. CAS numbers are cross-referenced with an alphabetical list of chemical names in Table II. If you are reporting one of the EPCRA Section 313 chemical categories in Table II (e.g., chromium compounds), enter the applicable category code in the CAS number space. EPCRA Section 313 chemical category codes are listed below and can also be found in Table II, c. Chemical Categories.

EPCRA Section 313 Chemical Category Codes

N010	Antimony compounds
N020	Arsenic compounds
N040	Barium compounds
N050	Beryllium compounds
N078	Cadmium compounds
N084	Chlorophenols
N090	Chromium compounds
N096	Cobalt compounds
N100	Copper compounds
N106	Cyanide compounds
N120	Diisocyanates
N171	Ethylenebisdithiocarbamic acid, salts and esters (EBDCs)
N230	Certain glycol ethers
N420	Lead compounds
N450	Manganese compounds
N458	Mercury compounds
N495	Nickel compounds
N503	Nicotine and salts
N511	Nitrate compounds (water dissociable, reportable only in aqueous solution)
N575	Polybrominated biphenyls (PBBs)
N583	Polychlorinated alkanes (C10 to C13)
N590	Polycyclic aromatic compounds (PACs)
N725	Selenium compounds
N740	Silver compounds
N746	Strychnine and salts
N760	Thallium compounds
N874	Warfarin and Salts
N982	Zinc compounds

If you are making a trade secret claim, you must report the CAS number or category code on your unsanitized Form R and unsanitized substantiation form. Do not include the CAS number or category code on your sanitized Form R or sanitized substantiation form.

Example 10: Mixture Containing Unidentified EPCRA Section 313 Chemical

Your facility uses 20,000 pounds of a solvent that your supplier has told you contains 80 percent "chlorinated aromatic," their generic name for an EPCRA Section 313 chemical subject to reporting under Section 313. You, therefore, know that you have used 16,000 pounds of some EPCRA Section 313 chemical and that exceeds the "otherwise use" threshold. You would file a Form R and enter the name "chlorinated aromatic" in the space provided in Part II, Section 2.

1.2 EPCRA Section 313 Chemical or Chemical Category Name

Enter the name of the EPCRA Section 313 chemical or chemical category exactly as it appears in Table II. If the EPCRA Section 313 chemical name is followed by a synonym in parentheses, report the chemical by the name that directly follows the CAS number (i.e., not the synonym). If the EPCRA Section 313 chemical identity is actually a product trade name (e.g., dicofol), the 9th *Collective Index* name is listed below it in brackets. You may report either name in this case.

Do not list the name of a chemical that does not appear in Table II, such as individual members of a reportable EPCRA Section 313 chemical category. For example, if you use silver nitrate, do not report silver nitrate with its CAS number. Report this chemical as "silver compounds" with its category code, N740.

If you are making a trade secret claim, you must report the specific EPCRA Section 313 chemical identity on your unsanitized Form R and unsanitized substantiation form. Do not report the name of the EPCRA Section 313 chemical on your sanitized Form R or sanitized substantiation form. Include a generic name in Part II, Section 1.3 of your sanitized Form R report.

EPA requests that the EPCRA Section 313 chemical, chemical category, or generic name also be placed in the box marked "Toxic Chemical, Category, or Generic Name" in the upper right-hand corner on all pages of Form R. While this space is not a required data element, providing this information will help you in preparing a complete Form R report.

1.3 Generic Chemical Name

Complete Section 1.3 only if you are claiming the specific EPCRA Section 313 chemical identity of the EPCRA Section 313 chemical as a trade secret and have marked the trade secret block in Part I, Section 2.1 on page 1 of Form R. Enter a generic chemical name that is descriptive of the chemical structure. You must limit the generic name to seventy characters (e.g., numbers, letters, spaces, punctuation) or less. Do not enter mixture names in Section 1.3; see Section 2 below.

In-house plant codes and other substitute names that are not structurally descriptive of the EPCRA Section 313 chemical identity being withheld as a trade secret are not acceptable as a generic name. The generic name must appear on both sanitized and unsanitized Form Rs, and the name must be the same as that used on your substantiation forms.

Section 2. Mixture Component Identity

Do not complete this section if you have completed Section 1 of Part II. Report the generic name provided to you by your supplier in this section if your supplier is claiming the chemical identity proprietary or trade secret. Do not answer "yes" in Part I, Section 2.1 on page 1 of the form if you complete this section. You do not need to supply trade secret substantiation forms for this EPCRA Section 313 chemical because it is your supplier who is claiming the chemical identity a trade secret.

2.1 Generic Chemical Name Provided by Supplier

Enter the generic chemical name in this section only if the following three conditions apply:

1. You determine that the mixture contains an EPCRA Section 313 chemical but the only identity you have for that chemical is a generic name;

2. You know either the specific concentration of that EPCRA Section 313 chemical component or a maximum or average concentration level; and

3. You multiply the concentration level by the total annual amount of the whole mixture processed or otherwise used and determine that you meet the process or otherwise use threshold for that single, generically identified mixture component.

Section 3. Activities and Uses of the EPCRA Section 313 Chemical at the Facility

Indicate whether the EPCRA Section 313 chemical is manufactured (including imported), processed, or otherwise used at the facility and the general nature of such activities and uses at the facility during the calendar year (see figure 3). You are not required to report on Form R the quantity manufactured, processed or otherwise used. Report activities that take place only at your facility, not activities that take place at other facilities involving your products. You must check all the boxes in this section that apply. Refer to the definitions of "manufacture," "process," and "otherwise use" in the general information section of these instructions or Part 40, Section 372.3 of the *Code of Federal Regulations* for additional explanations.

3.1 Manufacture the EPCRA Section 313 Chemical

Persons who manufacture (including import) the EPCRA Section 313 chemical must check at least one of the following:

a. ***Produce*** – The EPCRA Section 313 chemical is produced at the facility.

b. ***Import*** – The EPCRA Section 313 chemical is imported by the facility into the Customs Territory of the United States. (See Section B.3.a of these instructions for further clarification of import.)

And check at least one of the following:

c. ***For on-site use/processing*** – The EPCRA Section 313 chemical is produced or imported and then further processed or otherwise used at the same

facility. If you check this block, you must also check at least one item in Part II, Section 3.2 or 3.3.

d. *For sale/distribution* — The EPCRA Section 313 chemical is produced or imported specifically for sale or distribution outside the manufacturing facility.

e. *As a byproduct* — The EPCRA Section 313 chemical is produced coincidentally during the manufacture, processing, or otherwise use of another chemical substance or mixture and, following its production, is separated from that other chemical substance or mixture. EPCRA Section 313 chemicals produced as a result of waste management are also considered byproducts.

f. *As an impurity* — The EPCRA Section 313 chemical is produced coincidentally as a result of the manufacture, processing, or otherwise use of another chemical but is not separated and remains primarily in the mixture or other trade name product with that other chemical.

In summary, if you are a manufacturer of the EPCRA Section 313 chemical, you must check (a) and/or (b), and at least one of (c), (d), (e), and (f) in Section 3.1.

3.2 Process the EPCRA Section 313 Chemical (incorporative activities)

a. *As a reactant* — A natural or synthetic EPCRA Section 313 chemical is used in chemical reactions for the manufacture of another chemical substance or of a product. Includes but is not limited to, feedstocks, raw materials, intermediates, and initiators.

b. *As a formulation component* — An EPCRA Section 313 chemical is added to a product (or product mixture) prior to further distribution of the product that acts as a performance enhancer during use of the product. Examples of EPCRA Section 313 chemicals used in this capacity include, but are not limited to, additives, dyes, reaction diluents, initiators, solvents, inhibitors, emulsifiers, surfactants, lubricants, flame retardants, and rheological modifiers.

c. *As an article component* — An EPCRA Section 313 chemical becomes an integral component of an article distributed for industrial, trade, or consumer use. One example is the pigment components of paint applied to a chair that is sold.

d. *Repackaging* — This consists of processing or preparation of an EPCRA Section 313 chemical (or product mixture) for distribution in commerce in a different form, state, or quantity. This includes, but is not limited to, the transfer of material from a bulk container, such as a tank truck to smaller containers such as cans or bottles.

Example 11: Activities and Uses of EPCRA Section 313 Chemicals

In the example below, it is assumed that the threshold quantities for manufacture, process, or otherwise use (25,000 pounds, 25,000 pounds, and 10,000 pounds, respectively) have been exceeded and the reporting of EPCRA Section 313 chemicals is therefore required.

Your facility manufactures diazomethane. Fifty percent is sold as a product. The remaining 50 percent is reacted with alpha-naphthylamine, forming N-methyl-alpha-naphthylamine and also producing nitrogen gas.

- **Your company manufactures diazomethane, an EPCRA Section 313 chemical, both for sale/distribution as a commercial product and for on-site use/processing as a feedstock in the N-methyl-alpha-naphthyl-amine production process. Because the diazomethane is a reactant, it is also processed. See Figure 3 for how this information would be reported in Part II, Section 3 of Form R.**
- **Your facility also processes alpha-naphthylamine, as a reactant to produce N-methyl-alpha-naphthylamine, a chemical not on the Section 313 list.**

3.3 Otherwise Use the EPCRA Section 313 Chemical (non-incorporative activities)

a. *As a chemical processing aid* — An EPCRA Section 313 chemical that is added to a reaction mixture to aid in the manufacture or synthesis of another chemical substance but is not intended to remain in or become part of the product or product mixture is otherwise used as chemical processing aid. Examples of such EPCRA Section 313 chemicals include, but are not limited to, process solvents,

Figure 3

SECTION 1. TOXIC CHEMICAL IDENTITY	(Important: DO NOT complete this section if you complete Section 2 below.)
1.1	CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.) 334-88-3
1.2	Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.) Diazomethane
1.3	Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "Yes". Generic name must be structurally descriptive.)

SECTION 2. MIXTURE COMPONENT IDENTITY	(Important: DO NOT complete this section if you complete Section 1 above.)
2.1	Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)

SECTION 3. ACTIVITIES AND USES OF THE TOXIC CHEMICAL AT THE FACILITY
(Important: CHECK ALL THAT APPLY.)

3.1 Manufacture the toxic chemical:	3.2 Process the toxic chemical:	3.3 Otherwise use the toxic chemical:
☑ a. Produce ☐ b. Import		
If produce or import:		
☑ c. For on-site use/processing	☑ a. As a reactant	☐ a. As a chemical processing aid
☑ d. For sale/distribution	☐ b. As a formulation component	☐ b. As a manufacturing aid
☐ e. As a byproduct	☐ c. As an article component	☐ c. Ancillary or other use
☐ f. As an impurity	☐ d. Repackaging	

catalysts, inhibitors, initiators, reaction terminators, and solution buffers.

b. *As a manufacturing aid* — An EPCRA Section 313 chemical that aids the manufacturing process but does not become part of the resulting product and is not added to the reaction mixture during the manufacture or synthesis of another chemical substance is otherwise used as a manufacturing aid. Examples include, but are not limited to, process lubricants, metalworking fluids, coolants, refrigerants, and hydraulic fluids.

c. *Ancillary or other use* — An EPCRA Section 313 chemical is used at a facility for purposes other than aiding chemical processing or manufacturing as described above is otherwise used as ancillary or other use. Examples include, but are not limited to, cleaners, degreasers, lubricants, fuels, EPCRA Section 313 chemicals used for treating wastes, and EPCRA Section 313 chemicals used to treat water at the facility.

Section 4. Maximum Amount of the EPCRA Section 313 Chemical On-site at Any Time During the Calendar Year

For data element 4.1 of Part II, insert the code (see codes below) that indicates the maximum quantity of the EPCRA Section 313 chemical (e.g., in storage tanks, process vessels, on-site shipping containers, or in waste) at your facility at any time during the calendar year. If the EPCRA Section 313 chemical was present at several

locations within your facility, use the maximum total amount present at the entire facility at any one time.

Weight Range in Pounds

Range Code	From...	To....
01	0	99
02	100	999
03	1,000	9,999
04	10,000	99,999
05	100,000	999,999
06	1,000,000	9,999,999
07	10,000,000	49,999,999
08	50,000,000	99,999,999
09	100,000,000	499,999,999
10	500,000,000	999,999,999
11	1 billion	more than 1 billion

If the EPCRA Section 313 chemical present at your facility was part of a mixture or other trade name product, determine the maximum quantity of the EPCRA Section 313 chemical present at the facility by calculating the weight percent of the EPCRA Section 313 chemical only.

Do not include the weight of the entire mixture or other trade name product. This data may be found in the Tier II form your facility may have prepared under Section 312 of EPCRA. See Part 40, Section 372.30(b) of the *Code of Federal Regulations* for further information on how to calculate the weight of the EPCRA Section 313 chemical in the mixture or other trade name product. For EPCRA Section 313 chemical categories (e.g., nickel compounds), include all chemical compounds in the category when calculating the maximum amount, using the entire weight of each compound.

Section 5. Quantity of the EPCRA Section 313 Chemical Entering Each Environmental Medium On-site

In Section 5, you must account for the total aggregate on-site releases of the EPCRA Section 313 chemical to the environment from your facility for the calendar year.

Do not enter the values in Section 5 in gallons, tons, liters, or any measure other than pounds. You must also enter the values as whole numbers. Numbers following a decimal point are not acceptable.

On-site releases to the environment include emissions to the air, discharges to surface waters, and releases to land and underground injection wells. If you have no releases to a particular media (e.g., stack air), you must check the "NA" box or enter zero; **do not** leave any part of Section 5 blank.

You are not required to count as a release, quantities of an EPCRA Section 313 chemical that are lost due to natural weathering or corrosion, normal/natural degradation of a product, or normal migration of an EPCRA Section 313 chemical from a product. For example, amounts of an EPCRA Section 313 chemical that migrate from plastic products in storage do not have to be counted in estimates of releases of that EPCRA Section 313 chemical from the facility.

All releases of the EPCRA Section 313 chemical to the air must be classified as either point or non-point emissions, and included in the total quantity reported for these releases in Sections 5.1 and 5.2. Instructions for columns A, B, and C follow the discussions of Sections 5.1 through 5.5.

5.1 Fugitive or Non-Point Air Emissions

Report the total of all releases of the EPCRA Section 313 chemical to the air that are not released through stacks, vents, ducts, pipes, or any other confined air stream. You must include (1) fugitive equipment leaks from valves, pump seals, flanges, compressors, sampling connections, open-ended lines, etc.; (2) evaporative losses from surface impoundments and spills; (3) releases from building ventilation systems; and (4) any other fugitive or non-point air emissions. Engineering estimates and mass balance calculations (using purchase records, inventories, engineering knowledge or process specifications of the quantity of the EPCRA Section 313 chemical entering product, hazardous waste manifests, or monitoring records) may be useful in estimating fugitive emissions.

5.2 Stack or Point Air Emissions

Report the total of all releases of the EPCRA Section 313 chemical to the air that occur through stacks, confined vents, ducts, pipes, or other confined air streams. You must include storage tank emissions. Air releases from air pollution control equipment would generally fall in this category. Monitoring data, engineering estimates, and mass balance calculations may help you to complete this section.

5.3 Discharges to Receiving Streams or Water Bodies

In Section 5.3 you are to enter all the names of the streams or water bodies to which your facility directly discharges the EPCRA Section 313 chemical on which you are reporting. A total of three spaces is provided on page 2 of Form R. Enter the name of each receiving stream or surface water body to which the EPCRA Section 313 chemical being reported is directly discharged. Report the name of the receiving stream or water body as it appears on the NPDES permit for the facility. If the stream is not covered by a permit, enter the name of the off-site stream or water body by which it is publicly known. Do not list a series of streams through which the EPCRA Section 313 chemical flows. Be sure to include all the receiving streams or water bodies that receive stormwater runoff from your facility. Do not enter names of streams to which off-site treatment plants discharge. Enter "NA" in Section 5.3.1. if you do not discharge the EPCRA Section 313 chemical to surface water bodies.

Enter the total annual amount of the EPCRA Section 313 chemical released from all discharge points at the facility to each receiving stream or water body. Include process outfalls such as pipes and open trenches, releases from on-site wastewater treatment systems, and the contribution from stormwater runoff, if applicable (see instructions for column C below). Do not include discharges to a POTW or other off-site wastewater treatment facilities in this section. These off-site transfers must be reported in Part II, Section 6 of Form R. Wastewater analyses and flowmeter data may provide the quantities you will need to complete this section.

Discharges of listed acids (e.g., hydrogen fluoride, nitric acid, and phosphoric acid) may be reported as zero if the discharges have been neutralized to pH 6 or above. If wastewater containing a listed acid is discharged below pH 6, then releases of the acid must be reported. In this case, pH measurements may be used to estimate the amount of mineral acid released.

5.4.1 Underground Injection On-Site to Class I Wells

Enter the total amount of the EPCRA Section 313 chemical that was injected into Class I wells at the facility. Chemical analyses, injection rate meters, and RCRA Hazardous Waste Generator Reports are good sources for obtaining data that will be useful in completing this section. Check the Not Applicable "NA" box in Section 5.4.1 if you do not inject the reported EPCRA Section 313 chemical into Class I underground wells.

5.4.2 Underground Injection On-site to Class II-V Wells

Enter the total amount of the EPCRA Section 313 chemical that was injected into wells at the facility other than Class I wells. Chemical analyses and injection rate meters are good sources for obtaining data that will be useful in completing this section. Check the Not Applicable "NA" box in Section 5.4.2 if you do not inject the reported EPCRA Section 313 chemical into Class II-V underground wells.

5.5 Disposal to Land On-site

Five predefined subcategories for reporting quantities released to land within the boundaries of the facility are provided. Do not report land disposal at off-site locations in this section. Accident histories and spill records may be useful (e.g., release notification reports required under Section 304 of EPCRA and accident histories required under Section 112(r)(7)(B)(ii) of the Clean Air Act).

5.5.1A RCRA Subtitle C landfills —Enter the total amount of the EPCRA Section 313 chemical that was placed in RCRA Subtitle C landfills. Leaks from landfills need not be reported as a release because the amount of the EPCRA Section 313 chemical has already been reported as a release.

5.5.1B Other landfills — Enter the total amount of the EPCRA Section 313 chemical that was placed in landfills other than RCRA Subtitle C landfills. Leaks from landfills need not be reported as a release because the amount of the EPCRA Section 313 chemical has already been reported as a release.

5.5.2 Land treatment/application farming — Land treatment is a disposal method in which a waste containing an EPCRA Section 313 chemical is applied onto or incorporated into soil. While this disposal method is considered a release to land, any volatilization of EPCRA Section 313 chemicals into the air occurring during the disposal operation must be included in the total fugitive air releases reported in Part II, Section 5.1 of Form R.

5.5.3 Surface impoundment — A surface impoundment is a natural topographic depression, man-made

excavation, or diked area formed primarily of earthen materials (although some may be lined with man-made materials), that is designed to hold an accumulation of liquid wastes or wastes containing free liquids. Examples of surface impoundments are holding, settling, storage, and elevation pits; ponds, and lagoons. If the pit, pond, or lagoon is intended for storage or holding without discharge, it would be considered to be a surface impoundment used as a final disposal method. A facility should determine, to the best of its ability, the percentage of a volatile chemical, e.g., benzene, that is in waste sent to a surface impoundment that evaporates in the reporting year. The facility should report this as a fugitive air emission in section 5.1. The balance should be reported in section 5.5.3.

Quantities of the EPCRA Section 313 chemical released to surface impoundments that are used merely as part of a wastewater treatment process generally must not be reported in this section. However, if the impoundment accumulates sludges containing the EPCRA Section 313 chemical, you must include an estimate in this section unless the sludges are removed and otherwise disposed (in which case they should be reported under the appropriate section of the form). For the purposes of this reporting, storage tanks are not considered to be a type of disposal and are not to be reported in this section of Form R.

5.5.4 Other Disposal —Includes any amount of an EPCRA Section 313 chemical released to land that does not fit the categories of landfills, land treatment, or surface impoundment. This other disposal would include any spills or leaks of EPCRA Section 313 chemicals to land. For example, 2,000 pounds of benzene leaks from an underground pipeline into the land at a facility. Because the pipe was only a few feet from the surface at the erupt point, 30 percent of the benzene evaporates into the air. The 600 pounds released to the air would be reported as a fugitive air release (Part II, Section 5.1) and the remaining 1,400 pounds would be reported as a release to land, other disposal (Part II, Section 5.5.4).

Column A: Total Release

Only on-site releases of the EPCRA Section 313 chemical to the environment for the calendar year are to be reported in this section of Form R. The total on-site releases from your facility do not include transfers or shipments of the EPCRA Section 313 chemical from your facility for sale or distribution in commerce, or of wastes to other facilities for disposal, treatment, energy recovery, or recycling (see Part II, Section 6 of these Instructions). Both routine releases, such as fugitive air emissions, and accidental or non-routine releases, such as chemical spills, must be included in your estimate of the quantity released.

Releases of Less Than 1,000 Pounds. For total annual releases or off-site transfers of an EPCRA Section 313 chemical from the facility of less than 1,000 pounds, the amount may be reported either as an estimate or by using the range codes that have been developed. The reporting range codes to be used are:

Code	Range (pounds)
A	1–10
B	11–499
C	500–999

Do not enter a range code and an estimate in the same box in column A. Total annual on-site releases of an EPCRA Section 313 chemical from the facility of less than 1 pound may be reported in one of several ways. You should round the value to the nearest pound. If the estimate is greater than 0.5 pound, you should either enter the range code "A" for "1–10" or enter "1" in column A. If the release is equal to or less than 0.5 pound, you may round to zero and enter "0" in column A.

Note that total annual releases of 0.5 pound or less from the processing or otherwise use of an article maintain the article status of that item. Thus, if the only releases you have are from processing an article, and such releases are equal to or less than 0.5 pound per year, you are not required to submit a report for that EPCRA Section 313 chemical. The 0.5-pound release determination does not apply to just a single article. It applies to the cumulative releases from the processing or otherwise use of the same type of article (e.g., sheet metal or plastic film) that occurs over the course of the calendar year.

Zero Releases. If you have no releases of an EPCRA Section 313 chemical to a particular medium, report either NA, not applicable, or zero, as appropriate. Report NA only when there is no possibility a release could have occurred to a specific media. If a release to a specific media could have occurred, but either did not occur or the annual aggregate release was equal to or less than 0.5 pound, report zero. However, if you report zero releases, a basis of estimate must be provided in column B.

For example, if nitric acid is involved in the facility's processing activities but the facility neutralizes the

wastes to a pH of 6 or above, then the facility reports a zero release for the EPCRA Section 313 chemical. If the facility has no underground injection well, "NA" would be written in Part I, Section 4.10 and checked in Part II, Section 5.4 .1 and 5.4.2 of Form R. Also, if the facility does not landfill the acidic waste, NA would be checked in Part II, Section 5.5.1.B of Form R.

Releases of 1,000 Pounds or More. For releases to any medium that amount to 1,000 pounds or more for the year, you must provide an estimate in pounds per year in column A. Any estimate provided in column A need not be reported to more than two significant figures. This estimate should be in whole numbers. Do not use decimal points.

Calculating On-Site Releases. To provide the release information required in column A in this section, you must use the best readily available data (including relevant monitoring data and emissions measurements) collected at your facility to meet other regulatory requirements or as part of routine plant operations, to the extent you have such data for the EPCRA Section 313 chemical.

When relevant monitoring data or emission measurements are not readily available, reasonable estimates of the amounts released must be made using published emission factors, material balance calculations, or engineering calculations. You may not use emission factors or calculations to estimate releases if more accurate data are available.

No additional monitoring or measurement of the quantities or concentrations of any EPCRA Section 313 chemical released into the environment, or of the frequency of such releases, beyond that required under other provisions of law or regulation or as part of routine plant operations, is required for the purpose of completing Form R.

You must estimate, as accurately as possible, the quantity (in pounds) of the EPCRA Section 313 chemical or chemical category that is released annually to each environmental medium on-site. Include only the quantity of the EPCRA Section 313 chemical in this estimate. If the EPCRA Section 313 chemical present at your facility was part of a mixture or other trade name product, calculate only the releases of the EPCRA Section 313 chemical, not the other components of the mixture or other trade name product. If you are only able to estimate the releases of the mixture or other trade name product as a whole, you must assume that the release of the EPCRA Section 313 chemical is proportional to its concentration in the mixture or other trade name product. See Part 40, Section 372.30(b) of the *Code of Federal Regulations* for further information on how to calculate the concentration and weight of the EPCRA Section 313 chemical in the mixture or other trade name product.

If you are reporting an EPCRA Section 313 chemical category listed in Table II of these instructions rather than a specific EPCRA Section 313 chemical, you combine the release data for all chemicals in the EPCRA Section 313 chemical category (e.g., all glycol ethers or all chlorophenols) and report the aggregate amount for that EPCRA Section 313 chemical in that category separately. For example, if your facility releases 3,000 pounds per year of 2-chlorophenol, 4,000 pounds per year of 3-chlorophenol, and 4,000 pounds per year of 4-chlorophenol to air as fugitive emissions, you should report that your facility releases 11,000 pounds per year of chlorophenols to air as fugitive emissions in Part II, Section 5.1.

For aqueous ammonia solutions, releases should be reported based on 10% of total aqueous ammonia. Ammonia evaporating from aqueous ammonia solutions is considered to be anhydrous ammonia; therefore, 100% of the anhydrous ammonia should be reported if it is released to the environment. For dissociable nitrate compounds, release estimates should be based on the weight of the nitrate only.

For metal category compounds (e.g., chromium compounds), report release of only the parent metal. For example, a user of various inorganic chromium salts would report the total chromium released regardless of the chemical form (e.g., as the original salts, chromium oxide) and exclude any contribution to mass made by other species in the molecule.

Column B: Basis of Estimate

For each release estimate, you are required to indicate the principal method used to determine the amount of release reported. You will enter a letter code that identifies the method that applies to the largest portion of the total estimated release quantity.

The codes are as follows:

M – Estimate is based on monitoring data or measurements for the EPCRA Section 313 chemical.

C— Estimate is based on mass balance calculations, such as calculation of the amount of the EPCRA Section 313 chemical in wastes entering and leaving process equipment.

E— Estimate is based on published emission factors, such as those relating release quantity to through-put or equipment type (e.g., air emission factors).

O— Estimate is based on other approaches such as engineering calculations (e.g., estimating volatilization using published mathematical formulas) or best engineering judgment. This would include applying an estimated removal efficiency to a treatment, even if the composition of the waste before treatment was fully identified through monitoring data.

For example, if 40 percent of stack emissions of the reported EPCRA Section 313 chemical were derived using monitoring data, 30 percent by mass balance, and 30 percent by emission factors, you would enter the code letter "M" for monitoring.

If the monitoring data, mass balance, or emission factor used to estimate the release is not specific to the EPCRA Section 313 chemical being reported, the form should identify the estimate as based on engineering calculations or best engineering judgment (O).

If a mass balance calculation yields the flow rate of a waste, but the quantity of reported EPCRA Section 313 chemical in the waste is based on solubility data, report "O" because "engineering calculations" were used as the basis of estimate of the quantity of the EPCRA Section 313 chemical in the waste.

If the concentration of the EPCRA Section 313 chemical in the waste was measured by monitoring equipment and the flow rate of the waste was determined by mass balance, then the primary basis of the estimate is "monitoring" (M). Even though a mass balance calculation also contributed to the estimate, "monitoring" should be indicated because monitoring data were used to estimate the concentration of the waste.

Mass balance (C) should only be indicated if it is **directly** used to calculate the mass (weight) of EPCRA Section 313 chemical released. Monitoring data should be indicated as the basis of estimate **only** if the EPCRA Section 313 chemical concentration is measured in the waste being released into the environment. Monitoring data should **not** be indicated, for example, if the monitoring data relate to a concentration of the EPCRA Section 313 chemical in other process streams within the facility.

It is important to realize that the accuracy and proficiency of release estimation will improve over time. However, submitters are not required to use new emission factors or estimation techniques to revise previous Form R submissions.

Column C: Percent From Stormwater

This column relates only to Section 5.3 — discharges to receiving streams or water bodies. If your facility has monitoring data on the amount of the EPCRA Section 313 chemical in stormwater runoff (including unchanneled runoff), you must include that quantity of the EPCRA Section 313 chemical in your water release in column A and indicate the percentage of the total quantity (by weight) of the EPCRA Section 313 chemical contributed by stormwater in column C (Section 5.3C).

If your facility has monitoring data on the EPCRA Section 313 chemical and an estimate of flow rate, you must use these data to determine the percent stormwater.

If you have monitored stormwater but did not detect the EPCRA Section 313 chemical, enter zero in column C. If your facility has no stormwater monitoring data for the chemical, enter not applicable, "NA," in this space on the form.

If your facility does not have periodic measurements of stormwater releases of the EPCRA Section 313 chemical, but has submitted chemical-specific monitoring data in permit applications, then these data must be used to calculate the percent contribution from stormwater. Rates of flow can be estimated by multiplying the annual amount of rainfall by the land area of the facility and then multiplying that figure by the runoff coefficient. The runoff coefficient represents the fraction of rainfall that does not seep into the ground but runs off as stormwater. The runoff coefficient is directly related to how the land in the drainage area is used. (See table below)

Description of Land Area	Runoff Coefficient
Business	
Downtown areas	0.70–0.95
Neighborhood areas	0.50–0.70
Industrial	
Light areas	0.50–0.80
Heavy areas	0.60–0.90

Industrial	
Railroad yard areas	0.20–0.40
Unimproved areas	0.10–0.30
Streets	
Asphaltic	0.70–0.95
Concrete	0.80–0.95
Brick	0.70–0.85
Drives and walks	0.70–0.85
Roofs	0.75–0.95
Lawns: Sandy Soil	
Flat, 2%	0.05–0.10
Average, 2–7%	0.10–0.15
Steep, 7%	0.15–0.20
Lawns: Heavy Soil	
Flat, 2%	0.13–0.17
Average, 2–7%	0.18–0.22
Steep, 7%	0.25–0.35

Choose the most appropriate runoff coefficient for your site or calculate a weighted-average coefficient, which takes into account different types of land use at your facility:

Weighted-average runoff coefficient =
(Area 1 % of total)(C1) + (Area 2 % of total)(C2) + (Area 3 % of total)(C3) + ... + (Area i % of total)(Ci)

where Ci = runoff coefficient for a specific land use of Area i.

Section 6. Transfers of the EPCRA Section 313 Chemical in Wastes to Off-Site Locations

You must report in this section the total annual quantity of the EPCRA Section 313 chemical in wastes sent to any off-site facility for the purposes of disposal, treatment, energy recovery, or recycling. Report the total amount of the EPCRA Section 313 chemical transferred off-site after any on-site waste treatment, recycling, or removal is completed. Report zero for transfers of listed mineral acids if they have been neutralized to a pH of 6 or above prior to discharge to a Publicly Owned Treatment Works (POTW).

If you do not discharge wastewater containing the reported EPCRA Section 313 chemical to a POTW, enter not applicable, NA, in the box for the POTW's name in Section 6.1.B._ If you do not ship or transfer wastes containing the reported EPCRA Section 313 chemical to other off-site locations, enter not applicable, NA, in the box for the off-site location's EPA Identification Number in Section 6.2._.

Important: You must number the boxes for reporting the information for each POTW or other off-site location in Sections 6.1 and 6.2. In the upper left hand corner of each box, the section number is either 6.1.B._. or 6.2._.

If you report a transfer of the listed EPCRA Section 313 chemical to one or more POTWs, number the boxes in Section 6.1.B as 6.1.B.1, 6.1.B.2, etc. If you transfer the EPCRA Section 313 chemical to more than two POTWs, photocopy page 3 of Form R as many times as necessary and then number the boxes consecutively for each POTW. At the bottom of Section 6 you will find instructions for indicating the total number of page 3s that you are submitting as part of Form R, as well as indicating the sequence of those pages. For example, your facility transfers the reported EPCRA Section 313 chemical in wastewaters to three POTWs. You would photocopy page 3 once, indicate at the bottom of each page 3 that there are a total of two page 3s and then indicate the first and second page 3. The boxes for the two POTWs on the first page 3 would be numbered 6.1.B.1 and 6.1.B.2, while the box for third POTW on the second page 3 would be numbered 6.1.B.3.

If you report a transfer of the EPCRA Section 313 chemical to one or more other off-site locations, number the boxes in section 6.2 as 6.2.1, 6.2.2, etc. If you transfer the EPCRA Section 313 chemical to more than two other off-site locations, photocopy page 4 of Form R as many times as necessary and then number the boxes consecutively for each off-site location. At the bottom of page 4 you will find instructions for indicating the total number of page 4s that you are submitting as part of Form R as well as indicating the sequence of those pages. For example, your facility transfers the reported EPCRA Section 313 chemical to three other off-site locations. You would photocopy page 4 once, indicate at the bottom of Section 6.2 on each page 4 that there are a total of two page 4s and then indicate the first and second page 4. The boxes for the two off-site locations on the first page 4 would be numbered 6.2.1 and 6.2.2, while the box for the third off-site location on the second page 4 would be numbered 6.2.3.

6.1 Discharges to Publicly Owned Treatment Works (POTWs)

In Section 6.1.A , estimate the quantity of the reported EPCRA Section 313 chemical transferred to all POTWs and the basis upon which the estimate was made. In Section 6.1.B., enter the name and address for each POTW to which your facility discharges wastewater containing the reported EPCRA Section 313 chemical.

If you do not discharge wastewater containing the reported EPCRA Section 313 chemical to a POTW, enter not applicable, NA, in the box for the POTW's name in Section 6.1.B._.

6.1.A.1 Total Transfers

Enter the total amount, in pounds, of the reported EPCRA Section 313 chemical that is contained in the wastewaters transferred to all POTWs. Do not enter the total poundage of the wastewaters. If the total amount transferred is less than 1,000 pounds, you may report a range by entering the appropriate range code. The following reporting range codes are to be used:

Code	Reporting Range (in pounds)
A	1-10
B	11-499
C	500-999

6.1.A.2 Basis of Estimate

You must identify the basis for your estimate of the total quantity of the reported EPCRA Section 313 chemical in the wastewater transferred to all POTWs. Enter one of the following letter codes that applies to the method by which the largest percentage of the estimate was derived.

M— Estimate is based on monitoring data or measurements for the EPCRA Section 313 chemical as transferred to an off-site facility.

C— Estimate is based on mass balance calculations, such as calculation of the amount of the EPCRA Section 313 chemical in streams entering and leaving process equipment.

E— Estimate is based on published emission factors, such as those relating release quantity to through-put or equipment type (e.g., air emission factors).

O— Estimate is based on other approaches such as engineering calculations (e.g., estimating volatilization using published mathematical formulas) or best engineering judgment. This would include applying an estimated removal efficiency to a waste stream, even if the composition of the stream before treatment was fully identified through monitoring data.

If you transfer an EPCRA Section 313 chemical to more than one POTW, you should report the basis of estimate that was used to determine the largest percentage of the EPCRA Section 313 chemical that was transferred.

6.2 Transfers to Other Off-Site Locations

In Section 6.2 enter the EPA Identification Number, name, and address for each off-site location to which your facility ships or transfers wastes containing the reported EPCRA Section 313 chemical for the purposes of disposal, treatment, energy recovery, or recycling. Also estimate the quantity of the reported EPCRA Section 313 chemical transferred and the basis upon which the estimate was made. This would include any residual chemicals in "empty" containers transferred off-site. EPA expects that all containers (bags, totes, drums, tank trucks, etc.) will have a small amount of residual solids and/or liquids. Please see following summary of residue quantities left in drums and tanks when emptied.

If appropriate, you must report multiple activities for each off-site location. For example, if your facility sends a reported EPCRA Section 313 chemical in waste to an off-site location where some of the EPCRA Section 313 chemical is to be recycled while the remainder of the quantity transferred is to be treated, you must report both the waste treatment and recycle activities, along with the quantity associated with each activity.

If your facility transfers a reported EPCRA Section 313 chemical to an off-site location and that off-site location performs more than four activities on that chemical, provide the necessary information in Box 6.2.1 for the off-site facility and the first four activities. Provide the information on the remainder of the activities in Box 6.2.2 and provide again the off-site facility identification and location information.

If you do not ship or transfer wastes containing the reported EPCRA Section 313 chemical to other off-site locations, enter not applicable, NA, in the box for the off-site location's EPA Identification Number (defined in 40 CFR 260.10 and therefore commonly referred to as the RCRA ID Number). This number may be found on the Uniform Hazardous Waste Manifest, which is required by RCRA regulations. If you ship or transfer wastes containing an EPCRA Section 313 chemical and the off-site location does not have an EPA Identification Number (e.g., it does not accept RCRA hazardous wastes or the wastes in question are not classified as hazardous), enter NA in the box for the off-site location EPA Identification Number. If you ship or transfer the reported EPCRA Section 313 chemical in wastes to another country, enter the Federal Information Processing Standards (FIPS) code for that country in the county field of the address for the

Example 12: Stormwater Runoff

Your facility is located in a semi-arid region of the United States that has an annual precipitation (including snowfall) of 12 inches of rain. (Snowfall should be converted to the equivalent inches of rain; assume one foot of snow is equivalent to one inch of rain.) The total area covered by your facility is 42 acres (about 170,000 square meters or 1,829,520 square feet). The area of your facility is 50 percent unimproved area, 10 percent asphaltic streets, and 40 percent concrete pavement.

The total stormwater runoff from your facility is therefore calculated as follows:

Land Use	% Total Area	Runoff Coefficient
Unimproved area	50	0.20
Asphaltic streets	10	0.85
Concrete pavement	40	0.90

Weighted-average runoff coefficient = (50%) x (0.20) + (10%) x (0.85) + (40%) x (0.90) = 0.545

(Rainfall) x (land area) x (conversion factor) x (runoff coefficient) = stormwater runoff
(1 ft/year) x (1,829,520 ft^2) x (7.48 gal/ft^3) x (0.545) = 7,458,222 gallons/year

Total stormwater runoff = 7,458,222 gallons/year

Your stormwater monitoring data shows that the average concentration of zinc in the stormwater runoff from your facility from a biocide containing a zinc compound is 1.4 milligrams per liter. The total amount of zinc discharged to surface water through the plant wastewater discharge (non-stormwater) is 250 pounds per year. The total amount of zinc discharged with stormwater is:

(7,458,222 gallons stormwater)x(3.785 liters/gallon) = 28,229,370 liters stormwater

(28,229,370 liters stormwater)x(1.4 mg zinc/liter) x 10^{-3} g/mg x (1/454) lb/g = 87 lb zinc.

The total amount of zinc discharged from all sources of your facility is:

250 pounds zinc from wastewater discharged
+87 pounds zinc from stormwater runoff
337 pounds zinc total water discharged

The percentage of zinc discharge through stormwater reported in section 5.3 column C on Form is:

87/337x100 = 26%

Example 13: Reporting Metals and Metal Category Compounds that are Sent Off-site

A facility manufactures a product containing elemental lead. Various metal fabrication operations for the process produce a wastewater stream that contains some residual lead and off-specification lead material. The wastewater is collected and sent directly to a POTW. Periodic monitoring data show that 500 pounds of lead were transferred to the POTW in the reporting year. The off-specification products (containing lead) are collected and sent off-site to a landfill. Sampling analyses of the product combined with hazardous waste manifests were used to determine that 1,200 pounds of lead in the off-spec product were sent to the off-site landfill.

Therefore, the facility should report 500 pounds in Section 6.1, 1200 pounds in Section 6.2 – M72 and 1,700 pounds in Section 8.1 – Quantity Released Off-site.

Note that for EPCRA Section 313 chemicals that are not metals or metal category compounds, the quantity sent to POTWs and to other off-site treatment locations should be reported in Section 8.7 – Quantity Treated Off-site.

Country	Code
Argentina	AR
Belgium	BE
Bolivia	BL
Brazil	BR
Canada	CA
Chile	CI
Columbia	CO
Costa Rica	CS
Cuba	CU
Ecuador	EC
El Salvador	ES
France	FR
Guatemala	GT
Honduras	HO
Ireland	EI
Italy	IT
Mexico	MX
Nicaragua	NU
Panama	PM
Paraguay	PA
Peru	PE
Portugal	PO
Spain	SP
Switzerland	SZ
United Kingdom	UK
Uruguay	UY
Venezuela	VE

Summary of Residue Quantities From Pilot-Scale Experimental Study[a,b]
(weight percent of drum capacity)

Unloading Method	Vessel Type	Value	Material			
			Kerosene[c]	Water[d]	Motor Oil[e]	Surfactant Solution[f]
Pumping	Steel drum	Range Mean	1.93 - 3.08 2.48	1.84 - 2.61 2.29	1.97 - 2.23 2.06	3.06 3.06
Pumping	Plastic drum	Range Mean	1.69 - 4.08 2.61	2.54 - 4.67 3.28	1.70 - 3.48 2.30	Not Available
Pouring	Bung-top steel drum	Range Mean	0.244 - 0.472 0.404	0.266 - 0.458 0.403	0.677 - 0.787 0.737	0.485 0.485
Pouring	Open-top steel drum	Range Mean	0.032 - 0.080 0.054	0.026 - 0.039 0.034	0.328 - 0.368 0.350	0.089 0.089
Gravity Drain	Slope-bottom steel tank	Range Mean	0.020 - 0.039 0.033	0.016 - 0.024 0.019	0.100 - 0.121 0.111	0.048 0.048
Gravity Drain	Dish-bottom steel tank	Range Mean	0.031 - 0.042 0.038	0.033 - 0.034 0.034	0.133 - 0.191 0.161	0.058 0.058
Gravity Drain	Dish-bottom glass-lined tank	Range Mean	0.024 - 0.049 0.040	0.020 - 0.040 0.033	0.112 - 0.134 0.127	0.040 0.040

[a]From "Releases During Cleaning of Equipment." Prepared by PEI Associates, Inc., for the U.S. Environmental Protection Agency, Office of Pesticides and Toxic Substances, Washington DC, Contract No. 68-02-4248. June 30, 1986.

[b]The values listed in this table should only be applied to similar vessel types, unloading methods, and bulk fluid materials. At viscosities greater than 200 centipoise, the residue quantities can rise dramatically and the information on this table is not applicable.

[c]For kerosene, viscosity = 5 centipoise, surface tension = 29.3 dynes/cm^2

[d]For water, viscosity = 4 centipoise, surface tension = 77.3 dynes/cm^2

[e]For motor oil, viscosity = 94 centipoise, surface tension = 34.5 dynes/cm^2

[f]For surfactanct solution, viscosity = 3 centipoise, surface tension = 31.4 dynes/cm^2

Example 14: Container Residue

You have determined that a Form R for an EPCRA Section 313 chemical must be submitted. The facility purchases and uses one thousand 55-gallon steel drums that contain a 10% solution of the chemical. Further, it is assumed that the physical properties of the solution are similar to water. The solution is pumped from the drums directly into a mixing vessel and the "empty" drums are triple-rinsed with water. The rinse water is indirectly discharged to a POTW and the cleaned drums are sent to a drum reclaimer.

In this example, it can be assumed that all of the residual solution in the drums was transferred to the rinse water. Therefore, the quantity transferred to the drum reclaimer should be reported as "zero." The annual quantity of residual solution that is transferred to the rinse water can be estimated by multiplying the mean weight percent of residual solution remaining in water from pumping a steel drum by the total annual weight of solution in the drum (density of solution multiplied by drum volume). If the density is not known, it may be appropriate to use the density of water (8.34 pounds per gallon):

(2.29%) × (8.34 pounds/gallon) × (55 gallons/drum) × (1,000 drums)
= 10,504 pounds solution

The concentration of the EPCRA Section 313 chemical in the solution is only 10 percent.

(10,504 pounds solution) × (10%) = 1,050 pounds

Therefore, 1,050 pounds of the chemical are transferred to the POTW.

off-site facility. Enter the complete address of the non-U.S. facility in the off-site address fields, the city in the city field, and enter the foreign country code in the county field. The most commonly used FIPS codes are listed below. To obtain a FIPS code for a country not listed here, contact the EPCRA Hotline.

6.2 Column A: Total Transfers

For each off-site location, enter the total amount, in pounds, of the EPCRA Section 313 chemical that is contained in the waste transferred to that location. Do not enter the total poundage of the waste. If the total amount transferred is less than 1,000 pounds, you may report a range by entering the appropriate range code. The following reporting range codes are to be used:

Code	Reporting Range (in pounds)
A	1-10
B	11-499
C	500-999

If you transfer the EPCRA Section 313 chemical in wastes to an off-site facility for distinct and multiple purposes, you must report those activities for each off-site location, along with the quantity of the reported EPCRA Section 313 chemical associated with each activity. For example, your facility transfers a total of 15,000 pounds of toluene to an off-site location that will use 5,000 pounds for the purposes of energy recovery, enter 7,500 pounds into a recovery process, and dispose of the remaining 2,500 pounds. These quantities and the associated activity codes must be reported separately in Section 6.2. (See Figure 4 for a hypothetical Section 6.2 completed for two off-site location, one of which receives the transfer of 15,000 pounds of toluene as detailed.) If you need to report more than four off-site transfers (involving different waste management) to one location, continue reporting of these transfers by listing the same location in the next off-site location section.

Do not double or multiple count amounts transferred off-site. For example, when a reported EPCRA Section 313 chemical is sent to an off-site facility for sequential activities and the specific quantities associated with each activity are unknown, report only a single quantity (the total quantity transferred to that off-site location) along with a single activity code. In such a case, report the activity applied to the majority of the reported EPCRA Section 313 chemical sent off-site, not the ultimate disposition of the EPCRA Section 313 chemical. For example, when an EPCRA Section 313 chemical is first recovered and then treated with the majority of the EPCRA Section 313 chemical being recovered and only a

Figure 4

SECTION 6.2 TRANSFERS TO OTHER OFF-SITE LOCATION			
6.2. 1	Off-Site EPA Identification Number (RCRA No.)	COD566162461	
Off-Site Location Name	Acme Waste Services		
Street Address	5 Market Street		
City	Releaseville	County	Hill
State CO	Zip Code 80461	Is location under control of reporting facility or parent company	☐ Yes ☒ No

A. Total Transfers (pounds)/year) (enter range code or estimate)	B. Basis of Estimate (enter code)	C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (enter code)
1. 5,000	1. O	1. M56
2. 7,500	2. C	2. M20
3. 2,500	3. O	3. M72
4. NA	4.	4. M

Hypothetical Secton 6.2 Completed for Two Off-Site Locations

This off-site location receives a transfer of 15,000 pounds of toluene and will combust 5,000 pounds for the purposes of energy recovery, enter 7,500 pounds into a recovery process, and dispose of the remaining 2,500 pounds.

SECTION 6.2 TRANSFERS TO OTHER OFF-SITE LOCATION			
6.2. 2	Off-Site EPA Identification Number (RCRA No.)	COD167725432	
Off-Site Location Name	Combustion, Inc.		
Street Address	25 Facility Road		
City	Dumfry	County	Burns
State CO	Zip Code 80500	Is location under control of reporting facility or parent company	☐ Yes ☒ No

A. Total Transfers (pounds)/year) (enter range code or estimate)	B. Basis of Estimate (enter code)	C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (enter code)
1. 12,500	1. O	1. M54
2. NA	2.	2. M
3.	3.	3. M
4.	4.	4. M

This off-site location receives a transfer of 12,500 pounds of tetrachloroethylene (perchloroethylene) that is part of a waste that is combusted for the purposesof energy recovery in an industrial furnace. Note that the perchloroethylene is reported using code M54 to indicate that it is combusted in an energy recovery unit but it does not contribute to the heating value of the waste.

fraction subsequently treated, report the appropriate recycling activity along with the quantity.

6.2 Column B: Basis of Estimate

You must identify the basis for your estimates of the quantities of the reported EPCRA Section 313 chemical in waste transferred to each off-site location. Enter one of the following letter codes that applies to the method by which the largest percentage of the estimate was derived.

M— Estimate is based on monitoring data or measurements for the EPCRA Section 313 chemical as transferred to an off-site facility.

C— Estimate is based on mass balance calculations, such as calculation of the amount of the EPCRA Section 313 chemical in streams entering and leaving process equipment.

E— Estimate is based on published emission factors, such as those relating release quantity to throughput or equipment type (e.g., air emission factors).

O— Estimate is based on other approaches such as engineering calculations (e.g., estimating volatilization using published mathematical formulas) or best engineering judgment. This would include applying an estimated removal efficiency to a waste stream, even if the composition of the stream before treatment was fully identified through monitoring data.

6.2 Column C: Type of Waste Management: Disposal/ Treatment/Energy Recovery/Recycling

Enter one of the following M codes to identify the type of disposal, treatment, energy recovery, or recycling methods used by the off-site location for the reported EPCRA Section 313 chemical. You must use more than one line and code for a single location when distinct quantities of the reported EPCRA Section 313 chemical are subject to different waste management activities, including disposal, treatment, energy recovery, or recycling. You should use the code that, to the best of your knowledge, represents the ultimate disposition of the chemical.

If the EPCRA Section 313 chemical is sent off-site for further direct reuse (e.g., an EPCRA Section 313 chemical in used solvent that will be used as lubricant at another facility) and does not undergo a waste management activity (i.e., release [including disposal], treatment, energy recovery, or recycling [recovery]) prior to that reuse, it need not be reported in section 6.2 or section 8.

Incineration vs. Energy Recovery

You must distinguish between incineration, which is waste treatment, and legitimate energy recovery. For you to claim that a reported EPCRA Section 313 chemical sent off-site is used for the purposes of energy recovery and not for waste treatment, the EPCRA Section 313 chemical must have a significant heating value and must be combusted in an energy recovery unit such as an industrial boiler, furnace, or kiln. In a situation where the reported EPCRA Section 313 chemical is in a waste that is combusted in an energy recovery unit, but the EPCRA Section 313 chemical does not have a significant heating value, e.g., CFCs, use code M54, Incineration/ Insignificant Fuel Value, to indicate that the EPCRA Section 313 chemical was incinerated in an energy recovery unit but did not contribute to the heating value of the waste.

Metals and Metal Category Compounds

Metals and metal category compounds will be managed in waste either by being released (including disposed) or by being recycled. Remember that the release and other waste management information that you report for metal category compounds will be the total amount of the parent metal released or recycled and NOT the whole metal category compound. The metal has no heat value and thus cannot be combusted for energy recovery and cannot be treated because it cannot be destroyed. Thus, transfers of metals and metal category compounds for further waste management should be reported as either a transfer for recycling or a transfer for disposal. The applicable waste management codes for transfers of metals and metal category compounds for recycling are M24, metals recovery, M93, waste broker — recycling, or M26, other reuse/recovery. Applicable codes for transfers for disposal include M10, M41, M62, M71, M72, M73, M79, M90, M94, and M99. These codes are for off-site transfers for further waste management in which the wastestream may be treated but the metal contained in the wastestream is not treated and is ultimately released. For example, M41 would be used for a metal or metal category compound that is stabilized in preparation for disposal.

Example 15: Calculating Releases and Other Waste Management Quantities

Your facility disposes of 14,000 pounds of lead chromate ($PbCrO_4.PbO$) in an on-site landfill and transfers 16,000 pounds of lead selenite ($PbSeO_4$) to an off-site land disposal facility. You would therefore be submitting three separate reports on the following: lead compounds, selenium compounds, and chromium compounds. However, the quantities you would be reporting would be the pounds of "parent" metal being released on-site or transferred off-site for further waste management. All quantities are based on mass balance calculations (See Section 5, Column B for information on Basis of Estimate and Section 6.2, Column C for waste management codes and information on transfers of EPCRA Section 313 chemicals in wastes). You would calculate releases of lead, chromium, and selenium by first determining the percentage by weight of these metals in the materials you use as follows:

Lead Chromate ($PbCrO_4.PbO$)	Molecular weight	= 546.37
Lead (2 Pb atoms)	Atomic weight	= 207.2 x 2 = 414.4
Chromium (1 Cr atom)	Atomic weight	= 51.996

Lead chromate is therefore (% by weight)

(414.4/546.37) = 75.85% lead and
(51.996/546.37) = 9.52% chromium

Lead Selenite ($PbSeO_4$)	Molecular weight	= 350.17
Lead (1 Pb atom)	Atomic weight	= 207.2
Selenium (1 Se atom)	Atomic weight	= 78.96

Lead selenite is therefore (% by weight)

(207.2/350.17) = 59.17% lead and
(78.96/350.17) = 22.55% selenium.

The total pounds of lead, chromium, and selenium disposed on or off-site from your facility are as follows:

Lead

Disposal on-site: 0.7585 x 14,000 = 10,619 pounds from lead chromate
Transfer off-site for disposal: 0.5917 x 16,000 = 9,467 pounds from lead selenite

Chromium

Disposal on-site: 0.0952 x 14,000 = 1,333 pounds from lead chromate

Selenium

Transfer off-site for disposal: 0.2255 x 16,000 = 3,608 pounds from lead selenite

Applicable codes for Part II, Section 6.2, column C are:

Disposal

M10 Storage Only
M41 Solidification/Stabilization -- Metals and Metal Category Compounds only
M62 Wastewater Treatment (Excluding POTW) -- Metals and Metal Category Compounds only
M71 Underground Injection
M72 Landfill/Disposal Surface Impoundment
M73 Land Treatment
M79 Other Land Disposal

M90 Other Off-Site Management
M94 Transfer to Waste Broker – Disposal
M99 Unknown

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

Recycling
M20 Solvents/Organics Recovery
M24 Metals Recovery
M26 Other Reuse or Recovery
M28 Acid Regeneration
M93 Transfer to Waste Broker – Recycling

Section 7. On-Site Waste Treatment, Energy Recovery, and Recycling Methods

You must report in this section the methods of waste treatment, energy recovery, and recycling applied to the reported EPCRA Section 313 chemical in wastes on-site. There are three separate sections for reporting such activities.

Section 7A On-Site Waste Treatment Methods and Efficiency

Most of the chemical-specific information required by EPCRA Section 313 that is reported on Form R is specific to the EPCRA Section 313 chemical rather than the waste stream containing the EPCRA Section 313 chemical. However, EPCRA Section 313 does require that waste treatment methods applied on-site to waste streams that contain the EPCRA Section 313 chemical be reported. This information is collected in Section 7A of Form R.

In Section 7A, you must provide the following information if you treat the reported EPCRA Section 313 chemical on-site:

(a) The general waste stream types containing the EPCRA Section 313 chemical being reported;
(b) The waste treatment method(s) or sequence used on all waste streams containing the EPCRA Section 313 chemical;
(c) The range of concentration of the EPCRA Section 313 chemicals in the influent to the waste treatment method;
(d) The efficiency of each waste treatment method or waste treatment sequence in destroying or removing the EPCRA Section 313 chemical; and
(e) Whether the waste treatment efficiency figure was based on actual operating data.

Use a separate line in Section 7A for each general waste stream type. Report only information about treatment of waste streams at your facility, not information about off-site waste treatment.

If you do not perform on-site treatment of waste streams containing the reported EPCRA Section 313 chemical, check the Not Applicable (NA) box at the top of Section 7A.

7A Column A: General Waste Stream

For each waste treatment method, indicate the type of waste stream containing the EPCRA Section 313 chemical that is treated. Enter the letter code that corresponds to the general waste stream type:

A Gaseous (gases, vapors, airborne particulates)
W Wastewater (aqueous waste)
L Liquid waste streams (non-aqueous waste)
S Solid waste streams (including sludges and slurries)

If a waste is a mixture of water and organic liquid and the organic content is less than 50 percent, report it as a wastewater (W). Slurries and sludges containing water must be reported as solid waste if they contain appreciable amounts of dissolved solids, or solids that may settle, such that the viscosity or density of the waste is considerably different from that of process wastewater.

7A Column B: Waste Treatment Method(s) Sequence

Enter the appropriate waste treatment code from the list below for each on-site waste treatment method used on a waste stream containing the EPCRA Section 313 chemical, regardless of whether the waste treatment method actually removes the specific EPCRA Section 313 chemical being reported. Waste treatment methods must be reported for each type of waste stream being treated

(i.e., gaseous waste streams, aqueous waste streams, liquid non-aqueous waste streams, and solids). Except for the air emission treatment codes, the waste treatment codes are not restricted to any medium.

Waste streams containing the EPCRA Section 313 chemical may have a single source or may be aggregates of many sources. For example, process water from several pieces of equipment at your facility may be combined prior to waste treatment. Report waste treatment methods that apply to the aggregate waste stream, as well as waste treatment methods that apply to individual waste streams. If your facility treats various wastewater streams containing the EPCRA Section 313 chemical in different ways, the different waste treatment methods must be listed separately.

If your facility has several pieces of equipment performing a similar service in a waste treatment sequence, you may combine the reporting for such equipment. It is not necessary to enter four codes to cover four scrubber units, for example, if all four are treating waste streams of similar character (e.g., sulfuric acid mist emissions), have similar influent concentrations, and have similar removal efficiencies. If, however, any of these parameters differs from one unit to the next, each scrubber must be listed separately.

If your facility performs more than eight sequential waste treatment methods on a single general waste stream, continue listing the methods in the next row and renumber appropriately those waste treatment method code boxes you used to continue the sequence. For example, if the general waste stream in box 7A.1a had nine treatment methods applied to it, the ninth method would be indicated in the first method box for row 7A.2a. The numeral "1" would be crossed out, and a "9" would be inserted.

Treatment applied to any other general waste stream types would then be listed in the next empty row. In the scenario above, for instance, the second general waste stream would be reported in row 7A.3a. See Figure 5 for an example of a hypothetical Section 7A completed for a nine-step waste treatment process and a single waste treatment method.

If you need additional space to report under Section 7A, photocopy page 4 of Form R as many times as necessary. At the bottom of page 4 you will find instructions for indicating the total number of page 4s that you are submitting as part of Form R, as well as instructions for indicating the sequence of those pages.

Waste Treatment Codes

Air Emissions Treatment (applicable to gaseous waste streams only)

A01	Flare
A02	Condenser
A03	Scrubber
A04	Absorber
A05	Electrostatic Precipitator
A06	Mechanical Separation
A07	Other Air Emission Treatment

Biological Treatment

B11	Aerobic
B21	Anaerobic
B31	Facultative
B99	Other Biological Treatment

Chemical Treatment

C01	Chemical Precipitation – Lime or Sodium Hydroxide
C02	Chemical Precipitation – Sulfide
C09	Chemical Precipitation – Other
C11	Neutralization
C21	Chromium Reduction
C31	Complexed Metals Treatment (other than pH adjustment)
C41	Cyanide Oxidation – Alkaline Chlorination
C42	Cyanide Oxidation – Electrochemical
C43	Cyanide Oxidation – Other
C44	General Oxidation (including Disinfection) – Chlorination
C45	General Oxidation (including Disinfection) – Ozonation
C46	General Oxidation (including Disinfection) – Other
C99	Other Chemical Treatment

Incineration/Thermal Treatment

F01	Liquid Injection
F11	Rotary Kiln with Liquid Injection Unit
F19	Other Rotary Kiln
F31	Two Stage
F41	Fixed Hearth

F42	Multiple Hearth
F51	Fluidized Bed
F61	Infra-Red
F71	Fume/Vapor
F81	Pyrolytic Destructor
F82	Wet Air Oxidation
F83	Thermal Drying/Dewatering
F99	Other Incineration/Thermal Treatment

Physical Treatment

P01	Equalization
P09	Other Blending
P11	Settling/Clarification
P12	Filtration
P13	Sludge Dewatering (non-thermal)
P14	Air Flotation
P15	Oil Skimming
P16	Emulsion Breaking – Thermal
P17	Emulsion Breaking – Chemical
P18	Emulsion Breaking – Other
P19	Other Liquid Phase Separation
P21	Adsorption – Carbon
P22	Adsorption – Ion Exchange (other than for recovery/reuse)
P23	Adsorption – Resin
P29	Adsorption – Other
P31	Reverse Osmosis (other than for recovery/reuse)
P41	Stripping – Air
P42	Stripping – Steam
P49	Stripping – Other
P51	Acid Leaching (other than for recovery/reuse)
P61	Solvent Extraction (other than recovery/reuse)
P99	Other Physical Treatment

Solidification/Stabilization

G01	Cement Processes (including silicates)
G09	Other Pozzolonic Processes (including silicates)
G11	Asphaltic Processes
G21	Thermoplastic Techniques
G99	Other Solidification Processes

7A Column C: Range of Influent Concentration

The form requires an indication of the range of concentration of the EPCRA Section 313 chemical in the waste stream (i.e., the influent) as it typically enters the waste treatment step or sequence. The concentration is based on the amount or mass of the EPCRA Section 313 chemical in the waste stream as compared to the total amount or mass of the waste stream. Enter in the space provided one of the following code numbers corresponding to the concentration of the EPCRA Section 313 chemical in the influent:

1 = Greater than 10,000 parts per million (1 percent)
2 = 100 parts per million (0.01 percent) to 10,000 parts per million (1 percent)
3 = 1 part per million (0.0001 percent) to 100 parts per million (0.01 percent)
4 = 1 part per billion to 1 part per million
5 = Less than 1 part per billion

Note: Parts per million (ppm) is:

- milligrams/kilogram (mass/mass) for solids and liquids;
- cubic centimeters/cubic meter (volume/volume) for gases;
- milligrams/liter for solutions or dispersions of the chemical in water; and
- milligrams of chemical/kilogram of air for particulates in air.

If you have particulate concentrations (at standard temperature and pressure) as grains/cubic foot of air, multiply by 1766.6 to convert to parts per million; if in milligrams/cubic meter, multiply by 0.773 to obtain parts per million. These conversion factors are for standard conditions of 0° C (32° F) and 760 mm Hg atmospheric pressure.

7A Column D: Waste Treatment Efficiency Estimate

In the space provided, enter the number indicating the percentage of the EPCRA Section 313 chemical removed from the waste stream through destruction, biological degradation, chemical conversion, or physical removal. The waste treatment efficiency (expressed as percent removal) represents the percentage of the EPCRA Section 313 chemical destroyed or removed (based on amount or mass), not merely changes in volume or concentration of the EPCRA Section 313 chemical in the waste stream. The efficiency, which can reflect the overall removal from sequential treatment methods applied to the general waste stream, refers only to the percent destruction, degradation, conversion, or removal of the EPCRA Section 313 chemical from the waste stream, not the percent conversion or removal of other constituents in the waste stream. The efficiency also does not refer to the general efficiency of the treatment method for any waste stream. For some waste treatment methods, the percent

removal will represent removal by several mechanisms, as in an aeration basin, where an EPCRA Section 313 chemical may evaporate, biodegrade, or be physically removed from the sludge.

Percent removal can be calculated as follows:

$$\frac{(I - E)}{I} \times 100$$

where:

I = amount of the EPCRA Section 313 chemical in the influent waste stream (entering the waste treatment step or sequence) and

E = amount of the EPCRA Section 313 chemical in the effluent waste stream (exiting the waste treatment step or sequence).

Calculate the amount of the EPCRA Section 313 chemical in the influent waste stream by multiplying the concentration (by weight) of the EPCRA Section 313 chemical in the waste stream by the total amount or weight of the waste stream. In most cases, the percent removal compares the treated effluent to the influent for the particular type of waste stream. For solidification of wastewater, the waste treatment efficiency can be reported as 100 percent if no volatile EPCRA Section 313 chemicals were removed with the water or evaporated into the air. Percent removal does not apply to incineration because the waste stream, such as wastewater or liquids, may not exist in a comparable form after waste treatment and the purpose of incineration as a waste treatment is to destroy the EPCRA Section 313 chemical by converting it to carbon dioxide and water or other byproducts. In cases where the EPCRA Section 313 chemical is incinerated, the percent efficiency must be based on the amount of the EPCRA Section 313 chemical destroyed or combusted, except for metals or metal category compounds. In the cases in which a metal or metal category compound is incinerated, the efficiency is always zero for the parent metal.

Similarly, an efficiency of zero must be reported for any waste treatment method(s) (e.g., evaporation) that does not destroy, chemically convert or physically remove the EPCRA Section 313 chemical from the waste stream.

For metal category compounds, the calculation of the reportable concentration and waste treatment efficiency must be based on the weight of the parent metal, not on the weight of the metal compound. Metals are not destroyed, only physically removed or chemically converted from one form into another. The waste treatment efficiency reported must represent only physical removal of the parent metal from the waste stream (except for incineration), not the percent chemical conversion of the metal compound. If a listed waste treatment method converts but does not remove a metal (e.g., chromium reduction), the method must be reported with a waste treatment efficiency of zero.

EPCRA Section 313 chemicals that are strong mineral acids neutralized to a pH of 6 or above are considered treated at a 100 percent efficiency.

All data readily available at your facility must be used to calculate waste treatment efficiency and influent EPCRA Section 313 chemical concentration. If data are lacking, estimates must be made using best engineering judgment or other methods.

7A Column E: Based on Operating Data?

This column requires you to indicate "Yes" or "No" to whether the waste treatment efficiency estimate is based on actual operating data. For example, you would check "Yes" if the estimate is based on monitoring of influent and effluent wastes under typical operating conditions.

If the efficiency estimate is based on published data for similar processes or on equipment supplier's literature, or if you otherwise estimated either the influent or effluent waste comparison or the flow rate, check "No."

Section 7B On-Site Energy Recovery Processes

In Section 7B, you must indicate the on-site energy recovery methods used on the reported EPCRA Section 313 chemical. If you do not perform on-site energy recovery for the reported EPCRA Section 313 chemical, check the Not Applicable (NA) box at the top of Section 7B.

Only EPCRA Section 313 chemicals that have a significant heating value and are combusted in an energy recovery unit such as an industrial furnace, kiln, or boiler, can be reported as combusted for energy recovery in this section. If a reported EPCRA Section 313 chemical is incinerated on-site but does not contribute energy to the process (e.g., chlorofluorocarbons), it must be considered waste treated on-site and reported in Section 7A. Metals and metal category compounds cannot be

Example 16: On-Site Waste Treatment

A process at the facility generates a wastewater stream containing an EPCRA Section 313 chemical (chemical A). A second process generates a wastewater stream containing two EPCRA Section 313 chemicals, a metal (chemical B) and a mineral acid (chemical C). Thresholds for all three chemicals have been exceeded and you are in the process of completing separate Form Rs for each chemical.

These two wastewater streams are combined and sent to an on-site wastewater treatment system before being discharged to a POTW. This system consists of an oil/water separator that removes 99% of chemical A; a neutralization tank in which the pH is adjusted to 7.5, thereby destroying 100% of the mineral acid (chemical C); and a settling tank where 95% of the metal (chemical B) is removed from the water (and eventually landfilled off-site).

Section 7A should be completed slightly differently when you file the Form R for each of the chemicals. The table accompanying this example shows how Section 7A should be completed for each chemical. First, on each Form R you should identify the type of waste stream in Section 7A.1a as wastewater (aqueous waste, code W). Next, on each Form R you should list the code for each of the treatment steps that is applied to the entire waste stream, regardless of whether the operation affects the chemical for which you are completing the Form R (for instance, the first four blocks of Section 7A.1b of all three Form Rs should show: P19 (liquid phase separation), C11 (neutralization), P11 (settling/clarification), and N/A (to signify the end of the treatment system). Note that Section 7A.1b is the only section of the Form R that is not chemical specific. It applies to the entire waste stream being treated. Section 7A.1c of each Form R should show the concentration of the specific chemical in the influent to the first step of the process (oil/water separation). For this example, assume chemicals A, B, and C are all present at concentrations greater than 1%. Therefore, code "1" should be entered. Section 7A.1d is also chemical specific. It applies to the efficiency of the entire system in destroying and/or removing the chemical for which you are preparing the Form R. You should enter 99% when filing for chemical A, 95% for chemical B, and 100% for chemical C. Finally, you should report whether the influent concentration and efficiency estimates are based on operating data for each chemical, as appropriate.

Chemical A							
7A.1a	7A.1b	1. P19	2. C11	7A.1c	7A.1d	7A.1e	
W	3. P11	4. N/A	5. ____	1	99 %	Yes	No
	6. ____	7. ____	8. ____			X	____

Chemical B							
7A.1a	7A.1b	1. P19	2. C11	7A.1c	7A.1d	7A.1e	
W	3. P11	4. N/A	5. ____	1	95 %	Yes	No
	6. ____	7. ____	8. ____			X	____

Chemical C							
7A.1a	7A.1b	1. P19	2. C11	7A.1c	7A.1d	7A.1e	
W	3. P11	4. N/A	5. ____	1	100 %	Yes	No
	6. ____	7. ____	8. ____			X	____

Note that the quantity removed and/or destroyed is not reported in Section 7 and that the efficiency reported in Section 7A.1d refers to the amount of EPCRA Section 313 chemical destroyed and/or removed from the applicable waste stream. The amount actually destroyed should be reported in Section 8.6 (quantity treated on-site). For example, when completing the Form R for Chemical B you should report "0" pounds in Section 8.6 because the metal has been removed from the wastewater stream, but not actually destroyed. The quantity of Chemical B that is ultimately landfilled off-site should be reported in Sections 6.2 and 8.1. However, when completing the Form R for Chemical C you should report the entire quantity in Section 8.6 because raising the pH to 7.5 will completely destroy the mineral acid.

Example 17: Reporting On-Site Energy Recovery

One waste stream generated by your facility contains, among other chemicals, toluene and Freon 113. Threshold quantities are exceeded for both of these EPCRA Section 313 chemicals, and you would, therefore, submit two separate Form R reports. This waste stream is sent to an on-site industrial furnace that uses the heat generated in a thermal hydrocarbon cracking process at your facility. Because toluene has a significant heat value (17,440 BTU/pound) and the energy is recovered in an industrial furnace, the code "U02" would be reported in Section 7B for the Form R submitted for toluene.

However, as Freon 113 does not contribute any value for energy recovery purposes, the combustion of Freon 113 in the industrial furnace is considered waste treatment, not energy recovery. You would report Freon 113 as entering a waste treatment step (i.e., incineration), in Section 7A, column b.

combusted for energy recovery and should NOT be reported in this section. Energy recovery may take place only in an industrial kiln, furnace, or boiler.

Energy Recovery Codes

U01	Industrial Kiln
U02	Industrial Furnace
U03	Industrial Boiler
U09	Other Energy Recovery Methods

If your facility uses more than one on-site energy recovery method for the reported EPCRA Section 313 chemical, list the methods used in descending order (greatest to least) based on the amount of the EPCRA Section 313 chemical entering such methods.

Section 7C On-Site Recycling Processes

In Section 7C, you must report the recycling methods used on the EPCRA Section 313 chemical. If you do not conduct any on-site recycling of the reported EPCRA Section 313 chemical, check the Not Applicable (NA) box at the top of Section 7C.

In this section, use the codes below to report only the recycling methods in place at your facility that are applied to the EPCRA Section 313 chemical. Do not list any off-site recycling activities (Information about off-site recycling must be reported in Part II, Section 6, "Transfers of the Toxic Chemical in Wastes to Off-Site Locations.")

On-Site Recycling Codes

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

If your facility uses more than one on-site recycling method for an EPCRA Section 313 chemical, enter the codes in the space provided in descending order (greatest to least) of the volume of the reported EPCRA Section 313 chemical recovered by each process. If your

facility uses more than ten separate methods for recycling the reported EPCRA Section 313 chemical on-site, then list the ten activities that recover the greatest amount of the EPCRA Section 313 chemical (again, in descending order).

Section 8. Source Reduction and Recycling Activities

This section includes the data elements mandated by section 6607 of the Pollution Prevention Act of 1990 (PPA). Section 8 is a required section of Form R and must be completed.

In Section 8, you must provide information about source reduction activities and quantities of the EPCRA Section 313 chemicals managed as waste. For all appropriate questions, report only the quantity, in pounds, of the reported EPCRA Section 313 chemical itself. Do not include the weight of water, soil, or other waste constituents. When reporting on the metal compound categories, report only the amount of the parent metal as you do when estimating release amounts.

Sections 8.1 through 8.9 must be completed for each EPCRA Section 313 chemical. Section 8.10 must be completed only if a source reduction activity was newly implemented specifically (in whole or in part) for the reported EPCRA Section 313 chemical during the reporting year. Section 8.11 allows you to indicate if you have attached additional optional information on source reduction, recycling, or pollution control activities implemented at any time at your facility.

Sections 8.1 through 8.7 require reporting of quantities for the current reporting year, the prior year, and quantities anticipated in both the first year immediately following the reporting year and the second year following the reporting year (future estimates).

Beginning with the 1995 reporting year, facilities can use applicable, "NA," in Sections 8.1 through 8.7 to indicate that there is no on-site or off-site recycling, energy recovery, treatment, or release.

Column A: Prior Year

Quantities for Sections 8.1 through 8.7 must be reported for the year immediately preceding the reporting year in column A. For reports due July 1, 2000 (reporting year 1999), the prior year is 1998. Information available at the facility that may be used to estimate the prior year's quantities include the prior year's Form R submission, supporting documentation, and recycling, energy recovery, treatment, or disposal operating logs or invoices.

Column B: Current Reporting Year

Quantities for Sections 8.1 through 8.7 must be reported for the current reporting year (1999) in column B.

Columns C and D: Following Year and Second Following Year

Quantities for Sections 8.1 through 8.7 must be estimated for 2000 and 2001. EPA expects reasonable future quantity estimates using a logical basis. Information available at the facility to estimate quantities of the chemical expected during these years include planned source reduction activities, market projections, expected contracts, anticipated new product lines, company growth projections, and production capacity figures. Respondents should take into account protections available for trade secrets as provided in EPCRA Section 322 (42 USC 11042) for the chemical identity.

Relationship to Other Laws

The reporting categories for quantities recycled, used for energy recovery, treated, and disposed apply to completing Section 8 of Form R as well as to the rest of Form R. These categories are to be used only for TRI reporting. They are not intended for use in determining, under the Resource Conservation and Recovery Act (RCRA) Subtitle C regulations, whether a secondary material is a waste when recycled. These definitions also do not apply to the information that may be submitted in the Biennial Report required under RCRA. In addition, these definitions do not imply any future redefinition of RCRA terms and do not affect EPA's RCRA authority or authority under any other statute administered by EPA.

Differences in terminology and reporting requirements for EPCRA Section 313 chemicals reported on Form R and for hazardous wastes regulated under RCRA occur because EPCRA and the PPA focus on specific chemicals, while the RCRA regulations and the Biennial Report focus on waste streams that may include more than one chemical. For example, a RCRA hazardous waste containing an EPCRA Section 313 chemical is recycled to recover certain constituents of that waste, but not the toxic chemical reported under EPCRA section 313. The

EPCRA Section 313 chemical simply passes through the recycling process and remains in the residual from the recycling process, which is disposed. While the waste may be considered recycled under RCRA, the EPCRA Section 313 chemical constituent would be considered to be disposed for TRI purposes.

Example 18: Reporting Future Estimates

A pharmaceutical manufacturing facility uses an EPCRA Section 313 chemical in the manufacture of a prescription drug. During the reporting year (1999), the company received approval from the Food and Drug Administration to begin marketing their product as an over-the-counter drug beginning in 2000. This approval is publicly known and does not constitute confidential business information. As a result of this expanded market, the company estimates that sales and subsequent production of this drug will increase their use of the reported EPCRA Section 313 chemical by 30 percent per year for the two years following the reporting year. The facility treats the EPCRA Section 313 chemical on-site and the quantity treated is directly proportional to production activity. The facility thus estimates the total quantity of the reported EPCRA Section 313 chemical treated for the following year (2000) by adding 30 percent to the amount in column B (the amount for the current reporting year). The second following year (2001) figure can be calculated by adding an additional 30 percent to the amount reported in column C (the amount for the following year (2000) projection).

Quantities Reportable in Sections 8.1 - 8.7

Section 8 of Form R uses data collected to complete Part II, Sections 5 through 7. For this reason, Section 8 should be completed last. Sections 8.1, 8.3, 8.5, 8.7, and 8.8 use data collected to complete sections 5 and 6 of Form R. The relationship between sections 5, 6, and 8.8 to sections 8.1, 8.3, 8.5, and 8.7 are provided below in equation form.

Section 8.1. Report releases pursuant to EPCRA Section 329(8) including "any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing [on-site or off-site] into the environment (including the abandonment of barrels, containers, and other closed receptacles)." This includes on-site releases in section 5 and off-site releases (including disposal) in section 6, but excludes quantities reported in sections 5 and 6 due to remedial actions, catastrophic events, or non-production related events (see the discussion on section 8.8.)

Metals and metal category compounds reported, 1) in section 6.2 as sent off-site for stabilization/solidification (M41-metals) or wastewater treatment (excluding POTWs) (M62-metals) and/or, 2) in section 6.1 – discharges to POTWs should be reported in section 8.1. These quantities should NOT be reported in section 8.7 because the metals are ultimately disposed.

§ 8.1 = § 5 + § 6.2 (disposal) + § 6.1 (metals and metal category compounds only) - §8.8 (on-site release or off-site disposal due to catastrophic events)[1]

Sections 8.2 and 8.3. These relate to a EPCRA Section 313 chemical or a mixture containing an EPCRA Section 313 chemical that is used for energy recovery on-site or is sent off-site for energy recovery, unless it is a commercially available fuel (e.g., fuel oil no. 6). For the purposes of reporting on Form R, reportable on-site and off-site energy recovery is the combustion of a waste containing an EPCRA Section 313 chemical when:

(a) The combustion unit is integrated into an energy recovery system (i.e., industrial furnaces, industrial kilns, and boilers); and

(b) The EPCRA Section 313 chemical is combustible and has a significant heating value (e.g., 5000 BTU)

§ 8.2 is reported in section 8 only

§ 8.3 = § 6.2 (energy recovery) - §8.8 (off-site energy recovery due to catastrophic events)[1]

Sections 8.4 and 8.5. These relate to an EPCRA Section 313 chemical in a waste that is recycled on-site or is sent off-site for recycling.

§ 8.4 is reported in section 8 only

§ 8.5 = § 6.2 (recycling) - § 8.8 (off-site recycling due to catastrophic events)[1]

[1]§8.8 includes quantities of toxic chemical released on-site or managed as waste off-site due to remedial actions, catastrophic events, or one-time events not associated with the production processes.

Section 8.6 and 8.7. These relate to an EPCRA Section 313 chemical (except for metals and metal category compounds) or a mixture containing an EPCRA Section 313 chemical that is treated on-site or is sent to a POTW or other off-site location for waste treatment.

§ 8.6 is reported in section 8 only

§ 8.7 = § 6.1 (excluding metal/metal category compounds) + § 6.2 (treatment) - § 8.8 (off-site treatment due to catastrophic events)[1]

An EPCRA Section 313 chemical or an EPCRA Section 313 chemical in a mixture that is a waste under RCRA must be reported in Sections 8.1 through 8.7.

8.8 Quantity Released to the Environment as a Result of Remedial Actions, Catastrophic Events, or One-Time Events Not Associated with Production Processes

In Section 8.8, enter the total quantity of EPCRA Section 313 chemical released directly into the environment or sent off-site for recycling, energy recovery, treatment, or disposal during the reporting year due to any of the following events:

(1) remedial actions;

(2) catastrophic events such as earthquakes, fires, or floods; or

(3) one-time events not associated with normal or routine production processes.

These quantities should not be included in Sections 8.1 through 8.7

The purpose of this section is to separate quantities recycled, used for energy recovery, treated, or disposed that are associated with normal or routine production operations from those that are not. While all quantities released, recycled, treated, or disposed may ultimately be preventable, this section separates the quantities that are more likely to be reduced or eliminated by process-oriented source reduction activities from those releases that are largely unpredictable and are less amenable to such source reduction activities. For example, spills that occur as a routine part of production operations and could be reduced or eliminated by improved handling, loading, or unloading procedures are included in the quantities reported in Section 8.1 through 8.7 as appropriate. A total loss of containment resulting from a tank rupture caused by a tornado would be included in the quantity reported in Section 8.8.

Similarly, the amount of an EPCRA Section 313 chemical cleaned up from spills resulting from normal operations during the reporting year would be included in the quantities reported in Sections 8.1 through 8.7. However, the quantity of the reported EPCRA Section 313 chemical generated from a remedial action (e.g., RCRA corrective action) to clean up the environmental contamination resulting from past practices should be reported in Section 8.8 because they cannot currently be addressed by source reduction methods. A remedial action for purposes of Section 8.8 is a waste cleanup (including RCRA and CERCA operations) within the facility boundary. Most remedial activities involve collecting and treating contaminated material.

Also, releases caused by catastrophic events are to be incorporated into the quantity reported in Section 8.8. Such releases may be caused by natural disasters (e.g., hurricanes and earthquakes) or by large-scale accidents (e.g., fires and explosions). In addition, releases due to one-time events not associated with production (e.g., terrorist bombing) are to be included in Section 8.8. These amounts are not included in the quantities reported in Sections 8.1 through 8.7 because such releases are generally unanticipated and cannot be addressed by routine process-oriented accident prevention techniques By checking your documentation for calculating estimates made for Part II, Section 5, "Quantity of the Toxic Chemical Entering Each Environmental Medium On-site," you may be able to identify release amounts from the above sources. Emergency notifications under CERCA and EPCRA as well as accident histories required under the Clean Air Act may provide useful information. You should also check facility incident reports and maintenance records to identify one-time or catastrophic events.

Note: While the information reported in Section 8.8 represents only remedial, catastrophic, or one-time events not associated with production processes, Section 5 of Form R (on-site releases to the environment) and Section 6 (off-site transfers for further waste management), must include all on-site releases and transfers as appropriate, regardless of whether they arise from catastrophic, remedial, or routine process operations.

Example 19: Quantity Released to the Environment as a Result of Remedial Actions, Catastrophic Events, or One-Time Events Not Associated with Production Processes.

A chemical manufacturer produces an EPCRA Section 313 chemical in a reactor that operates at low pressure. The reactants and the EPCRA Section 313 chemical product are piped in and out of the reactor at monitored and controlled temperatures. During normal operations, small amounts of fugitive emissions occur from the valves and flanges in the pipelines.

Due to a malfunction in the control panel (which is state-of-the-art and undergoes routine inspection and maintenance), the temperature and pressure in the reactor increase, the reactor ruptures, and the EPCRA Section 313 chemical is released. Because the malfunction could not be anticipated and, therefore, could not be reasonably addressed by specific source reduction activities, the amount released is included in Section 8.8. In this case, much of the EPCRA Section 313 chemical is released as a liquid and pools on the ground. It is estimated that 1,000 pounds of the EPCRA Section 313 chemical pooled on the ground and was subsequently collected and sent off-site for treatment. In addition, it is estimated that another 200 pounds of the EPCRA Section 313 chemical vaporized directly to the air from the rupture. The total amount reported in Section 8.8 is the 1,000 pounds that pooled on the ground (and subsequently sent off-site), plus the 200 pounds that vaporized into the air, a total of 1,200 pounds. The quantity sent off-site must also be reported in Section 6 (but not in Section 8.7) and the quantity that vaporized must be reported as a fugitive emission in Section 5 (but not in Section 8.1).

Avoid Double-Counting in Sections 8.1 Through 8.8

Do not double- or multiple-count quantities in Sections 8.1 through 8.7. The quantities reported in each of those sections must be mutually exclusive. Do not multiple-count quantities entering sequential reportable activities.

Do not include in Sections 8.1 through 8.7 any quantities of the EPCRA Section 313 chemical released into the environment due to remedial actions; catastrophic events such as earthquakes, fires, or floods; or unanticipated one-time events not associated with the production process such as a drunk driver crashing his/her car into a drum storage area. These quantities should be reported in Section 8.8 only. For example, 10,000 pounds of diaminoanisole sulfate is released due to a catastrophic event and is subsequently treated off-site. The 10,000 pounds is reported in Section 8.8, but the amount subsequently treated off-site is not reported in Section 8.7.

8.9 Production Ratio or Activity Index

For Section 8.9, you must provide a ratio of reporting year production to prior year production, or provide an "activity index" based on a variable other than production that is the primary influence on the quantity of the reported EPCRA Section 313 chemical recycled, used for energy recovery, treated, or released. The ratio or index must be reported to the nearest tenths or hundredths place (i.e., one or two digits to the right of the decimal point). If the manufacture or use of the reported EPCRA Section 313 chemical began during the current reporting year, enter not applicable, "NA," as the production ratio or activity index. Note, this is not to be reported as a percent (i.e., report 1.10 for a 10% increase, not 110%).

It is important to realize that if your facility reports more than one reported EPCRA Section 313 chemical, the production ratio or activity index may vary for different chemicals. For facilities that manufacture reported EPCRA Section 313 chemicals, the quantities of the EPCRA Section 313 chemical(s) produced in the current and prior years provide a good basis for the ratio because that is the primary business activity associated with the reported EPCRA Section 313 chemical(s). In most cases, the production ratio or activity index must be based on some variable of production or activity rather than on EPCRA Section 313 chemical or material usage. Indices based on EPCRA Section 313 chemical or material usage may reflect the effect of source reduction activities rather than changes in business activity. EPCRA Section 313 chemical or material usage is therefore not a basis to be used for the production ratio or activity index where the EPCRA Section 313 chemical is "otherwise-used" (i.e., non-incorporative activities such as extraction solvents, metal degreasers, etc.).

Example 20: Avoiding Double-Counting Quantities in Sections 8.1 through 8.7

For example, 5,000 pounds of an EPCRA Section 313 chemical enters a treatment operation. Three thousand pounds of the EPCRA Section 313 chemical exits the treatment operation and then enters a recycling operation. Five hundred pounds of the EPCRA Section 313 chemical are in residues from the recycling operation that is subsequently sent off-site for disposal. These quantities would be reported as follows in Section 8:

Section 8.1: 500 pounds disposed
Section 8.4: 2,500 pounds recycled
Section 8.6: 2,000 pounds treated (5,000 that initially entered – 3,000 that subsequently entered recycling)

To report that 5,000 pounds were treated, 3,000 pounds were recycled, and that 500 pounds were sent off-site for disposal would result in over-counting the quantities of EPCRA Section 313 chemical recycled, treated, and disposed by 3,500 pounds.

While several methods are available to the facility for determining this data element, the production ratio or activity index must be based on the variable that most directly affects the quantities of the EPCRA Section 313 chemical recycled, used for energy recovery, treated, or released. Examples of methods available include:

(1) Amount of EPCRA Section 313 chemical manufactured in 1998 divided by the amount of EPCRA Section 313 chemical manufactured in 1997; or

(2) Amount of product produced in 1998 divided by the amount of product produced in 1997.

8.10 Did Your Facility Engage in Any Source Reduction Activities for This Chemical During the Reporting Year?

If your facility engaged in any source reduction activity for the reported EPCRA Section 313 chemical during the reporting year, report the activity that was implemented and the method used to identify the opportunity for the activity implemented. If your facility did not engage in any source reduction activity for the reported EPCRA Section 313 chemical, enter not applicable, "NA," in Section 8.10.1 and answer Section 8.11.

Source reduction means any practice that:

- Reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, energy recovery, treatment, or disposal; and

- Reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants.

The term includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control.

The term source reduction does not include any practice that alters the physical, chemical, or biological characteristics or the volume of a hazardous substance, pollutant, or contaminant through a process or activity that itself is not integral to and necessary for the production of a product or the providing of a service.

Source reduction activities do not include recycling, using for energy recovery, treating, or disposing of an EPCRA Section 313 chemical. Report in this section only the source reduction activities implemented to reduce or eliminate the quantities reported in Sections 8.1 through 8.7. The focus of the section is only those activities that are applied to reduce routine or reasonably anticipated releases and quantities of the reported EPCRA Section 313 chemical recycled, treated, used for energy recovery, or disposed. Do not report in this section any activities taken to reduce or eliminate the quantities reported in Section 8.8.

Source Reduction Activities

You must enter in the first column of Section 8.10, "Source Reduction Activities," the appropriate code(s) indicating the type of actions taken to reduce the amount of the reported EPCRA Section 313 chemical released (as reported in Section 8.1), used for energy recovery (as reported in Sections 8.2-8.3), recycled (as reported in Sections 8.4-8.5), or treated (as reported in Sections 8.6-8.7). The list of codes below includes many, but not all, of the codes provided in the RCRA biennial report. Remember that source reduction activities include only those actions or techniques that reduce or eliminate

Example 21: Determining a Production Ratio

Your facility's only use of toluene is as a paint carrier for a painting operation. You painted 12,000 refrigerators in the current reporting year and 10,000 refrigerators during the preceding year. The production ratio for toluene in this case is 1.2 (12,000/10,000) because the number of refrigerators produced is the primary factor determining the quantity of toluene to be reported in Sections 8.1 through 8.7.

A facility manufactures inorganic pigments, including titanium dioxide. Hydrochloric acid (acid aerosols) is produced as a waste byproduct during the production process. An appropriate production ratio for hydrochloric acid (acid aerosols) is the annual titanium dioxide production, not the amount of byproduct generated. If the facility produced 20,000 pounds of titanium dioxide during the reporting year and 26,000 pounds in the preceding year, the production ratio would be 0.77 (20,000/26,000).

Example 22: Determining an Activity Index

Your facility manufactures organic dyes in a batch process. Different colors of dyes are manufactured, and between color changes, all equipment must be thoroughly cleaned with solvent containing glycol ethers to reduce color carryover. During the preceding year, the facility produced 2,000 pounds of yellow dye in January, 9,000 pounds of green dye for February through September, 2,000 pounds of red dye in November, and another 2,000 pounds of yellow dye in December. This adds up to a total of 15,000 pounds and four color changeovers. During the reporting year, the facility produced 10,000 pounds of green dye during the first half of the year and 10,000 pounds of red dye in the second half. If your facility uses glycol ethers in this cleaning process only, an activity index of 0.5 (based on two color changeovers for the reporting year divided by four changeovers for the preceding year) is more appropriate than a production ratio of 1.33 (based on 20,000 pounds of dye produced in the current year divided by 15,000 pounds in the preceding year). In this case, an activity index, rather than a production ratio, better reflects the factors that influence the amount of solvent recycled, used for energy recovery, treated, or released.

A facility that manufactures thermoplastic composite parts for aircraft uses toluene as a wipe solvent to clean molds. The solvent is stored in 55-gallon drums and is transferred to 1-gallon dispensers. The molds are cleaned on an as-needed basis that is not necessarily a function of the parts production rate. Operators cleaned 5,200 molds during the reporting year, but only cleaned 2,000 molds in the previous year. An activity index of 2.6 (5,200/2,000) represents the activities involving toluene usage in the facility. If the molds were cleaned after 1,000 parts were manufactured, a production ratio would equal the activity index and either could be used as the basis for the index.

A facility manufactures surgical instruments and cleans the metal parts with 1,1,1-trichloromethane in a vapor degreaser. The degreasing unit is operated in a batch mode and the metal parts are cleaned according to an irregular schedule. The activity index can be based upon the total time the metal parts are in the degreasing operation. If the degreasing unit operated 3,900 hours during the reporting year and 3,000 hours the prior year, the activity index is 1.3 (3,900/3,000).

Example 23: "NA" is Entered as the Production Ratio or Activity Index

Your facility began production of semiconductor chips during this reporting year. Perchloroethylene is used as a cleaning solvent for this operation and this is the only use of the EPCRA Section 313 chemical in your facility. You would enter not applicable, "NA," in Section 8.9 because you have no basis of comparison in the prior year for the purposes of developing the activity index.

Example 24: Determining the Production Ratio Based on a Weighted Average

At many facilities, a reported EPCRA Section 313 chemical is used in more than one production process. In these cases, a production ratio or activity index can be estimated by weighting the production ratio for each process based on the respective contribution of each process to the quantity of the reported EPCRA Section 313 chemical recycled, used for energy recovery, treated, or disposed.

Your facility paints bicycles with paint containing toluene. Sixteen thousand bicycles were produced in the reporting year and 14,500 were produced in the prior year. There were no significant design modifications that changed the total surface area to be painted for each bike. The bicycle production ratio is 1.1 (16,000/14,500). You estimate 12,500 pounds of toluene recycled, used for energy recovery, treated, or released as a result of bicycle production. Your facility also uses toluene as a solvent in a glue that is used to make components and add-on equipment for the bicycles. Thirteen thousand components were manufactured in the reporting year as compared to 15,000 during the prior year. The production ratio for the components using toluene is 0.87 (13,000/15,000). You estimate 1,000 pounds of toluene treated, recycled, used for energy recovery, or released as a result of components production. A production ratio can be calculated by weighting each of the production ratios based on the relative contribution each has to the quantities of toluene treated, recycled, used for energy recovery, or released during the reporting year (13,500 pounds). The production ratio is calculated as follows:

$$\text{Production ratio} = 1.1 \times (12{,}500/13{,}500) + 0.87 \times (1{,}000/13{,}500) = 1.08$$

Example 25: Source Reduction

A facility assembles and paints furniture. Both the glue used to assemble the furniture and the paints contain EPCRA Section 313 chemicals. By examining the gluing process, the facility discovered that a new drum of glue is opened at the beginning of each shift, whether the old drum is empty or not. By adding a mechanism that prevents the drum from being changed before it is empty, the need for disposal of the glue is eliminated at the source. As a result, this activity is considered source reduction. The painting process at this facility generates a solvent waste, that contains an EPCRA Section 313 chemical that is collected and recovered. The recovered solvent is used to clean the painting equipment. The recycling activity does not reduce the amount of EPCRA Section 313 chemical recycled, and therefore is not considered a source reduction activity.

the amounts of the EPCRA Section 313 chemical reported in Sections 8.1 through 8.7. Actions taken to recycle, combust for energy recovery, treat, or dispose of the EPCRA Section 313 chemical are not considered source reduction activities.

Source Reduction Activity Codes:

Good Operating Practices

W13	Improved maintenance scheduling, record keeping, or procedures
W14	Changed production schedule to minimize equipment and feedstock changeovers
W19	Other changes made in operating practices

Inventory Control

W21	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life
W22	Began to test outdated material — continue to use if still effective
W23	Eliminated shelf-life requirements for stable materials
W24	Instituted better labeling procedures
W25	Instituted clearinghouse to exchange materials that would otherwise be discarded
W29	Other changes made in inventory control

Spill and Leak Prevention

W31	Improved storage or stacking procedures
W32	Improved procedures for loading, unloading, and transfer operations
W33	Installed overflow alarms or automatic shut-off valves

W35 Installed vapor recovery systems
W36 Implemented inspection or monitoring program of potential spill or leak sources
W39 Other changes made in spill and leak prevention

Raw Material Modifications

W41 Increased purity of raw materials
W42 Substituted raw materials
W49 Other raw material modifications made

Process Modifications

W51 Instituted re-circulation within a process
W52 Modified equipment, layout, or piping
W53 Used a different process catalyst
W54 Instituted better controls on operating bulk containers to minimize discarding of empty containers
W55 Changed from small volume containers to bulk containers to minimize discarding of empty containers
W58 Other process modifications made

Cleaning and Decreasing

W59 Modified stripping/cleaning equipment
W60 Changed to mechanical stripping/cleaning devices (from solvents or other materials)
W61 Changed to aqueous cleaners (from solvents or other materials)
W63 Modified containment procedures for cleaning units
W64 Improved draining procedures
W65 Redesigned parts racks to reduce drag out
W66 Modified or installed rinse systems
W67 Improved rinse equipment design
W68 Improved rinse equipment operation
W71 Other cleaning and decreasing modifications made

Surface Preparation and Finishing

W72 Modified spray systems or equipment
W73 Substituted coating materials used
W74 Improved application techniques
W75 Changed from spray to other system
W78 Other surface preparation and finishing modifications made

Product Modifications

W81 Changed product specifications
W82 Modified design or composition of product
W83 Modified packaging
W89 Other product modifications made

In columns a through c of Section 8.10, the "Methods to Identify Activity", you must enter one or more of the following code(s) that correspond to those internal and external method(s) or information sources you used to identify the possibility for a source reduction activity implementation at your facility. If more than three methods were used to identify the source reduction activity, enter only the three codes that contributed most to the decision to implement the activity.

Methods to Identify Activity

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

8.11 Is Additional Optional Information on Source Reduction, Recycling, or Pollution Control Activities Included with this Report?

Check "Yes" for this data element if you have attached to this report any additional optional information on source reduction, recycling, or pollution control activities you have implemented in the reporting year or in prior years for the reported EPCRA Section 313 chemical. If you are not including additional information, check "No."

If you submit additional optional information, try to limit this information to one page that summarizes the source reduction, recycling, or pollution control activities. If there is a contact person at the facility, other than the technical or public contact provided in Part I, Section 4, the summary page should include that person's name and telephone number for individuals who wish to obtain further information about those activities. Also submit a copy of this additional information to the appropriate state agency as part of the Form R submittal to that agency.

D. Facility Eligibility Determination for Alternate Threshold and for Reporting on EPA Form A

This section will help to determine whether you can submit the simplified Form A report. The criteria are based on total annual reportable amount of listed chemical or chemical category and the amount manufactured, processed, or otherwise used.

D.1 Alternate Threshold

On November 30, 1994, EPA published a final rule (59 FR 61488) that provides qualifying facilities a reduced reporting option. Eligible facilities wishing to take advantage of this reduced reporting option may report on a simplified two-page form referred to as Form A and do not have to use Form R. The "TRI Alternate Threshold for Facilities with Low Annual Reportable Amounts," provides facilities otherwise meeting EPCRA section 313 reporting thresholds the option of reporting on Form A provided that they do not exceed 500 pounds for the total annual reportable amount (defined below) for that chemical, and that their amounts manufactured or processed or otherwise used do not exceed one-million pounds. As with determining section 313 reporting thresholds, amounts manufactured, processed, or otherwise used are to be considered independently. This modification does not apply to forms being submitted on or before July 1, 1995 (covering the 1994 reporting year). If you fill out a Form A for an EPCRA Section 313 chemical do not fill out a Form R for that same chemical.

D.2 What is the Form A (Certification Statement)?

The Form A, which is described as the "certification statement" in 59 FR 61488, is a simplified form of reporting and is intended as a means to reduce the compliance burden associated with EPCRA section 313. The Form A must be submitted on an annual basis for each eligible chemical. Facilities wishing to take advantage of this burden reducing option should submit a Form A for such chemicals meeting the conditions described below, and should not submit a Form R to the EPCRA Reporting Center for that chemical. The information submitted on the Form A includes facility identification information and the chemical or chemical category identity. The information submitted on the Form A will appear in the TRI data base in the same manner that information submitted on Form R appears. An approved Form A and a magnetic version of reporting have been included in this 1999 Reporting Forms and Instructions package.

D.3 What is the Total Annual Reportable Amount?

For the purpose of this optional reporting modification, the annual reportable amount is equal to the combined total quantities released at the facility, disposed within the facility, treated at the facility (as represented by amounts destroyed or converted by treatment processes), recovered at the facility as a result of recycle operations, combusted for the purpose of energy recovery at the facility, and amounts transferred from the facility to off-site locations for the purpose of recycle, energy recovery, treatment, and/or disposal. These volumes correspond to the sum of amounts reportable for data elements on EPA Form R (EPA Form 9350-1; Rev. 04/97) as Part II column B of section 8, data elements 8.1 (quantity released), 8.2 (quantity used for energy recovery on-site), 8.3 (quantity used for energy recovery off-site), 8.4 (quantity recycled on-site), 8.5 (quantity recycled off-site), 8.6 (quantity treated on-site), and 8.7 (quantity treated off-site).

D.4 Recordkeeping

Each owner or operator who determines that they are eligible, and wishes to apply the alternate threshold to a particular chemical, must retain records substantiating this determination for a period of three years from the date of the submission of the Form A. These records must include sufficient documentation to support calculations as well as the calculations made by the facility that confirm their eligibility for each chemical for which the alternate threshold was applied.

A facility that fits within the category description, and manufactures, processes or otherwise uses no more than one-million pounds of an EPCRA Section 313 chemical annually, and whose owner/operator elects to take advantage of the alternate threshold is not considered an EPCRA section 313 covered facility for that chemical for the purpose of submitting a Form R. This determination may provide further regulatory relief from other federal or state regulations that apply to facilities on the basis of their EPCRA section 313 reporting status. A facility will need to reference other applicable regulations to determine if their actual requirements may be affected by this reporting modification.

D.5 Multi-establishment Facilities

For the purposes of using Form A, the facility must also make its determination based upon the entire facility's

operations including all of its establishments (see 59 FR 61488 for greater detail). If the facility as a whole is able to take advantage of the alternate threshold, a single Form A is required. The eligibility to submit a Form A must be made on a whole facility determination. Thus, all of the information necessary to make the determination must be assembled to the facility level.

D.6 Trade Secrets

EPA is requiring that a facility submit a unique Form A for each EPCRA Section 313 chemical meeting the conditions of the alternate threshold. Facilities may assert a trade secrecy claim for a chemical identity on the Form A as on the Form R. Reports submitted on a per chemical basis protect against the disclosure of trade secrets. Form As with trade secrecy claims, like Form Rs with similar claims, will be separately handled upon receipt to protect against disclosure. Commingling trade secret chemical identities with non-trade secret chemical identities on the same submission increases the risk of disclosure.

D.7 Metals and Metal Category Compounds

For metal category compounds, the category level of 500 pounds applies to the amount of parent metal waste that is reported on Form R, but the thresholds apply to the amount of metal compounds manufactured, processed, or otherwise used. For Form R reporting involving both listed parent metals and associated metal compounds, the one million pound alternate threshold must be applied separately to the listed parent metal and the associated metal compound(s). Threshold determinations must be made independently for each because they are separately listed EPCRA Section 313 chemicals.

- If the threshold is exceeded for the listed parent metal but not the associated metal compounds, then the releases of metal reported on Form R for the parent metal should not include the releases from the metal compounds.

- If both the parent metal and the associated metal compounds exceed the alternate threshold, then the facility has the option of filing one Form R for both, using the metal category compound name and reporting total releases based on parent metal content.

- If neither the parent metal nor the associated metal compounds exceed the alternate threshold, then the facility should file a Form A for each, since the reporting thresholds must be applied to each listed parent metal and all compounds in the associated compound category. EPA believes it is appropriate to make this distinction between filing the Form R and Form A because the Form R accounts for amounts of metal released or otherwise managed and Form A verifies that the alternate threshold for each listed chemical or chemical category has not been exceeded.

Similarly, separate Form As should be submitted for all other listed chemicals even if EPA allows one Form R to be filed for two or more listed chemicals, e.g., o-xylene, p-xylene and xylene (mixed isomers). For example, if a facility processes in three separate process streams, xylene (mixed isomers), o-xylene, and p-xylene, and exceeds the conditions of the alternate threshold for each of these listed substances, the facility may combine the appropriate information on the o-xylene, p-xylene, and xylene (mixed isomers) into one Form R.

Facilities that process o-xylene, p-xylene, and xylene (mixed isomers) in separate process streams and do not exceed the conditions of the alternate threshold for one or more of the compounds, may submit a separate Form A for each of the forms of xylene meeting the alternate threshold and report on Form R for those forms that do not. Similar to reporting on the parent metals and their associated category compounds described above, facilities that separately process all types (i.e., isomers) of xylene with individual activity levels within the conditions of the alternate threshold should file a separate Form A for each type of xylene.

E. Instructions for Completing EPA Form A

The following are specific instructions for completing each part of EPA Form A. All of the facility identification data elements that appear on Form A are a subset of and are identical to those on Form R except for the content of the statement to be signed by an authorized individual. The number designations of the parts and sections of these instructions correspond to those in Form R unless otherwise indicated. Beginning with the 1998 reporting year, facilities may enter as many chemicals as are eligible on a single Form A.

For all parts of Form A:

- Type or print information on the form in the format requested. Use black ink. (Using blue ink for the certification signature is suggested as a means of indicating its originality.)
- All information on the Form A is required.
- Do not leave items in Parts I and II on the Form A blank unless specifically directed to do so; if an item does not apply to you, enter not applicable, NA, in the space provided. If your information does not fill all the spaces provided for a type of information, enter NA, in the next blank space in the sequence.
- Do not submit an incomplete form. The certification statement (Part I, Section 3) specifies that the report is complete as submitted. See page 1 of these instructions for the definition of a complete submission.

Part I. Facility Identification Information

Section 1. Reporting Year

This is the calendar year to which the reported information applies, not the year in which you are submitting the report. Information for the 1999 reporting year must be submitted on or before July 1, 2000.

Section 2. Trade Secret Information

2.1 Are you claiming the EPCRA Section 313 chemical identified on page 2 trade secret?

If facilities wish to report more than one eligible chemical on the same Form A, then they are not able to make trade secrecy claims. Any trade secrecy claims must be made on a separate form, and then the process is the same as using the Form R and as described in the following instructions.

The specific identity of the EPCRA Section 313 chemical being reported in Part II, Section 1, may be designated as a trade secret. If you are making a trade secrecy claim, mark "yes" and proceed to Section 2.2. Only check "yes" if you manufacture, process, or otherwise use the EPCRA Section 313 chemical whose identity is a trade secret. (See page 2 of these instructions for specific information on trade secrecy claims.) If you checked "no," proceed to Section 3; do not answer Section 2.2.

2.2 If "yes" in 2.1, is this copy sanitized or unsanitized?

Check "sanitized" if this copy of the report is the public version that does not contain the EPCRA Section 313 chemical identity but does contain a generic name in its place, and you have claimed the EPCRA Section 313 chemical identity trade secret in Part I, Section 2.1. Otherwise, check "unsanitized."

Section 3. Certification

The Form A must be signed by the owner or operator or a senior official with management responsibility for the person (or persons) completing the form. The owner, operator, or official must certify the accuracy and completeness of the information reported on the form by signing and dating the Form A. Each report must contain an original signature. Unlike the certification statement contained on Form R, the certification statement provided on the Alternate Threshold Form A pertains to the facility's eligibility of having met the conditions as described in Section D or in the *Federal Register* 59 FR 61488 (November 30, 1994). Print or type in the space provided the name and title of the person who signs the statement. This certification statement applies to all the information supplied on the form and should be signed only after the form has been completed.

Section 4. Facility Identification

4.1 Facility Name, Location, and TRI Facility Identification Number

Enter the name of your facility (plant site name or appropriate facility designation), street address, mailing address, city, county, state, and zip code in the space provided. Do not use a post office box number as the street address. The street address provided should be the location where the EPCRA Section 313 chemicals are

manufactured, processed, or otherwise used. If your mailing address and street address are the same, enter NA in the space for the mailing address. Note that the mailing address is provided first, followed by the street address.

If you have submitted a Form R for previous reporting years, a TRI Facility Identification Number has been assigned to your facility. If you cannot locate your TRI Facility Identification Number, please contact the Emergency Planning and Community Right-to-Know Information Hotline (see page 4).

Enter "NA" in the space for the TRI Facility Identification Number if your facility has never filed a Form A (certification statement) or a Form R. If you have previously submitted a Form A or a Form R, use the TRI Facility Identification Number that you have been assigned. If you previously submitted a Form A or a Form R, but do not know what it is, contact the EPCRA Hotline. If your facility has moved, do not enter your TRI facility identification number, enter NEW FACILITY.

4.2 Federal Facility Designation

On August 3, 1993, Executive Order 12856 was signed that directs federal facilities to comply with Right-To-Know Laws and Pollution Prevention Requirements. Please indicate in 4.2.C. if the reporting facility is a federal facility. If the reporting facility is not a federal facility, leave this space blank. Form R allows a facility to report multiple submissions for the same chemical if the facility is composed of several distinct establishments. This data element provides the option of reporting full or partial facility information on Form R, however, this is not applicable for those facilities taking advantage of the Alternate Threshold and Form A. An explanation of this is provided in Section D.

4.3 Technical Contact

Enter the name and telephone number (including area code) of a technical representative whom EPA or State officials may contact for clarification of the information reported on Form A. This contact person does not have to be the same person who prepares the report or signs the Form A and does not necessarily need to be someone at the location of the reporting facility; however, this person must be familiar with the details of the report so that he or she can answer questions about the information provided.

4.4 Intentionally Left Blank

4.5 Standard Industrial Classification (SIC) Code

Enter the appropriate four-digit primary Standard Industrial Classification (SIC) code for your facility. Table I lists the SIC codes 10 (except 1011, 1081, and 1094), 12 (except 1241), 20-39, 4911 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4931 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4953 (limited to facilities regulated under the RCRA Subtitle C, 42 U.S.C. section 6921 *et seq.*), 5169, 5171, and 7389 (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis). If the report covers more than one establishment, enter the primary four-digit SIC code for each establishment starting with the primary SIC code for the entire facility. You are required to enter SIC codes only for those establishments within the facilities that fall within SIC codes 10 (except 1011, 1081, and 1094), 12 (except 1241), 20-39, 4911 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4931 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4953 (limited to facilities regulated under the RCRA Subtitle C, 42 U.S.C. section 6921 *et seq.*), 5169, 5171, and 7389 (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis). If you do not know your SIC code, consult the 1987 SIC Manual (see page 5).

The North American Industry Classification System (NAICS), is a new economic classification system that will replace the 1987 SIC code system. EPA will address the SIC code change, as it relates to EPCRA, in an upcoming Federal Register notice. This upcoming change does NOT affect the 1999 EPCRA section 313 reporting.

4.6 Latitude and Longitude

Enter the latitudinal and longitudinal coordinates of your facility. Sources of these data include EPA permits (e.g., NPDES permits), county property records, facility blueprints, and site plans. Instructions on how to determine these coordinates can be found in Appendix E. Enter only numerical data. Do not preface numbers with letters such as N, S, E, or W to denote the hemisphere. Latitude and longitude coordinates of your facility are very important for pinpointing the location of reporting facilities and are required elements on the Form A. EPA encourages facilities to make the best possible measurements when determining latitude and longitude. As with any other data field, missing, suspect, or incorrect data may generate a Notice of Technical Error to be issued to the facility. (See Appendix C: Common Errors in Completing Form R Reports and Making Data Available).

4.7 Dun & Bradstreet Number(s)

Enter the nine-digit number assigned by Dun & Bradstreet (D & B) for your facility or each establishment within your facility. These numbers code the facility for financial purposes. This number may be available from your facility's treasurer or financial officer. You can also obtain the numbers from your local D & B office (check the telephone book White Pages). If a facility does not subscribe to the D & B service, a "support number" can be obtained from the center located in Allentown, Pennsylvania, at (215) 882-7748 (8:30 am to 8:00 pm, Eastern Time). If none of your establishments has been assigned a D & B number, enter NA in box (a). If only some of your establishments have been assigned Dun & Bradstreet numbers, enter those numbers in Part I, section 4.7.

4.8 EPA Identification Number(s)

The EPA I.D. Number is a 12-character number assigned to facilities covered by hazardous waste regulations under RCRA. Facilities not covered by RCRA are not likely to have an assigned I.D. Number. If your facility is not required to have an I.D. Number, enter not applicable, NA, in box (a). If your facility has been assigned EPA Identification Numbers, you must enter those numbers in the spaces provided in Section 4.8.

4.9 Facility NPDES Permit Number(s)

Enter the numbers of any permits your facility holds under the National Pollutant Discharge Elimination System (NPDES) even if the permit(s) do not pertain to the EPCRA Section 313 chemical being reported. This nine-character permit number is assigned to your facility by EPA or the State under the authority of the Clean Water Act. If your facility does not have a permit, enter NA, in Section 4.9a.

4.10 Underground Injection Well Code (UIC) Identification Number(s)

If your facility has a permit to inject a waste containing the EPCRA Section 313 chemical into Class 1 deep wells, enter the 12-digit Underground Injection Well Code (UIC) identification number assigned by EPA or by the State under the authority of the Safe Drinking Water Act. If your facility does not hold such a permit(s), enter NA in Section 4.10a. You are only required to provide the UIC number for wells that receive the EPCRA Section 313 chemical being reported.

Section 5. Parent Company Information

You must provide information on your parent company. For purposes of the Form A, a parent company is defined as the highest level company, located in the United States, that directly owns at least 50 percent of the voting stock of your company. If your facility is owned by a foreign entity, enter NA in this space. Corporate names should be treated as parent company names for companies with multiple facility sites. For example, the Bestchem Corporation is not owned or controlled by any other corporation but has sites throughout the country whose names begin with Bestchem. In this case, Bestchem Corporation would be listed as the parent company. Note that a facility that is a 50:50 joint venture is its own parent company.

5.1 Name of Parent Company

Enter the name of the corporation or other business entity that is your ultimate US parent company. If your facility has no parent company, check the NA box.

5.2 Parent Company's Dun & Bradstreet Number

Enter the Dun & Bradstreet (D & B) Number for your ultimate US parent company, if applicable. The number may be obtained from the treasurer or financial officer of

the company. If your parent company does not have a D&B number, check the NA box.

Part II. Chemical Identification

Reporting on the Alternate Threshold Form A for metals, metal category compounds, and mixed isomers differs somewhat from Form R reporting. Please refer to Section D for these guidelines.

Section 1. Toxic Chemical Identity

(Important: DO NOT complete this section if you completed Section 2 of Part II below.)

1.1 CAS Number

Enter the Chemical Abstracts Service (CAS) registry number in Section 1.1 exactly as it appears in Table II for the chemical being reported. CAS numbers are cross-referenced with an alphabetical list of chemical names in Table II of these instructions. If you are reporting one of the EPCRA Section 313 chemical categories in Table II, part c (e.g., chromium compounds), enter the applicable category code in the CAS number space. EPCRA Section 313 chemical category codes are listed below and can also be found in Table II, part c and Appendix B-1.

EPCRA Section 313 Chemical Category Codes

N010	Antimony compounds
N020	Arsenic compounds
N040	Barium compounds
N050	Beryllium compounds
N078	Cadmium compounds
N084	Chlorophenols
N090	Chromium compounds
N096	Cobalt compounds
N100	Copper compounds
N106	Cyanide compounds
N120	Diisocyanates
N171	Ethylenebisdithiocarbamic acid, salts and esters (EBDCs)
N230	Certain glycol ethers
N420	Lead compounds
N450	Manganese compounds
N458	Mercury compounds
N495	Nickel compounds
N503	Nicotine and salts
N511	Nitrate compounds (water dissociable; reportable only when in aqueous solution)
N575	Polybrominated biphenyls (PBBs)
N583	Polychlorinated alkanes (C10 to C13)
N590	Polycyclic aromatic compounds (PACs)
N725	Selenium compounds
N740	Silver compounds
N746	Strychnine and salts
N760	Thallium compounds
N874	Warfarin and salts
N982	Zinc compounds

If you are making a trade secret claim, you must report the CAS number or category code on your unsanitized Form A and unsanitized substantiation form. Do not include the CAS number or category code on your sanitized Form A or sanitized substantiation form.

1.2 EPCRA Section 313 Chemical or Chemical Category Name

Enter the name of the EPCRA Section 313 chemical or chemical category exactly as it appears in Table II. If the EPCRA Section 313 chemical name is followed by a synonym in (parentheses), report the chemical by the name that directly follows the CAS number (i.e., not the synonym). If the EPCRA Section 313 chemical identity is actually a product trade name (e.g., dicofol), the 9th Collective Index name is listed below it in brackets. You may report either name in this case.

Do not list the name of a chemical that does not appear in Table II, such as individual members of a reportable EPCRA Section 313 chemical category. For example, if you use silver nitrate, do not report silver nitrate with its CAS number. Report this chemical as "silver compounds" with its category code N740.

If you are making a trade secret claim, you must report the specific EPCRA Section 313 chemical identity on your unsanitized Form A and unsanitized substantiation form. Do not report the name of the EPCRA Section 313 chemical on your sanitized Form A or sanitized substantiation form. Include a generic name in Part II, Section 1.3 of your sanitized Form A.

1.3 Generic Chemical Name

Complete Section 1.3 only if you are claiming the specific EPCRA Section 313 chemical identity of the EPCRA Section 313 chemical as a trade secret and have marked the trade secret block in Part I, Section 2.1 on page 1 of

Form A. Enter a generic chemical name that is descriptive of the chemical structure. You must limit the generic name to seventy characters (e.g., numbers, letters, spaces, punctuation) or less. Do not enter mixture names in Section 1.3; see Section 2 on next page.

In-house plant codes and other substitute names that are not structurally descriptive of the EPCRA Section 313 chemical identity being withheld as a trade secret are not acceptable as a generic name. The generic name must appear on both sanitized and unsanitized Form A, and the name must be the same as that used on your substantiation forms.

Section 2. Mixture Component Identity

Report the generic name provided to you by your supplier in this section if your supplier is claiming the chemical identity proprietary or trade secret. Do not answer "yes" in Part I, Section 2.1 on page 1 of the form if you complete this section. You do not need to supply trade secret substantiation forms for this EPCRA Section 313 chemical because it is your supplier who is claiming the chemical identity a trade secret.

2.1 Generic Chemical Name Provided by Supplier

Enter the generic chemical name in this section only if the following three conditions apply:

1. You determine that the mixture contains an EPCRA Section 313 chemical but the only identity you have for that chemical is a generic name;

2. You know either the specific concentration of that EPCRA Section 313 chemical component or a maximum or average concentration level; and

3. You multiply the concentration level by the total annual amount of the whole mixture processed or otherwise used and determine that you meet the process or otherwise use threshold for that single, generically identified mixture component.

Table I. SIC codes

10 Metal Mining (except 1011, 1081 and 1094)

1021 Copper Ores
1031 Lead and Zinc Ores
1041 Gold Ores
1044 Silver Ores
1061 Ferroalloy Ores, Except Vanadium
1099 Miscellaneous Metal Ores, Not Elsewhere Classified

12 Coal Mining (except 1241)

1221 Bituminous Coal and Lignite Surface Mining
1222 Bituminous Coal Underground Mining
1231 Anthracite Mining

20 Food and Kindred Products

2011 Meat packing plants
2013 Sausages and other prepared meat products
2015 Poultry slaughtering and processing
2021 Creamery butter
2022 Natural, processed, and imitation cheese
2023 Dry, condensed, and evaporated dairy products
2024 Ice cream and frozen desserts
2026 Fluid milk
2032 Canned specialties
2033 Canned fruits, vegetables, preserves, jams, and jellies
2034 Dried and dehydrated fruits, vegetables, and soup mixes
2035 Pickled fruits and vegetables, vegetable sauces and seasonings, and salad dressings
2037 Frozen fruits, fruit juices, and vegetables
2038 Frozen specialties, n.e.c.*
2041 Flour and other grain mill products
2043 Cereal breakfast foods
2044 Rice milling
2045 Prepared flour mixes and doughs
2046 Wet corn milling
2047 Dog and cat food
2048 Prepared feeds and feed ingredients for animals and fowls, except dogs and cats
2051 Bread and other bakery products, except cookies and crackers
2052 Cookies and crackers
2053 Frozen bakery products, except bread
2061 Cane sugar, except refining
2062 Cane sugar refining
2063 Beet sugar
2064 Candy and other confectionery products
2066 Chocolate and cocoa products
2067 Chewing gum
2068 Salted and roasted nuts and seeds
2074 Cottonseed oil mills
2075 Soybean oil mills
2076 Vegetable oil mills, n.e.c.*
2077 Animal and marine fats and oils
2079 Shortening, table oils, margarine, and other edible fats and oils, n.e.c.*
2082 Malt beverages
2083 Malt
2084 Wines, brandy, and brandy spirits
2085 Distilled and blended liquors
2086 Bottled and canned soft drinks and carbonated waters
2087 Flavoring extracts and flavoring syrups, n.e.c.*
2091 Canned and cured fish and seafoods
2092 Prepared fresh or frozen fish and seafoods
2095 Roasted coffee
2096 Potato chips, corn chips, and similar snacks
2097 Manufactured ice
2098 Macaroni, spaghetti, vermicelli, and noodles
2099 Food preparations, n.e.c.*

21 Tobacco Products

2111 Cigarettes
2121 Cigars
2131 Chewing and smoking tobacco and snuff
2141 Tobacco stemming and redrying

22 Textile Mill Products

2211 Broadwoven fabric mills, cotton
2221 Broadwoven fabric mills, manmade fiber, and silk
2231 Broadwoven fabric mills, wool (including dyeing and finishing)
2241 Narrow fabric and other small wares mills: cotton, wool, silk, and manmade fiber
2251 Women's full length and knee length hosiery, except socks
2252 Hosiery, n.e.c.*
2253 Knit outerwear mills
2254 Knit underwear and nightwear mills
2257 Weft knit fabric mills
2258 Lace and warp knit fabric mills
2259 Knitting mills, n.e.c.*

*"Not elsewhere classified" indicated by "n.e.c."

Table I

2261 Finishers of Broadwoven fabrics of cotton
2262 Finishers of Broadwoven fabrics of manmade fiber and silk
2269 Finishers of textiles, n.e.c.*
2273 Carpets and rugs
2281 Yarn spinning mills
2282 Yarn texturizing, throwing, twisting, and winding mills
2284 Thread mills
2295 Coated fabrics, not rubberized
2296 Tire cord and fabrics
2297 Nonwoven fabrics
2298 Cordage and twine
2299 Textile goods, n.e.c.*

23 Apparel and Other Finished Products made from Fabrics and Other Similar Materials

2311 Men's and boys' suits, coats, and overcoats
2321 Men's and boys' shirts, except work shirts
2322 Men's and boys' underwear and nightwear
2323 Men's and boys' neckwear
2325 Men's and boys' separate trousers and slacks
2326 Men's and boys' work clothing
2329 Men's and boys' clothing, n.e.c.*
2331 Women's, misses', and juniors' blouses and shirts
2335 Women's, misses', and juniors' dresses
2337 Women's, misses', and juniors' suits, skirts, and coats
2339 Women's, misses', and juniors', outerwear, n.e.c.*
2341 Women's, misses', children's, and infants' underwear and nightwear
2342 Brassieres, girdles, and allied garments
2353 Hats, caps, and millinery
2361 Girls', children's and infants' dresses, blouses, and shirts
2369 Girls', children's and infants' outerwear, n.e.c.*
2371 Fur goods
2381 Dress and work gloves, except knit and all leather
2384 Robes and dressing gowns
2385 Waterproof outerwear
2386 Leather and sheep lined clothing
2387 Apparel belts
2389 Apparel and accessories, n.e.c.*
2391 Curtains and draperies
2392 House furnishings, except curtains and draperies
2393 Textile bags
2394 Canvas and related products
2395 Pleating, decorative and novelty stitching, and tucking for the trade
2396 Automotive trimmings, apparel findings, and related products
2397 Schiffli machine embroideries
2399 Fabricated textile products, n.e.c.*

24 Lumber and Wood Products, Except Furniture

2411 Logging
2421 Sawmills and planing mills, general
2426 Hardwood dimension and flooring mills
2429 Special product sawmills, n.e.c.*
2431 Millwork
2434 Wood kitchen cabinets
2435 Hardwood veneer and plywood
2436 Softwood veneer and plywood
2439 Structural wood members, n.e.c.*
2441 Nailed and lock corner wood boxes and shook
2448 Wood pallets and skids
2449 Wood containers, n.e.c.*
2451 Mobile homes
2452 Prefabricated wood buildings and components
2491 Wood preserving
2493 Reconstituted wood products
2499 Wood products, n.e.c.*

25 Furniture and Fixtures

2511 Wood household furniture, except upholstered
2512 Wood household furniture, upholstered
2514 Metal household furniture
2515 Mattresses, foundations, and convertible beds
2517 Wood television, radio, phonograph, and sewing machine cabinets
2519 Household furniture, n.e.c.*
2521 Wood office furniture
2522 Office furniture, except wood
2531 Public building and related furniture
2541 Wood office and store fixtures, partitions, shelving, and lockers
2542 Office and store fixtures, partitions, shelving, and lockers, except wood
2591 Drapery hardware and window blinds and shades
2599 Furniture and fixtures, n.e.c.*

*"Not elsewhere classified" indicated by "n.e.c."

26 Paper and Allied Products

2611 Pulp mills
2621 Paper mills
2631 Paperboard mills
2652 Setup paperboard boxes
2653 Corrugated and solid fiber boxes
2655 Fiber cans, tubes, drums, and similar products
2656 Sanitary food containers, except folding
2657 Folding paperboard boxes, including sanitary
2671 Packaging paper and plastics film, coated and laminated
2672 Coated and laminated paper, n.e.c.*
2673 Plastics, foil, and coated paper bags
2674 Uncoated paper and multiwall bags
2675 Die-cut paper and paperboard and cardboard
2676 Sanitary paper products
2677 Envelopes
2678 Stationery tablets, and related products
2679 Converted paper and paperboard products, n.e.c.*

27 Printing, Publishing, and Allied Industries

2711 Newspapers: publishing, or publishing and printing
2721 Periodicals: publishing, or publishing and printing
2731 Books: publishing, or publishing and printing
2732 Book printing
2741 Miscellaneous publishing
2752 Commercial printing, lithographic
2754 Commercial printing, gravure
2759 Commercial printing, n.e.c.*
2761 Manifold business forms
2771 Greeting cards
2782 Blank books, looseleaf binders and devices
2789 Bookbinding and related work
2791 Typesetting
2796 Plate making and related services

28 Chemicals and Allied Products

2812 Alkalies and chlorine
2813 Industrial gases
2816 Inorganic pigments
2819 Industrial inorganic chemicals, n.e.c.*
2821 Plastics materials, synthetic resins, and non-vulcanizable elastomers
2822 Synthetic rubber (vulcanizable elastomers)
2823 Cellulosic manmade fibers
2824 Manmade organic fibers, except cellulosic
2833 Medicinal chemicals and botanical products
2834 Pharmaceutical preparations
2835 In vitro and in vivo diagnostic substances
2836 Biological products, except diagnostic substances
2841 Soap and other detergents, except specialty cleaners
2842 Specialty cleaning, polishing, and sanitation preparations
2843 Surface active agents, finishing agents, sulfonated oils, and assistants
2844 Perfumes, cosmetics, and other toilet preparations
2851 Paints, varnishes, lacquers, enamels, and allied products
2861 Gum and wood chemicals
2865 Cyclic organic crudes and intermediates, and organic dyes and pigments
2869 Industrial organic chemicals, n.e.c.*
2873 Nitrogenous fertilizers
2874 Phosphatic fertilizers
2875 Fertilizers, mixing only
2879 Pesticides and agricultural chemicals, n.e.c.*
2891 Adhesives and sealants
2892 Explosives
2893 Printing ink
2895 Carbon black
2899 Chemicals and chemical preparations, n.e.c.*

29 Petroleum Refining and Related Industries

2911 Petroleum refining
2951 Asphalt paving mixtures and blocks
2952 Asphalt felts and coatings
2992 Lubricating oils and greases
2999 Products of petroleum and coal, n.e.c.*

30 Rubber and Miscellaneous Plastics Products

3011 Tires and inner tubes
3021 Rubber and plastics footwear
3052 Rubber and plastics hose and belting
3053 Gaskets, packing, and sealing devices
3061 Molded, extruded, and lathe cut mechanical rubber products
3069 Fabricated rubber products, n.e.c.*
3081 Unsupported plastics film and sheet
3082 Unsupported plastics profile shapes

*"Not elsewhere classified" indicated by "n.e.c."

Table I

3083 Laminated plastics plate, sheet, and profile shapes
3084 Plastics pipe
3085 Plastics bottles
3086 Plastics foam products
3087 Custom compounding of purchased plastics resins
3088 Plastics plumbing fixtures
3089 Plastics products, n.e.c.*

31 Leather and Leather Products

3111 Leather tanning and finishing
3131 Boot and shoe cut stock and findings
3142 House slippers
3143 Men's footwear, except athletic
3144 Women's footwear, except athletic
3149 Footwear, except rubber, n.e.c.*
3151 Leather gloves and mittens
3161 Luggage
3171 Women's handbags and purses
3172 Personal leather goods, except women'shandbags and purses
3199 Leather goods, n.e.c.*

32 Stone, Clay, Glass and Concrete Products

3211 Flat glass
3221 Glass containers
3229 Pressed and blown glass and glassware, n.e.c.*
3231 Glass products, made of purchased glass
3241 Cement, hydraulic
3251 Brick and structural clay tile
3253 Ceramic wall and floor tile
3255 Clay refractories
3259 Structural clay products, n.e.c.*
3261 Vitreous china plumbing fixtures and china and earthenware fittings and bathroom accessories
3262 Vitreous china table and kitchen articles
3263 Fine earthenware (whiteware) table and kitchen articles
3264 Porcelain electrical supplies
3269 Pottery products, n.e.c.*
3271 Concrete block and brick
3272 Concrete products, except block and brick
3273 Ready mixed concrete
3274 Lime
3275 Gypsum products
3281 Cut stone and stone products
3291 Abrasive products
3292 Asbestos products
3295 Minerals and earths, ground or otherwise treated
3296 Mineral wool
3297 Nonclay refractories
3299 Nonmetallic mineral products, n.e.c.*

33 Primary Metal Industries

3312 Steel works, blast furnaces (including coke ovens), and rolling mills
3313 Electrometallurgical products, except steel
3315 Steel wiredrawing and steel nails and spikes
3316 Cold-rolled steel sheet, strip, and bars
3317 Steel pipe and tubes
3321 Gray and ductile iron foundries
3322 Malleable iron foundries
3324 Steel investment foundries
3325 Steel foundries, n.e.c.*
3331 Primary smelting and refining of copper
3334 Primary production of aluminum
3339 Primary smelting and refining of nonferrous metals, except copper and aluminum
3341 Secondary smelting and refining of nonferrous metals
3351 Rolling, drawing, and extruding of copper
3353 Aluminum sheet, plate, and foil
3354 Aluminum extruded products
3355 Aluminum rolling and drawing, n.e.c.*
3356 Rolling, drawing, and extruding of nonferrous metals, except copper and aluminum
3357 Drawing and insulating of nonferrous wire
3363 Aluminum die-castings
3364 Nonferrous die-castings, except aluminum
3365 Aluminum foundries
3366 Copper foundries
3369 Nonferrous foundries, except aluminum and copper
3398 Metal heat treating
3399 Primary metal products, n.e.c.*

34 Fabricated Metal Products, except Machinery and Transportation Equipment

3411 Metal cans
3412 Metal shipping barrels, drums, kegs, and pails
3421 Cutlery
3423 Hand and edge tools, except machine tools and handsaws
3425 Handsaws and saw blades

*"Not elsewhere classified" indicated by "n.e.c."

3429 Hardware, n.e.c.*
3431 Enameled iron and metal sanitary ware
3432 Plumbing fixture fittings and trim
3433 Heating equipment, except electric and warm air furnaces
3441 Fabricated structural metal
3442 Metal doors, sash, frames, molding, and trim
3443 Fabricated plate work (boiler shops)
3444 Sheet metal work
3446 Architectural and ornamental metal work
3448 Prefabricated metal buildings and components
3449 Miscellaneous structural metal work
3451 Screw machine products
3452 Bolts, nuts, screws, rivets, and washers
3462 Iron and steel forgings
3463 Nonferrous forgings
3465 Automotive stampings
3468 Crowns and closures
3469 Metal stampings, n.e.c.*
3471 Electroplating, plating, polishing, anodizing, and coloring
3479 Coating, engraving and allied services, n.e.c.*
3482 Small arms ammunition
3483 Ammunition, except for small arms
3484 Small arms
3489 Ordnance and accessories, n.e.c.*
3491 Industrial valves
3492 Fluid power valves and hose fittings
3493 Steel springs, except wire
3494 Valves and pipe fittings, n.e.c.*
3495 Wire springs
3496 Miscellaneous fabricated wire products
3497 Metal foil and leaf
3498 Fabricated pipe and pipe fittings
3499 Fabricated metal products, n.e.c.*

35 Industrial and Commercial Machinery and Computer Equipment

3511 Steam, gas and hydraulic turbines, and turbine generator set units
3519 Internal combustion engines, n.e.c.*
3523 Farm machinery and equipment
3524 Lawn and garden tractors and home lawn and garden equipment
3531 Construction machinery and equipment
3532 Mining machinery and equipment, except oil and gas field machinery and equipment
3533 Oil and gas field machinery and equipment
3534 Elevators and moving stairways
3535 Conveyors and conveying equipment
3536 Overhead traveling cranes, hoists, and monorail systems
3537 Industrial trucks, tractors, trailers, and stackers
3541 Machine tools, metal cutting types
3542 Machine tools, metal forming types
3543 Industrial patterns
3544 Special dies and tools, die sets, jigs and fixtures, and industrial molds
3545 Cutting tools, machine tool accessories, and machinists' measuring devices
3546 Power driven handtools
3547 Rolling mill machinery and equipment
3548 Electric and gas welding and soldering equipment
3549 Metalworking machinery, n.e.c.*
3552 Textile machinery
3553 Woodworking machinery
3554 Paper industries machinery
3555 Printing trades machinery and equipment
3556 Food products machinery
3559 Special industry machinery, n.e.c.*
3561 Pumps and pumping equipment
3562 Ball and roller bearings
3563 Air and gas compressors
3564 Industrial and commercial fans and blowers and air purification equipment
3565 Packaging equipment
3566 Speed changers, industrial high speed drives, and gears
3567 Industrial process furnaces and ovens
3568 Mechanical power transmission equipment, n.e.c.*
3569 General industrial machinery and equipment, n.e.c.*
3571 Electronic computers
3572 Computer storage devices
3575 Computer terminals
3577 Computer peripheral equipment, n.e.c.*
3578 Calculating and accounting machines, except electronic computers
3579 Office machines, n.e.c.*
3581 Automatic vending machines
3582 Commercial laundry, dry-cleaning, and pressing machines
3585 Air conditioning and warm air heating equipment and commercial and industrial refrigeration equipment
3586 Measuring and dispensing pumps
3589 Service industry machinery, n.e.c.*
3592 Carburetors, pistons, piston rings, and valves
3593 Fluid power cylinders and actuators
3594 Fluid power pumps and motors
3596 Scales and balances, except laboratory

*"Not elsewhere classified" indicated by "n.e.c."

3599 Industrial and commercial machinery and equipment, n.e.c*

36 Electronic and Other Electrical Equipment and Components, Except Computer Equipment

3612 Power, distribution, and specialty transformers
3613 Switchgear and switchboard apparatus
3621 Motors and generators
3624 Carbon and graphite products
3625 Relays and industrial controls
3629 Electrical industrial appliances, n.e.c.*
3631 Household cooking equipment
3632 Household refrigerators and home and farm freezers
3633 Household laundry equipment
3634 Electrical housewares and fans
3635 Household vacuum cleaners
3639 Household appliances, n.e.c.*
3641 Electric lampbulbs and tubes
3643 Current carrying wiring devices
3644 Noncurrent carrying wiring devices
3645 Residential electric lighting fixtures
3646 Commercial, industrial, and institutional electric lighting fixtures
3647 Vehicular lighting equipment
3648 Lighting equipment, n.e.c.*
3651 Household audio and video equipment
3652 Phonograph records and pre-recorded audio tapes and disks
3661 Telephone and telegraph apparatus
3663 Radio and television broadcasting and communications equipment
3669 Communications equipment, n.e.c.*
3671 Electron tubes
3672 Printed circuit boards
3674 Semiconductors and related devices
3675 Electronic capacitors
3676 Electronic resistors
3677 Electronic coils, transformers, and other inductors
3678 Electronic connectors
3679 Electronic components, n.e.c.*
3691 Storage batteries
3692 Primary batteries, dry and wet
3694 Electric equipment for internal combustion engines
3695 Magnetic and optical recording media
3699 Electrical machinery, equipment, and supplies, n.e.c.*

37 Transportation Equipment

3711 Motor vehicles and passenger car bodies
3713 Truck and bus bodies
3714 Motor vehicle parts and accessories
3715 Truck trailers
3716 Motor homes
3721 Aircraft
3724 Aircraft engines and engine parts
3728 Aircraft parts and auxiliary equipment, n.e.c.*
3731 Ship building and repairing
3732 Boat building and repairing
3743 Railroad equipment
3751 Motorcycles, bicycles and parts
3761 Guided missiles and space vehicles
3764 Guided missile and space vehicle propulsionunits and propulsion unit parts
3769 Guided missile and space vehicle parts and auxiliary equipment, n.e.c.*
3792 Travel trailers and campers
3795 Tanks and tank components
3799 Transportation equipment, n.e.c.*

38 Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks

3812 Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments
3821 Laboratory apparatus and furniture
3822 Automatic controls for regulating residential and commercial environments and appliances
3823 Industrial instruments for measurement, display, and control of process variables; and related products
3824 Totalizing fluid meters and counting devices
3825 Instruments for measuring and testing of electricity and electrical signals
3826 Laboratory analytical instruments
3827 Optical instruments and lenses
3829 Measuring and controlling devices, n.e.c.*
3841 Surgical and medical instruments and apparatus
3842 Orthopedic, prosthetic, and surgical appliances and supplies
3843 Dental equipment and supplies
3844 X-ray apparatus and tubes and related irradiation apparatus

*"Not elsewhere classified" indicated by "n.e.c."

3845 Electromedical and electrotherapeutic apparatus
3851 Ophthalmic goods
3861 Photographic equipment and supplies
3873 Watches, clocks, clockwork operated devices, and parts

39 Miscellaneous Manufacturing Industries

3911 Jewelry, precious metal
3914 Silverware, plated ware, and stainless steel ware
3915 Jewelers' findings and materials, and lapidary work
3931 Musical instruments
3942 Dolls and stuffed toys
3944 Games, toys and children's vehicles; except dolls and bicycles
3949 Sporting and athletic goods, n.e.c.*
3951 Pens, mechanical pencils, and parts
3952 Lead pencils, crayons, and artists' materials
3953 Marking devices
3955 Carbon paper and inked ribbons
3961 Costume jewelry and costume novelties, except precious metal
3965 Fasteners, buttons, needles, and pins
3991 Brooms and brushes
3993 Signs and advertising specialties
3995 Burial caskets
3996 Linoleum, asphalted-felt-base, and other hard surface floor coverings, n.e.c.*
3999 Manufacturing industries, n.e.c.*

49 Electric, Gas, and Sanitary Services (limited to 4911, 4931, 4939 and 4953)

4911 Electric Services (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce)
4931 Electric and Other Services Combined (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce)
4939 Combination utilities, Not Elsewhere Classified (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce)
4953 Refuse Systems (limited to facilities regulated under the RCRA Subtitle C, 42 U.S.C. section 6921 *et seq.)*

51 Wholesale Trade–Nondurable Goods (limited to 5169 and 5171)

5169 Chemical and Allied Products, Not Elsewhere Classified
5171 Petroleum Terminals and Bulk Stations

73 Business Services (limited to 7389)

7389 Business Services, Not Elsewhere Classified (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis)

*"Not elsewhere classified" indicated by "n.e.c."

Table II. EPCRA Section 313 Chemical List For Reporting Year 1999 (including Toxic Chemical Categories)

Specific EPCRA Section 313 chemicals with CAS Numbers are listed in alphabetical starting on page II-3. A list of the same chemicals in CAS Number order begins at the end of the alphabetical list of EPCRA Section 313 chemicals. Covered chemical categories follow.

Certain EPCRA Section 313 chemicals listed in Table II have parenthetic "qualifiers." These qualifiers indicate that these EPCRA Section 313 chemicals are subject to the section 313 reporting requirements if manufactured, processed, or otherwise used in a specific form or when a certain activity is performed. The following chemicals are reportable only if they are manufactured, processed, or otherwise used in the specific form(s) listed below:

Chemical	CAS Registry Number	Qualifier
Aluminum (fume or dust)	7429-90-5	Only if it is a fume or dust form.
Aluminum oxide (fibrous forms)	1344-28-1	Only if it is a fibrous form.
Ammonia (includes anhydrous ammonia and aqueous ammonia from water dissociable ammonium salts and other sources; 10 percent of total aqueous ammonia is reportable under this listing)	7664-41-7	Only 10 percent of aqueous forms. 100 percent of anhydrous forms.
Asbestos (friable)	1332-21-4	Only if it is a friable form.
Hydrochloric acid (acid aerosols including: mists, vapors, gas, fog, and other airborne forms of any particle size)	7647-01-0	Only if it is an aerosol form as defined.
Phosphorus (yellow or white)	7723-14-0	Only if it is a yellow or white form.
Sulfuric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	7664-93-9	Only if it is an aerosol form as defined.
Vanadium (fume or dust)	7440-62-2	Only if it is in a fume or dust form.
Zinc (fume or dust)	7440-66-6	Only if it is in a fume or dust form.

The qualifier for the following two chemicals is based on the chemical activity rather than the form of the chemical. These chemicals are subject to EPCRA section 313 reporting requirements only when the indicated activity is performed.

Chemical	CAS Number	Qualifier
Isopropyl alcohol (manufacturing – strong acid process, no supplier notification)	67-63-0	Only if it is being manufactured by the strong acid process.
Saccharin (manufacturing, no supplier notification)	81-07-2	Only if it is being manufactured.

There are no supplier notification requirements for isopropyl alcohol and saccharin since the processors and users of these chemicals are not required to report. Manufacturers of these chemicals do not need to notify their customers that these are reportable EPCRA section 313 chemicals

*C.I. means "Color Index"

Table II

[Note: Chemicals may be added to or deleted from the list. The Emergency Planning and Community Right-to-Know Information Hotline, 1 (800) 424-9346, or (703) 412-9877, will provide up-to-date information on the status of these changes . See section B.4.b of the instructions for more information on the *de minimis* values listed below.]

Chemical Qualifiers

This table contains the list of individual EPCRA Section 313 chemicals and categories of chemicals subject to 1998 calendar year reporting. Some of the EPCRA Section 313 chemicals listed have parenthetic qualifiers listed next to them. An EPCRA Section 313 chemical that is listed without a qualifier is subject to reporting in all forms in which it is manufactured, processed, and otherwise used.

Fume or dust. Three of the metals on the list (aluminum, vanadium, and zinc) contain the qualifier "fume or dust." Fume or dust refers to dry forms of these metals but does not refer to "wet" forms such as solutions or slurries. As explained in Section B.3.a of these instructions, the term manufacture includes the generation of an EPCRA Section 313 chemical as a byproduct or impurity. In such cases, a facility should determine if, for example, it generated more than 25,000 pounds of aluminum fume or dust in the reporting year as a result of its activities. If so, the facility must report that it manufactures "aluminum (fume or dust)." Similarly, there may be certain technologies in which one of these metals is processed in the form of a fume or dust to make other EPCRA Section 313 chemicals or other products for distribution in commerce. In reporting releases, the facility would only report releases of the fume or dust.

EPA considers dusts to consist of solid particles generated by any mechanical processing of materials including crushing, grinding, rapid impact, handling, detonation, and decrepitation of organic and inorganic materials such as rock, ore, and metal. Dusts do not tend to flocculate, except under electrostatic forces. A fume is an airborne dispersion consisting of small solid particles created by condensation from a gaseous state, in distinction to a gas or vapor. Fumes arise from the heating of solids such as lead. The condensation is often accompanied by a chemical reaction, such as oxidation. Fumes flocculate and sometimes coalesce.

Manufacturing qualifiers. Two of the entries to the section 313 EPCRA Section 313 chemical list contain a qualifier relating to manufacture. For isopropyl alcohol, the qualifier is "manufacturing — strong acid process." For saccharin, the qualifier simply is "manufacturing." For isopropyl alcohol, the qualifier means that only facilities manufacturing isopropyl alcohol by the strong acid process are required to report. In the case of saccharin, only manufacturers of the EPCRA Section 313 chemical are subject to the reporting requirements. A facility that processes or otherwise uses either EPCRA Section 313 chemical would not be required to report for those EPCRA Section 313 chemicals. In both cases, supplier notification does not apply because only manufacturers, not users, of the EPCRA Section 313 chemical must report.

Ammonia (includes anhydrous ammonia and aqueous ammonia from water dissociable ammonium salts and other sources; 10 percent of total aqueous ammonia is reportable under this listing). The qualifier for ammonia means that anhydrous forms of ammonia are 100 percent reportable and aqueous forms are limited to 10 percent of total aqueous ammonia. Therefore when determining threshold and releases and other waste management quantities all anhydrous ammonia is included but only 10 percent of total aqueous ammonia is included. Any evaporation of ammonia from aqueous ammonia solutions is considered anhydrous ammonia and should be included in threshold determinations and release and other waste management calculations.

Sulfuric acid and Hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size). The qualifier for sulfuric acid and hydrochloric acid means that the only forms of this chemical that are reportable are aerosols. Aqueous solutions are not covered by this listing but any aerosols generated from aqueous solutions are covered.

Nitrate compounds (water dissociable; reportable only when in aqueous solution). The qualifier for the nitrate compounds category limits the reporting to nitrate compounds that dissociate in water, generating nitrate ion. For the purposes of threshold determinations the entire weight of the nitrate compound must be included in all calculations. For the purposes of reporting releases and other waste management quantities only the weight of the nitrate ion should be included in the calulations of these quantities.

Phosphorus (yellow or white). The listing for phosphorus is qualified by the term "yellow or white." This means that only manufacturing, processing, or

*"Not elsewhere classified" indicated by "n.e.c."

otherwise use of phosphorus in the yellow or white chemical form triggers reporting. Conversely, manufacturing, processing, or otherwise use of "black" or "red" phosphorus does not trigger reporting. Supplier notification also applies only to distribution of yellow or white phosphorus.

Asbestos (friable). The listing for asbestos is qualified by the term "friable," referring to the physical characteristic of being able to be crumbled, pulverized, or reducible to a powder with hand pressure. Only manufacturing, processing, or otherwise use of asbestos in the friable form triggers reporting. Supplier notification applies only to distribution of mixtures or other trade name products containing friable asbestos.

Aluminum Oxide (fibrous forms). The listing for aluminum oxide is qualified by the term "fibrous forms." Fibrous refers to a man-made form of aluminum oxide that is processed to produce strands or filaments which can be cut to various lengths depending on the application. Only manufacturing, processing, or otherwise use of aluminum oxide in the fibrous form triggers reporting. Supplier notification applies only to distribution of mixtures or other trade name products containing fibrous forms of aluminum oxide.

a. Alphabetical List of TRI Chemicals

CAS Number	Chemical Name	De Minimis Concentration
71751-41-2	Abamectin [Avermectin B1]	1.0
30560-19-1	Acephate (Acetylphosphoramidothioic acid O,S-dimethyl ester)	1.0
75-07-0	Acetaldehyde	0.1
60-35-5	Acetamide	0.1
75-05-8	Acetonitrile	1.0
98-86-2	Acetophenone	1.0
53-96-3	2-Acetylaminofluorene	0.1
62476-59-9	Acifluorfen, sodium salt [5-(2-Chloro-4-(trifluoromethyl)-phenoxy)-2-nitrobenzoic acid, sodium salt]	1.0
107-02-8	Acrolein	1.0
79-06-1	Acrylamide	0.1
79-10-7	Acrylic acid	1.0
107-13-1	Acrylonitrile	0.1
15972-60-8	Alachlor	1.0
116-06-3	Aldicarb	1.0
309-00-2	Aldrin [1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a, 5,8,8a-hexahydro-(1.alpha., 4.alpha.,4a.beta.,5.alpha.,8.alpha., 8a.beta.)-]	1.0
28057-48-9	d-trans-Allethrin [d-trans-Chrysanthemic acid of d-allethrone]	1.0
107-18-6	Allyl alcohol	1.0
107-11-9	Allylamine	1.0
107-05-1	Allyl chloride	1.0
7429-90-5	Aluminum (fume or dust)	1.0
20859-73-8	Aluminum phosphide	1.0
1344-28-1	Aluminum oxide (fibrous forms)	1.0
834-12-8	Ametryn (N-Ethyl-N'-(1-methylethyl)-6-(methylthio)-1,3,5,-triazine-2,4-diamine)	1.0
117-79-3	2-Aminoanthraquinone	0.1
60-09-3	4-Aminoazobenzene	0.1
92-67-1	4-Aminobiphenyl	0.1
82-28-0	1-Amino-2-methylanthraquinone	0.1
33089-61-1	Amitraz	1.0
61-82-5	Amitrole	0.1

**C.I. means "Color Index"*

Table II

CAS Number	Chemical Name	De Minimis Concentration
7664-41-7	Ammonia (includes anhydrous ammonia and aqueous ammonia from water dissociable ammonium salts and other sources; 10 percent of total aqueous ammonia is reportable under this listing)	1.0
101-05-3	Anilazine [4,6-Dichloro-N-(2-chlorophenyl)-1,3,5-triazin-2-amine]	1.0
62-53-3	Aniline	1.0
90-04-0	o-Anisidine	0.1
104-94-9	p-Anisidine	1.0
134-29-2	o-Anisidine hydrochloride	0.1
120-12-7	Anthracene	1.0
7440-36-0	Antimony	1.0
7440-38-2	Arsenic	0.1
1332-21-4	Asbestos (friable)	0.1
1912-24-9	Atrazine (6-Chloro-N-ethyl-N′-(1-methylethyl)-1,3,5-triazine-2,4-diamine)	0.1
7440-39-3	Barium	1.0
22781-23-3	Bendiocarb [2,2-Dimethyl-1,3-benzodioxol-4-ol methylcarbamate]	1.0
1861-40-1	Benfluralin (N-Butyl-N-ethyl-2,6-dinitro-4-(trifluoromethyl)-benzenamine)	1.0
17804-35-2	Benomyl	1.0
98-87-3	Benzal chloride	1.0
55-21-0	Benzamide	1.0
71-43-2	Benzene	0.1
92-87-5	Benzidine	0.1
98-07-7	Benzoic trichloride (Benzotrichloride)	0.1
98-88-4	Benzoyl chloride	1.0
94-36-0	Benzoyl peroxide	1.0
100-44-7	Benzyl chloride	1.0
7440-41-7	Beryllium	0.1
82657-04-3	Bifenthrin	1.0
92-52-4	Biphenyl	1.0
111-91-1	Bis(2-chloroethoxy) methane	1.0
111-44-4	Bis(2-chloroethyl) ether	1.0
542-88-1	Bis(chloromethyl) ether	0.1
108-60-1	Bis(2-chloro-1-methylethyl)ether	1.0
56-35-9	Bis(tributyltin) oxide	1.0
10294-34-5	Boron trichloride	1.0
7637-07-2	Boron trifluoride	1.0
314-40-9	Bromacil (5-Bromo-6-methyl-3-(1-methylpropyl)-2,4(1H,3H)-pyrimidinedione)	1.0
53404-19-6	Bromacil, lithium salt [2,4(1H,3H)-Pyrimidinedione, 5-bromo-6-methyl-3-(1-methyl-propyl), lithium salt]	1.0
7726-95-6	Bromine	1.0
35691-65-7	1-Bromo-1-(bromomethyl)-1,3-propanedicarbonitrile	1.0
353-59-3	Bromochlorodifluoromethane (Halon 1211)	1.0
75-25-2	Bromoform (Tribromomethane)	1.0
74-83-9	Bromomethane (Methyl bromide)	1.0
75-63-8	Bromotrifluoromethane (Halon 1301)	1.0
1689-84-5	Bromoxynil (3,5-Dibromo-4-hydroxybenzonitrile)	1.0
1689-99-2	Bromoxynil octanoate (Octanoic acid, 2,6-dibromo-4-cyanophenylester)	1.0
357-57-3	Brucine	1.0
106-99-0	1,3-Butadiene	0.1
141-32-2	Butyl acrylate	1.0
71-36-3	n-Butyl alcohol	1.0
78-92-2	sec-Butyl alcohol	1.0
75-65-0	tert-Butyl alcohol	1.0
106-88-7	1,2-Butylene oxide	1.0
123-72-8	Butyraldehyde	1.0
7440-43-9	Cadmium	0.1
156-62-7	Calcium cyanamide	1.0
133-06-2	Captan [1H-Isoindole-1,3(2H)-dione, 3a,4,7,7a-tetrahydro-2-[(trichloromethyl)thio]-]	1.0
63-25-2	Carbaryl [1-Naphthalenol, methylcarbamate]	1.0
1563-66-2	Carbofuran	1.0
75-15-0	Carbon disulfide	1.0
56-23-5	Carbon tetrachloride	0.1
463-58-1	Carbonyl sulfide	1.0
5234-68-4	Carboxin (5,6-Dihydro-2-methyl-N-phenyl-1,4-oxathiin-3-carboxamide)	1.0
120-80-9	Catechol	1.0

*"Not elsewhere classified" indicated by "n.e.c."

Table II

CAS Number	Chemical Name	De Minimis Concentration
2439-01-2	Chinomethionat [6-Methyl-1,3-dithiolo[4,5-b]quinoxalin-2-one]	1.0
133-90-4	Chloramben [Benzoic acid, 3-amino-2,5-dichloro-]	1.0
57-74-9	Chlordane [4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-]	0.1
115-28-6	Chlorendic acid	0.1
90982-32-4	Chlorimuron ethyl [Ethyl-2-[[[[(4-chloro-6-methoxyprimidin-2-yl)amino]carbonyl]amino] sulfonyl]benzoate]	1.0
7782-50-5	Chlorine	1.0
10049-04-4	Chlorine dioxide	1.0
79-11-8	Chloroacetic acid	1.0
532-27-4	2-Chloroacetophenone	1.0
4080-31-3	1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride	1.0
106-47-8	p-Chloroaniline	0.1
108-90-7	Chlorobenzene	1.0
510-15-6	Chlorobenzilate [Benzeneacetic acid, 4-chloro-.alpha.- (4-chlorophenyl)-.alpha.-hydroxy-, ethyl ester]	1.0
75-68-3	1-Chloro-1,1-difluoroethane (HCFC-142b)	1.0
75-45-6	Chlorodifluoromethane (HCFC-22)	1.0
75-00-3	Chloroethane (Ethyl chloride)	1.0
67-66-3	Chloroform	0.1
74-87-3	Chloromethane (Methyl chloride)	1.0
107-30-2	Chloromethyl methyl ether	0.1
563-47-3	3-Chloro-2-methyl-1-propene	0.1
104-12-1	p-Chlorophenyl isocyanate	1.0
76-06-2	Chloropicrin	1.0
126-99-8	Chloroprene	1.0
542-76-7	3-Chloropropionitrile	1.0
63938-10-3	Chlorotetrafluoroethane	1.0
354-25-6	1-Chloro-1,1,2,2-tetrafluoroethane (HCFC-124a)	1.0
2837-89-0	2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	1.0
1897-45-6	Chlorothalonil [1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-]	1.0
95-69-2	p-Chloro-o-toluidine	0.1
75-88-7	2-Chloro-1,1,1-trifluoroethane (HCFC-133a)	1.0
75-72-9	Chlorotrifluoromethane (CFC-13)	1.0
460-35-5	3-Chloro-1,1,1-trifluoropropane (HCFC-253fb)	1.0
5598-13-0	Chlorpyrifos methyl [O,O-Dimethyl-O-(3,5,6-trichloro-2-pyridyl)phosphorothioate]	1.0
64902-72-3	Chlorsulfuron [2-Chloro-N-[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl) amino]carbonyl] benzenesulfonamide]	1.0
7440-47-3	Chromium	1.0
4680-78-8	C.I. Acid Green 3	1.0
6459-94-5	C.I. Acid Red 114	0.1
569-64-2	C.I. Basic Green 4	1.0
989-38-8	C.I. Basic Red 1	1.0
1937-37-7	C.I. Direct Black 38	0.1
2602-46-2	C.I. Direct Blue 6	0.1
28407-37-6	C.I. Direct Blue 218	1.0
16071-86-6	C.I. Direct Brown 95	0.1
2832-40-8	C.I. Disperse Yellow 3	1.0
3761-53-3	C.I. Food Red 5	0.1
81-88-9	C.I. Food Red 15	1.0
3118-97-6	C.I. Solvent Orange 7	1.0
97-56-3	C.I. Solvent Yellow 3	1.0
842-07-9	C.I. Solvent Yellow 14	1.0
492-80-8	C.I. Solvent Yellow 34 (Auramine)	0.1
128-66-5	C.I. Vat Yellow 4	1.0
7440-48-4	Cobalt	0.1
7440-50-8	Copper	1.0
8001-58-9	Creosote	0.1
120-71-8	p-Cresidine	0.1
108-39-4	m-Cresol	1.0
95-48-7	o-Cresol	1.0
106-44-5	p-Cresol	1.0
1319-77-3	Cresol (mixed isomers)	1.0
4170-30-3	Crotonaldehyde	1.0
98-82-8	Cumene	1.0
80-15-9	Cumene hydroperoxide	1.0
135-20-6	Cupferron [Benzeneamine, N-hydroxy-N-nitroso, ammonium salt]	0.1
21725-46-2	Cyanazine	1.0
1134-23-2	Cycloate	1.0
110-82-7	Cyclohexane	1.0
108-93-0	Cyclohexanol	1.0

*C.I. means "Color Index"

Table II

CAS Number	Chemical Name	De Minimis Concentration
68359-37-5	Cyfluthrin [3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid, cyano(4-fluoro-3-phenoxyphenyl) methyl ester]	1.0
68085-85-8	Cyhalothrin [3-(2-Chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylic acid cyano(3-phenoxyphenyl) methyl ester]	1.0
94-75-7	2,4-D [Acetic acid, (2,4-dichlorophenoxy)-]	0.1
533-74-4	Dazomet (Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione)	1.0
53404-60-7	Dazomet, sodium salt [Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione, ion(1-), sodium]	1.0
94-82-6	2,4-DB	1.0
1929-73-3	2,4-D butoxyethyl ester	0.1
94-80-4	2,4-D butyl ester	0.1
2971-38-2	2,4-D chlorocrotyl ester	0.1
1163-19-5	Decabromodiphenyl oxide	1.0
13684-56-5	Desmedipham	1.0
1928-43-4	2,4-D 2-ethylhexyl ester	0.1
53404-37-8	2,4-D 2-ethyl-4-methylpentyl ester	0.1
2303-16-4	Diallate [Carbamothioic acid, bis(1-methylethyl)-S-(2,3-dichloro-2-propenyl) ester]	1.0
615-05-4	2,4-Diaminoanisole	0.1
39156-41-7	2,4-Diaminoanisole sulfate	0.1
101-80-4	4,4'-Diaminodiphenyl ether	0.1
95-80-7	2,4-Diaminotoluene	0.1
25376-45-8	Diaminotoluene (mixed isomers)	0.1
333-41-5	Diazinon	1.0
334-88-3	Diazomethane	1.0
132-64-9	Dibenzofuran	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	0.1
106-93-4	1,2-Dibromoethane (Ethylene dibromide)	0.1
124-73-2	Dibromotetrafluoroethane (Halon 2402)	1.0
84-74-2	Dibutyl phthalate	1.0
1918-00-9	Dicamba (3,6-Dichloro-2-methoxybenzoic acid)	1.0
99-30-9	Dichloran [2,6-Dichloro-4-nitroaniline]	1.0
95-50-1	1,2-Dichlorobenzene	1.0
541-73-1	1,3-Dichlorobenzene	1.0
106-46-7	1,4-Dichlorobenzene	0.1
25321-22-6	Dichlorobenzene (mixed isomers)	0.1
91-94-1	3,3'-Dichlorobenzidine	0.1
612-83-9	3,3'-Dichlorobenzidine dihydrochloride	0.1
64969-34-2	3,3'-Dichlorobenzidine sulfate	0.1
75-27-4	Dichlorobromomethane	1.0
764-41-0	1,4-Dichloro-2-butene	1.0
110-57-6	trans-1,4-Dichloro-2-butene	1.0
1649-08-7	1,2-Dichloro-1,1-difluoroethane (HCFC-132b)	1.0
75-71-8	Dichlorodifluoromethane (CFC-12)	1.0
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	0.1
540-59-0	1,2-Dichloroethylene	1.0
1717-00-6	1,1-Dichloro-1-fluoroethane (HCFC-141b)	1.0
75-43-4	Dichlorofluoromethane (HCFC-21)	1.0
75-09-2	Dichloromethane (Methylene chloride)	0.1
127564-92-5	Dichloropentafluoropropane	1.0
13474-88-9	1,1-Dichloro-1,2,2,3,3-pentafluoropropane (HCFC-225cc)	1.0
111512-56-2	1,1-Dichloro-1,2,3,3,3-pentafluoropropane (HCFC-225eb)	1.0
422-44-6	1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225bb)	1.0
431-86-7	1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC-225da)	1.0
507-55-1	1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	1.0
136013-79-1	1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225ea)	1.0
128903-21-9	2,2-Dichloro-1,1,1,3,3-pentafluoropropane (HCFC-225aa)	1.0
22-48-0	2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC-225ba)	1.0
422-56-0	3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	1.0
97-23-4	Dichlorophene [2,2'-Methylenebis(4-chlorophenol)]	1.0
120-83-2	2,4-Dichlorophenol	1.0
78-87-5	1,2-Dichloropropane	1.0

*"Not elsewhere classified" indicated by "n.e.c."

Table II

CAS Number	Chemical Name	De Minimis Concentration
10061-02-6	trans-1,3-Dichloropropene	0.1
78-88-6	2,3-Dichloropropene	1.0
542-75-6	1,3-Dichloropropylene	0.1
76-14-2	Dichlorotetrafluoroethane (CFC-114)	1.0
34077-87-7	Dichlorotrifluoroethane	1.0
90454-18-5	Dichloro-1,1,2-trifluoroethane	1.0
812-04-4	1,1-Dichloro-1,2,2-trifluoroethane (HCFC-123b)	1.0
354-23-4	1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	1.0
306-83-2	2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)	1.0
62-73-7	Dichlorvos [Phosphoric acid, 2,2-dichloroethenyl dimethyl ester]	0.1
51338-27-3	Diclofop methyl [2-[4-(2,4-Dichlorophenoxy) phenoxy]propanoic acid, methyl ester]	1.0
115-32-2	Dicofol [Benzenemethanol, 4-chloro-.alpha.-4-(chlorophenyl)-.alpha.-(trichloromethyl)-]	1.0
77-73-6	Dicyclopentadiene	1.0
1464-53-5	Diepoxybutane	0.1
111-42-2	Diethanolamine	1.0
38727-55-8	Diethatyl ethyl	1.0
117-81-7	Di(2-ethylhexyl) phthalate (DEHP)	0.1
64-67-5	Diethyl sulfate	0.1
35367-38-5	Diflubenzuron	1.0
101-90-6	Diglycidyl resorcinol ether	0.1
94-58-6	Dihydrosafrole	0.1
55290-64-7	Dimethipin [2,3-Dihydro-5,6-dimethyl-1,4-dithiin-1,1,4,4-tetraoxide]	1.0
60-51-5	Dimethoate	1.0
119-90-4	3,3'-Dimethoxybenzidine dihydrochloride)	0.1
20325-40-0	3,3'-Dimethoxybenzidine dihydrochloride(o-Dianisidine	0.1
111984-09-9	3,3'-Dimethoxybenzidine hydrochloride (o-Dianisidine hydrochloride)	0.1
124-40-3	Dimethylamine	1.0
2300-66-5	Dimethylamine dicamba	1.0
60-11-7	4-Dimethylaminoazobenzene	0.1
121-69-7	N,N-Dimethylaniline	1.0
119-93-7	3,3'-Dimethylbenzidine (o-Tolidine)	0.1
612-82-8	3,3'-Dimethylbenzidine dihydrochloride (o-Tolidine dihydrochloride)	0.1
41766-75-0	3,3'-Dimethylbenzidine dihydrofluoride (o-Tolidine dihydrofluoride)	0.1
79-44-7	Dimethylcarbamyl chloride	0.1
2524-03-0	Dimethyl chlorothiophosphate	1.0
68-12-2	N,N-Dimethylformamide	0.1
57-14-7	1,1-Dimethylhydrazine	0.1
105-67-9	2,4-Dimethylphenol	1.0
131-11-3	Dimethyl phthalate	1.0
77-78-1	Dimethyl sulfate	0.1
99-65-0	m-Dinitrobenzene	1.0
528-29-0	o-Dinitrobenzene	1.0
100-25-4	p-Dinitrobenzene	1.0
88-85-7	Dinitrobutyl phenol (Dinoseb)	1.0
534-52-1	4,6-Dinitro-o-cresol	1.0
51-28-5	2,4-Dinitrophenol	1.0
121-14-2	2,4-Dinitrotoluene	0.1
606-20-2	2,6-Dinitrotoluene	0.1
25321-14-6	Dinitrotoluene (mixed isomers)	1.0
39300-45-3	Dinocap	1.0
123-91-1	1,4-Dioxane	0.1
957-51-7	Diphenamid	1.0
122-39-4	Diphenylamine	1.0
122-66-7	1,2-Diphenylhydrazine (Hydrazobenzene)	0.1
2164-07-0	Dipotassium endothall [7-Oxabicyclo(2.2.1)heptane-2,3-dicarboxylic acid, dipotassium salt]	1.0
136-45-8	Dipropyl isocinchomeronate	1.0
138-93-2	Disodium cyanodithioimidocarbonate	1.0
94-11-1	2,4-D isopropyl ester	0.1
541-53-7	2,4-Dithiobiuret	1.0
330-54-1	Diuron	1.0
2439-10-3	Dodine [Dodecylguanidine monoacetate]	1.0
120-36-5	2,4-DP	0.1
1320-18-9	2,4-D propylene glycol butyl ether ester	0.1
2702-72-9	2,4-D sodium salt	0.1
106-89-8	Epichlorohydrin	0.1
13194-48-4	Ethoprop [Phosphorodithioic acid O-ethyl S,S-dipropyl ester]	1.0
110-80-5	2-Ethoxyethanol	1.0
140-88-5	Ethyl acrylate	0.1

*C.I. means "Color Index"

Table II

CAS Number	Chemical Name	De Minimis Concentration
100-41-4	Ethylbenzene	1.0
541-41-3	Ethyl chloroformate	1.0
759-94-4	Ethyl dipropylthiocarbamate (EPTC)	1.0
74-85-1	Ethylene	1.0
107-21-1	Ethylene glycol	1.0
151-56-4	Ethyleneimine (Aziridine)	0.1
75-21-8	Ethylene oxide	0.1
96-45-7	Ethylene thiourea	0.1
75-34-3	Ethylidene dichloride	1.0
52-85-7	Famphur	1.0
60168-88-9	Fenarimol [.alpha.-(2-Chlorophenyl)-.alpha.-(4-chlorophenyl)-5-pyrimidine-methanol]	1.0
13356-08-6	Fenbutatin oxide (Hexakis(2-methyl-2-phenylpropyl)distannoxane)	1.0
66441-23-4	Fenoxaprop ethyl [2-(4-((6-Chloro-2-benzoxazolylen)-oxy)phenoxy)propanoic acid, ethyl ester]	1.0
72490-01-8	Fenoxycarb [[2-(4-Phenoxyphenoxy) ethyl]carbamic acid ethyl ester]	1.0
39515-41-8	Fenpropathrin [2,2,3,3-Tetramethylcyclopropane carboxylic acid cyano(3-phenoxyphenyl)methyl ester]	1.0
55-38-9	Fenthion [O,O-Dimethyl O-[3-methyl-4-(methylthio)phenyl] ester, phosphorothioic acid]	1.0
51630-58-1	Fenvalerate [4-Chloro-alpha-(1-methylethyl) benzeneacetic acid cyano (3-phenoxyphenyl)methyl ester]	1.0
14484-64-1	Ferbam [Tris(dimethylcarbamodithioato-S,S')iron]	1.0
69806-50-4	Fluazifop butyl [2-[4-[[5-(Trifluoromethyl)-2-pyridinyl]oxy]phenoxy]propanoic acid, butyl ester]	1.0
2164-17-2	Fluometuron [Urea, N,N-dimethyl-N'-[3-(trifluoromethyl)phenyl]-]	1.0
7782-41-4	Fluorine	1.0
51-21-8	Fluorouracil (5-Fluorouracil)	1.0
69409-94-5	Fluvalinate [N-[2-Chloro-4-(trifluoromethyl)phenyl]-DL-valine(+)-cyano(3-phenoxyphenyl)-methyl ester]	1.0
133-07-3	Folpet	1.0
72178-02-0	Fomesafen [5-(2-Chloro-4-(trifluoromethyl)phenoxy)-N-methylsulfonyl-2-nitrobenzamide]	1.0
50-00-0	Formaldehyde	0.1
64-18-6	Formic acid	1.0
76-13-1	Freon 113 [Ethane, 1,1,2-trichloro-1,2,2,-trifluoro-]	1.0
76-44-8	Heptachlor [1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene]	0.1
118-74-1	Hexachlorobenzene	0.1
87-68-3	Hexachloro-1,3-butadiene	1.0
319-84-6	alpha-Hexachlorocyclo-hexane	1.0
77-47-4	Hexachlorocyclopentadiene	1.0
67-72-1	Hexachloroethane	1.0
1335-87-1	Hexachloronaphthalene	1.0
70-30-4	Hexachlorophene	1.0
680-31-9	Hexamethylphosphoramide	0.1
110-54-3	n-Hexane	1.0
51235-04-2	Hexazinone	1.0
67485-29-4	Hydramethylnon [Tetrahydro-5,5-dimethyl-2(1H)-pyrimidinone[3-[4-(trifluoromethyl)phenyl]-1-[2-[4-(trifluoromethyl)phenyl]ethenyl]-2-propenylidene]hydrazone]	1.0
302-01-2	Hydrazine	0.1
10034-93-2	Hydrazine sulfate	0.1
7647-01-0	Hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	1.0
74-90-8	Hydrogen cyanide	1.0
7664-39-3	Hydrogen fluoride	1.0
123-31-9	Hydroquinone	1.0
35554-44-0	Imazalil [1-[2-(2,4-Dichlorophenyl)-2-(2-propenyloxy)ethyl]-1H-imidazole]	1.0
55406-53-6	3-Iodo-2-propynyl butylcarbamate	1.0

*"Not elsewhere classified" indicated by "n.e.c."

Table II

CAS Number	Chemical Name	De Minimis Concentration
13463-40-6	Iron pentacarbonyl	1.0
78-84-2	Isobutyraldehyde	1.0
465-73-6	Isodrin	1.0
25311-71-1	Isofenphos[2-[[Ethoxyl[(1-methylethyl)amino]-phosphinothioyl]oxy] benzoic acid 1-methylethyl ester]	1.0
67-63-0	Isopropyl alcohol (manufacturing-strong acid process, no supplier notification)	1.0
80-05-7	4,4'-Isopropylidenediphenol	1.0
120-58-1	Isosafrole	1.0
77501-63-4	Lactofen [Benzoic acid, 5-[2-Chloro-4-(trifluoromethyl)phenoxy]-2-nitro-,2-ethoxy-1-methyl-2-oxoethyl ester]	1.0
7439-92-1	Lead	0.1
58-89-9	Lindane [Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1.alpha.,2.alpha., 3.beta., 4.alpha., 5.alpha., 6.beta.)-]	0.1
330-55-2	Linuron	1.0
554-13-2	Lithium carbonate	1.0
121-75-5	Malathion	1.0
108-31-6	Maleic anhydride	1.0
109-77-3	Malononitrile	1.0
12427-38-2	Maneb [Carbamodithioic acid, 1,2-ethanediylbis-, manganese complex]	1.0
7439-96-5	Manganese	1.0
93-65-2	Mecoprop	0.1
149-30-4	2-Mercaptobenzothiazole (MBT)	1.0
7439-97-6	Mercury	1.0
150-50-5	Merphos	1.0
126-98-7	Methacrylonitrile	1.0
137-42-8	Metham sodium (Sodium methyldithiocarbamate)	1.0
67-56-1	Methanol	1.0
20354-26-1	Methazole [2-(3,4-Dichlorophenyl)-4-methyl-1,2,4-oxadiazolidine-3,5-dione]	1.0
2032-65-7	Methiocarb	1.0
94-74-6	Methoxone ((4-Chloro-2-methylphenoxy) acetic acid) (MCPA)	0.1
3653-48-3	Methoxone sodium salt ((4-Chloro-2-methylphenoxy) acetate sodium salt)	0.1
72-43-5	Methoxychlor [Benzene, 1,1'-(2,2,2-trichloro-ethylidene)bis[4-methoxy-]]	1.0
109-86-4	2-Methoxyethanol	1.0
96-33-3	Methyl acrylate	1.0
1634-04-4	Methyl tert-butyl ether	1.0
79-22-1	Methyl chlorocarbonate	1.0
101-14-4	4,4'-Methylenebis(2-chloroaniline) (MBOCA)	0.1
101-61-1	4,4'-Methylenebis(N,N-dimethyl)benzenamine	0.1
74-95-3	Methylene bromide	1.0
101-77-9	4,4'-Methylenedianiline	0.1
78-93-3	Methyl ethyl ketone	1.0
60-34-4	Methyl hydrazine	1.0
74-88-4	Methyl iodide	1.0
108-10-1	Methyl isobutyl ketone	1.0
624-83-9	Methyl isocyanate	1.0
556-61-6	Methyl isothiocyanate [Isothiocyanatomethane]	1.0
75-86-5	2-Methyllactonitrile	1.0
80-62-6	Methyl methacrylate	1.0
924-42-5	N-Methylolacrylamide	1.0
298-00-0	Methyl parathion	1.0
109-06-8	2-Methylpyridine	1.0
872-50-4	N-Methyl-2-pyrrolidone	1.0
9006-42-2	Metiram	1.0
21087-64-9	Metribuzin	1.0
7786-34-7	Mevinphos	1.0
90-94-8	Michler's ketone	0.1
2212-67-1	Molinate (1H-Azepine-1-carbothioic acid, hexahydro-, S-ethyl ester)	1.0
1313-27-5	Molybdenum trioxide	1.0
76-15-3	Monochloropenta-fluoroethane (CFC-115)	1.0
150-68-5	Monuron	1.0
505-60-2	Mustard gas [Ethane, 1,1'-thiobis[2-chloro-]]	0.1
88671-89-0	Myclobutanil [.alpha.-Butyl-.alpha.-(4-chlorophenyl)-1H-1,2,4-triazole-1-propanenitrile]	1.0
142-59-6	Nabam	1.0
300-76-5	Naled	1.0
91-20-3	Naphthalene	1.0
134-32-7	alpha-Naphthylamine	0.1
91-59-8	beta-Naphthylamine	0.1
7440-02-0	Nickel	0.1

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Table II

CAS Number	Chemical Name	De Minimis Concentration
1929-82-4	Nitrapyrin (2-Chloro-6-(trichloromethyl)-pyridine)	1.0
7697-37-2	Nitric acid	1.0
139-13-9	Nitrilotriacetic acid	0.1
100-01-6	p-Nitroaniline	1.0
99-59-2	5-Nitro-o-anisidine	1.0
98-95-3	Nitrobenzene	0.1
92-93-3	4-Nitrobiphenyl	0.1
1836-75-5	Nitrofen [Benzene, 2,4-dichloro-1-(4-nitrophenoxy)-]	0.1
51-75-2	Nitrogen mustard [2-Chloro-N-(2-chloroethyl)-N-methylethanamine]	0.1
55-63-0	Nitroglycerin	1.0
88-75-5	2-Nitrophenol	1.0
100-02-7	4-Nitrophenol	1.0
79-46-9	2-Nitropropane	0.1
924-16-3	N-Nitrosodi-n-butylamine	0.1
55-18-5	N-Nitrosodiethylamine	0.1
62-75-9	N-Nitrosodimethylamine	0.1
86-30-6	N-Nitrosodiphenylamine	1.0
156-10-5	p-Nitrosodiphenylamine	1.0
621-64-7	N-Nitrosodi-n-propylamine	0.1
759-73-9	N-Nitroso-N-ethylurea	0.1
684-93-5	N-Nitroso-N-methylurea	0.1
4549-40-0	N-Nitrosomethylvinylamine	0.1
59-89-2	N-Nitrosomorpholine	0.1
16543-55-8	N-Nitrosonornicotine	0.1
100-75-4	N-Nitrosopiperidine	0.1
99-55-8	5-Nitro-o-toluidine	1.0
27314-13-2	Norflurazon [4-Chloro-5-(methylamino)-2-[3-(trifluoromethyl)phenyl]-3(2H)-pyridazinone]	1.0
2234-13-1	Octachloronaphthalene	1.0
19044-88-3	Oryzalin [4-(Dipropylamino)-3,5-dinitrobenzene sulfonamide]	1.0
20816-12-0	Osmium tetroxide	1.0
301-12-2	Oxydemeton methyl [S-(2-(Ethylsulfinyl)ethyl) O,O-dimethyl ester phosphorothioic acid]	1.0
19666-30-9	Oxydiazon [3-[2,4-Dichloro-5-(1-methylethoxy)phenyl]- 5-(1,1-dimethyl ethyl)-1,3,4-oxadiazol-2(3H)-one]	1.0
42874-03-3	Oxyfluorfen	1.0
10028-15-6	Ozone	1.0
123-63-7	Paraldehyde	1.0
1910-42-5	Paraquat dichloride	1.0
56-38-2	Parathion [Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl)ester]	1.0
1114-71-2	Pebulate [Butylethylcarbamothioic acid S-propyl ester]	1.0
40487-42-1	Pendimethalin [N-(1-Ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine]	1.0
76-01-7	Pentachloroethane	1.0
87-86-5	Pentachlorophenol (PCP)	0.1
57-33-0	Pentobarbital sodium	1.0
79-21-0	Peracetic acid	1.0
594-42-3	Perchloromethyl mercaptan	1.0
52645-53-1	Permethrin [3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid, (3-phenoxyphenyl) methyl ester]	1.0
85-01-8	Phenanthrene	1.0
108-95-2	Phenol	1.0
26002-80-2	Phenothrin [2,2-Dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylic acid (3-phenoxyphenyl)methyl ester]	1.0
95-54-5	1,2-Phenylenediamine	1.0
108-45-2	1,3-Phenylenediamine	1.0
106-50-3	p-Phenylenediamine	1.0
615-28-1	1,2-Phenylenediamine dihydrochloride	1.0
624-18-0	1,4-Phenylenediamine dihydrochloride	1.0
90-43-7	2-Phenylphenol	1.0
57-41-0	Phenytoin	0.1
75-44-5	Phosgene	1.0
7803-51-2	Phosphine	1.0
7664-38-2	Phosphoric acid	1.0
7723-14-0	Phosphorus (yellow or white)	1.0
85-44-9	Phthalic anhydride	1.0
1918-02-1	Picloram	1.0
88-89-1	Picric acid	1.0
51-03-6	Piperonyl butoxide	1.0
29232-93-7	Pirimiphos methyl [O-(2-(Diethylamino)-6-methyl-4-pyrimidinyl)-O,O-dimethylphosphorothioate]	1.0
1336-36-3	Polychlorinated biphenyls (PCBS)	0.1
7758-01-2	Potassium bromate	0.1

*"Not elsewhere classified" indicated by "n.e.c."

Table II

CAS Number	Chemical Name	De Minimis Concentration
128-03-0	Potassium dimethyldithiocarbamate	1.0
137-41-7	Potassium N-methyldithiocarbamate	1.0
41198-08-7	Profenofos [O-(4-Bromo-2-chlorophenyl)-O-ethyl-S-propyl phosphorothioate]	1.0
7287-19-6	Prometryn [N,N'-Bis(1-methylethyl)-6-methylthio-1,3,5-triazine-2,4-diamine]	1.0
23950-58-5	Pronamide	1.0
1918-16-7	Propachlor [2-Chloro-N-(1-methylethyl)-N-phenylacetamide]	1.0
1120-71-4	Propane sultone	0.1
709-98-8	Propanil [N-(3,4-Dichlorophenyl)-propanamide]	1.0
2312-35-8	Propargite	1.0
107-19-7	Propargyl alcohol	1.0
31218-83-4	Propetamphos [3-[(Ethylamino) methoxyphosphinothioyl]oxy]-2-butenoic acid, 1-methylethyl ester]	1.0
60207-90-1	Propiconazole [1-[2-(2,4-Dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]-methyl-1H-1,2,4,-triazole]	1.0
57-57-8	beta-Propiolactone	0.1
123-38-6	Propionaldehyde	1.0
114-26-1	Propoxur [Phenol, 2-(1-methylethoxy)-, methylcarbamate]	1.0
115-07-1	Propylene (Propene)	1.0
75-55-8	Propyleneimine	0.1
75-56-9	Propylene oxide	0.1
110-86-1	Pyridine	1.0
91-22-5	Quinoline	1.0
106-51-4	Quinone	1.0
82-68-8	Quintozene (Pentachloronitrobenzene)	1.0
76578-14-8	Quizalofop-ethyl [2-[4-[(6-Chloro-2-quinoxalinyl)oxy]phenoxy] propanoic acid ethyl ester]	1.0
10453-86-8	Resmethrin [[5-(Phenylmethyl)-3-furanyl]-methyl-2,2-dimethyl-3-(2-methyl-1-propenyl) cyclopropane carboxylate]	1.0
81-07-2	Saccharin (manufacturing, no supplier notification)	0.1
94-59-7	Safrole	0.1
7782-49-2	Selenium	1.0
74051-80-2	Sethoxydim [2-[1-(Ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxyl-2-cyclohexen-1-one]	1.0
7440-22-4	Silver	1.0
122-34-9	Simazine	1.0
26628-22-8	Sodium azide	1.0
1982-69-0	Sodium dicamba [3,6-Dichloro-2-methoxybenzoic acid, sodium salt]	1.0
128-04-1	Sodium dimethyldithio-carbamate	1.0
62-74-8	Sodium fluoroacetate	1.0
7632-00-0	Sodium nitrite	1.0
131-52-2	Sodium pentachlorophenate	1.0
132-27-4	Sodium o-phenylphenoxide	0.1
100-42-5	Styrene	0.1
96-09-3	Styrene oxide	0.1
[7664-93-9	Sulfuric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	1.0
2699-79-8	Sulfuryl fluoride (Vikane)	1.0
35400-43-2	Sulprofos [O-Ethyl O-[4-(methylthio)phenyl] phosphorodithioic acid S-propylester]	1.0
34014-18-1	Tebuthiuron [N-[5-(1,1-Dimethylethyl)-1,3,4-thiadiazol-2-yl]-N,N'-dimethylurea]	1.0
3383-96-8	Temephos	1.0
5902-51-2	Terbacil [5-Chloro-3-(1,1-dimethylethyl)-6-methyl-2,4(1H,3H)-pyrimidinedione]	1.0
630-20-6	1,1,1,2-Tetrachloroethane	1.0
79-34-5	1,1,2,2-Tetrachloroethane	1.0
127-18-4	Tetrachloroethylene (Perchloroethylene)	0.1
354-11-0	1,1,1,2-Tetrachloro-2-fluoroethane (HCFC-121a)	1.0
354-14-3	1,1,2,2-Tetrachloro-1-fluoroethane (HCFC-121)	1.0
961-11-5	Tetrachlorvinphos [Phosphoric acid, 2-chloro-1-(2,4,5-trichlorophenyl) ethenyl dimethyl ester]	1.0
64-75-5	Tetracycline hydrochloride	1.0

**C.I. means "Color Index"*

Table II

CAS Number	Chemical Name	De Minimis Concentration
7696-12-0	Tetramethrin [2,2-Dimethyl-3-(2-methyl-1-propenyl) cyclopropanecarboxylic acid (1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isoindol-2-yl)methyl ester]	1.0
7440-28-0	Thallium	1.0
148-79-8	Thiabendazole [2-(4-Thiazolyl)-1H-benzimidazole]	1.0
62-55-5	Thioacetamide	0.1
28249-77-6	Thiobencarb [Carbamic acid, diethylthio-, S-(p-chlorobenzyl)ester]	1.0
139-65-1	4,4'-Thiodianiline	0.1
59669-26-0	Thiodicarb	1.0
23564-06-9	Thiophanate ethyl [[1,2-Phenylenebis-(iminocarbonothioyl)]biscarbamic acid diethylester]	1.0
23564-05-8	Thiophanate methyl	1.0
79-19-6	Thiosemicarbazide	1.0
62-56-6	Thiourea	0.1
137-26-8	Thiram	1.0
1314-20-1	Thorium dioxide	1.0
7550-45-0	Titanium tetrachloride	1.0
108-88-3	Toluene	1.0
584-84-9	Toluene-2,4-diisocyanate	0.1
91-08-7	Toluene-2,6-diisocyanate	0.1
26471-62-5	Toluene diisocyanate (mixed isomers)	0.1
95-53-4	o-Toluidine	0.1
636-21-5	o-Toluidine hydrochloride	0.1
8001-35-2	Toxaphene	0.1
43121-43-3	Triadimefon [1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4- triazol-1-yl)-2-butanone]	1.0
2303-17-5	Triallate	1.0
68-76-8	Triaziquone [2,5-Cyclohexadiene-1,4-dione, 2,3,5-tris(1-aziridinyl)-]	1.0
101200-48-0	Tribenuron methyl [2-[[[[(4-Methoxy-6-methyl-1,3,5-triazin-2-yl)-methylamino]-carbonyl]amino]sulfonyl] benzoic acid-methyl ester)	1.0
1983-10-4	Tributyltin fluoride	1.0
2155-70-6	Tributyltin methacrylate	1.0
78-48-8	S,S,S-Tributyltrithio-phosphate (DEF)	1.0
52-68-6	Trichlorfon [Phosphoric acid,(2,2,2-trichloro-l-hydroxy-ethyl)-,dimethyl ester]	1.0
76-02-8	Trichloroacetyl chloride	1.0
120-82-1	1,2,4-Trichlorobenzene	1.0
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1.0
79-00-5	1,1,2-Trichloroethane	1.0
79-01-6	Trichloroethylene	0.1
75-69-4	Trichlorofluoromethane (CFC-11)	1.0
95-95-4	2,4,5-Trichlorophenol	1.0
88-06-2	2,4,6-Trichlorophenol	0.1
96-18-4	1,2,3-Trichloropropane	0.1
57213-69-1	Triclopyr triethylammonium salt	1.0
121-44-8	Triethylamine	1.0
1582-09-8	Trifluralin [Benezeneamine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)-]	1.0
26644-46-2	Triforine [N,N'-[1,4-Piperazinediylbis-(2,2,2-trichloroethylidene)] bisformamide]	1.0
95-63-6	1,2,4-Trimethylbenzene	1.0
2655-15-4	2,3,5-Trimethylphenyl methylcarbamate	1.0
639-58-7	Triphenyltin chloride	1.0
76-87-9	Triphenyltin hydroxide	1.0
126-72-7	Tris(2,3-dibromopropyl) phosphate	0.1
72-57-1	Trypan blue	0.1
51-79-6	Urethane (Ethyl carbamate)	0.1
7440-62-2	Vanadium (fume or dust)	1.0
50471-44-8	Vinclozolin [3-(3,5-Dichlorophenyl)-5-ethenyl-5-methyl-2,4-oxazolidinedione]	1.0
108-05-4	Vinyl acetate	0.1
593-60-2	Vinyl bromide	0.1
75-01-4	Vinyl chloride	0.1
75-35-4	Vinylidene chloride	1.0
108-38-3	m-Xylene	1.0
95-47-6	o-Xylene	1.0
106-42-3	p-Xylene	1.0
1330-20-7	Xylene (mixed isomers)	1.0
87-62-7	2,6-Xylidine	0.1
7440-66-6	Zinc (fume or dust)	1.0
1222-67-7	Zineb [Carbamodithioic acid, 1,2-ethanediyibis-,zinc complex]	1.0

*"Not elsewhere classified" indicated by "n.e.c."

b. CAS Numbered List of TRI Chemicals

CAS Number	Chemical Name	De Minimis Concentration
50-00-0	Formaldehyde	0.1
51-03-6	Piperonyl butoxide	1.0
51-21-8	Fluorouracil (5-Fluorouracil)	1.0
51-28-5	2,4-Dinitrophenol	1.0
51-75-2	Nitrogen mustard [2-Chloro-N-(2-chloroethyl)-N-methylethanamine]	0.1
51-79-6	Urethane (Ethyl carbamate)	0.1
52-68-6	Trichlorfon [Phosphonic acid, (2,2,2-trichloro-1-hydroxyethyl) dimethyl ester]	1.0
52-85-7	Famphur	1.0
53-96-3	2-Acetylaminofluorene	0.1
55-18-5	N-Nitrosodiethylamine	0.1
55-21-0	Benzamide	1.0
55-38-9	Fenthion [O,O-Dimethyl O-[3-methyl-4-(methylthio)phenyl] ester, phosphorothioic acid]	1.0
55-63-0	Nitroglycerin	1.0
56-23-5	Carbon tetrachloride	0.1
56-35-9	Bis(tributyltin) oxide	1.0
56-38-2	Parathion [Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester]	1.0
57-14-7	1,1-Dimethylhydrazine	0.1
57-33-0	Pentobarbital sodium	1.0
57-41-0	Phenytoin	0.1
57-57-8	beta-Propiolactone	0.1
57-74-9	Chlordane [4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-]	0.1
58-89-9	Lindane [Cyclohexane, 1,2,3,4,5,6-hexa-chloro-,(1.alpha.,2.alpha.,3.beta., 4.alpha, 5.alpha.,6.beta.)-]	0.1
59-89-2	N-Nitrosomorpholine	0.1
60-09-3	4-Aminoazobenzene	0.1
60-11-7	4-Dimethylaminoazobenzene	0.1
60-34-4	Methyl hydrazine	1.0
60-35-5	Acetamide	0.1
60-51-5	Dimethoate	1.0
61-82-5	Amitrole	0.1
62-53-3	Aniline	1.0
62-55-5	Thioacetamide	0.1
62-56-6	Thiourea	0.1
62-73-7	Dichlorvos [Phosphoric acid, 2,2-dichloroethenyl dimethyl ester]	0.1
62-74-8	Sodium fluoroacetate	1.0
62-75-9	N-Nitrosodimethylamine	0.1
63-25-2	Carbaryl [1-Naphthalenol, methylcarbamate]	1.0
64-18-6	Formic acid	1.0
64-67-5	Diethyl sulfate	0.1
64-75-5	Tetracycline hydrochloride	1.0
67-56-1	Methanol	1.0
67-63-0	Isopropyl alcohol (manufacturing-strong acid process, no supplier notification)	1.0
67-66-3	Chloroform	0.1
67-72-1	Hexachloroethane	1.0
68-12-2	N,N-Dimethylformamide	0.1
68-76-8	Triaziquone [2,5-Cyclohexadiene-1,4-dione, 2,3,5-tris(1-aziridinyl)-]	1.0
70-30-4	Hexachlorophene	1.0
71-36-3	n-Butyl alcohol	1.0
71-43-2	Benzene	0.1
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1.0
72-43-5	Methoxychlor [Benzene, 1,1'-(2,2,2-trichloro-ethylidene)bis[4-methoxy-]]	1.0
72-57-1	Trypan blue	0.1
74-83-9	Bromomethane (Methyl bromide)	1.0
74-85-1	Ethylene	1.0
74-87-3	Chloromethane (Methyl chloride)	1.0
74-88-4	Methyl iodide	1.0
74-90-8	Hydrogen cyanide	1.0
74-95-3	Methylene bromide	1.0
75-00-3	Chloroethane (Ethyl chloride)	1.0
75-01-4	Vinyl chloride	0.1
75-05-8	Acetonitrile	1.0
75-07-0	Acetaldehyde	0.1
75-09-2	Dichloromethane (Methylene chloride)	0.1
75-15-0	Carbon disulfide	1.0
75-21-8	Ethylene oxide	0.1
75-25-2	Bromoform (Tribromomethane)	1.0
75-27-4	Dichlorobromomethane	1.0

**C.I. means "Color Index"*

Table II

CAS Number	Chemical Name	De Minimis Concentration
75-34-3	Ethylidene dichloride	1.0
75-35-4	Vinylidene chloride	1.0
75-43-4	Dichlorofluoromethane (HCFC-21)	1.0
75-44-5	Phosgene	1.0
75-45-6	Chlorodifluoromethane (HCFC-22)	1.0
75-55-8	Propyleneimine	0.1
75-56-9	Propylene oxide	0.1
75-63-8	Bromotrifluoromethane (Halon 1301)	1.0
75-65-0	tert-Butyl alcohol	1.0
75-68-3	1-Chloro-1,1-difluoroethane (HCFC-142b)	1.0
75-69-4	Trichlorofluoromethane (CFC-11)	1.0
75-71-8	Dichlorodifluoromethane (CFC-12)	1.0
75-72-9	Chlorotrifluoromethane (CFC-13)	1.0
75-86-5	2-Methyllactonitrile	1.0
75-88-7	2-Chloro-1,1,1-trifluoroethane (HCFC-133a)	1.0
76-01-7	Pentachloroethane	1.0
76-02-8	Trichloroacetyl chloride	1.0
76-06-2	Chloropicrin	1.0
76-13-1	Freon 113 [Ethane, 1,1,2-trichloro-1,2,2,-trifluoro-]	1.0
76-14-2	Dichlorotetrafluoroethane (CFC-114)	1.0
76-15-3	Monochloropentafluoroethane (CFC-115)	1.0
76-44-8	Heptachlor [1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene]	0.1
76-87-9	Triphenyltin hydroxide	1.0
77-47-4	Hexachlorocyclopentadiene	1.0
77-73-6	Dicyclopentadiene	1.0
77-78-1	Dimethyl sulfate	0.1
78-48-8	S,S,S-Tributyltrithiophosphate (DEF)	1.0
78-84-2	Isobutyraldehyde	1.0
78-87-5	1,2-Dichloropropane	1.0
78-88-6	2,3-Dichloropropene	1.0
78-92-2	sec-Butyl alcohol	1.0
78-93-3	Methyl ethyl ketone	1.0
79-00-5	1,1,2-Trichloroethane	1.0
79-01-6	Trichloroethylene	0.1
79-06-1	Acrylamide	0.1
79-10-7	Acrylic acid	1.0
79-11-8	Chloroacetic acid	1.0
79-19-6	Thiosemicarbazide	1.0
79-21-0	Peracetic acid	1.0
79-22-1	Methyl chlorocarbonate	1.0
79-34-5	1,1,2,2-Tetrachloroethane	1.0
79-44-7	Dimethylcarbamyl chloride	0.1
79-46-9	2-Nitropropane	0.1
80-05-7	4,4'-Isopropylidenediphenol	1.0
80-15-9	Cumene hydroperoxide	1.0
80-62-6	Methyl methacrylate	1.0
81-07-2	Saccharin (manufacturing, no supplier notification)	0.1
81-88-9	C.I. Food Red 15	0.1
82-28-0	1-Amino-2-methylanthraquinone	0.1
82-68-8	Quintozene [Pentachloronitrobenzene]	1.0
84-74-2	Dibutyl phthalate	1.0
85-01-8	Phenanthrene	1.0
85-44-9	Phthalic anhydride	1.0
86-30-6	N-Nitrosodiphenylamine	1.0
87-62-7	2,6-Xylidine	0.1
87-68-3	Hexachloro-1,3-butadiene	1.0
87-86-5	Pentachlorophenol (PCP)	0.1
88-06-2	2,4,6-Trichlorophenol	0.1
88-75-5	2-Nitrophenol	1.0
88-85-7	Dinitrobutyl phenol (Dinoseb)	1.0
88-89-1	Picric acid	1.0
90-04-0	o-Anisidine	0.1
90-43-7	2-Phenylphenol	1.0
90-94-8	Michler's ketone	0.1
91-08-7	Toluene-2,6-diisocyanate	0.1
91-20-3	Naphthalene	1.0
91-22-5	Quinoline	1.0
91-59-8	beta-Naphthylamine	0.1
91-94-1	3,3'-Dichlorobenzidine	0.1
92-52-4	Biphenyl	1.0
92-67-1	4-Aminobiphenyl	0.1
92-87-5	Benzidine	0.1
92-93-3	4-Nitrobiphenyl	0.1
93-65-2	Mecoprop	0.1
94-11-1	2,4-D isopropyl ester	0.1
94-36-0	Benzoyl peroxide	1.0
94-58-6	Dihydrosafrole	0.1
94-59-7	Safrole	0.1
94-74-6	Methoxone ((4-Chloro-2-methylphenoxy) acetic acid) (MCPA)	0.1
94-75-7	2,4-D [Acetic acid, (2,4-dichlorophenoxy)-]	0.1
94-80-4	2,4-D butyl ester	0.1

*"Not elsewhere classified" indicated by "n.e.c."

Table II

CAS Number	Chemical Name	De Minimis Concentration
94-82-6	2,4-DB	1.0
95-47-6	o-Xylene	1.0
95-48-7	o-Cresol	1.0
95-50-1	1,2-Dichlorobenzene	1.0
95-53-4	o-Toluidine	0.1
95-54-5	1,2-Phenylenediamine	1.0
95-63-6	1,2,4-Trimethylbenzene	1.0
95-69-2	p-Chloro-o-toluidine	0.1
95-80-7	2,4-Diaminotoluene	0.1
95-95-4	2,4,5-Trichlorophenol	1.0
96-09-3	Styrene oxide	0.1
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	0.1
96-18-4	1,2,3-Trichloropropane	0.1
96-33-3	Methyl acrylate	1.0
96-45-7	Ethylene thiourea	0.1
97-23-4	Dichlorophene [2,2'-Methylenebis(4-chlorophenol)]	1.0
97-56-3	C.I. Solvent Yellow 3	1.0
98-07-7	Benzoic trichloride (Benzotrichloride)	0.1
98-82-8	Cumene	1.0
98-86-2	Acetophenone	1.0
98-87-3	Benzal chloride	1.0
98-88-4	Benzoyl chloride	1.0
98-95-3	Nitrobenzene	0.1
99-30-9	Dichloran [2,6-Dichloro-4-nitroaniline]	1.0
99-55-8	5-Nitro-o-toluidine	1.0
99-59-2	5-Nitro-o-anisidine	1.0
99-65-0	m-Dinitrobenzene	1.0
100-01-6	p-Nitroaniline	1.0
100-02-7	4-Nitrophenol	1.0
100-25-4	p-Dinitrobenzene	1.0
100-41-4	Ethylbenzene	1.0
100-42-5	Styrene	0.1
100-44-7	Benzyl chloride	1.0
100-75-4	N-Nitrosopiperidine	0.1
101-05-3	Anilazine [4,6-Dichloro-N-(2-chlorophenyl)-1,3,5-triazin-2-amine]	1.0
101-14-4	4,4'-Methylenebis(2-chloroaniline)(MBOCA)	0.1
101-61-1	4,4'-Methylenebis(N,N-dimethyl)benzenamine	0.1
101-77-9	4,4'-Methylenedianiline	0.1
101-80-4	4,4'-Diaminodiphenyl ether	0.1
101-90-6	Diglycidyl resorcinol ether	0.1
104-12-1	p-Chlorophenyl isocyanate	1.0
104-94-9	p-Anisidine	1.0
105-67-9	2,4-Dimethylphenol	1.0
106-42-3	p-Xylene	1.0
106-44-5	p-Cresol	1.0
106-46-7	1,4-Dichlorobenzene	0.1
106-47-8	p-Chloroaniline	0.1
106-50-3	p-Phenylenediamine	1.0
106-51-4	Quinone	1.0
106-88-7	1,2-Butylene oxide	1.0
106-89-8	Epichlorohydrin	0.1
106-93-4	1,2-Dibromoethane (Ethylene dibromide)	0.1
106-99-0	1,3-Butadiene	0.1
107-02-8	Acrolein	1.0
107-05-1	Allyl chloride	1.0
107-06-2	1,2-Dichloroethane (Ethylene dichloride)	0.1
107-11-9	Allylamine	1.0
107-13-1	Acrylonitrile	0.1
107-18-6	Allyl alcohol	1.0
107-19-7	Propargyl alcohol	1.0
107-21-1	Ethylene glycol	1.0
107-30-2	Chloromethyl methyl ether	0.1
108-05-4	Vinyl acetate	0.1
108-10-1	Methyl isobutyl ketone	1.0
108-31-6	Maleic anhydride	1.0
108-38-3	m-Xylene	1.0
108-39-4	m-Cresol	1.0
108-45-2	1,3-Phenylenediamine	1.0
108-60-1	Bis(2-chloro-1-methylethyl) ether	1.0
108-88-3	Toluene	1.0
108-90-7	Chlorobenzene	1.0
108-93-0	Cyclohexanol	1.0
108-95-2	Phenol	1.0
109-06-8	2-Methylpyridine	1.0
109-77-3	Malononitrile	1.0
109-86-4	2-Methoxyethanol	1.0
110-54-3	n-Hexane	1.0
110-57-6	trans-1,4-Dichloro-2-butene	1.0
110-80-5	2-Ethoxyethanol	1.0
110-82-7	Cyclohexane	1.0
110-86-1	Pyridine	1.0
111-42-2	Diethanolamine	1.0
111-44-4	Bis(2-chloroethyl) ether	1.0
111-91-1	Bis(2-chloroethoxy) methane	1.0
114-26-1	Propoxur [Phenol, 2-(1-methylethoxy)-, methylcarbamate]	1.0
115-07-1	Propylene (Propene)	1.0
115-28-6	Chlorendic acid	0.1

*C.I. means "Color Index"

Table II

CAS Number	Chemical Name	De Minimis Concentration
115-32-2	Dicofol [Benzenemethanol, 4-chloro-.alpha. -4-(chlorophenyl)-.alpha.-(trichloromethyl)-]	1.0
116-06-3	Aldicarb	1.0
117-79-3	2-Aminoanthraquinone	0.1
117-81-7	Di(2-ethylhexyl) phthalate	0.1
118-74-1	Hexachlorobenzene	0.1
119-90-4	3,3'-Dimethoxybenzidine	0.1
119-93-7	3,3'-Dimethylbenzidine (o-Tolidine)	0.1
120-12-7	Anthracene	1.0
120-36-5	2,4-DP	0.1
120-58-1	Isosafrole	1.0
120-71-8	p-Cresidine	0.1
120-80-9	Catechol	1.0
120-82-1	1,2,4-Trichlorobenzene	1.0
120-83-2	2,4-Dichlorophenol	1.0
121-14-2	2,4-Dinitrotoluene	0.1
121-44-8	Triethylamine	1.0
121-69-7	N,N-Dimethylaniline	1.0
121-75-5	Malathion	1.0
122-34-9	Simazine	1.0
122-39-4	Diphenylamine	1.0
122-66-7	1,2-Diphenylhydrazine (Hydrazobenzene)	0.1
123-31-9	Hydroquinone	1.0
123-38-6	Propionaldehyde	1.0
123-63-7	Paraldehyde	1.0
123-72-8	Butyraldehyde	1.0
123-91-1	1,4-Dioxane	0.1
124-40-3	Dimethylamine	1.0
124-73-2	Dibromotetrafluoroethane (Halon 2402)	1.0
126-72-7	Tris(2,3-dibromopropyl) phosphate	0.1
126-98-7	Methacrylonitrile	1.0
126-99-8	Chloroprene	1.0
127-18-4	Tetrachloroethylene (Perchloroethylene)	0.1
128-03-0	Potassium dimethyldithiocarbamate	1.0
128-04-1	Sodium dimethyldithiocarbamate	1.0
128-66-5	C.I. Vat Yellow 4	1.0
131-11-3	Dimethyl phthalate	1.0
131-52-2	Sodium pentachlorophenate	1.0
132-27-4	Sodium o-phenylphenoxide	0.1
132-64-9	Dibenzofuran	1.0
133-06-2	Captan [1H-Isoindole-1,3(2H)-dione, 3a, 4,7,7a-tetrahydro-2-[(trichloromethyl)thio]-]	1.0
133-07-3	Folpet	1.0
133-90-4	Chloramben [Benzoic acid, 3-amino-2,5-dichloro-]	1.0
134-29-2	o-Anisidine hydrochloride	0.1
134-32-7	alpha-Naphthylamine	0.1
135-20-6	Cupferron [Benzeneamine, N-hydroxy-N-nitroso, ammonium salt]	0.1
136-45-8	Dipropyl isocinchomeronate	1.0
137-26-8	Thiram	1.0
137-41-7	Potassium N-methyldithio-carbamate	1.0
137-42-8	Metham sodium (Sodium methyldithiocarbamate)	1.0
138-93-2	Disodium cyanodithioimido-carbonate	1.0
139-13-9	Nitrilotriacetic acid	0.1
139-65-1	4,4'-Thiodianiline	0.1
140-88-5	Ethyl acrylate	0.1
141-32-2	Butyl acrylate	1.0
142-59-6	Nabam	1.0
148-79-8	Thiabendazole [2-(4-Thiazolyl)-1H-benzimidazole]	1.0
149-30-4	2-Mercaptobenzothiazole (MBT)	1.0
150-50-5	Merphos	1.0
150-68-5	Monuron	1.0
151-56-4	Ethyleneimine (Aziridine)	0.1
156-10-5	p-Nitrosodiphenylamine	1.0
156-62-7	Calcium cyanamide	1.0
298-00-0	Methyl parathion	1.0
300-76-5	Naled	1.0
301-12-2	Oxydemeton methyl [S-(2-(Ethylsulfinyl)ethyl) O,O-dimethyl ester phosphorothioic acid]	1.0
302-01-2	Hydrazine	0.1
306-83-2	2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)	1.0
309-00-2	Aldrin [1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1.alpha.,4.alpha.,4a.beta., 5.alpha.,8.alpha.,8a.beta.)-]	1.0

*"Not elsewhere classified" indicated by "n.e.c."

CAS Number	Chemical Name	De Minimis Concentration
314-40-9	Bromacil (5-Bromo-6-methyl-3-(1-methyl-propyl)-2,4(1H,3H)-pyrimidine-dione)	1.0
319-84-6	alpha-Hexachlorocyclohexane	1.0
330-54-1	Diuron	1.0
330-55-2	Linuron	1.0
333-41-5	Diazinon	1.0
334-88-3	Diazomethane	1.0
353-59-3	Bromochlorodifluoromethane (Halon 1211)	1.0
354-11-0	1,1,1,2-Tetrachloro-2-fluoro-ethane (HCFC-121a)	1.0
354-14-3	1,1,2,2-Tetrachloro-1-fluoroethane (HCFC-121)	1.0
354-23-4	1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	1.0
354-25-6	1-Chloro-1,1,2,2-tetrafluoroethane (HCFC-124a)	1.0
357-57-3	Brucine	1.0
422-44-6	1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225bb)	1.0
422-48-0	2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC-225ba)	1.0
422-56-0	3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	1.0
431-86-7	1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC-225da)	1.0
460-35-5	3-Chloro-1,1,1-trifluoropropane (HCFC-253fb)	1.0
463-58-1	Carbonyl sulfide	1.0
465-73-6	Isodrin	1.0
492-80-8	C.I. Solvent Yellow 34 (Auramine)	0.1
505-60-2	Mustard gas [Ethane, 1,1'-thiobis[2-chloro-]]	0.1
507-55-1	1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	1.0
510-15-6	Chlorobenzilate [Benzeneacetic acid, 4-chloro-. alpha.-(4-chlorophenyl)-.alpha.-hydroxy-, ethyl ester]	1.0
528-29-0	o-Dinitrobenzene	1.0
532-27-4	2-Chloroacetophenone	1.0
533-74-4	Dazomet (Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione)	1.0
534-52-1	4,6-Dinitro-o-cresol	1.0
540-59-0	1,2-Dichloroethylene	1.0
541-41-3	Ethyl chloroformate	1.0
541-53-7	2,4-Dithiobiuret	1.0
541-73-1	1,3-Dichlorobenzene	1.0
542-75-6	1,3-Dichloropropylene	0.1
542-76-7	3-Chloropropionitrile	1.0
542-88-1	Bis(chloromethyl) ether	0.1
554-13-2	Lithium carbonate	1.0
556-61-6	Methyl isothiocyanate [Isothiocyanatomethane]	1.0
563-47-3	3-Chloro-2-methyl-1-propene	0.1
569-64-2	C.I. Basic Green 4	1.0
584-84-9	Toluene-2,4-diisocyanate	0.1
593-60-2	Vinyl bromide	0.1
594-42-3	Perchloromethyl mercaptan	1.0
606-20-2	2,6-Dinitrotoluene	0.1
612-82-8	3,3'-Dimethylbenzidine dihydrochloride (o-Tolidine dihydrochloride)	0.1
612-83-9	3,3'-Dichlorobenzidine dihydrochloride	0.1
615-05-4	2,4-Diaminoanisole	0.1
615-28-1	1,2-Phenylenediamine dihydrochloride	1.0
621-64-7	N-Nitrosodi-n-propylamine	0.1
624-18-0	1,4-Phenylenediamine dihydrochloride	1.0
624-83-9	Methyl isocyanate	1.0
630-20-6	1,1,1,2-Tetrachloroethane	1.0
636-21-5	o-Toluidine hydrochloride	0.1
639-58-7	Triphenyltin chloride	1.0
680-31-9	Hexamethylphosphoramide	0.1
684-93-5	N-Nitroso-N-methylurea	0.1
709-98-8	Propanil (N-(3,4-Dichlorophenyl) propanamide)	1.0
759-73-9	N-Nitroso-N-ethylurea	0.1
759-94-4	Ethyl dipropylthiocarbamate (EPTC)	1.0
764-41-0	1,4-Dichloro-2-butene	1.0
812-04-4	1,1-Dichloro-1,2,2-trifluoroethane (HCFC-123b)	1.0
834-12-8	Ametryn (N-Ethyl-N'-(1-methylethyl)-6-(methylthio)-1,3,5,-triazine-2,4-diamine)	1.0
842-07-9	C.I. Solvent Yellow 14	1.0

*C.I. means "Color Index"

Table II

CAS Number	Chemical Name	De Minimis Concentration
872-50-4	N-Methyl-2-pyrrolidone	1.0
924-16-3	N-Nitrosodi-n-butylamine	0.1
924-42-5	N-Methylolacrylamide	1.0
957-51-7	Diphenamid	1.0
961-11-5	Tetrachlorvinphos [Phosphoric acid, 2-chloro-1-(2,4,5-trichlorophenyl)ethenyl dimethyl ester]	1.0
989-38-8	C.I. Basic Red 1	1.0
1114-71-2	Pebulate [Butylethylcarbamothioic acid S-propyl ester]	1.0
1120-71-4	Propane sultone	0.1
1134-23-2	Cycloate	1.0
1163-19-5	Decabromodiphenyl oxide	1.0
1313-27-5	Molybdenum trioxide	1.0
1314-20-1	Thorium dioxide	1.0
1319-77-3	Cresol (mixed isomers)	1.0
1320-18-9	2,4-D propylene glycol butyl ether ester	0.1
1330-20-7	Xylene (mixed isomers)	1.0
1332-21-4	Asbestos (friable)	0.1
1335-87-1	Hexachloronaphthalene	1.0
1336-36-3	Polychlorinated biphenyls (PCBs)	0.1
1344-28-1	Aluminum oxide (fibrous forms)	1.0
1464-53-5	Diepoxybutane	0.1
1563-66-2	Carbofuran	1.0
1582-09-8	Trifluralin [Benezeneamine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)-]	1.0
1634-04-4	Methyl tert-butyl ether	1.0
1649-08-7	1,2-Dichloro-1,1-difluoroethane (HCFC-132b)	1.0
1689-84-5	Bromoxynil (3,5-Dibromo-4-hydroxybenzonitrile)	1.0
1689-99-2	Bromoxynil octanoate (Octanoic acid, 2,6-dibromo-4-cyanophenyl ester)	1.0
1717-00-6	1,1-Dichloro-1-fluoroethane (HCFC-141b)	1.0
1836-75-5	Nitrofen [Benzene, 2,4-dichloro-1-(4-nitrophenoxy)-]	0.1
1861-40-1	Benfluralin (N-Butyl-N-ethyl-2,6-dinitro-4-(trifluoromethyl)benzenamine)	1.0
1897-45-6	Chlorothalonil [1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-]	1.0
1910-42-5	Paraquat dichloride	1.0
1912-24-9	Atrazine (6-Chloro-N-ethyl-N'-(1-methyl-ethyl)-1,3,5-triazine-2,4-diamine)	0.1
1918-00-9	Dicamba (3,6-Dichloro-2-methoxybenzoic acid)	1.0
1918-02-1	Picloram	1.0
1918-16-7	Propachlor [2-Chloro-N-(1-methylethyl)-N-phenylacetamide]	1.0
1928-43-4	2,4-D 2-ethylhexyl ester	0.1
1929-73-3	2,4-D butoxyethyl ester	0.1
1929-82-4	Nitrapyrin (2-Chloro-6-(trichloromethyl)-pyridine)	1.0
1937-37-7	C.I. Direct Black 38	0.1
1982-69-0	Sodium dicamba [3,6-Dichloro-2-methoxybenzoic acid, sodium salt]	1.0
1983-10-4	Tributyltin fluoride	1.0
2032-65-7	Methiocarb	1.0
2155-70-6	Tributyltin methacrylate	1.0
2164-07-0	Dipotassium endothall [7-Oxabicyclo(2.2.1)heptane-2,3-dicarboxylic acid, dipotassium salt]	1.0
2164-17-2	Fluometuron [Urea, N,N-dimethyl-N'-[3-(trifluoromethyl)phenyl]-]	1.0
2212-67-1	Molinate (1H-Azepine-1-carbothioic acid, hexahydro-S-ethyl ester)	1.0
2234-13-1	Octachloronaphthalene	1.0
2300-66-5	Dimethylamine dicamba	1.0
2303-16-4	Diallate [Carbamothioic acid, bis(1-methyl- ethyl)-S-(2,3-dichloro-2-propenyl) ester]	1.0
2303-17-5	Triallate	1.0
2312-35-8	Propargite	1.0
2439-01-2	Chinomethionat [6-Methyl-1,3-dithiolo[4,5-b]-quinoxalin-2-one]	1.0
2439-10-3	Dodine [Dodecylguanidine monoacetate]	1.0
2524-03-0	Dimethyl chlorothiophosphate	1.0

*"Not elsewhere classified" indicated by "n.e.c."

Table II

CAS Number	Chemical Name	De Minimis Concentration
2602-46-2	C.I. Direct Blue 6	0.1
2655-15-4	2,3,5-Trimethylphenyl methyl carbamate	1.0
2699-79-8	Sulfuryl fluoride (Vikane)	1.0
2702-72-9	2,4-D sodium salt	0.1
2832-40-8	C.I. Disperse Yellow 3	1.0
2837-89-0	2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	1.0
2971-38-2	2,4-D Chlorocrotyl ester	0.1
3118-97-6	C.I. Solvent Orange 7	1.0
3383-96-8	Temephos	1.0
3653-48-3	Methoxone sodium salt ((4-Chloro-2-methylphenoxy) acetate sodium salt)	0.1
3761-53-3	C.I. Food Red 5	0.1
4080-31-3	1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride	1.0
4170-30-3	Crotonaldehyde	1.0
4549-40-0	N-Nitrosomethylvinylamine	0.1
4680-78-8	C.I. Acid Green 3	1.0
5234-68-4	Carboxin (5,6-Dihydro-2-methyl-N-phenyl-1,4-oxathiin-3-carboxamide)	1.0
5598-13-0	Chlorpyrifos methyl [O,O-Dimethyl-O-(3,5,6-trichloro-2-pyridyl)phosphorothioate]	1.0
5902-51-2	Terbacil [5-Chloro-3-(1,1-dimethylethyl)-6-methyl-2,4(1H,3H)-pyrimidinedione]	1.0
6459-94-5	C.I. Acid Red 114	0.1
7287-19-6	Prometryn [N,N'-Bis(1-methylethyl)-6-methylthio-1,3,5-triazine-2,4-diamine]	1.0
7429-90-5	Aluminum (fume or dust)	1.0
7439-92-1	Lead	0.1
7439-96-5	Manganese	1.0
7439-97-6	Mercury	1.0
7440-02-0	Nickel	0.1
7440-22-4	Silver	1.0
7440-28-0	Thallium	1.0
7440-36-0	Antimony	1.0
7440-38-2	Arsenic	0.1
7440-39-3	Barium	1.0
7440-41-7	Beryllium	0.1
7440-43-9	Cadmium	0.1
7440-47-3	Chromium	1.0
7440-48-4	Cobalt	0.1
7440-50-8	Copper	1.0
7440-62-2	Vanadium (fume or dust)	1.0
7440-66-6	Zinc (fume or dust)	1.0
7550-45-0	Titanium tetrachloride	1.0
7632-00-0	Sodium nitrite	1.0
7637-07-2	Boron trifluoride	1.0
7647-01-0	Hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	1.0
7664-38-2	Phosphoric acid	1.0
7664-39-3	Hydrogen fluoride	1.0
7664-41-7	Ammonia (includes anhydrous ammonia and aqueous ammonia from water dissociable ammonium salts and other sources; 10 percent of total aqueous ammonia is reportable under this listing)	1.0
7664-93-9	Sulfuric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	1.0
7696-12-0	Tetramethrin [2,2-Dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylic acid (1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isoindol-2-yl)methyl ester]	1.0
7697-37-2	Nitric acid	1.0
7723-14-0	Phosphorus (yellow or white)	1.0
7726-95-6	Bromine	1.0
7758-01-2	Potassium bromate	0.1
7782-41-4	Fluorine	1.0
7782-49-2	Selenium	1.0
7782-50-5	Chlorine	1.0
7786-34-7	Mevinphos	1.0
7803-51-2	Phosphine	1.0
8001-35-2	Toxaphene	0.1
8001-58-9	Creosote	0.1
9006-42-2	Metiram	1.0
10028-15-6	Ozone	1.0
10034-93-2	Hydrazine sulfate	0.1
10049-04-4	Chlorine dioxide	1.0
10061-02-6	trans-1,3-Dichloropropene	0.1
10294-34-5	Boron trichloride	1.0

**C.I. means "Color Index"*

Table II

CAS Number	Chemical Name	De Minimis Concentration
10453-86-8	Resmethrin [[5-(Phenylmethyl)-3-furanyl] methyl- 2,2-dimethyl-3-(2-methyl-1-propenyl) cyclopropane-carboxylate]]	1.0
12122-67-7	Zineb [Carbamodithioic acid, 1,2-ethanediylbis-, zinc complex]	1.0
12427-38-2	Maneb [Carbamodithioic acid, 1,2-ethanediylbis-, manganese complex]	1.0
13194-48-4	Ethoprop [Phosphorodithioic acid O-ethyl S,S-dipropyl ester]	1.0
13356-08-6	Fenbutatin oxide (Hexakis(2-methyl-2-phenylpropyl)distannoxane)	1.0
13463-40-6	Iron pentacarbonyl	1.0
13474-88-9	1,1-Dichloro-1,2,2,3,3-pentafluoropropane (HCFC-225cc)	1.0
13684-56-5	Desmedipham	1.0
14484-64-1	Ferbam [Tris(dimethylcarbamodithioato-S,S')iron]	1.0
15972-60-8	Alachlor	1.0
16071-86-6	C.I. Direct Brown 95	0.1
16543-55-8	N-Nitrosonornicotine	0.1
17804-35-2	Benomyl	1.0
19044-88-3	Oryzalin [4-(Dipropylamino)-3,5-dinitrobenzenesulfonamide]	1.0
19666-30-9	Oxydiazon [3-[2,4-Dichloro-5-(1-methyl-ethoxy)phenyl]-5-(1,1-dimethyl-ethyl)-1,3,4-oxadiazol-2(3H)-one]	1.0
20325-40-0	3,3'-Dimethoxybenzidine dihydrochloride (o-Dianisidine dihydrochloride)	0.1
20354-26-1	Methazole [2-(3,4-Dichlorophenyl)-4-methyl- 1,2,4-oxadiazolidine-3,5-dione]	1.0
20816-12-0	Osmium tetroxide	1.0
20859-73-8	Aluminum phosphide	1.0
21087-64-9	Metribuzin	1.0
21725-46-2	Cyanazine	1.0
22781-23-3	Bendiocarb [2,2-Dimethyl-1,3-benzodioxol-4-olmethylcarbamate]	1.0
23564-05-8	Thiophanate methyl	1.0
23564-06-9	Thiophanate ethyl [[1,2-Phenylenebis-(iminocarbonothioyl)]biscarbamic acid diethyl ester]	1.0
23950-58-5	Pronamide	1.0
25311-71-1	Isofenphos [2-[[Ethoxyl[(1-methylethyl)-amino]phosphinothioyl]oxy] benzoic acid 1-methylethyl ester]	1.0
25321-14-6	Dinitrotoluene (mixed isomers)	1.0
25321-22-6	Dichlorobenzene (mixed isomers)	0.1
25376-45-8	Diaminotoluene (mixed isomers)	0.1
26002-80-2	Phenothrin [2,2-Dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylic acid (3-phenoxyphenyl)methyl ester]	1.0
26471-62-5	Toluene diisocyanate (mixed isomers)	0.1
26628-22-8	Sodium azide	1.0
26644-46-2	Triforine [N,N'-[1,4-Piperazinediylbis (2,2,2-trichloroethylidene)] bisformamide]	1.0
27314-13-2	Norflurazon [4-Chloro-5-(methylamino)-2-[3-(trifluoromethyl)phenyl]-3(2H)-pyridazinone]	1.0
28057-48-9	d-trans-Allethrin [d-trans-Chrysanthemic acid of d-allethrone]	1.0
28249-77-6	Thiobencarb [Carbamic acid, diethylthio-, S-(p-chlorobenzyl)ester]	1.0
28407-37-6	C.I. Direct Blue 218	1.0
29232-93-7	Pirimiphos methyl [O-(2-(Diethylamino)-6-methyl-4-pyrimidinyl)-O,O-dimethyl phosphorothioate]	1.0
30560-19-1	Acephate (Acetylphosphoramidothioic acid O,S-dimethyl ester)	1.0
31218-83-4	Propetamphos [3-[(Ethylamino)methoxy phosphinothioyl]oxy]-2-butenoic acid, 1-methylethyl ester]	1.0

*"Not elsewhere classified" indicated by "n.e.c."

CAS Number	Chemical Name	De Minimis Concentration
33089-61-1	Amitraz	1.0
34014-18-1	Tebuthiuron [N-[5-(1,1-Dimethylethyl)-1,3,4-thiadiazol-2-yl]-N,N'-dimethylurea]	1.0
34077-87-7	Dichlorotrifluoroethane	1.0
35367-38-5	Diflubenzuron	1.0
35400-43-2	Sulprofos [O-Ethyl O-[4-(methylthio) phenyl]-phosphorodithioic acid S-propyl Ester]	1.0
35554-44-0	Imazalil [1-[2-(2,4-Dichlorophenyl)-2-(2-propenyloxy)ethyl]-1H-imidazole]	1.0
35691-65-7	1-Bromo-1-(bromomethyl)-1,3-propanedicarbonitrile	1.0
38727-55-8	Diethatyl ethyl	1.0
39156-41-7	2,4-Diaminoanisole sulfate	0.1
39300-45-3	Dinocap	1.0
39515-41-8	Fenpropathrin [2,2,3,3-Tetramethylcyclopropane carboxylic acid cyano(3-phenoxyphenyl)methyl ester]	1.0
40487-42-1	Pendimethalin [N-(1-Ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine]	1.0
41198-08-7	Profenofos [O-(4-Bromo-2-chlorophenyl)-O-ethyl-S-propyl-phosphorothioate]	1.0
41766-75-0	3,3'-Dimethylbenzidine dihydrofluoride (o-Tolidine dihydrofluoride)	0.1
42874-03-3	Oxyfluorfen	1.0
43121-43-3	Triadimefon [1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanone]	1.0
50471-44-8	Vinclozolin [3-(3,5-Dichlorophenyl)-5-ethenyl-5-methyl-2,4-oxazolidinedione]	1.0
51235-04-2	Hexazinone	1.0
51338-27-3	Diclofop methyl [2-[4-(2,4-Dichlorophenoxy)-phenoxy]propanoic acid, methyl ester]	1.0
51630-58-1	Fenvalerate [4-Chloro-alpha-(1-methylethyl)-benzeneacetic acid cyano(3-phenoxyphenyl)methyl ester]	1.0
52645-53-1	Permethrin [3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropane carboxylic acid, (3-phenoxyphenyl)methyl ester]	1.0
53404-19-6	Bromacil, lithium salt [2,4(1H,3H)-Pyrimidinedione, 5-bromo-6-methyl-3-(1-methyl propyl), lithium salt]	1.0
53404-37-8	2,4-D 2-ethyl-4-methylpentyl ester	0.1
53404-60-7	Dazomet, sodium salt [Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione, ion(1-), sodium]	1.0
55290-64-7	Dimethipin [2,3-Dihydro-5,6-dimethyl-1,4-dithiin 1,1,4,4-tetraoxide]	1.0
55406-53-6	3-Iodo-2-propynyl butyl carbamate	1.0
57213-69-1	Triclopyr triethylammonium salt	1.0
59669-26-0	Thiodicarb	1.0
60168-88-9	Fenarimol [.alpha.-(2-Chlorophenyl)-.alpha.-4-chlorophenyl)-5-pyrimidine-methanol]	1.0
60207-90-1	Propiconazole [1-[2-(2,4-Dichlorophenyl)-4-propyl- 1,3-dioxolan-2-yl]-methyl-1H-1,2,4,-triazole]	1.0
62476-59-9	Acifluorfen, sodium salt [5-(2-Chloro-4-(trifluoromethyl)-phenoxy)-2-nitrobenzoic acid, sodium salt]	1.0
63938-10-3	Chlorotetrafluoroethane	1.0
64902-72-3	Chlorsulfuron [2-Chloro-N-[[(4-methoxy-6-methyl- 1,3,5-triazin-2-yl)amino] carbonyl]benzenesulfonamide]	1.0
64969-34-2	3,3'-Dichlorobenzidine sulfate	0.1
66441-23-4	Fenoxaprop ethyl [2-(4-((6-Chloro-2-benzoxa zolylen)-oxy)phenoxy)propanoic acid, ethyl ester]	1.0
67485-29-4	Hydramethylnon [Tetrahydro-5,5-dimethyl-2(1H)-pyrimidinone[3-[4-(trifluoromethyl)phenyl]-1-[2-[4-(trifluoromethyl)phenyl]ethenyl]-2-propenylidene]hydrazone]	1.0

*C.I. means "Color Index"

Table II

CAS Number	Chemical Name	De Minimis Concentration
68085-85-8	Cyhalothrin [3-(2-Chloro-3,3,3-trifluoro-1-propenyl)-2,2-Dimethylcyclo-propanecarboxylic acid cyano(3-phenoxyphenyl) methyl ester]	1.0
68359-37-5	Cyfluthrin [3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid, cyano(4-fluoro-3-phenoxyphenyl)methyl ester]	1.0
69409-94-5	Fluvalinate [N-[2-Chloro-4-(trifluoromethyl)-phenyl]-DL-valine(+)-cyano(3-phenoxyphenyl)methyl ester]	1.0
69806-50-4	Fluazifop butyl [2-[4-[[5-(Trifluoromethyl)-2-pyridinyl]oxy]phenoxy]propanoic acid, butyl ester]	1.0
71751-41-2	Abamectin [Avermectin B1]	1.0
72178-02-0	Fomesafen [5-(2-Chloro-4-(trifluoromethyl)-phenoxy)-N-methylsulfonyl)-2-nitrobenzamide]	1.0
72490-01-8	Fenoxycarb [[2-(4-Phenoxyphenoxy)ethyl-] carbamic acid ethyl ester]	1.0
74051-80-2	Sethoxydim [2-[1-(Ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxyl-2-cyclohexen-1-one]	1.0
76578-14-8	Quizalofop-ethyl [2-[4-[(6-Chloro-2-quinoxalinyl)oxy]phenoxy] propanoic acid ethyl ester]	1.0
77501-63-4	Lactofen [Benzoic acid, 5-[2-Chloro-4-(trifluoromethyl)phenoxy]-2-nitro-, 2-ethoxy-1-methyl-2-oxo ethyl ester]	1.0
82657-04-3	Bifenthrin	1.0
88671-89-0	Myclobutanil [.alpha.-Butyl-.alpha.-(4-chlorophenyl)-1H-1,2,4-triazole-1-propanenitrile]	1.0
90454-18-5	Dichloro-1,1,2-trifluoroethane	1.0
90982-32-4	Chlorimuron ethyl [Ethyl-2-[[[[(4-chloro-6-methoxyprimidin-2-yl)amino]-carbonyl]-amino]sulfonyl]benzoate]	1.0
101200-48-0	Tribenuron methyl [2-[[[[(4-Methoxy-6-methyl-1,3,5-triazin-2-yl)methylamino] carbonyl] amino]sulfonyl]benzoic acid-, methyl ester]	1.0
111512-56-2	1,1-Dichloro-1,2,3,3,3-pentafluoropropane (HCFC-225eb)	1.0
111984-09-9	3,3'-Dimethoxybenzidine hydrochloride (o-Dianisidine hydrochloride)	0.1
127564-92-5	Dichloropentafluoropropane	1.0
128903-21-9	2,2-Dichloro-1,1,1,3,3-pentafluoropropane (HCFC-225aa)	1.0
136013-79-1	1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225ea)	1.0

*"Not elsewhere classified" indicated by "n.e.c."

c. Chemical Categories

Section 313 requires reporting on the EPCRA Section 313 chemical categories listed below, in addition to the specific EPCRA Section 313 chemicals listed above.

The metal compound categories listed below, unless otherwise specified, are defined as including any unique chemical substance that contains the named metal (i.e., antimony, nickel, etc.) as part of that chemical's structure.

EPCRA Section 313 chemical categories are subject to the 1 percent *de minimis* concentration unless the substance involved meets the definition of an OSHA carcinogen in which case the 0.1 percent *de minimis* concentration applies. The *de minimis* concentration for each category is provided in parentheses.

N010 Antimony Compounds (1.0)
Includes any unique chemical substance that contains antimony as part of that chemical's infrastructure.

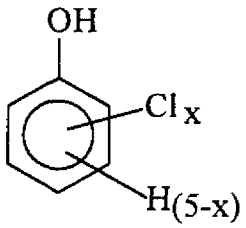
N020 Arsenic Compounds (inorganic compounds: 0.1; organic compounds: 1.0)
Includes any unique chemical substance that contains arsenic as part of that chemical's infrastructure.

N040 Barium Compounds (1.0)
Includes any unique chemical substance that contains barium as part of that chemical's infrastructure. This category does not include: Barium sulfate CAS Number 7727-43-7

N050 Beryllium Compounds (0.1)
Includes any unique chemical substance that contains beryllium as part of that chemical's infrastructure.

N078 Cadmium Compounds (0.1)
Includes any unique chemical substance that contains cadmium as part of that chemical's infrastructure.

N084 Chlorophenols (0.1)



Where x = 1 to 5

N090 Chromium Compounds (chromium VI compounds: 0.1; chromium III compounds: 1.0) *Includes any unique chemical substance that contains chromium as part of that chemical's infrastructure.*

N096 Cobalt Compounds (0.1)
Includes any unique chemical substance that contains cobalt as part of that chemical's infrastructure.

N100 Copper Compounds (1.0)
Includes any unique chemical substance that contains copper as part of that chemical's infrastructure. This category does not include copper phthalocyanine compounds that are substituted with only hydrogen, and/or chlorine, and/or bromine.

N106 Cyanide Compounds (1.0)
X^+CN^- where $X = H^+$ or any other group where a formal dissociation may occur. For example KCN or $Ca(CN)_2$.

N120 Diisocyanates (1.0)
This category includes only those chemicals listed below.

38661-72-2	1,3-Bis(methylisocyanate) - cyclohexane
10347-54-3	1,4-Bis(methylisocyanate)-cyclohexane
2556-36-7	1,4-Cyclohexane diisocyanate
134190-37-7	Diethyldiisocyanatobenzene
4128-73-8	4,4'-Diisocyanatodiphenyl ether
75790-87-3	2,4'-Diisocyanatodiphenyl sulfide

*C.I. means "Color Index"

Table II

91-93-0	3,3'-Dimethoxybenzidine-4,4'-diisocyanate
91-97-4	3,3'-Dimethyl-4,4'-diphenylene diisocyanate
139-25-3	3,3'-Dimethyldiphenyl methane-4,4'-diisocyanate
822-06-0	Hexamethylene-1,6-diisocyanate
4098-71-9	Isophorone diisocyanate
75790-84-0	4-Methyldiphenylmethane-3,4-diisocyanate
5124-30-1	1,1-Methylene bis(4-isocyanatocyclohexane)
101-68-8	Methylene bis(phenylisocyanate) (MDI)
3173-72-6	1,5-Naphthalene diisocyanate
123-61-5	1,3-Phenylene diisocyanate
104-49-4	1,4-Phenylene diisocyanate
9016-87-9	Polymeric diphenylmethane diisocyanate
16938-22-0	2,2,4-Trimethylhexamethyl-ene diisocyanate
15646-96-5	2,4,4-Trimethylhexa-methylene diisocyanate

N171 Ethylenebisdithiocarbamic acid, salts and esters (EBDCs) (1.0)
Includes any unique chemical substance that contains an EBDC or an EBDC salt as part of that chemical's infrastructure.

N230 Certain Glycol Ethers (1.0)

$R\text{-}(OCH_2CH_2)_n\text{-}OR'$
Where n = 1, 2, or 3
R = alkyl C7 or less; or
R = phenyl or alkyl substituted phenyl;
R' = H, or alkyl C7 or less; or
OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

N420 Lead Compounds (inorganic compounds: 0.1; organic compounds 1.0)
Includes any unique chemical substance that contains lead as part of that chemical's infrastructure.

N450 Manganese Compounds (1.0)
Includes any unique chemical substance that contains manganese as part of that chemical's infrastructure.

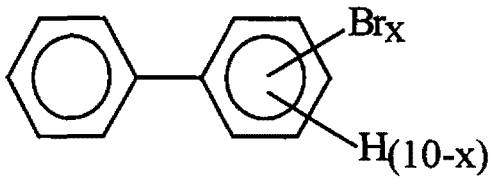
N458 Mercury Compounds (1.0)
Includes any unique chemical substance that contains mercury as part of that chemical's infrastructure.

N495 Nickel Compounds (0.1)
Includes any unique chemical substance that contains nickel as part of that chemical's infrastructure.

N503 Nicotine and salts (1.0)
Includes any unique chemical substance that contains nicotine or a nicotine salt as part of that chemical's infrastructure.

N511 Nitrate compounds (water dissociable; reportable only when in aqueous solution) (1.0)

N575 Polybrominated Biphenyls (PBBs) (0.1)



Where x = 1 to 10

N583 Polychlorinated alkanes (C_{10} to C_{13}) (1.0, except for those members of the category that have an average chain length of 12 carbons and contain an average chlorine content of 60 percent by weight which are subject to the 0.1 percent *de minimis*)

$C_xH_{2x+2-y}Cl_y$
where x = 10 to 13;
y = 3 to 12; and
the average chlorine content ranges from 40 - 70% with the limiting molecular formulas $C_{10}H_{19}Cl_3$ and $C_{13}H_{16}Cl_{12}$

N590 Polycyclic aromatic compounds (PACs) (0.1 except for benzo(a)phenanthrene and dibenzo(a,e)fluoranthene that are subject to the 1.0 percent *de minimis*)
This category includes only those chemicals listed below.

*"Not elsewhere classified" indicated by "n.e.c."

56-55-3	Benz(a)anthracene
205-99-2	Benzo(b)fluoranthene
205-82-3	Benzo(j)fluoranthene
207-08-9	Benzo(k)fluoranthene
189-55-9	Benzo(rst)pentaphene
218-01-9	Benzo(a)phenanthrene
50-32-8	Benzo(a)pyrene
226-36-8	Dibenz(a,h)acridine
224-42-0	Dibenz(a,j)acridine
53-70-3	Dibenzo(a,h)anthracene
194-59-2	7H-Dibenzo(c,g)carbazole
5385-75-1	Dibenzo(a,e)fluoranthene
192-65-4	Dibenzo(a,e)pyrene
189-64-0	Dibenzo(a,h)pyrene
191-30-0	Dibenzo(a,l)pyrene
57-97-6	7,12-Dimethylbenz(a)-anthracene
193-39-5	Indeno[1,2,3-cd]pyrene
3697-24-3	5-Methylchrysene
5522-43-0	1-Nitropyrene

N725 Selenium Compouds (1.0)
Includes any unique chemical substance that contains selenium as part of that chemical's infrastructure.

N740 Silver Compounds (1.0)
Includes any unique chemical substance that contains silver as part of that chemical's infrastructure.

N746 Strychnine and salts (1.0)
Includes any unique chemical substance that contains strychnine or a strychnine salt as part of that chemical's infrastructure.

N760 Thallium Compounds (1.0)
Includes any unique chemical substance that contains thallium as part of that chemical's infrastructure.

N874 Warfarin and salts (1.0)
Includes any unique chemical substance that contains warfarin or a warfarin salt as part of that chemical's infrastructure.

N982 Zinc Compounds (1.0)
Includes any unique chemical substance that contains zinc as part of that chemical's infrastructure.

**C.I. means "Color Index"*

Table III. State Abbreviations

Alabama	AL	Kentucky	KY	Commonwealth of Northern Marianas Islands	MP
Alaska	AK	Louisiana	LA	Ohio	OH
American Samoa	AS	Maine	ME	Oklahoma	OK
Arizona	AZ	Marshall Islands	MH	Oregon	OR
Arkansas	AR	Maryland	MD	Pennsylvania	PA
California	CA	Massachusetts	MA	Puerto Rico	PR
Colorado	CO	Michigan	MI	Rhode Island	RI
Connecticut	CT	Minnesota	MN	South Carolina	SC
Delaware	DE	Mississippi	MS	South Dakota	SD
District of Columbia	DC	Missouri	MO	Tennessee	TN
Florida	FL	Montana	MT	Texas	TX
Georgia	GA	Nebraska	NE	Utah	UT
Guam	GU	Nevada	NV	Vermont	VT
Hawaii	HI	New Hampshire	NH	Virginia	VA
Idaho	ID	New Jersey	NJ	Virgin Islands	VI
Illinois	IL	New Mexico	NM	Washington	WA
Indiana	IN	New York	NY	West Virginia	WV
Iowa	IA	North Carolina	NC	Wisconsin	WI
Kansas	KS	North Dakota	ND	Wyoming	WY

Special Instructions for TRI Federal Facility Reporting

Why Do Federal Facilities Need to Report?

Executive Order 12856, Pollution Prevention and Right-to-Know Reporting, requires federal agencies to comply with the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and the Pollution Prevention Act of 1990 (PPA). By Executive Order, federal facilities must report Toxics Release Inventory (TRI) data, pursuant to EPCRA Section 313 and PPA Section 6607 to EPA beginning with calendar year 1994 data. TRI submissions are due to EPA on July 1 of the year following each reporting (calendar) year. Reporting by the federal facility however does not alter the reporting obligation of on-site contractors. The "Government Owned Contractor Operated" (GOCO) facilities must continue to report TRI data if they are subject to EPCRA section 313.

Identifying Federal Facility Reports

Federal facility reports are identified as federal by several indicators on the form. The facility name and parent company name are critical indicators and must be reported as described below. Another critical indicator is the federal facility report box. Federal facilities only should check this box (Form R page 2, block 4.2c) to indicate that the report is from a federal agency for a federal facility. Federal facilities should also complete the partial or complete facility blocks (Form R page 2, block 4.2a and 4.2b) as appropriate. If you are a federal facility reporting for the first time, write "new" in the TRI Facility ID (TRIFID) box, even if a contractor has reported for your facility in the past. The contractor will retain the original TRIFID. You will be assigned a new TRIFID the first time you report.

The "Double Counting" Problem

As structured, the law and the executive order require both regulated industries and the federal government to report TRI data, sometimes for the same site. In order to prevent duplicate data in the TRI database, which could result in "double counting" data for some chemicals and locations, EPA must be able to identify and distinguish the "Government Owned Contractor Operated" (GOCO) reports submitted by the federal contractor from the federal reports which contain data for the same site. To accomplish this, federal facility reports must be accompanied by either 1) exact copies (paper or electronic) of all contractor TRI reports included in the totals reported by the federal facility, or 2) a cover letter which includes a list of the facility contractors which submit TRI reports to EPA, identifying each contractor by name, TRI technical contact, and TRI facility name and address.

Magnetic Media Reporting

EPA encourages all federal facilities and GOCO facilities to report using either EPA's Magnetic Media reporting software, or one of the commercially available packages. If the GOCO also submits its reports on magnetic media to EPA and to the federal facility, the federal facility may submit magnetic media copies of their GOCO TRI reports to EPA. Magnetic media reports must be accompanied by a cover letter which includes:

- Required Form R certification statement;
- List of the chemicals reported on the federal facility's disk; and
- List, identifying the contractor(s) by name and and by TRIFID number if they have an assigned TRIFID number, and the chemicals they reported (which are on the contractors' attachment disk(s))

How to Report Your Facility Name

Facility name is a critical data element. It is used by EPA to create the TRI facility ID number, which is a unique number designed to identify a facility site. The facility name and TRIFID number are used by all TRI data users to link data from a single site across multiple reporting years. Each federal facility will be assigned a new TRIFID number when the federal report is entered into the Toxics Release Inventory system for the first time. This TRIFID number, generated when the first report is entered into the Toxics Release Inventory System, will be included in future reporting packages sent to federal facilities, and should be used by federal facilities in all future reports.

Federal facilities should report their facility name on page 1 of the Form Rs (Section 4.1), as shown in the following example:

U.S. DOE Savannah River Site

It is very important that the agency name appear first, followed by the specific plant or site name.

Federal contractors at GOCO facilities should report their names as shown in the following example:

U.S. DOE Savannah River Site – Westinghouse Operations.

How to Report Your Standard Industrial Classification (SIC) Code

Federal facilities should report the SIC code which most closely represents the activities taking place at the site. Additional guidance on determining your SIC code is provided in the Forms and Instructions booklet. The table on the next page contains Public Administration SIC codes 91-97 covering executive, legislative, judicial, administrative and regulatory activities of the Federal government. Government-owned and operated business establishments are classified in major SIC groups 01-89 according to the activity in which they are engaged. For example, a Veterans Hospital would be classified in Group 806 – Hospitals.

How to Report Your "Parent Company" Name

Federal facilities should report their parent company name on page 2 of the Form Rs (Section 5.1) by reporting their complete Department or Agency name, as shown in the following example:

U.S. Department of Energy

Block 5.2, Parent Company's Dun & Bradstreet Number, should be marked NA.

Federal contractors at GOCO should not report a federal department or agency name as their parent company. A federal name in the parent company name field will classify the report as federal, and the GOCO may be identified as a non-reporter.

How to Revise Your Data After It Has Been Submitted

Any TRI Form R submitter may voluntarily revise their submission if they find errors after their reports have been sent to EPA. If a federal facility receives a copy of a revision from a GOCO, the facility should revise the federal report, and submit the revised report to EPA and the appropriate state along with an exact copy of the GOCO's revision. If the revision is to a hardcopy report, the facility should photocopy the original form, use a blue or black pen to mark out the incorrect value and write in the corrected value. The revised report should be submitted to EPA, with an "X" in the revision block on page 1 of the Form R. If the revision is to a diskette, a new diskette should be submitted, containing the data only for the revised submission, not all the chemicals originally reported. The cover letter must indicate that the submission is a revision.

National Security Data

DO NOT SUBMIT NATIONAL SECURITY DATA TO THE EPCRA REPORTING CENTER. National security data are handled through a separate process. Facilities should consult the Guidance for Implementing Executive Order 12856 documents or call the EPCRA Hotline if their Form R submission involves a national security data claim.

Who Should Sign Federal Form R Reports?

Federal Form R reports must be signed by the senior federal employee on-site. If no federal employee is on-site, federal Form R reports must be signed by the senior federal employee with management responsibility for the site. Federal Form R reports must be signed by a federal employee. Contractor employee signatures are not considered valid on federal reports.

More Help is Available!

Federal facilities may call EPA's EPCRA Hotline at 1 (800) 424-9346, or (703) 412-9877 to ask specific questions concerning how to submit their Form R reports.

Standard Industrial Classification Codes 91–97

Division J — Public Administration

91 Executive, Legislative, and General Government, Except Finance

9111 Executive Offices
9121 Legislative Bodies
9131 Executive and Legislative Offices Combined
9199 General Government, Not Elsewhere Classified

92 Justice, Public Order, and Safety

9211 Courts
9221 Police Protection
9222 Legal Counsel and Prosecution
9223 Correctional Institutions
9224 Fire Protection
9229 Public Order and Safety, Not Elsewhere Classified

93 Public Finance, Taxation, and Monetary Policy

9311 Public Finance, Taxation, and Monetary Policy

94 Administration of Human Resource Programs

9411 Administration of Educational Programs
9431 Administration of Public Health Programs
9441 Administration of Social, Human Resource and Income Maintenance Programs
9451 Administration of Veterans' Affairs, Except Health and Insurance

95 Administration of Environmental Quality and Housing Programs

9511 Air and Water Resource and Solid Waste Management
9512 Land, Mineral, Wildlife, and Forest Conservation
9531 Administration of Housing Programs
9532 Administration of Urban Planning and Community and Rural Development

96 Administration of Economic Programs

9611 Administration of General Economic Programs
9621 Regulation and Administration of Transportation Programs
9631 Regulation and Administration of Communications, Electric, Gas, and Other Utilities
9641 Regulation of Agricultural Marketing and Commodities
9651 Regulation, Licensing, and Inspection of Miscellaneous Commercial Sectors
9661 Space Research and Technology

97 National Security and International Affairs

9711 National Security
9721 International Affairs

Appendix B. Reporting Codes For EPA Form R

Form R Part II

Section 1.1. CAS Number

EPCRA Section 313 Chemical Category Codes

N010	Antimony compounds
N020	Arsenic compounds
N040	Barium compounds
N050	Beryllium compounds
N078	Cadmium compounds
N084	Chlorophenols
N090	Chromium compounds
N096	Cobalt compounds
N100	Copper compounds
N106	Cyanide compounds
N120	Diisocyanates
N171	Ethylenebisdithiocarbamic acid, salts and esters (EBDCs)
N230	Certain glycol ethers
N420	Lead compounds
N450	Manganese compounds
N458	Mercury compounds
N495	Nickel compounds
N503	Nicotine and salts
N511	Nitrate compounds
N575	Polybrominated biphenyls (PBBs)
N583	Polychlorinated alkanes
N590	Polycyclic aromatic compounds
N725	Selenium compounds
N740	Silver compounds
N746	Strychnine and salts
N760	Thallium compounds
N874	Warfarin and salts
N982	Zinc compounds

Section 4. Maximum Amount of the Toxic Chemical On-Site at Any Time During the Calendar Year

Weight Range in Pounds

Range Code	From...	To....
01	0	99
02	100	999
03	1,000	9,999
04	10,000	99,999
05	100,000	999,999
06	1,000,000	9,999,999
07	10,000,000	49,999,999
08	50,000,000	99,999,999
09	100,000,000	499,999,999
10	500,000,000	999,999,999
11	1 billion	more than 1 billion

Section 5. Quantity of the Toxic Chemical Entering Each Environmental Medium On-site and
Section 6. Transfers of the Toxic Chemical in Wastes to Off-Site Locations

Total Release or Transfer

Code	Range (lbs)
A	1-10
B	11-499
C	500-999

Basis of Estimate

M: Estimate is based on monitoring data or measurements for the EPCRA Section 313 chemical as transferred to an off-site facility.

C: Estimate is based on mass balance calculations, such as calculation of the amount of the EPCRA Section 313 chemical in waste streams entering and leaving process equipment.

E: Estimate is based on published emission factors, such as those relating release quantity to through-put or equipment type (e.g., air emission factors).

O: Estimate is based on other approaches such as engineering calculations (e.g., estimating volatilization using published mathematical formulas) or best engineering judgment. This would include applying an estimated removal efficiency to a treatment, even if the composition of the waste before treatment was fully identified through monitoring data.

Section 6. Transfers of the Toxic Chemical in Wastes to Off-Site Locations

Type of Waste Disposal/Treatment/Energy Recovery/Recycling

M10	Storage Only
M20	Solvents/Organics Recovery
M24	Metals Recovery
M26	Other Reuse or Recovery
M28	Acid Regeneration
M40	Solidification/Stabilization
M41	Solidification/Stabilization-Metals and Metal Category Compounds only
M50	Incineration/Thermal Treatment
M54	Incineration/Insignificant Fuel Value
M56	Energy Recovery
M61	Wastewater Treatment (Excluding POTW)
M62	Wastewater Treatment (Excluding POTW) — Metals and Metal Category Compounds only
M69	Other Waste Treatment
M71	Underground Injection
M72	Landfill/Disposal Surface Impoundment
M73	Land Treatment
M79	Other Land Disposal
M90	Other Off-Site Management
M92	Transfer to Waste Broker — Energy Recovery
M93	Transfer to Waste Broker — Recycling
M94	Transfer to Waste Broker — Disposal
M95	Transfer to Waste Broker — Waste Treatment
M99	Unknown

Federal Information Processing Standards (FIPS) Codes for Transfers of the EPCRA Section 313 Chemical to Other Countries

This is an abridged list of countries to which a U.S. facility might ship an EPCRA Section 313 chemical. For a complete listing of FIPS codes, consult your local library. To obtain a FIPS code for a country not listed, contact the EPCRA Hotline.

Country	Code
Argentina	AR
Belgium	BE
Bolivia	BL
Brazil	BR
Canada	CA
Chile	CI
Columbia	CO
Costa Rica	CS
Cuba	CU
Ecuador	EC
El Salvador	ES
France	FR
Guatemala	GT
Honduras	HO
Ireland	EI
Italy	IT
Mexico	MX
Nicaragua	NU
Panama	PM
Paraguay	PA
Peru	PE
Portugal	PO
Spain	SP
Switzerland	SZ
United Kingdom	UK
Uruguay	UY
Venezuela	VE

Section 7A. On-Site Waste Treatment Methods and Efficiency

General Waste Stream

A	Gaseous (gases, vapors, airborne particulates)
W	Wastewater (aqueous waste)
L	Liquid waste streams (non-aqueous waste)
S	Solid waste streams (including sludges and slurries)

Waste Treatment Methods

Air Emissions Treatment

A01	Flare
A02	Condenser
A03	Scrubber
A04	Absorber
A05	Electrostatic Precipitator
A06	Mechanical Separation
A07	Other Air Emission Treatment

Biological Treatment

B11	Biological Treatment — Aerobic
B21	Biological Treatment — Anaerobic
B31	Biological Treatment — Facultative

B99 Biological Treatment – Other

Chemical Treatment

C01 Chemical Precipitation – Lime or Sodium Hydroxide
C02 Chemical Precipitation – Sulfide
C09 Chemical Precipitation – Other
C11 Neutralization
C21 Chromium Reduction
C31 Complexed Metals Treatment (other than pH Adjustment)
C41 Cyanide Oxidation – Alkaline Chlorination
C42 Cyanide Oxidation – Electrochemical
C43 Cyanide Oxidation – Other
C44 General Oxidation (Including Disinfection)–Chlorination
C45 General Oxidation (Including Disinfection) – Ozonation
C46 General Oxidation (Including Disinfection) – Other
C99 Other Chemical Treatment

Incineration/Thermal Treatment

F01 Liquid Injection
F11 Rotary Kiln with Liquid Injection Unit
F19 Other Rotary Kiln
F31 Two Stage
F41 Fixed Hearth
F42 Multiple Hearth
F51 Fluidized Bed
F61 Infra-Red
F71 Fume/Vapor
F81 Pyrolytic Destructor
F82 Wet Air Oxidation
F83 Thermal Drying/Dewatering
F99 Other Incineration/Thermal Treatment

Physical Treatment

P01 Equalization
P09 Other Blending
P11 Settling/Clarification
P12 Filtration
P13 Sludge Dewatering (Non-thermal)
P14 Air Flotation
P15 Oil Skimming
P16 Emulsion Breaking – Thermal
P17 Emulsion Breaking – Chemical
P18 Emulsion Breaking – Other
P19 Other Liquid Phase Separation
P21 Adsorption – Carbon
P22 Adsorption – Ion Exchange (Other than for recovery/reuse)
P23 Adsorption – Resin
P29 Adsorption – Other
P31 Reverse Osmosis (Other than for recovery/reuse)
P41 Stripping – Air
P42 Stripping – Steam
P49 Stripping – Other
P51 Acid Leaching (Other than for recovery/reuse)
P61 Solvent Extraction (Other than for recovery/reuse)
P99 Other Physical Treatment

Solidification/Stabilization

G01 Cement Processes (Including Silicates)
G09 Other Pozzolonic Processes (Including Silicates)
G11 Asphaltic Processes
G21 Thermoplastic Techniques
G99 Other Solidification Processes

Range of Influent Concentration

1 = Greater than 10,000 parts per million (1 percent)
2 = 100 parts per million (0.01 percent) to 10,000 parts per million (1 percent)
3 = 1 part per million (0.0001 percent) to 100 parts per million (0.01 percent)
4 = 1 part per billion to 1 part per million
5 = Less than 1 part per billion

[Note: Parts per million (ppm) is milligrams/ kilogram (mass/mass) for solids and liquids; cubic centimeters/ cubic meter (volume/volume) for gases; milligrams/liter for solutions or dispersions of the chemical in water; and milligrams of chemical/kilogram of air for particulates in air. If you have particulate concentrations (at standard temperature and pressure) as grains/cubic foot of air, multiply by 1766.6 to convert to parts per million; if in milligrams/cubic meters, multiply by 0.773 to obtain parts per million. Factors are for standard conditions of 0°C (32°F) and 760 mmHg atmospheric pressure.]

Section 7B. On-Site Energy Recovery Processes

U01 Industrial Kiln
U02 Industrial Furnace
U03 Industrial Boiler

U09 Other Energy Recovery Methods

Section 7C. On-Site Recycling Processes

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

Section 8.10. Source Reduction Activity Codes

Good Operating Practices

W13 Improved maintenance scheduling, record keeping, or procedures
W14 Changed production schedule to minimize equipment and feedstock changeovers
W19 Other changes in operating practices

Inventory Control

W21 Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life
W22 Began to test outdated material – continue to use if still effective
W23 Eliminated shelf-life requirements for stable materials
W24 Instituted better labeling procedures
W25 Instituted clearinghouse to exchange materials that would otherwise be discarded
W29 Other changes in inventory control

Spill and Leak Prevention

W31 Improved storage or stacking procedures
W32 Improved procedures for loading, unloading, and transfer operations
W33 Installed overflow alarms or automatic shut-off valves
W35 Installed vapor recovery systems
W36 Implemented inspection or monitoring program of potential spill or leak sources
W39 Other changes made in spill and leak prevention

Raw Material Modifications

W41 Increased purity of raw materials
W42 Substituted raw materials
W49 Other raw material modifications made

Process Modifications

W51 Instituted recirculation within a process
W52 Modified equipment, layout, or piping
W53 Use of a different process catalyst
W54 Instituted better controls on operating bulk containers to minimize discarding of empty containers
W55 Changed from small volume containers to bulk containers to minimize discarding of empty containers
W58 Other process modifications

Cleaning and Degreasing

W59 Modified stripping/cleaning equipment
W60 Changed to mechanical stripping/cleaning devices (from solvents or other materials)
W61 Changed to aqueous cleaners (from solvents or other materials)
W63 Modified containment procedures for cleaning units
W64 Improved draining procedures
W65 Redesigned parts racks to reduce drag out
W66 Modified or installed rinse systems
W67 Improved rinse equipment design
W68 Improved rinse equipment operation
W71 Other cleaning and degreasing modifications

Surface Preparation and Finishing

W72 Modified spray systems or equipment
W73 Substituted coating materials used
W74 Improved application techniques
W75 Changed from spray to other system
W78 Other surface preparation and finishing modifications

Product Modifications

W81 Changed product specifications
W82 Modified design or composition of products
W83 Modified packaging
W89 Other product modifications

Section 8.10. Methods Used to Identify Source Reduction Activities

For each source reduction activity, enter up to three of the following codes that correspond to the method(s) which contributed most to the decision to implement that activity.

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

Appendix C. Common Errors in Completing Form R Reports and Making Data Available

The common errors in complying with section 313 and completing Form R occur in the following: threshold determination, completing the Form R, estimating release and other waste management amounts, and transcription of data submitted as they are entered into the database.

To correct errors made in the transcription of data received, EPA designed the data entry process to include a number of automated data quality checks. These types of checks are useful to correct such things as facility name, or county spelling, but these checks are less effective in detecting whether values were entered correctly. Previously, EPA sent back to each reporting facility a release value report (RVR) that included amounts entered in sections 5 and 6 of the Form R. This allowed facilities an opportunity to see a large portion of their report and make corrections before the database was updated and released to the public. The RVR was replaced with a Facility Data Profile beginning with the 1998 reporting year. A facility data profile is a printout of the data EPA has entered into its database for each facility. It is mailed to each reporting facility to check for errors before EPA begins its analysis of the data and make it available to the public. It also flags possible errors in reporting.

Some errors encountered in reports submitted do not allow the report to be processed, while others may not prevent processing but may affect the data and any analysis using the data if not corrected. Errors most frequently received pertain to facility identification/location, chemical identification, missing pages, invalid Form Rs, magnetic disk processing, or more than one chemical being reported per Form R. In order to notify reporting facilities of these errors and provide them instructions for making corrections, EPA has in the past issued a number of notice types. These included NOTEs (Notice of Technical Error), NOSEs (Notice of Significant Error), NDC (Notice of Data Change), and where there was a compliance issue, a notice of non-compliance (NON). Prior to RY1998 these were generally issued separately. Beginning with the 1998 reporting year, these reporting notices were consolidated and issued to the reporting facility in their Facility Data Profile, except for the NONs which are issued by EPA's Office of Enforcement and Compliance Assurance.

A listing of the types of errors that generate invalid entries in the facility data profile are listed in this section beginning on page C-8. (Please note: two new validation checks for use of proper waste management code were added during the review of the 1998 data. These codes appear under "Notices of Technical Errors (NOTEs)" as 339 and 340 on page C-11.)

Reporting errors may also be identified through inspections. EPA may initiate an inspection to review the activities at a facility involving reportable EPCRA Section 313 chemicals at any point. If, as a result of an inspection, EPA determines that the facility should have submitted a Form R, then EPA may take enforcement action against the facility which may involve the subsequent assessment of fines. Errors that result in non-reporting violations include incorrect threshold determination, misapplying exemptions, and overlooking activities involving a reportable chemical.

Facilities should keep copies of submitted Form R reports and all documentation used to complete their reports. This documentation should include calculations for threshold determinations, the basis of exemptions applied, and the estimation techniques and data used for all quantities reported on the Form R.

General Considerations

- **Incomplete Forms.** A complete Form R report for a single EPCRA Section 313 chemical or single EPCRA Section 313 chemical category consists of five pages stapled together. EPA cannot enter into the database data from a package that contains only one page 1, but several page 2s, 3s, 4s, and/or 5s. Such forms are considered incomplete submissions.

Threshold Determinations

- **Calculating threshold determinations.** Annual quantities manufactured, processed, or otherwise used for Section 313 chemicals must be calculated, not surmised. The assumption that thresholds are exceeded commonly leads to error.
- **Misclassification of EPCRA Section 313 chemical activity.** Failure to correctly classify an EPCRA Section 313 chemical activity may result in an

incorrect threshold determination. As a result, a Form R may not be submitted when one is required.

- ❑ **EPCRA Section 313 chemical activity overlooked.** Many facilities believe that because the section 313 reporting requirement pertains to manufacturers, only the use of EPCRA Section 313 chemicals in manufacturing processes must be examined. *Any activity* involving the manufacture, process, or otherwise use of an EPCRA Section 313 chemical or chemical category must be included in threshold determinations. Commonly overlooked activities include importation of chemicals, generation of waste byproducts, processing of naturally occurring metals and metal category compounds in ore, manufacturing and processing of reaction intermediates, the use of chemicals for cleaning of equipment, and the generation of byproducts during combustion of coal and/or oil. Facilities should take a systematic approach to identify all chemicals and mixtures used in production and non-production capacities, including catalysts, well treatment chemicals, and wastewater treatment chemicals.

- ❑ **Reporting EPCRA Section 313 chemicals in mixtures and other trade name products.** EPCRA Section 313 chemicals contained in mixtures (including ores and stainless steel alloys) and other trade name products must be factored into threshold determinations and release and other waste management determinations, provided that the *de minimis* exemption cannot be taken. When the EPCRA Section 313 chemical being reported is a component in a mixture or other trade name product, report only the weight of the EPCRA Section 313 chemical in the mixture. Refer to Section B.4b of this document to calculate the weight of an EPCRA Section 313 chemical in a mixture or other trade name product.

- ❑ **Reporting coincidental manufacturing.** Coincidental manufacturing must not be overlooked. If coal and/or fuel oil and other raw materials that contain EPCRA Section 313 chemicals are used in boilers/burners, there is a potential for the coincidental manufacture of EPCRA Section 313 chemicals such as sulfuric acid (acid aerosols), hydrochloric acid (acid aerosols), hydrogen fluoride, and metal category compounds. Additionally, manufacturing of EPCRA Section 313 chemicals during waste treatment is commonly overlooked. For example, the treatment of nitric acid may result in the coincidental manufacturing of a reportable chemical (nitrate compounds).

Container Residue

- ❑ **Overlooking container residue.** Container residue must not be disregarded in release and other waste management calculations. Even a "RCRA empty" drum is expected to contain a residue and it must be considered for TRI reporting. Additionally, on-site drum rinsing and disposal of the rinsate will result in a release and other waste management activity. Refer to "Estimating Releases and Waste Treatment Efficiencies for Toxic Chemical Reporting Forms."

Part I. Facility Identification Information

Section 1. Reporting Year

- ❑ **Invalid Forms.** The correct version of the form for the reporting year in question must be used. Forms provided for reporting years 1987-1990 must not be used to report data for reporting years 1991-1995. Form Rs provided for reporting years 1987-1995 must not be used to report data for years 1996 and later.

Section 2. Trade Secret Information

- ❑ **Incorrect completion of trade secret information.** The responses to trade secret questions in Part I Section 2 and Part II Section 1.3 of Form R/Form A must be consistent. If trade secrecy is indicated, a sanitized Form R/Form A and two trade secret substantiations (one sanitized) must be submitted in the same package as the trade secret Form R/Form A. Part II Section 1.3 should be blank if no trade secret claim is being made.

Section 3. Certification

- ❑ Missing certification signature. An original certification signature must appear on page 1 of every Form R/Form A submitted to EPA.

Section 4. Facility Identification

- ❑ **Incorrect latitude and longitude coordinates.** Latitude and longitude coordinates are important data on the Form R/Form A. These coordinates must be determined using the correct map and correct measurement techniques and reported in degrees, minutes, and seconds. For additional guidance, see Appendix E of this document.

- ❑ **"Questionable" entries.** Incorrect entries may require corrections to be made by the facility. Questionable entries may include:

  - Missing or incorrect street address;
  - Missing or incorrect ZIP codes;
  - Missing County names;
  - Invalid SIC codes;
  - Missing or invalid Dun & Bradstreet numbers;
  - Missing or invalid RCRA, NPDES, or UIC numbers; and
  - Incomplete off-site and POTW information (e.g., missing city name)

If amounts are reported in units other than pounds (e.g., metric units) or with exponential numbers, EPA may require a revision of the Form R/Form A submitted.

Part II. Chemical-Specific Information

Section 1. Toxic Chemical Identity

- ❑ **Reporting chemical abstract service (CAS) numbers in Section 1.1.** Beginning with the 1991 reporting year, EPA has assigned alphanumeric category codes to the twenty chemical categories for the purposes of reporting the CAS number field in Section 1.1. When completing a Form R for a chemical category, the appropriate code for that category must be provided in Section 1.1. The CAS numbers are listed in Table II: "Section 313 Toxic Chemical List," and if needed, the category codes are listed in Appendix B: "Reporting Codes for EPA Form R." Category guidance documents are listed in the Chemical and Industry Guidance Documents section in this document.

- ❑ **Failure to check for synonyms.** Some reportable chemicals (especially glycol ethers and toluene diisocyanates) have many synonyms that do not readily imply they are in the category. For example, "benzene,1,3-diisocyanatomethyl" may not be readily recognized as "toluene diisocyanate (mixed isomers)."

- ❑ **Invalid chemical identification in Section 1.2.** The CAS number and the chemical name reported here must exactly match the listed official Section 313 CAS number and EPCRA Section 313 chemical name.

- ❑ **Failure to consider an EPCRA Section 313 chemical qualifier.** Only EPCRA Section 313 chemicals in the form specified in the qualifier require reporting under Section 313 and should be reported on Form R with the appropriate qualifier in parentheses. For example, isopropyl alcohol is listed on the EPCRA Section 313 chemical list with the qualifier "manufacturing- strong acid process, no supplier notification." Thus, the ONLY facilities that should report this EPCRA Section 313 chemical are those that manufacture isopropyl alcohol by the strong acid process.

- ❑ **Generic chemical name in Section 1.3.** A generic chemical name should only be provided if the Section 313 chemical identity is claimed as a trade secret.

Section 2. Mixture Component Identity

- ❑ **Identifying chemicals used in mixtures.** Facilities must carefully review the most recent MSDS or supplier notification for every mixture brought on-site to identify all Section 313 chemicals used during a reporting year. Although some mixtures may not have MSDSs, the best readily available information should be used to determine the presence of EPCRA Section 313 chemicals in ores and alloys.

- ❑ **Mixture names in Section 2.1.** Mixture names are to be entered here only if the supplier is claiming the identity of the EPCRA Section 313 chemical a trade secret and that is the sole identification. Mixture names that include the name or CAS number of one or more EPCRA Section 313 chemicals are not valid uses of the mixture name field.

Section 3. Activities and Uses of the Toxic Chemical at the Facility

- **Reporting EPCRA Section 313 chemical activity.** EPCRA Section 313 chemical activity is commonly overlooked or misclassified. *Any activity* involving the manufacture, process, or otherwise use of an EPCRA Section 313 chemical must be examined. For example, waste treatment operations otherwise use EPCRA Section 313 chemicals to treat waste streams and may coincidentally manufacture an additional EPCRA Section 313 chemical as a result of the treatment reaction. Such activity must be considered. Further, EPCRA Section 313 chemical activity must be correctly classified as either "manufactured," "processed," or "otherwise used."

Section 3.1 "Manufacture" means to produce, prepare, compound, or import an EPCRA Section 313 chemical.

Section 3.2 "Process" means the preparation of an EPCRA Section 313 chemical after its manufacture, which incorporates the EPCRA Section 313 chemical into the final product, for distribution in commerce.

Section 3.3 "Otherwise use" encompasses any use of an EPCRA Section 313 chemical that does not fall under the terms "manufacture" or "process," and includes treatment for destruction, stabilization (without subsequent distribution in commerce), disposal, and other use of an EPCRA Section 313 chemical, including an EPCRA Section 313 chemical contained in a mixture or other trade name product. Otherwise use of an EPCRA Section 313 chemical does not include disposal, stabilization (without subsequent distribution in commerce), or treatment for destruction unless:

1. The EPCRA Section 313 chemical that was disposed, stabilized, or treated for destruction was received from off-site for the purposes of further waste management; or

2. The EPCRA Section 313 chemical that was disposed, stabilized, or treated for destruction was manufactured as a result of waste management activities on materials received from off-site for the purposes of further waste management activities.

For example, solvents in paint applied to a manufactured product are often misclassified as processed, instead of otherwise used. Because the solvents are not incorporated into the final product, the solvent is being otherwise used, not processed. Such situations must be interpreted accurately.

Section 4. Maximum Amount of the Toxic Chemical On-site at Any Time During the Calendar Year

- **Maximum amount on-site left blank.** The appropriate code is required in this field.

Section 5. Quantity of the Toxic Chemical Entering Each Environmental Medium On-site

- **Incorrectly reporting stack emissions.** Fugitive emissions from general indoor air must not be reported as stack emissions when released from a single building vent. Additionally, stack emissions from storage tanks, including loading, working, and breathing losses from tanks, must not be overlooked or reported as fugitive emissions.

- **Overlooking some releases to land.** Section 313 chemicals placed in stockpiles or in surface impoundments should be reported as a "release to land" even if no Section 313 chemicals leak from these sources. Quantities of Section 313 chemicals land-treated should be reported as a "release to land."

Section 6. Transfers of the Toxic Chemical in Wastes to Off-site Locations

- **Reporting discharges to POTWs in Section 6.1.** When quantities of a listed mineral acid are neutralized to a pH of 6 or greater, the quantity reported as discharged to a POTW should be reported as zero. It is incorrect to enter "NA" (Not Applicable), in such a situation.

- **Reporting other off-site transfers in Section 6.2.** Any quantities reported in Sections 8.1, 8.3, 8.5, and 8.7 as sent off-site for disposal, treatment, energy recovery, or recycling, respectively, must also be reported in Section 6.2 along with the receiving location and appropriate off-site activity code.

Section 7A. On-Site Waste Treatment Methods and Efficiency

- **Failure to report waste treatment methods in Section 7A.** Waste treatment methods used to treat waste streams containing EPCRA Section 313 chemicals, and the efficiencies of these methods, must be reported on Form R. Information must be entered for all waste streams, even if the waste treatment method does not affect the EPCRA Section 313 chemical. If no waste treatment is performed on waste streams containing the EPCRA Section 313 chemical, the box marked "Not Applicable" in Section 7A must be checked on Form R.

Section 7B. On-Site Energy Recovery Processes

- **Incorrect reporting of waste treatment methods in Section 7A.** The type of waste stream, influent concentration, and waste treatment method for each waste stream are required to be reported on Form R using specific codes, along with the waste treatment efficiency expressed as percent removal. The waste treatment codes are listed in Appendix B: "Reporting Codes for EPA Form R," of the *Toxic Chemical Release Inventory Reporting Forms and Instructions.*

- **Reporting on-site energy recovery methods in Section 7B.** When a quantity is reported in Section 8.2 as combusted for energy recovery on-site, the type of energy recovery system used must be reported in Section 7B, and vice versa.

Section 7C. On-Site Recycling Processes

- **Reporting on-site recycling methods in Section 7C.** When a quantity is reported in Section 8.4 as recycled on-site, the type of recovery method must be reported in Section 7C, and vice versa.

Section 8. Source Reduction and Recycling Activities

This section is mandatory. Under no circumstances should a reporting facility leave Section 8 entirely blank, even if the facility does not engage in source reduction or recycling activities.

- Columns C and D, the future year projections for questions 8.1 through 8.7, must be completed. EPA expects a reasonable estimate for the future year projections. Zero can be used in columns C and D to indicate that the manufacture, process, or otherwise use of the chemical will be discontinued. In such cases, columns C and D for Section 8.1 through 8.7 must all contain zeroes.

- It is incorrect to use range codes to report quantities in Section 8. Range codes can be used only in Section 5 and Section 6 of Form R.

- It is incorrect to use the same codes from Section 4 for reporting the maximum amount of the reported EPCRA Section 313 chemical on-site to report quantities in Section 8.

- Quantities reported in Section 8.1 through Section 8.7 are mutually exclusive and additive. This means that quantities of the reported EPCRA Section 313 chemical must not be double-counted in Section 8.1 through Section 8.7.

- Some double-counting errors have been due to confusion over the differences in how on-site treatment of an EPCRA Section 313 chemical is reported in Section 7A as compared to Section 8. In Section 7A, information on the treatment of *waste streams* containing the EPCRA Section 313 chemical is reported, along with the percent efficiency in terms of destruction or removal of the EPCRA Section 313 chemical from each waste stream. In Section 8, only the quantity of the *EPCRA Section 313 chemical* actually destroyed through the treatment processes reported in Section 7A is reported in Section 8.6 to avoid double-counting within Sections 8.1 through 8.7.

- Quantities reported in Sections 8.1 through 8.7 must not be reported in Section 8.8 and vice versa.

- Any time a reported EPCRA Section 313 chemical is contained in a waste, and the waste is associated with routine production-related activities and is recycled, combusted for energy recovery, treated, disposed, or otherwise released either on- or off-site, that quantity of the EPCRA Section 313 chemical must be included in the quantities reported in Sections 8.1 through 8.7.

- **Reporting quantities in Section 8.1 "Quantity released."** Quantities of EPCRA Section 313 chemicals that are released (including disposed) on-site and reported in Section 5 of Form R must be reported in Section 8.1. Quantities of EPCRA Section 313 chemicals transferred off-site for the purposes of disposal reported in Section 6.2 must appear in Section 8.1 using the following codes:

  - M10 Storage Only;
  - M41 Solidification/Stabilization – Metals and Metal Category Compounds Only;
  - M62 Wastewater Treatment (excluding POTW) – Metals and Metal Category Compounds Only;
  - M71 Underground Injection;
  - M72 Landfill/Disposal Surface Impoundment;
  - M73 Land Treatment;
  - M79 Other Land Disposal;
  - M90 Other Off-Site Management; and
  - M94 Transfer to Waste Broker – Disposal
  - M99 Unknown.

  Metals and metal category compounds transferred off-site to POTWs in Section 6.1 must appear in Section 8.1. To report correctly in Section 8.1, a facility must include quantities that are released to the environment, either on-site or off-site, excluding releases due to catastrophic events or non-production related activities.

  §8.1 = §5 + §6.1 (metals and metal category compounds only) + §6.2 (disposal only) - §8.8 (on-site or off-site release due to catastrophic events)[2]

- **Reporting quantities in Section 8.2 "Quantity used for energy recovery on-site."** A quantity must be reported in Section 8.2 for the current (reporting) year when a method of on-site energy recovery is reported in Section 7B, and vice versa. An error facilities make when completing Form R is to report the methods of energy recovery used on-site in Section 7B but not report the total quantity associated with those methods. Another error is to report a quantity in this section if the combustion of the EPCRA Section 313 chemical took place in a system that did not recover energy (e.g., an incinerator). A quantity of the EPCRA Section 313 chemical combusted for energy recovery must not be reported if the EPCRA Section 313 chemical does not have a significant heating value. Examples of EPCRA Section 313 chemicals that do not have significant heating values include metals, metal category compounds, and halons. Metals and metal portions of metal compounds will never be treated or combusted for energy recovery. Section 8.2 must not include any quantities of the EPCRA Section 313 chemical associated with non-production related activities, such as catastrophic releases and remedial actions, as well as other one-time events not associated with routine production practices, that were combusted for energy recovery on-site.

- **Reporting quantities in Section 8.3 "Quantity used for energy recovery off-site."** As in Section 8.2, a quantity must not be reported in this section if the off-site combustion of the EPCRA Section 313 chemical took place in a system that did not recover energy (e.g., incinerator). A quantity of an EPCRA Section 313 chemical must not be reported as sent off-site for the purposes of energy recovery if the EPCRA Section 313 chemical does not have a significant heating value. Examples of EPCRA Section 313 chemicals that do not have significant heating values include metals, metal compounds, and halons. Metals and metal portions of metal compounds will never be treated or combusted for energy recovery. Quantities must be reported in Section 8.3 that are reported in Section 6.2 as transferred off-site for the purposes of combustion for energy recovery using the following codes:

  - M56 Energy Recovery
  - M92 Transfer to Waste Broker – Energy Recovery

  §8.3 = §6.2 (energy recovery) - §8.8 (off-site energy recovery due to catastrophic events)[2]

[2] §8.8 includes quantities of toxic chemical released on-site or managed as waste off-site due to remedial actions, catastrophic events, or one-time events not associated with the production processes.

- **Reporting quantities in Section 8.4 "Quantity recycled on-site."** A quantity must be reported in Section 8.4 for the current reporting year when a method of on-site recycling is reported in Section 7C, and vice versa. An error facilities make when completing Form R is to report the methods of recycling used on-site in Section 7C but not report the total quantity recovered using those methods.

  In addition, only the amount of the chemical that was actually recovered is to be reported in Section 8.4. Any quantities of the EPCRA Section 313 chemical associated with non-production related activities such as catastrophic releases and remedial actions, as well as other one-time events not associated with routine production practices that were recycled on-site must not be included in Section 8.8.

- **Reporting quantities in Section 8.5. "Quantity recycled off-site."** Quantities reported in Section 6.2 as transferred off-site for the purposes of recycling must be included in Section 8.5 using the following codes:

  - M20 Solvents/Organic Recovery;
  - M24 Metals Recovery;
  - M26 Other Reuse or Recovery;
  - M28 Acid Regeneration;
  - M93 Transfer to Waste Broker — Recycling.

  Quantities that are actually recycled at an off-site facility must not be reported in Section 8.5 — facilities should report the quantity that was sent off-site for the purposes of recycling.

  §8.5 = §6.2 (recycling) - §8.8 (off-site recycling due to catastrophic events)[2]

- **Reporting quantities in Section 8.6 "Quantity treated on-site."** Quantities may not always have to be reported in Section 8.6 when Section 7A is completed. This is because the information reported in Section 7A and Section 8 is different. Information on how waste streams containing the reported EPCRA Section 313 chemical are treated is reported in Section 7A, while the quantity of the EPCRA Section 313 chemical actually destroyed as a result of on-site treatment is reported in Section 8.6. If a quantity is reported in Section 8.6, Section 7A must be completed but the reverse may not be true. This may result in apparent discrepancies between Section 7A and Section 8. For example, a facility may treat wastewater containing an EPCRA Section 313 chemical by removing the EPCRA Section 313 chemical and then disposing of it on-site. The treatment of the wastewater would be reported in Section 7A, with an efficiency estimate based on the amount of the EPCRA Section 313 chemical removed from the wastewater. Although the waste stream has been treated because the EPCRA Section 313 chemical has been removed, the EPCRA Section 313 chemical has not been treated because it has not been destroyed. The facility would report only the amount of the EPCRA Section 313 chemical actually destroyed during treatment in Section 8.6 and the amount ultimately disposed in Section 8.1 to avoid double-counting the same quantity in Section 8. In cases where the EPCRA Section 313 chemical is not destroyed during a treatment process and subsequently enters another activity, such as disposal (e.g., metals removed from wastewater and subsequently disposed on-site), the quantity of the EPCRA Section 313 chemical would be reported as disposed in Section 8.1, not as treated in Section 8.6. Quantities of the EPCRA Section 313 chemical associated with non-production related activities such as catastrophic releases and remedial actions, as well as one-time events not associated with routine production practices, that were treated on-site, must not be included in Section 8.6. Metals will never be treated or combusted for energy recovery.

- **Reporting quantities in Section 8.7 "Quantity treated off-site."** Quantities reported in Section 6.2 as transferred off-site for the purposes of treatment must be included in Section 8.7 using the following codes:

  - M50 Incineration/Thermal Treatment;
  - M54 Incineration/Insignificant Fuel Value;
  - M61 Wastewater Treatment (excluding POTW);
  - M69 Other Waste Treatment; and
  - M95 Transfer to Waste Broker — Waste Treatment.

  Quantities of an EPCRA Section 313 chemical, except metals and metal category compounds, sent off-site to a POTW should also be reported in Section 8.7.

To report correctly EPCRA Section 313 chemicals in Section 8.7, use the following equation.

§8.7 = §6.1 (excluding metal/metal category compounds) + §6.2 (treatment) - §8.8 (off-site treatment due to catastrophic events)[3]

- ❑ **Reporting quantities in Section 8.8 "Quantity released to the environment as a result of remedialactions catastrophic events or one-time events not associated with production processes."** The quantities that are reported in Section 8.8 are associated with non-production related activities such as catastrophic releases and remedial actions, as well as one-time events not associated with routine production practices, that were released directly to the environment or transferred off-site for the purposes of recycling, energy recovery, treatment or disposal. Quantities reported in Section 8.8 must not be reported in Section 8.1 through Section 8.7.

- ❑ **Reporting the production ratio in Section 8.9.** A production ratio or activity index must be provided in Section 8.9. A zero is not acceptable and "NA" (Not Applicable) can be used only when the reported EPCRA Section 313 chemical was not manufactured, processed, or otherwise used in the year prior to the reporting year.

- ❑ **Calculating production ratio in Section 8.9.** In calculating a production ratio for "otherwise used" chemicals, an activity index must be used rather than quantities purchased or released from year to year.

- ❑ **Reporting Source reduction activities in Section 8.10.** It is an error to report a source reduction activity in Section 8.10 and not report at least one method used to identify that activity and vice versa.

Toxics Release Inventory Error Notices

Notices of Data Change (NDCs). NDCs correct data quality errors that are not technical or scientific. For example, if a facility transposes CAS numbers (e.g,. the submitter lists 7623-00-0 for sodium nitrite instead of 7632-00-0), the EPCRA Reporting Center (RC) will notify the facility indicating that the number has been corrected through the facility data profile. If a facility lists a specific glycol ethers subcategory, the EPCRA RC will replace this subcategory with the reportable name "certain glycol ethers." If a facility submits a non-reportable chemical, the EPCRA RC will file the form as a miscellaneous submission and inform the facility.

Notices of Significant Error (NOSEs). NOSEs are errors that prevent data from being entered into the system. These types of errors include the following and must be corrected by the facility.

1. You have submitted your Toxic Chemical Release Inventory report on an invalid form by using either the form not applicable for the reporting year, or a facsimile form that has not been approved by EPA.

2. You have submitted an incomplete Toxic Chemical Release Inventory Form. All pages of the form must be completed and resubmitted to EPA.

3. You have provided incomplete facility identification information.

4. You have either left the chemical identification blank, or the CAS number you reported is not listed on the Section 313 list of toxic chemicals.

5. You have provided a valid CAS number and a valid chemical name, but they do not match.

6. You have provided a valid CAS number, but the chemical name you provided is not a Section 313 chemical name or recognized synonym.

7. You have reported for multiple chemicals in one Form R report.

Notices of Noncompliance (NONs). NONs are issued for the same exact errors as NOSEs (see NOSE errors, above). If a facility does not respond to a NOSE within 21 days, EPA will issue a NON. If there is no response to the NON, then the Office of Enforcement and Compliance Assistance (OECA) is notified and follow up action is taken.

Notices of Technical Error (NOTEs). NOTEs are identified in the Facility Data Profile for errors that allow

[3] §8.8 includes quantities of toxic chemical released on-site or managed as waste off-site due to remedial actions, catastrophic events, or one-time events not associated with the production processes.

data to be entered into the system, but for errors that can skew any analyses if not corrected. These types of errors include the following.

101. You must sign the form and date the signature, part I, section 3.

102. You must enter the name and telephone number of the technical contact for the facility in part I, section 4.3.

103. For each receiving stream in part II, section 5.3, you must enter an estimate of the release or "NA" in column A.

104. You must list the name of the receiving stream for each release in part II, section 5.3, column A.

105. You must list the name and location of the POTW for the discharge reported in part II, section 6.1.A.1. "NA" is not acceptable.

106. For total discharges of this chemical to POTWs listed in part II, section 6.1.B, you must enter an estimate of the total discharge or "NA" in part II, section 6.1.A.1.

107. You must list the name and location of the other off-site(s) for the transfer(s) of waste indicated in part II, section 6.2.A. "NA" is not acceptable.

108. For each other off-site listed in part II, section 6.2, you must enter at least one estimated transfer or "NA" in column A.

109. You did not enter any information in part II, section 8.1 - 8.7. you must enter an estimate,"0", or "NA" in each box for section 8.1 - 8.7, columns A,B,C,& D.

110. You must enter a non-negative estimate for any quantity reported in columns A through D of part II, section 8.1 through 8.7.

111. You must enter either a non-negative value or zero for part II, section 8.8, "quantity released as a result of remedial actions, catastrophic events, or one time-events not associated with production processes."

112. You did not correctly complete part II section 8.9. You must enter a non-negative, non-zero "production ratio or activity index" for this chemical. See the instructions for calculation of this ratio. If the manufacture, process, or use of the reported chemical began during the current reporting year, enter "NA".

117. You did not correctly complete part II, section 6.2, column C, "type of treatment/disposal/etc." For each off-site transfer, you must enter the treatment, recycling, energy recovery, or disposal code for the method used. See the Form R instructions for valid codes.

201. You either did not provide a standard industrial classification (SIC) code to identify the activities occurring at your facility or you provided an invalid code(s) (part I, section 4.5). Non-federal facilities must provide at least one valid primary four-digit SIC code between 20(00) and 39(99).

202. You did not correctly complete part I, section 4.6, latitude and longitude for your facility. "NA" is not an acceptable entry. Latitude and longitude should be seven digits with leading and/or trailing zeroes. The 48 contiguous U.S. states have latitudes ranging (south to north) from 24 degrees 33 minutes 00 seconds to 48 degrees 23 minutes 00 seconds and longitudes (east to west) from 66 degrees 57 minutes 00 seconds to 124 degrees 44 minutes 00 seconds respectively. Please consult Form R, appendix E and instructions.

212. You did not indicate in part II, section 3 which activity(ies) and use(s) of the EPCRA Section 313 chemical occur at your facility. Check at least one.

213. You did not complete part II, section 4. You must enter the "maximum amount of chemical on-site at any time during the calendar year". Report the maximum amount as a two digit code. See the instructions for valid codes.

214. You did not complete part II, section 5, "Quantity of the Toxic Chemical Entering each Environmental Medium On-site." If you did not release the chemical to the environment, enter "0" or "NA" as appropriate for each release type.

215. You did not complete part II, section 6.1, "discharges to POTW." If you did not discharge the chemical in wastewater to a POTW(s), enter "NA" in section 6.1.A.1 or section 6.1.B.1.

216. You did not complete part II, section 6.2, "Transfers to Other Off- site Locations." If you did not

transfer the chemical in waste to other off-site locations, enter "NA" in section 6.2, the first off-site EPA identification number (RCRA ID No.) and/or off-site location name.

217. You incorrectly completed part II, section 6.2 column C "Type of Waste Treatment / Disposal / Recycling / Energy Recovery." For each off-site transfer, you must enter the treatment, recycling, energy recovery, or disposal code for the method used. See the instructions for valid codes.

218. You did not enter any information in part II, section 7A, "On-site Waste Treatment Methods and Efficiency." If you do not treat wastes containing the EPCRA Section 313 chemical at your facility, check "NA."

220. You must enter either a zero or a non-negative value for an estimate in part II, section 5 or for an off-site transfer in part II, section 6.

221. You did not enter any information in part II, section 7B, "On-site Energy Recovery Processes" or in part II, section 7C "On-site Recycling Processes." You must enter at least one method code or check "NA" in each section.

222. You did not complete column B in part II, section 8.1. You must enter an estimate, "NA", or "0" in this column.

223. You did not complete column B in part II, section 8.2. You must enter an estimate, "NA", or "0" in this column.

224. You did not complete column B in part II, section 8.3. You must enter an estimate, "NA", or "0" in this column.

225. You did not complete column B in part II, section 8.4. You must enter an estimate, "NA", or "0" in this column.

226. You did not complete column B in part II, section 8.5. You must enter an estimate, "NA", or "0" in this column.

227. You did not complete column B in part II, section 8.6. You must enter an estimate, "NA", or "0" in this column.

228. You did not complete column B in part II, section 8.7. You must enter an estimate, "NA", or "0" in this column.

239. You did not complete part 1, section 4.2.C. If your facility is a federal facility, please check the 'federal facility' box.

244. If you report releases in part II, section 5 and/or off-site transfer in section 6.2 and/or quantities transferred off-site to POTWs in section 6.1, you must report an estimate in part II, section 8.1 through 8.7 column B and/or section 8.8.

245. If you enter an estimate in part II, section 8.1 through 8.7, column B and/or section 8.8, you must also report releases in part II, section 5 and/or off-site transfers in section 6.2 and/or quantities transferred off-site to POTWs in section 6.1 and/or more waste treatment, energy recovery, or recycling codes in section 7.

318. You entered an invalid energy recovery method code in part II, section 7B, "On-site Energy Recovery Processes." The code consists of a "U" followed by two digits. See appendix B of the Form R and instructions for valid codes.

319. You entered an invalid recycling code in part II, section 7C, "On-site Recycling Processes." The code consists of an "R" followed by two digits. See appendix B of the Form R and instructions for valid codes.

321. If you enter an estimate in part II, section 8.2, column B, "Quantity Used for Energy Recovery On-site," you must enter one or more energy recovery codes in part II, section 7B.

322. If you enter an "On-site Energy Recovery Process" code in part II, section 7B, you must enter an estimate of the quantity used for energy recovery in part II, section 8.2, column B.

325. If you enter an estimate in part II, section 8.4, column B "Quantity Recycled On-site", you must enter one or more recycling codes in part II, section 7C.

326. If you enter one or more on-site recycling process codes in part II, section 7C. You must enter an estimate in part II, section 8.4, column B, "Quantity Recycled On-site."

329. If you enter an estimate in part II, section 8.6, column B "Quantity Treated On-site", you must complete part II, section 7A "On-site Waste Treatment Methods and Efficiency." "NA" is not an acceptable entry.

332. You have entered an invalid code in part II, section 8.10.1-4. "Source Reduction Activity" codes consist of the letter "W" followed by two digits. See appendix B of the appropriately dated Form R and instructions for valid codes.

339. You reported an invalid Type of Waste Treatment code. For metals/metal category compounds use only disposal and certain recycling activities codes. Consult the guidance for metal and metal category compounds and correct with a valid waste management (i.e., "M") code.

340. For non-metals, codes M41 and M62 are unacceptable. Provide the appropriate Disposal or Other Waste Management code for this non-metal substance.

341. You have not correctly completed part II, section 8.10.1. If you enter one or more "Methods to Identify Activity" code in part II, section 8.10.1 (A - C), you must also enter the associated "Source Reduction Activity " code, which consist of the letter "W" followed by two digits. See Appendix B of the instructions for valid codes. If your facility did not undertake any source reduction activities, enter "NA" in the first column of section 8.10.1.

342. You have not correctly completed part II, section 8.10.2. If you enter one or more "Methods to Identify Activity" code in part II, section 8.10.2 (A - C), you must also enter the associated "Source Reduction Activity " code, which consist of the letter "W" followed by two digits. See appendix B of the instructions for valid codes. If your facility did not undertake any source reduction activities, enter "NA" in the first column of section 8.10.2.

343. You have not correctly completed part II, section 8.10.3. If you enter one or more "Methods to Identify Activity" code in part II, section 8.10.3 (A–C), you must also enter the associated "Source Reduction Activity " code, which consist of the letter "W" followed by two digits. See appendix B of the instructions for valid codes. If your facility did not undertake any source reduction activities, enter "NA" in the first column of section 8.10.3.

344. You have not correctly completed part II, section 8.10.4. If you enter one or more "Methods to Identify Activity" code in part II, section 8.10.4 (A - C), you must also enter the associated "Source Reduction Activity " code, which consist of the letter "W" followed by two digits. See appendix B of the instructions for valid codes. If your facility did not undertake any source reduction activities, enter "NA" in the first column of section 8.10.4.

346. You did not complete columns A, C, or D in part II, section 8.1. You must enter an estimate, "NA", or "0" in each column.

347. You did not complete columns A, C, or D in part II, section 8.2. You must enter an estimate, "NA", or "0" in each column.

348. You did not complete columns A, C, or D in part II, section 8.3. You must enter an estimate, "NA", or "0" in each column.

349. You did not complete columns A, C, or D in part II, section 8.4. You must enter an estimate, "NA", or "0" in each column.

350. You did not complete columns A, C, or D in part II, section 8.5. You must enter an estimate, "NA", or "0" in each column.

351. You did not complete columns A, C, or D in part II, section 8.6. You must enter an estimate, "NA", or "0" in each column.

352. You did not complete columns A, C, or D in part II, section 8.7. You must enter an estimate, "NA", or "0" in each column.

Appendix D. Supplier Notification Requirements

Because manufacturers reporting under section 313 must know the EPCRA Section 313 chemical composition of the products they use to be able to accurately calculate releases, EPA requires some suppliers of mixtures or other trade name products containing one or more of the EPCRA section 313 chemicals to notify their customers. This requirement has been in effect since January 1, 1989.

This appendix explains which suppliers must notify their customers, who must be notified, what form the notice must take, and when it must be sent.

Who Must Supply Notification

You are covered by the section 313 supplier notification requirements if you own or operate a facility which meets all of the following criteria:

(1) Your facility is in Standard Industrial Classification [SIC] codes 20–39;

(2) You manufacture, import, or process an EPCRA Section 313 chemical; and

(3) You sell or otherwise distribute a mixture or other trade name product containing the EPCRA Section 313 chemical to either:

- A facility in a covered SIC code (see Table I).
- A facility that then may sell the same mixture or other trade name product to a firm in a covered SIC code (see Table I).

Note that you may be covered by the supplier notification rules even if you are not covered by the section 313 release reporting requirements. For example, even if you have fewer than 10 full-time employees or do not manufacture or process any of the EPCRA Section 313 chemicals in sufficient quantities to trigger the release and other waste management reporting requirements, you may still be required to notify certain customers.

Who Must Be Notified

Also, note that beginning with the 1998 reporting year, seven new industries are now covered by most of the EPCRA section 313 reporting requirements. These new industries are not required to comply with most of the supplier notification requirements. Industries whose primary SIC code is not within 20 through 39 are not required to initiate the distribution of notifications for EPCRA Section 313 chemicals in mixtures or other trade name products that they send to their customers.

However, if these facilities receive notifications from their suppliers about EPCRA Section 313 chemicals in mixtures or other trade name products, they should forward the notifications with the EPCRA Section 313 chemicals they send to other covered users.

An example would be if you sold a lacquer containing toluene to distributors who then may sell the product to other manufacturers. The distributors are not in a covered SIC code, but because they sell the product to companies in covered SIC codes, they must be notified so that they may pass the notice along to their customers, as required.

The language of the supplier notification requirements covers mixtures or other trade name products that are sold or otherwise distributed. The "otherwise distributes" language applies to intra-company transfers. However, if the company has developed an internal communications procedure that alerts their other facilities to the presence and content of covered EPCRA Section 313 chemicals in their products, then EPA would accept this.

Note that beginning with the first shipments in 1998, facilities in SIC codes 20–39 will be required to also notify facilities in the newly added industry groups.

Supplier Notification Must Include the Following Information:

(1) A statement that the mixture or other trade name product contains an EPCRA Section 313 chemical or chemicals subject to the reporting requirements of EPCRA section 313 (40 CFR 372);

(2) The name of each EPCRA Section 313 chemical and the associated Chemical Abstracts Service (CAS) registry number of each chemical if applicable. (CAS numbers are not used for chemical categories, since they can represent several individual EPCRA Section 313 chemicals.); and

(3) The percentage, by weight, of each EPCRA Section 313 chemical (or all EPCRA Section 313 chemicals within a listed category) contained in the mixture or other trade name product.

For example, if a mixture contains a chemical (i.e., 12 percent zinc oxide) that is a member of a reportable EPCRA Section 313 chemical category (i.e., zinc compounds), the notification must indicate that the mixture contains a zinc compound at 12 percent by weight. Supplying only the weight percent of the parent metal (zinc) does not fulfill the requirement. The customer must be told the weight percent of the entire compound within an EPCRA Section 313 chemical category present in the mixture.

How the Notification Must Be Made

The required notification must be provided at least annually in writing. Acceptable forms of notice include letters, product labeling, and product literature distributed to customers. If you are required to prepare and distribute a Material Safety Data Sheet (MSDS) for the mixture under the Occupational Safety and Health Act (OSHA) Hazard Communication Standard, your section 313 notification must be attached to the MSDS or the MSDS must be modified to include the required information. (A sample letter and recommended text for inclusion in an MSDS appear at the end of this appendix.)

You must make it clear to your customers that any copies or redistribution of the MSDS or other form of notification must include the section 313 notice. In other words, your customers should understand their requirement to include the section 313 notification if they give your MSDS to their customers.

When Notification Must Be Provided

In general, you must notify each customer receiving a mixture or other trade name product containing an EPCRA Section 313 chemical with the first shipment of each calendar year. You may send the notice with subsequent shipments as well, but it is required that you send it with the first shipment each year. Once customers have been provided with an MSDS containing the section 313 information, you may refer to the MSDS by a written letter in subsequent years (as long as the MSDS is current).

If EPA adds EPCRA Section 313 chemicals to the section 313 list, and your products contain the newly added EPCRA Section 313 chemicals, notify your customers with the first shipment made during the next calendar year following EPA's final decision to add the chemical to the list. For example, if EPA adds chemical ABC to the list in September 1998, supplier notification for chemical ABC would have begun with the first shipment in 1999.

You must send a new or revised notice to your customers if you:

(1) Change a mixture or other trade name product by adding, removing, or changing the percentage by weight of an EPCRA Section 313 chemical; or

(2) Discover that your previous notification did not properly identify the EPCRA Section 313 chemicals in the mixture or correctly indicate the percentage by weight.

In these cases, you must:

(1) Supply a new or revised notification within 30 days of a change in the product or the discovery of misidentified EPCRA Section 313 chemical(s) in the mixture or incorrect percentages by weight; and

(2) Identify in the notification the prior shipments of the mixture or product in that calendar year to which the new notification applies (e.g., if the revised notification is made on August 12, indicate which shipments were affected during the period January 1 - August 12).

When Notifications Are Not Required

Supplier notification is not required for a "pure" EPCRA Section 313 chemical unless a trade name is used. The identity of the EPCRA Section 313 chemical will be known based on label information.

You are not required to make a "negative declaration." That is, you are not required to indicate that a product contains no EPCRA Section 313 chemicals.

If your mixture or other trade name product contains one of the EPCRA Section 313 chemicals, you are not required to notify your customers if:

(1) Your mixture or other trade name product contains the EPCRA Section 313 chemical in percentages by weight of less than the following levels (These are known as *de minimis* levels):

- 0.1 percent if the EPCRA Section 313 chemical is defined as an "OSHA carcinogen";

- 1 percent for other EPCRA Section 313 chemicals.

De minimis levels for each EPCRA Section 313 chemical and chemical category are listed in Table II.

(2) Your mixture or other trade name product is one of the following:

- An article that does not release an EPCRA Section 313 chemical under normal conditions of processing or otherwise use.

- Foods, drugs, cosmetics, alcoholic beverages, tobacco, or tobacco products packaged for distribution to the general public.

- Any consumer product, as the term is defined in the Consumer Product Safety Act, packaged for distribution to the general public. For example, if you mix or package one-gallon cans of paint designed for use by the general public, notification is not required.

(3) You are initiating distribution of a mixture or other trade name product containing one or more EPCRA Section 313 chemicals and your facility is in any of the newly covered SIC codes including facilities whose SIC code is within SIC major group codes 10 (except 1011, 1081, and 1094), 12 (except 1241); industry codes 4911 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce), 4931 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce), or 4939 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce); or 4953 (limited to facilities regulated under the Resource Conservation and Recovery Act, subtitle C, 42 U.S.C. Section 6921 et seq.) or 5169, or 5171, or 7389 (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis).

Trade Secrets

Chemical suppliers may consider the chemical name or the specific concentration of an EPCRA Section 313 chemical in a mixture or other trade name product to be a trade secret. If you consider the:

(1) Specific identity of an EPCRA Section 313 chemical to be a trade secret, the notice must contain a generic chemical name that is descriptive of the structure of that EPCRA Section 313 chemical. For example, decabromodiphenyl oxide could be described as a halogenated aromatic.

(2) Specific percentage by weight of an EPCRA Section 313 chemical in the mixture or other trade name product to be a trade secret, your notice must contain a statement that the EPCRA Section 313 chemical is present at a concentration that does not exceed a specified upper bound. For example, if a mixture contains 12 percent toluene and you consider the percentage a trade secret, the notification may state that the mixture contains toluene at no more than 15 percent by weight. The upper bound value chosen must be no larger than necessary to adequately protect the trade secret.

If you claim this information to be trade secret, you must have documentation that provides the basis for your claim.

Recordkeeping Requirements

You are required to keep records for <u>three years</u> of the following:

(1) Notifications sent to recipients of your mixture or other trade name product;

(2) All supporting materials used to develop the notice;

(3) If claiming a specific EPCRA Section 313 chemical identity a trade secret, why the EPCRA Section 313 chemical identity is considered a trade secret and the appropriateness of the generic chemical name provided in the notification; and

(4) If claiming a specific concentration a trade secret, explanations of why a specific concentration is considered a trade secret and the basis for the upper bound concentration limit.

This information must be readily available for inspection by EPA.

Sample Notification Letter

January 2, 2000

Mr. Edward Burke
Furniture Company of North Carolina
1000 Main Street
Anytown, North Carolina 99999

Dear Mr. Burke:

This letter is to inform you that a product that we sell to you, Furniture Lacquer KXZ-1390, contains one or more chemicals subject to Section 313 of Emergency Planning and Community Right-to-Know Act (EPCRA). We are required to notify you of the presence of these chemicals in the product under EPCRA section 313. This law requires certain industrial facilities to report on annual emissions and other waste management of specified EPCRA Section 313 chemicals and chemical categories. Our product contains:

- Toluene, Chemical Abstract Service (CAS) number 108-88-3, 20 percent, and
- Zinc compounds, 15 percent.

If you are unsure whether you are subject to the reporting requirements of EPCRA Section 313, or need more information, call EPA's EPCRA Hotline at 1 (800) 424-9346, or (703) 412-9877. Your other suppliers should also be notifying you about EPCRA Section 313 chemicals in the mixtures and other trade name products they sell to you.

Finally, please note that if you repackage or otherwise redistribute this product to industrial customers, a notice similar to this one must be sent to those customers.

Sincerely,

Emma Sinclair
Sales Manager
Furniture Products

Sample Notification on an MSDS

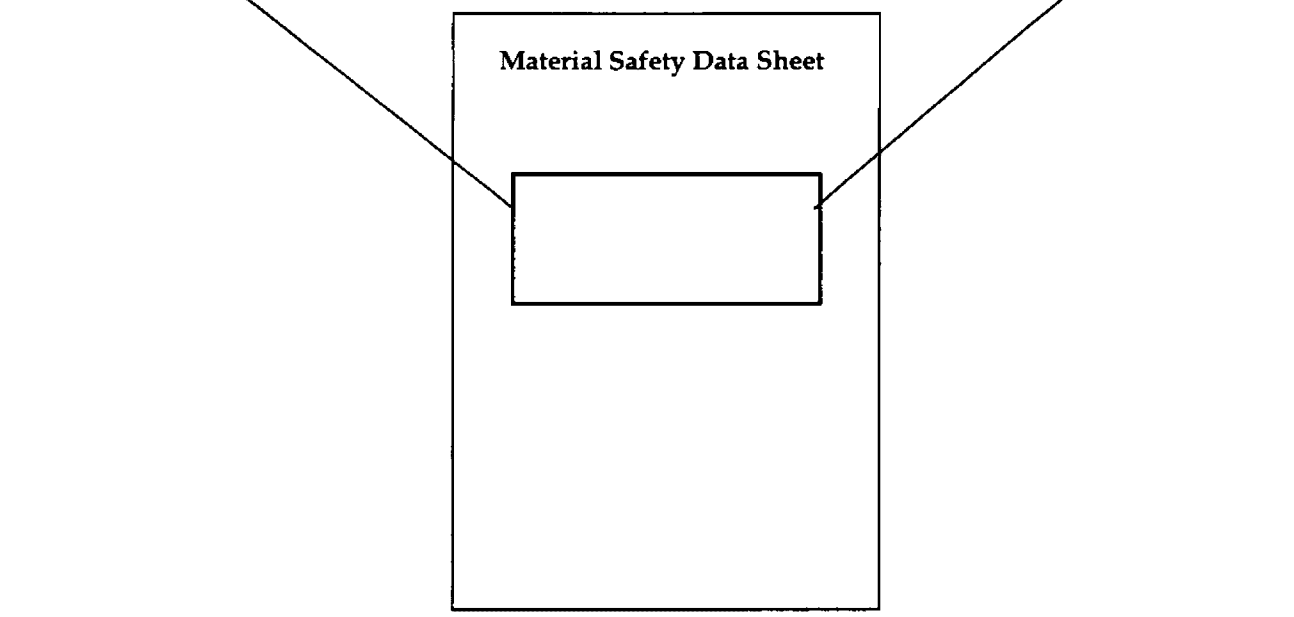
Furniture Products

Section 313 Supplier Notification

This product contains the following EPCRA Section 313 chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372):

CAS #	Chemical Name	Percent by Weight
108-88-3	Toluene	20%
NA	Zinc Compounds	15%

This information should be included in all MSDSs that are copied and distributed for this material.



Appendix E. How To Determine Latitude and Longitude From Topographic Maps

Latitude and longitude coordinates of reporting facilities are very important for pinpointing facility location and are a required data element on Form R. As such, EPA is encouraging facilities to make the best possible measurements when determining latitude and longitude. As with any other data element, missing, suspect, or incorrect data may result in EPA issuing a Notice of Technical Error to the facility.

Latitude is the distance north or south of the equator. Longitude is the distance east or west of the prime meridian (Greenwich, England). Latitude and longitude are measured in degrees, minutes, and seconds.

60" (seconds) = 1' (minute)
60' (minutes) = 1° (degree)

The most important tool available for determining latitude and longitude for your facility is the U.S. Geological Survey (USGS) topographic quadrangle map. These maps are published in varying degrees of detail. The most detailed version of the topographic quadrangle map is in 7.5 x 7.5 minute increments with a scale of 1:24000 (i.e., one inch on the map represents 2,000 feet). Detailed topographic quadrangle maps are also available in 7.5 x 15 minute increments with a scale of 1:250,000 (i.e., one inch on the map represents approximately four miles). It is very important that latitude and longitude measurements be made from one of the detailed maps described above. Otherwise, measurements will not accurately reflect the location of your facility and could be identified as an error on your Form R submission.

In order to identify the detailed topographic quadrangle map in which your facility is located, the USGS has published an index and a catalog of topographic maps available for each state. Both the index and the catalog are available in many libraries or free of charge from the Distribution Branch of the USGS (address on following page). The *Index to Topographic and Other Map Coverage* helps you to identify the most detailed map in which your facility is located. To identify the most detailed map, follow these simple steps on how to use the index:

(1) The beginning of each index contains a map of the state, broken into numbered quadrangular sections. The numbered quadrangular sections are called general areas of interest. Identify the numbered section in which your facility is located.

(2) The subsequent pages of the index contain detailed maps of each general area of interest, in numerical order. Identify the detailed map corresponding to the numbered general area of interest identified in Step 1.

(3) Within this detailed map, identify the smaller quadrangular area in which your facility is located. This smaller quadrangular section is the specific area of interest. Record first the letter then the number coordinate for your specific area of interest (e.g., E4).

(4) Using the chart found on the same page as the detailed map of the general area of interest, record the name of the specific area of interest in which your facility is located, identified by the letter and number coordinates (e.g., Richmond).

The name of the specific area of interest and its corresponding letter and number coordinates identify the most detailed topographic quadrangle map in which your facility is located. To identify the map reference code and file number necessary to order this map, follow these simple steps for using the *Catalog of Topographic and Other Published Maps* for the state in which your facility is located:

(5) The beginning of the catalog explains the meaning of the reference code. On the pages following this explanation, there are charts listed alphabetically by the name of the specific area of interest with corresponding file numbers and map reference codes. Using the name of the specific area of interest recorded in Step 4, identify the file number and map reference code from the chart for the map in which your facility is located (e.g., file number 00692, map reference code 37977-E4-TF-024-00).

(6) Use the file number and map reference code to obtain the specific topographic quadrangle map in which your facility is located.

These detailed topographic quadrangle maps are available in many libraries or for purchase from the Distribution Branch of the USGS and from private map dealers. The *Catalog of Topographic and Other Published Maps* contains a list of map depository libraries and topographic map dealers for each state covered in the catalog.

To purchase a topographic quadrangle map from the USGS, you must send a written request to the Distribution Branch of the USGS, containing the file number, map reference code, the name of the city, state and zip code in which your facility is located, payment of

$4.00 per map sheet and a handling charge of $3.50 for each order mailed.

The Distribution Branch of the USGS can be reached at:

Distribution Branch of the USGS
P.O. Box 25286
Denver Federal Center
Denver, CO 80225
(303) 202-4700
ALLOW 5 WEEKS FOR DELIVERY

In addition, you may purchase a topographic quadrangle map from the USGS through a USGS Public Inquiry Office. The Public Inquiry Offices are listed for each state on the inside back cover of the *Catalog of Topographic and Other Published Maps*.

If you need help in determining your latitude and longitude, once you have the necessary map, the **National Cartographic Information Center** can provide assistance:

Western states: (303) 202-4200
Eastern states: (314) 341-0851

Please call in advance of the section 313 reporting deadline to avoid unnecessary delays.

Determining Your Facility's Latitude and Longitude

(See diagram next page.)

Once you have obtained the correct map for your facility:

(1) Mark the location of your facility on the map with a point. If your facility is large, choose a point central to the production activities of the facility. If certain structures in your facility are represented on the map, mark one of the structures with a point.

(2) Construct a small rectangle around the point with fine pencil lines connecting the nearest 2.5' or 5' graticules. Graticules are intersections of latitude and longitude lines that are marked on the map edge, and appear as black crosses at four points in the interior of the map.

(3) Read and record the latitude and longitude (in degrees, minutes, and seconds) for the southeast corner of the small quadrangle drawn in step two. The latitude and longitude are printed at the edges of the map.

(4) To determine the increment of latitude above the latitude line recorded in step 3,

- position the map so that you face west;
- place the ruler in approximately a north-south alignment, with the "0" on the latitude line recorded in step 3 with the ruler edge intersecting the point.

Without moving the ruler, read and record:

- the measurement from the latitude line to the desired point (the point distance);
- the measurement from the latitude line to the north line of the small quadrangle (the total distance).

Determine the number of seconds to be added to the latitude recorded in step 3 by using the ratio:

$$\frac{\text{Point distance}}{\text{Total distance between lines}} \times 150'' = \text{increment of latitude}$$

[Note: 150" is the number of seconds of arc for the side of the small quadrangle on a 7.5' map. If you are using a 15' map, the multiplication factor is 300" instead of 150" since each graticule is 5' of latitude or longitude.]

For example:

Point distance	=	99.5
Total distance	=	192.0
$\frac{99.5}{192.0} \times 150''$	=	77.7"
	=	01'17.7"

(60" = 1'; 77.7" = 60" + 17.7" = 01' 17.7")

Latitude in step 3	32°17'30"
Increment	+ 01'17.7"
Latitude of point	32°18'47.7"
to the nearest second	= 32°18'48"

(5) To determine the increment of longitude west of the longitude line recorded in step 3,

- position the map so that you face south;
- place the ruler in approximately an east-west alignment with the "0" on the longitude line recorded in step 3 with the ruler edge intersecting the point.

Without moving the ruler, read and record:

- the measurement from the longitude line to the desired point (the point distance);
- the measurement from the longitude line to the west line of the small quadrangle (the total distance).

Determine the number of seconds to be added to the longitude recorded in step 3 by using the ratio:

$$\frac{\text{Point distance}}{\text{total distance between lines}} \times 150'' = \text{increment of longitude}$$

For example:

Point distance	=	65.0
Total distance	=	149.9

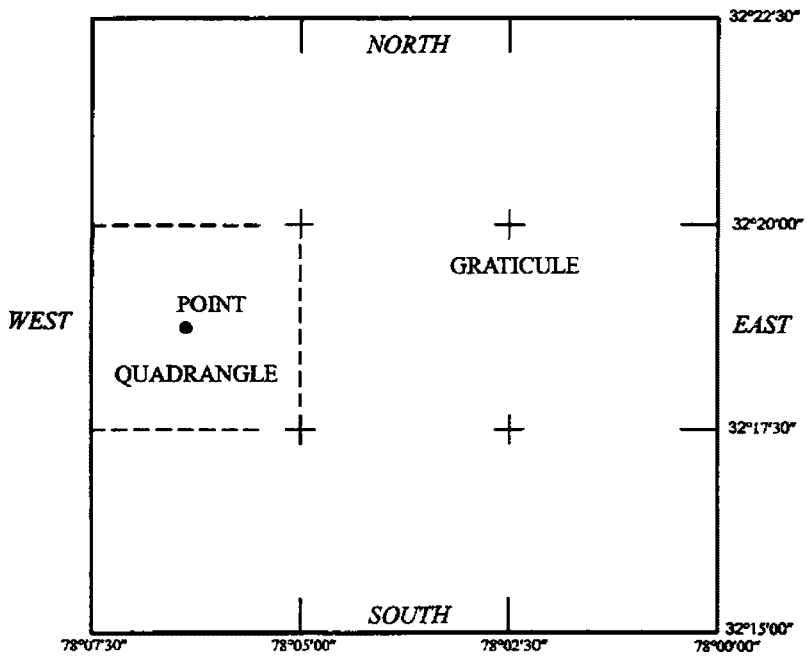
$$\frac{65.0}{149.9} \times 150'' = 65'' = 01'05''$$

(60" = 1'; 65" = 60" + 05" = 01'05")

Longitude in step 3	78°05'00"
Increment	+ 01'05"
Longitude of point	78°06'05"
to the nearest second	= 78°06'05"

Note: Use the appropriate address for submission of Form R reports to your State. In addition, many States have additional state reporting requirements. Check with your State contact on any State requirements.

Latitude/Longitude Diagram



Point Latitude 32°18'48' North, Lontitude 78°06'05' West

Note: This diagram is based on a USGS 7.5 Minute Series Topographic Map. It is not drawn to scale.

ATTACHMENT 7-2

IDENTIFYING RELEASE ERRORS (QUESTIONS/FACTS TO CONSIDER)

(Two Pages)

Identifying Release Errors
(Questions/Facts to Consider)

INSTRUCTIONS: The following questions can be helpful to determine if reporting errors were made for the following types of releases.

Organic Solvents

- For otherwise used solvents (i.e., coatings, cleanups), did a mass balance for solvents account for total usage at the facility?
- Was the otherwise used threshold of 10,000 pounds applied for all solvents used coatings?
- How were releases of organic solvents other than to air estimated?
- If a paint booth and drying oven were vented to different control devices, how was the booth/oven split determined?
- For solvents sent off site for fuel burning, recycling, or disposal, was a waste analysis used to determine the quantity of the 313 chemical? Most wastes should be RCRA wastes, which are analyzed by the waste receiver.
- How were releases of process solvents determined? What percentage of throughput was released to air?
- For manufactured or processed chemicals, were analyses of the products used to determine the quantity of the Section 313 chemical that remained in the product?

Chlorinated Solvents (degreasing)

- Was a mass balance accounting for all chlorinated solvent usage used to estimate releases and off-site transfers?
- Was the percentage of chlorinated solvent in the waste accounted for?
- For vapor degreasing with water separation, were releases to water or POTW estimated?

Metals/Metal Compounds

- Was TCLP used as a measure of metal concentration in any calculation? TCLP does not measure metal content, but rather leachable metal content, and should not be used in calculations.

- Were wastewater monitoring data used to estimate releases to surface water or POTW? What was the frequency of the monitoring?

- Were thresholds for metal compounds determined using the weight of the compound and not just the metal portion of the compound?

- Were thresholds determined for all metals/metal compounds processed at the facility?

- Did the facility determine if it met the reporting thresholds from the amount released or transferred off site instead of the amount manufactured, processed or otherwise used?

- For metals/metal compounds in paints, how was a coating transfer efficiency determined?

Acids

- Was the pH of acid releases continuously measured to support any assumption of neutralization? If not, what was the frequency of the monitoring?

- Was the percentage of acid in the original acid or acid solution taken into account in the calculation of threshold?

Other Chemicals

- If chlorine releases to water or POTW were reported, the water pH should be checked. If pH is higher than 4, there is only a very small release to water.

- Check 10% aqueous ammonia. Were total ammonia (NH_3, NH_4^+) levels used to report ammonia releases to water?

Nitrate compounds

For the category nitrate compounds, the entire weight of the nitrate compound is counted towards the threshold. A nitrate compound is covered by this listing only when in water and only if dissociated.

EPCRA SECTION 313
INSPECTOR TRAINING MANUAL

Module IV

Pre-Inspection Activities

MODULE OBJECTIVES

At the end of this module, students will be trained to:

- Plan an inspection.
- Schedule an inspection.
- Gather the appropriate inspection documents.
- List potential health and safety issues.

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Module IV contains:

- Lesson 8: Inspection Planning
- Lesson 9: Health and Safety

Lesson 8

Inspection Planning

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INTRODUCTION

Purpose

This lesson presents the recommended planning process to be conducted prior to any routine EPCRA Section 313 inspection. The basic elements of inspection planning are reviewing EPA and other records and data concerning the target facility; preparing inspection questions and a listing of documents to be collected on-site; providing advance notification of the inspection to the facility; gathering inspection documents; and preparing a written inspection plan to be followed during the actual inspection.

Objectives

Given a role play exercise, discussion questions, and an inspection scenario:

- Perform basic pre-screening activities.
- Describe the inspection planning process.
- List the basic facility records for a non/late reporter inspection.
- List the basic documents for a data quality inspection.
- Identify the inspection documents necessary to conduct EPCRA Section 313 inspections.

PRE-SCREENING ACTIVITIES

This section covers two basic pre-screening activities:

- Identification of primary contact at the facility
- Confirmation of facility data

Identify Primary Contact at Facility

Once a list of potential target facilities has been developed, you should contact each facility to confirm general industry information and verify that it is subject to EPCRA Section 313 reporting requirements. When contacting a facility, you want to speak with the facility manager, environmental coordinator, or someone else with authority in order to verify information and

establish a point of contact. You may find a D&B report useful for determining who is in charge. It usually provides the name and telephone number of the senior person at the facility. If this method is ineffective, call the general number for the facility or directory assistance for the company and ask to speak to the person in charge of the facility. This may be a production manager, plant manager, or someone else in management.

Confirm Facility Data

The primary goal of the pre-screening call is to confirm that the targeted facility meets the criteria for an inspection (for example, number of employees and chemical produced). When calling the facility, you may reach a receptionist. You can obtain the information you need from this person, but it is not recommended. Ask to speak to the person you previously identified as the primary contact. If the receptionist refuses to answer your questions or wants to know why you are asking questions, then introduce yourself as an EPA inspector (or another person with the authority to conduct EPCRA Section 313 inspections) and ask to speak to the person in charge of the facility. If necessary, explain that you are confirming data you have collected regarding the facility in relation to EPCRA Section 313 reporting requirements.

Once you have reached the primary contact or person in charge (or the receptionist if no one else is available), you should ask EPCRA-Section 313-specific questions. The types of questions to ask include:

- Are you a manufacturing facility or in the group of industries added in 1995 to the universe of facilities subject to reporting under EPCRA Section 313? (Note: This ensures that you are planning a visit to a facility in the EPCRA Section 313 universe).

- Are you aware of EPCRA Section 313? If "no," send a copy of the Form R Packet for the facility to review. If "yes," ask what EPCRA Section 313 chemicals they use, how they use them, what quantities they use, and have they submitted a Form A or R.

- Do you manufacture or process 25,000 lbs or otherwise use 10,000 lbs of an EPCRA Section 313 chemical subject to reporting?

- How many full-time or equivalent employees, including sales staff and contractor hours, do you have for the facility?

- What are your gross annual sales?

- What product do you primarily manufacture?

- Are you self-contained (own chemical/manufacture/electroplating/forging and so on)?

- Describe plant operations. Are there any wastewater treatment, power generation, or steam refrigeration operations?

Definition (40 CFR Part 372.3)
Full-time employee means 2,000 hours per year of full-time of equivalent employment. A facility would calculate the number of full-time employees by totaling the hours worked (plus paid vacation and sick leave claimed) during the reporting year by all employees, including part-time and contractor personnel, and dividing that total by 2,000 hours. If the facility had fewer than 10 full-time employees or the equivalent, it was not required to report.

Remember, the primary goal of the pre-screening call is to determine if the facility you have targeted meets the criteria for an inspection. If the facility does not meet the criteria, the process ends here. However, if the facility meets the criteria, you may either proceed with the records review or proceed with advance notification. This will be determined by Regional procedure and the amount of information gathered prior to the pre-screening call.

EXERCISE 1

You will be paired with another student and assigned a role. One of you will play the role of the EPCRA inspector, and the other will be the contact person at the targeted facility. You have 5 minutes to read the instructions for your role and prepare. Do not share the information on your role sheet with your classmate before the role play exercise begins. The general scenario is that the inspector is calling to pre-screen the facility while targeting for an inspection. You will have approximately 5 minutes as a pair to portray the roles. (Note: Role instruction sheets are Attachments 8-1 and 8-2.)

RECORDS REVIEW

Introduction

Proper review of EPA records, prior to the on-site inspection of a targeted facility, is essential to the overall success of the inspection and compliance efforts. The information obtained from your research and review of specific regulatory requirements, site-specific background, compliance history, and facility operations will enable you to develop an inspection plan that is focused. More importantly, you will identify documents and personnel interviews that need to be obtained or conducted during the inspection and identify any issues, concerns, or discrepancies that need to be addressed. In-depth analysis of records combined with a review of

the processes used at the facility being inspected, also sends the message that the inspector is knowledgeable and well prepared. Note that all of the sources of facility information identified in this lesson may not be available; and although they are helpful, they are not vital.

In general, the objectives of records review are to:

- Become familiar with facility size and operations.
- Learn about facility compliance history.
- Identify any inadequacies and/or inconsistencies in the facility documentation that you want to clarify during the inspection (such as, changes in names, SIC codes, number of full time employees, or changes in corporate structure)
- Minimize inconvenience to facility personnel by not having to ask for basic facility information that may already be in EPA records.
- Clarify technical and legal issues before you conduct the inspection.
- Make more efficient use of EPA personnel and funding by saving time once at the inspection site (for example, plan to conduct two non/late reporter inspection in one day, because these types of inspections only take about three hours per facility).

There are two types of data in which you will find most of your information:

- Facility-Specific Data
- Chemical/Industry-Specific Data

In both data quality and non/late reporter inspections, you will find facility-specific and chemical/industry-specific data documents. Of course, there will be more facility-specific data for a data quality inspection, and when those documents are presented in this lesson, they will be noted as being data quality-specific. Additionally, obtaining all of the documentation/information listed may not be possible; however, try to gather as much of it as possible. It will make your inspection planning easier and your on-site inspection more efficient.

Facility-Specific Documents and Sources

The first type of facility information you want to gather is general facility information. The following list highlights examples of what types of information you should research and review during the records review process. Don't forget to check for a company/facility's own Internet web site as a source of information.

General Facility Information.

- Names, titles, and telephone numbers of facility officials and/or representatives
- Street address and road map
- Organizational structure
- Special facility entry requirements
- Past and present (and possibly future) operations and production levels
- Safety equipment and health and safety training requirements
- Descriptions of the facility's (and/or the company's or parent company's) recordkeeping and filing system
- Size of facility

All of this data is especially useful for inspection planning purposes. Knowing this information will enable you to better allocate time and resources, as well as prepare necessary inspection documents and equipment. For example, data on facility-specific entry requirements may help you determine whether it is necessary to obtain a warrant.

Previous Enforcement Information. The second facility-specific topic area to research is previous EPA enforcement against the facility. You should review inspection records, compliance histories, and enforcement actions under other programs, including the water, air, and hazardous waste programs. This information can also be critical in planning an inspection and understanding the facility.

Reports Prepared by the Facility. Third, you should review any reports prepared by the facility (for example, self-monitoring reports) that may be found in EPA files. You would review these reports to determine whether there are any discrepancies between the self-monitoring records and the EPA records. For example, a facility may submit a discharge monitoring report, indicating the presence of an EPCRA Section 313 chemical in the discharge. However, in the Form R report submitted to EPA, the facility did not indicate any releases to receiving water. This type of data discrepancy should be resolved during the on-site inspection.

You may not want to wait until the on-site inspection to clarify this type of discrepancy. That is a judgment you will have to determine. It is fully appropriate to either investigate these types of discrepancies by requesting clarification from the facility during the advance notification or during the inspection.

Permits and Permit Applications. Fourth, you should review any facility operating permits or permit applications. Such documents may provide information on limitations and requirements applicable to discharges, emissions, and operations; compliance schedules; and monitoring, analytical, and reporting requirements. While your concern is only with documenting potential EPCRA Section 313 violations, EPA encourages comprehensive environmental compliance inspections. To the extent possible, you are encouraged to review permits and other documentation pertinent to other EPA-administered legislation (that is, other sections of EPCRA, the CAA, and the CWA).

Correspondence. Correspondence between the facility and EPA (or the State) may provide important information on compliance issues. In addition, EPA's response to correspondence from the facility can affect the requirements that are applicable to the facility. You should also review EPCRA-Section 313-related correspondence and EPA correspondence related to other program areas such as air, water, and RCRA.

Form R Report (Data Quality, rarely Non/Late Reporter). Your primary source of information in a data quality inspection is the review of Form R chemical reports submitted by the facility to EPA. Each Form R report contains eight types of information: facility identification data, off-site location data, chemical-specific data, manufacturing process data, release data, off-site transfer data, waste treatment methods, and pollution prevention data. Review Form R(s) for data discrepancies.

Tier I and II Reports. Under Section 312, facilities must report information about the amounts, location, and potential effects of hazardous chemicals to Local Emergency Planning Committees (LEPC) and State Emergency Response Commission (SERC). These reports consist of annual inventories of EPCRA Section 313 chemicals kept onsite. A two-tier approach exists for annual inventory reporting: Tier I and Tier II reports. Each year since 1988, these inventory forms are due on March 1. You can contact the state or local emergency planning board to locate Tier I and Tier II reports.

Tier I Reports

Specifically, Tier I forms require facilities to develop estimates for the amount of chemicals in each hazard category, based upon the maximum combined amount of hazardous chemicals, average daily amount present, and general location of the chemicals in the facility.

Tier II Reports

Tier II forms provide more detail and describe for each hazardous chemical the common name listed on the MSDS, the maximum and average amounts of the chemical present, storage conditions, location of the chemical, and confidential status of the location information.

Companies have the flexibility to choose whether to file Tier I or Tier II forms, unless SERC, LEPC, and/or the local fire department request Tier II, but many companies voluntarily provide Tier II reports. Most cases will involve Tier II, not Tier I reports.

Databases. Databases are another excellent source of facility information. Listed below are four of the most commonly used databases and the information they contain.

TRI Database

If you have not already run a TRI database report during targeting, doing so now would provide you with the following EPCRA Section 313 details on the facility:

- Identification of the toxic chemicals reported
- The amount of chemical released
- The media to which it was released
- Whether the facility did not report

IDEA System

IDEA tracks an individual facility's compliance records for most EPA statutes. This information may assist you, because a facility that has failed to report under EPCRA Section 313 may show up with a compliance record under a different statute. Additionally, IDEA's information can also be a tool to help an you determine whether EPCRA Section 313 data appears to be consistent across all EPA program lines.

Facility and Company Tracking System (FACTS)

FACTS provides detailed information on names, addresses, employment, sales, and SIC codes. This information can be extracted in two ways: facilities by SIC codes or facilities that are within a particular geographic area.

FINDS

FINDS is designed to track facilities subject to various Federal environmental laws, including RCRA, NPDES, and the CAA.

Access to these databases is as follows:

- TRI data accessibility can be obtained from your Regional EPCRA Section 313 contact or through one of the Internet sites listed in Lesson 5.

- OTIS, IDEA, FACTS, and FINDS are also available through on-line access.

Laws and Regulations. Prior to the inspection, you must review and identify all EPCRA regulations that apply to the type of facility being inspected.

Technical Reports. You should review (and, if necessary, take to the inspection site) copies of EPA or other publications that provide information on industrial process operations. Your knowledge of the processes and associated control equipment at a facility can be instrumental in ensuring the success of an inspection.

Chemical/Industry-Specific Information

You should gather and review specific chemical information to take with you to the inspection. This specific data may be needed for calculations or to determine where releases may occur. The type of information you should include are the following chemical properties:

- Volatility
- Solubility
- Specific gravity/density
- Molecular weight

There are many methods of estimating releases that require the use of the parameters mentioned above. For example, such calculation methods are detailed in *Estimating Releases and Waste Treatment Efficiencies for the Toxic Chemical Release Inventory Form* (EPA 560/4-99-002), also known as the "Green Book". Also, reference EPA's EPCRA Section 313 Release Reporting Guidance Documents. These chemical- and industry-specific guides are available at the TRI Home Page, http://www.epa.gov/tri/guidance.

Additionally, some chemical properties may dictate where you should look for releases. For example, if a particular chemical is highly volatile, the inspector should look closely at air release estimates.

Industrial Uses and Storage Practices. Understanding typical industrial uses and typical storage practices of a particular chemical is also helpful. This information is contained in standard chemical dictionaries, such as *Encyclopedia of Chemical Technology*. You should learn the treatment technologies used in the industry, and if time and resources allow, also investigate the efficiencies of different treatment units.

Supplemental Information

If time permits, you should also supplement records review with interviewing appropriate EPA personnel who have additional information or knowledge of the targeted facility. The appropriate persons to interview will be based on your need for clarifying issues or data discovered during the records review process, or if there is a need for additional information. This would be necessary if you feel the facility could be on the threshold.

INSPECTION PREPARATION

Inspection Questions

Developing inspection questions is an extremely important activity when preparing for the on-site portion of the inspection. After you have reviewed all of the relevant inspection data, facility- and chemical/industrial-specific, it is time to formulate questions that will be asked of facility personnel during the on-site activities. The basis for these questions will stem from the deficiencies and discrepancies found while reviewing records.

An example may be:

- In reporting years 1989-1991, you submitted a Form R report for Chemical X. As a component of XYZ compound processed at your plant, the threshold of X achieved in the compound is reportable under EPCRA Section 313 reporting requirements. For reporting year 1992, our research identified that XYZ compound is still being produced at your facility; however, EPA records do not indicate that a Form R was submitted for Chemical X. Have you changed the chemical structure of XYZ compound? Did you actually submit a Form R report that has not been entered into EPA records, and if so, can we obtain a copy of that report?

Document, Process, and/or Interview Request List(s)

Another important list to prepare is the list detailing all of the documents, industrial processes, and personnel interview requests to be obtained during the on-site inspection. This list will consist of documents and processes that could not be accessed through your research. Personnel interviews are a request of the facility and should be used only to clarify and obtain new information where documents are not present. These items may include:

<u>Data Quality Inspection</u>

- Form R report

- Process flow diagrams
- Facility layout detailing waste removal system
- List of chemicals processed, manufactured, or otherwise used

Non/Late Reporter Inspection

- Usage information on chemicals
- Inventory records
- MSDS/Tier II reports

REVIEW

Pre-Screening Activities

- Identification of primary contact at facility
- Confirmation of facility data

Records Review

- Facility-specific documents and sources
- Chemical/Industry-specific documents and sources
- Supplemental information
- Inspection preparation
- Inspection questions
- Document, process, and interview list

EXERCISE 2

Read the Records Review Scenario provided in your manual (Attachment 8-3), then determine what documents you will need in order to prepare a detailed, written inspection plan. You have 15 minutes to read and list the documents/records needed. Be prepared to discuss your answers. The answers to Exercise 2 are included in Attachment 8-4.

ADVANCE NOTIFICATION

Regional Differences

EPA is not required by law to provide advance notification of an inspection. In some cases, providing advance notification may provide an inappropriate warning to a facility that will allow them to address any issues before an inspector arrives. Each Region decides whether or not to provide advance notification and under what circumstances. Given the nature of the EPCRA requirements, advance notification of an EPCRA inspection is usually provided.

Potential Advantages

- The facility will have the necessary documents, records, and/or personnel accessible for you, saving valuable time on site and during the follow-up stages of the inspection.
- A facility generally appreciates being provided advance notification so that regular operations are not interrupted. This fosters a cooperative relationship between EPA and the regulated industry.

Potential Disadvantages

- You may not have the opportunity to view the subject facility under normal operating conditions, because the facility could alter its operations to fit preconceived notions of what an inspector may want to see.
- If a tip or complaint is involved, advance notification could put an employee's, customer's, or associate's relationship with the company in jeopardy. For example, the company may become suspicious of the timing of an inspection in relation to an incident.

If advance notification is provided, make note of it in the inspection report (covered in more detail in a later lesson). In addition, if a SEE inspector is providing advance notification to the

facility of a planned inspection, he or she should use the model language developed by EPA's Office of General Counsel. The model language to include in an advance notification letter for a SEE inspection is presented in Attachment 8-5.

Facility Contact Identification

The process for identifying the facility contact is the same as under pre-screening activities. In fact, both activities can be combined into one telephone call, if appropriate.

Inspection Discussion

The objectives of the advance notification discussion are to:

- Schedule the inspection.
- Determine the appropriate site for the inspection, including identification of the location of necessary records; records you will need to review should be described as specifically as possible to ensure that the necessary personnel and records are available to accompany you during the inspection.

If the facility contact is not cooperative, notify your supervisor and Regional Counsel for instructions on how to proceed.

During the telephone conversation, you should discuss:

- Introduction
- Nature of the inspection
- Administrative details of the inspection
- Technical information review
- Supplier notification information
- Logistical arrangements

A checklist could be helpful to you when completing this task. EPA has a checklist available for this purpose, which can be found in the Interim Final EPCRA Section 313 Data Quality Inspection Manual. Your region may also have a checklist available, or you may want to develop your own checklist to facilitate gathering this information.

Introduction. Begin the conversation by introducing yourself as an EPA inspector (or other person with the authority to conduct EPCRA Section 313 inspections). Inform the facility contact if you are a SEE. If the contact has any questions, offer to send them a copy of the SEE program description sheet. A copy of this sheet is provided in Attachment 8-6.

Nature of the Inspection. Discuss the nature and purpose of the inspection. If it is routine, as opposed to "for cause," this fact should be conveyed. If the inspection is "for cause," obtain guidance from your supervisor and/or Regional Counsel as to the nature and amount of information that should be conveyed during this initial contact.

Administrative Details of the Inspection. Establish the following details:

- The location of and directions to the site
- The date and time of the intended inspection
- The name and title of the facility employee or official who will serve as the designated contact person for the inspection (if such person will be different from the one contacted during the advance notification)
- The availability of certain records and other data for review during the inspection. All supporting material used to develop information for the Form R reports must be available for review. In addition, you should request that copies of process flow diagrams be available at the time of the visit.
- The availability of facility personnel for interviews during the inspection for interviews
- The need to tour the manufacturing and other operational areas of the facility
- The types of safety equipment that may be needed to tour the facility
- A follow-up letter will be sent. This will include the purpose and scope of the inspection, the records the facility should make available for review, and the name of an EPA contact Attachment 8-5 contains the language to used if a SEE employee will be conducting the inspection. Attachments 8-7 and 8-8 contain examples of a telephone interview format and follow-up letter used by EPA Region 10.

Technical Information Review (Data Quality Inspection Only). During the pre-inspection telephone interview, you should ask the facility contact how many Form R chemical reports were submitted for the reporting year. This will enable you to verify the number of Form R reports received by EPA from the facility.

You should ask the facility contact how many EPCRA Section 313 chemicals were identified as being at the facility during the reporting year. This will help you estimate the level of effort needed to complete the inspection for this facility.

You should establish whether the facility submitted revised Form R reports and should list all chemicals for which chemical reports were revised. If the facility submitted revised reports for the reporting year, you should confirm whether EPA has the most updated version. If EPA does not, you should either request the new information over the telephone or ask the facility to have the new data available at the time of the visit. You should also review the revised Form R report(s) and determine the reason for the amendment.

You should next ascertain the number of full-time or equivalent employees at the facility during the reporting year (if this was not done during previous contact).

Next, you should inquire about the type of industrial processes performed at the facility, as well as any significant changes in processes and treatment technologies that have occurred since the reporting year. You should describe the operations and any changes thoroughly in the appropriate questions within the checklist. This information will (1) verify the data that the EPA currently has on the facility and operations and (2) focus your attention on the specific changes that have occurred at the facility since they last reported.

Finally, you should be sure to emphasize to the facility contact that all supporting materials used to develop information contained within the Form R chemical reports must be available for review. In addition, you should request that copies of process flow diagrams be available at the time of the visit.

Supplier Notification Information. Suppliers and distributors of mixtures that include EPCRA Section 313 chemicals must notify their customers of the following:

- A statement that the mixture or trade name product or chemicals is subject to the reporting requirements of EPCRA Section 313.

- The name of each toxic chemical and associated CAS registry number of each chemical if, applicable.

- The percentage, by weight, of each toxic chemical (or all toxic chemicals within a listed category) contained in the mixture or trade name product. Notifications must be sent to facilities who may sell or otherwise distribute such mixtures or products to a facility.

A Supplier Notification form is a tool that facilities use to improve the accuracy and completeness of their Form R data. The general information on supplier notification is important, because the accuracy and completeness of the data in the Supplier Notification form will affect a facility's ability to make threshold determinations and improve the accuracy of their data. The

Supplier Notification form contains information on all of the purchased mixtures and trade name products containing EPCRA Section 313 chemicals.

The following section provides information for completing the Supplier Notification section of the checklist.

- Document whether the facility received the appropriate notification from its supplier(s) regarding mixtures containing EPCRA Section 313 chemicals.
- List the names and addresses of any suppliers that did not provide notification to the facility.
- Ascertain whether the facility distributed mixtures containing EPCRA Section 313 chemicals during the reporting year.
- Record whether the facility developed and distributed the appropriate information to its customers, if the facility distributed mixtures containing EPCRA Section 313 chemicals.
- During the inspection, request a copy of the information distributed.

Logistical Arrangements. You should inquire about the following items:

- The size of the facility, including the production or processing areas, storage facilities, and treatment areas
- The procedures used by the facility to collect and document information for EPCRA Section 313 reporting and the number of personnel involved. This will assist you in planning the resources (both time and personnel) needed to complete the inspection.
- The availability of appropriate personnel for interviews during the inspection
- Whether the facility will be operating under normal conditions
- The likelihood of problems in arranging a tour of the facility
- Any personal protective equipment (PPE) needed for a tour of the facility

INSPECTION MATERIALS COLLECTION

Inspection Materials

In addition to reviewing EPA records and preparing the written inspection plan prior to conducting the inspection, you should also gather and prepare the necessary documents and equipment to be used during the inspection. No single list of documents and/or equipment can be appropriate for all inspections. However, the following list provides a good guide.

Inspection documents may include (* denotes a mandatory document):

- *Notice of Inspection (see Attachment 8-9). This form is presented immediately after you present your credentials. Portions of this form can be filled out in advance, but the time of inspection and the names of facility officials must be entered at the time of inspection.

- *Receipt for Samples and Documents (see Attachment 8-10). All samples and documents taken during an inspection are listed on this form. Any documents and samples taken during an inspection that have been claimed as trade secret information, or CBI, should also be noted on this form.

- Copies of EPCRA and Specific Section 313 Regulations. Some facility officials may not have copies of EPCRA applicable rules and regulations. You should always have these available for distribution.

- EPA Outreach Materials. You should provide current, relevant educational information to facility officials relating to all EPA voluntary compliance efforts, in particular, information about other sections of EPCRA. Additionally, EPA has established an EPCRA Hotline for facility questions and concerns. The phone number is 1-800-424-9346 (703-412-9810 for calls from the Washington, D.C. metropolitan area and all government locations), and the fax number is 703-412-3333.

- Inspection Plan and Facility Questions. For reference, take the inspection plan and questions you formulated during inspection preparation.

- Documents and Database Printouts from Targeting and Records Review. Sometimes it is helpful to take these with you as a reference during the inspection. They may contain details that you wish to verify with the facility.

- *Credentials. Having your credentials with you should go without saying. It is important that you always have them available for inspection.

- Form R Instruction Packets. These are especially helpful when investigating a non/late reporter facility, because they inform facility officials of EPCRA Section 313 reporting procedures.

- EPCRA Section 313 Question and Answer Document and Industry-specific Guidance Documents. The Question and Answer document is very useful for identifying questions that have been raised by industry and others about how to comply with EPCRA requirements. This document is periodically revised, so look for a recent version. Also, if a guide has been done for the industry sector of the facility you plan to inspect, it may be a useful reference.

Equipment includes:

- Calculator. You will need this to calculate threshold determinations and release estimations. Most facilities would provide you with one; however, it is easier to make it a part of your routine list.

- List of Conversion Tables. These tables are helpful as a quick reference for performing unit conversion calculations.

- Health and Safety Equipment. You should determine what health and safety equipment is called for at the specific facility to be inspected. Equipment may include steel-toed boots, safety glasses, ear protection, and hard hats, as well as any facility-specific equipment, that may have been identified in advance. The facility may provide some or all needed equipment but you should identify in advance what is needed.

- Miscellaneous items. For example telephone credit card and EPA regional telephone list, camera, business cards, and flashlight. These are some items that you may find useful to have readily available during the inspection.

Your experience in the field and the information you obtain during pre-inspection planning should enable you to prepare materials lists tailored to specific inspection sites and requirements. Specific needs will be determined by the requirements of the inspection, the availability of equipment, conditions at the facility, EPA policies, and whether advance notification of the inspection will be given. All documents that can be prepared in advance of the inspection should be, whenever possible.

WRITTEN INSPECTION PLAN

After completing records review, inspection preparation, pre-screening, advance notification, and inspection materials collection, it is time to develop your written inspection plan. An inspection

plan is designed to help you focus on the important elements of an upcoming inspection, as well as provide a planned methodology for conducting it. This plan is an internal document for your planning and organizational purposes and should not be forwarded to the target facility.

- Objective of Inspection and Background Data. This introductory section should provide a brief history of factors relevant to the particular facility (such as, previous TRI reports, previous inspection dates and types of inspections, whether any potential compliance issues were identified, and what they were). This section should also identify the objective or reason for the inspection. This will vary from inspection to inspection (that is, "for cause," random, case development, or follow-up). More specific objectives may also be identified in addition to the overall objective.

- Scope and Assessment Topics. The inspection plan should clearly establish the scope of the inspection and the assessment topics. The scope of the inspection is a function of the overall objective of the inspection. For example, if the inspection is "for cause," then the scope of the inspection should include all records, operations, and areas of the facility that will need to be inspected to determine compliance with the provisions of EPCRA Section 313 suspected of being violated. Some discussion of the boundaries of the inspection should be included (for example, if the inspection will include a tour of the facility, as well as records review and interviews with personnel, or will only focus on a records review).

  Once the scope has been identified, the inspection plan should designate the assessment topics. Assessment topics can be roughly defined as the major regulatory areas to be covered during the inspection. The assessment topics should be further broken down into specific questions to be asked of facility officials concerning the particular assessment topic and specific associated tasks.

- Inspection Activities. Once the assessment topics have been established, the inspector must determine the most appropriate inspection activity or method of assessing compliance and gathering evidence of potential violations (for example, observation, records review, interviews, and collection of samples) for each task. Compliance and assessment and evidence collecting techniques can be organized in an inspection plan as follows:

  - Facility Tour. List the activities, operations, and/or equipment to be observed (such as, manufacturing processes and equipment).
  - Records Review. List facility records that will be reviewed to determine statutory and regulatory compliance, along with the regulatory citation(s) applicable to each record that must be maintained, as well as a description of the required content of each record.

- Conduct of Interviews. List the titles, and names (if known) of key personnel with whom meetings should be held to determine compliance with specific regulatory provisions.

A worksheet for developing a written inspection plan is provided in Attachment 8-11.

REVIEW

Advance Notification

- Regional differences
- Facility contact identification
- Inspection discussion
  - Introduction
  - Nature of the inspection
  - Administrative details of the inspection
  - Technical information review
  - Supplier notification information
  - Logistical arrangements

Inspection Materials Collection

- Inspection materials

Written Inspection Plan

- Objective of inspection and background data
- Scope and assessment topics
- Inspection activities
  - Facility tour
  - Records review
  - Interviews

SUMMARY

Inspection planning includes facility pre-screening, review of EPA and facility documentation, inspection preparation, advance notification, and collection of inspection-related documents. Thorough preparation and planning saves time in the long run, because familiarity with the operations, history, and compliance status of the facility decreases the need for covering these areas during the limited time typically spent onsite. In addition, planning promotes a better relationship with the regulated community, because the EPA inspector should be able to answer questions concerning the application of EPCRA Section 313 reporting requirements to a particular facility. It also enhances the facility's confidence in the EPA inspector and aids in establishing good relationships with facility representatives.

REVIEW QUESTIONS

See Attachment 8-12 for the answers to the following review question.

1. What are the goals of a pre-screening call?

2. What information do you need to determine if a facility is subject to EPCRA Section 313 reporting?

3. What facility records do you need to research and review for a non/late reporter inspection? A data quality inspection?

4. Why is it important to have a prepared list of questions for facility officials?

5. Why is it important to have chemical-specific data while on site?

6. What are the advantages of having reviewed facility documentation and industrial processes?

7. What are some of the advantages of providing advanced notification?

8. What are some disadvantages of providing advance notification?

9. What information should you exchange with a facility contact if advance notification is given?

10. What are the mandatory inspection documents that you must take to the on-site inspection?

11. What information should be covered in a written inspection plan?

ATTACHMENT 8-1

LESSON 8 EXERCISE 1:
INSPECTION PREPARATION
ROLE 1 - INSPECTOR

(One Page)

Lesson 8 Exercise 1:
Inspection Preparation
Role 1 - Inspector

INSTRUCTIONS: Read the following role description. Do not share it with your partner. Play the person in the description below, and try to obtain the information you need.

You are an EPCRA inspector conducting targeting and have decided to inspect XYZ Company because of some inconsistencies in their data reporting. You call to pre-screen the facility and to provide advance notification of the inspection. Obtain the necessary information from your partner to complete the pre-screening and advance notification phase of the EPCRA Section 313 inspection process.

ATTACHMENT 8-2

LESSON 8 EXERCISE 1:
INSPECTION PREPARATION
ROLE 2 - FACILITY CONTACT

(One Page)

Lesson 8 Exercise 1:
Inspection Preparation
Role 2 - Facility Contact

INSTRUCTIONS: Read the following role description. Do not share it with your partner. Play the role of the person in the description below, and try to obtain the information you, as the senior staff member, need in order to keep your job and help comply with the EPA.

You are the senior staff member at XYZ facility with 25 full-time employees. You were told by your employer not to give out any information about the facility over the phone. The executive staff is worried about a caller being an EPA inspector who can get the facility in trouble. You are afraid you would lose your job if the facility got in trouble. You receive a phone call from someone asking you questions about the facility. You try to find out who the person is that you are speaking with and what information the person is looking for without releasing any important information.

ATTACHMENT 8-3

LESSON 8 EXERCISE 2:
RECORDS REVIEW SCENARIO

(One Page)

Lesson 8 Exercise 2:
Records Review Scenario

INSTRUCTIONS: Read the following Inspection scenario. Once you have read it carefully, identify and list the documents you need to review.

ABC Corporation, manufacturer of paint, has been targeted for an EPCRA Section 313 inspection because the regional EPA office received a tip/compliant from area residents. Their complaint was that there has been an unusual smell in the area surrounding the plant. The local school is only a mile away, and parents are concerned that something illegal is going on. ABC has reported their Form Rs for the past 10 years and has no prior complaints made against them. What documents would you research and review to better prepare yourself for this inspection?

ATTACHMENT 8-4

LESSON 8 EXERCISE 2:
RECORDS REVIEW SCENARIO
ANSWER KEY

(One Page)

Lesson 8 Exercise 2:
Records Review Scenario
Answer Key

Following are possible documents the inspector may need to review.

- Maps and/or aerial photographs showing the location of the facility and its relationship to the surrounding area
- Past and present operations and production levels
- Water, air, and waste treatment pollution and control equipment
- Physical layout of facility
- Reports prepared by the facility
- Permits and permit application
- Tier I and Tier II reports
- Correspondence with or regarding the facility
- Prior TRI submissions
- Some of databases mentioned in lesson, e.g., IDEA, FINDS, etc.
- Industrial uses and storage practices
- Technical reports
- Chemical-specific information
- Applicable laws and regulations

ATTACHMENT 8-5

LANGUAGE FOR SEE INSPECTION LETTER

(One Page)

LANGUAGE FOR SEE INSPECTION LETTER

The Office of General Counsel drafted the following language that should be used when you are sending a letter out advising that a Senior Environmental Employee (SEE) will be visiting a facility. The language should be modified to adapt to the particular inspection to be performed and the name of the enrollee's grant organization.

This letter will confirm that M_. (name of enrollee) will be contacting you in order to schedule a visit to your facility. M_. _____ is assisting the Environmental Protection Agency (EPA) under a Cooperative Agreement with the National Senior Citizens Education and Research Center (grantee) as part of the Senior Environmental Employment (SEE) Program. As part of the technical assistance provided to EPA, M_. _____ provides inspection services under [my] [the] direction and monitoring [of EPA personnel] pursuant to the Emergency Planning and Community Right-to-Know Act (SARA Title III). As a SEE enrollee, M_._____ is authorized by EPA to have access to Confidential Business Information, and has signed a Non-Disclosure Agreement regarding any such information.

ATTACHMENT 8-6

SENIOR ENVIRONMENTAL EMPLOYMENT PROGRAM AND EPCRA

(Two Pages)

Senior Environmental Employment Program and EPCRA

Background

In 1976, the EPA and the Agency on Aging (AOA) began sponsoring older worker environmental programs as a demonstration project jointly funded by AOA and EPA. Following a successful two-year, ten-state program, the EPA funded older worker programs through the Senior Environmental Employment (SEE) Program in several environmental areas.

On June 12, 1984, *The Environmental Programs Assistance Act* was signed into law. Public law 98- 313 provided the authorization to convert the SEE program into a permanent program based on years of successful research, demonstration, and training projects utilizing older workers in environmental jobs. The National Council of Senior Citizens (NCSC) and EPA sponsor older workers for the SEE program. These programs complement each other because the backgrounds of many NCSC employees are suited for conducting EPCRA Section 313 inspections. Many of the NCSC employees have retired from extensive careers within the community which is regulated by EPCRA. Therefore, they are sensitive to the concerns, and possess insight into the processes at work within the facilities inspected for potential EPCRA violations. In addition, NCSC employees, also known as SEE employees, predominantly have an engineering or related science background which adequately qualifies them as candidates for EPCRA inspections. The EPA Regional offices to which they are assigned provide immediate direction, technical, and logistical support. In addition, the EPA SEE program coordinators outline job tasks for the SEE program enrollees based on their experience and expertise. It is important to note that all SEE employees are receive the same training as Federal inspectors.

Senior Environmental Employees and EPCRA

Senior Environmental Employees are authorized by *The Environmental Programs Assistance Act* to perform the following functions for the enforcement of EPCRA:

1. **Conduct on-site compliance inspections** consisting primarily of record reviews of facilities subject to EPCRA Section 313, and **assist** the EPA Regions **in compliance case development** activities.

2. **Support on-site inspections** of chemical manufacturing and processing facilities, chemical distribution points, and chemical sales facilities by offering technical assistance to determine compliance with various requirements of EPCRA Section 313.

3. **Provide technical assistance to facilities** in estimating releases and treatment efficiency, and in responding to other elements of the Form R; perform quality control reviews of selected completed Form Rs.

4. **Assist** senior **EPA** Regional **staff in identifying facilities or categories of facilities** that may be subject to EPCRA Section 313 reporting and especially those that might be in particular need of technical assistance.

5. **Present speeches and briefings and conduct seminars and workshops for the regulated community on** the requirements of **EPCRA** Section 313 and on using available technical guidance materials. Work with EPA Regional staff to develop appropriate content and materials for these activities.

6. **Respond to questions from the regulated community and the general public** on the requirements of EPCRA Section 313. **Refer new issues to** appropriate senior **EPA officials** for resolution.

7. **Assist in preparation of background materials** supporting enforcement actions against violators of EPCRA Section 313.

8. **Conduct outreach** with the regulated community **to improve understanding of** and compliance with **EPCRA** Section 313, and to improve understanding of **new innovative** regulatory and non-regulatory **approaches.**

9. **Conduct outreach and provide technical assistance** to the chemical industry, state, regional, and local governments, and community groups **to explain and initiate new pollution prevention activities.**

10. **Analyze and prepare reports on the progress of program outreach efforts,** identifying areas of concern and highlighting the need for new or revised guidance materials, instructions, or other implementation efforts. **Present reports to senior EPA** Regional and Headquarters **staff** responsible for program implementation.

11. **Provide aid** to the Regions in **administering federal grants** to states, non-profit organizations, and the regulated community to facilitate new pollution prevention, toxic use reduction, and other waste minimization initiatives.

12. **Assist EPA Regional and Headquarters offices** through clerical support positions in EPCRA compliance programs, and provide other EPCRA administrative and technical support as needed.

ATTACHMENT 8-7

EXAMPLE TELEPHONE INTERVIEW FORMAT

(One Page)

TELEPHONE INTERVIEW

My name is Dave Somers. I am a Compliance Inspector with the U.S. Environmental Protection Agency, Region 10 headquartered in Seattle.

May I please speak to the Plan Manager, environmental manager, or the person assigned to environmental responsibilities for reporting at your facility.

We are contacting companies that use chemicals in their manufacturing activities specifically covered by the EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW

ARE YOU FAMILIAR WITH THIS LAW?

Let me give you a brief summary of the law to help you determine if your company should be reporting.

1. Company fits into the SIC Code
2. Number of employees is 10 or over 20,000 hrs of work
3. Use any chemical on the TRI list.

I normally make this introduction call preceding an inspection of your manufacturing operation.

We need MSDS for each chemical listed and consumption of the chemical for the last five years.

In what type(s) of manufacturing is your firm engaged?

What procedures and processes are required?

ATTACHMENT 8-8

EXAMPLE FOLLOW-UP LETTER

(One Page)

Reply to
Attn Of: WCM-128

Notice of Inspection

Mr. Andy Nichols
ORMET - Wah Chang
530 34th Ave SW
Albany, Oregon 97321

October 20, 1999

Dear Mr. Nichols:

This is to confirm that Mr. David Somers will be conducting an inspection of your facility for the Environmental Protection Agency beginning on Wednesday, October 27, 1999 at 9:00 a.m.. This inspection is pursuant to Section 313 of the Emergency Planning and Community Right-to-Know Act. The purpose of the inspection will be to determine whether the facility is in compliance with the Toxics Release Inventory regulations contained in 40 CFR Part 372.

The inspection will require the examination of company records for both plant locations and a facility tour and site evaluation. In order to expedite the inspection, please have the following information ready and available for review:

1. **Purchase and inventory records** for the years 1994 through 1998 for each Section 313 chemical at the facility.

2. Current **Material Safety Data Sheets** for each Section 313 chemical.

3. Copies of your threshold and release calculations.

Attached is a copy of the reporting summary for the 34th Ave. location. Although nitric acid is reported annually, the nitrates generated by the neutralization process are listed just once. This is just one observation that we would like to clarify. If you have any questions or comments prior to Mr. Somers arrival please contact him at 206-553-2571.

Thank you for your cooperation.

Sincerely,

Christina Colt
Program Manager
Toxics Release Inventory

ATTACHMENT 8-9

SAMPLE NOTICE OF INSPECTION FORM

(One Page)

NOTICE OF INSPECTION

EPA

U.S. Environmental Protection Agency

Emergency Planning and Community Right-to-Know Act of 1986
(EPCRA)

1. INVESTIGATION IDENTIFICATION			2. TIME	3. FIRM NAME
DATE	INSPECTOR NO.	DAILY SEQ. NO.		
4. INSPECTOR ADDRESS				5. FIRM ADDRESS

REASON FOR INSPECTION: This inspection is for the purpose of determining compliance with the Emergency Planning and Community Right-to-Know Act of 1986, Section 313 toxic chemical release reporting requirements. The scope of this inspection may include, but is not limited to: reviewing and obtaining copies of documents and records; interviews and taking statements; reviewing of chemical manufacturing, importing, processing, and/or use facilities, including waste handling and treatment operations; taking samples and photographs; and any other inspection activities necessary to determine compliance with the Act.

SAMPLE

INSPECTOR SIGNATURE	RECIPIENT SIGNATURE
NAME	NAME
TITLE DATE SIGNED	TITLE DATE SIGNED

ATTACHMENT 8-10

RECEIPT FOR SAMPLE AND DOCUMENTS FORM

(One Page)

EPA	RECEIPT FOR SAMPLES AND DOCUMENTS U.S. ENVIRONMENTAL PROTECTION AGENCY Emergency planning and Community Right-to-Know Act of 1986 EPCRA Page ___ of ___

1. INVESTIGATION IDENTIFICATION				3. FIRM NAME
DATE	INSPECTOR NO.	DAILY SEQ. NO.		
4. INSPECTOR ADDRESS				5. FIRM ADDRESS

The documents and samples of chemical substances and/or mixtures described below were collected in connection with the administration and enforcement of the Emergency Planning and Community Right-to-Know Act of 1986.

RECEIPT OF THE DOCUMENT(S) AND/OR SAMPLE(S) DESCRIBED IS HEREBY ACKNOWLEDGED:

NO.	DESCRIPTION
	SAMPLE

INSPECTOR SIGNATURE	RECIPIENT SIGNATURE
NAME	NAME
TITLE DATE SIGNED	TITLE DATE SIGNED

ATTACHMENT 8-11

WORKSHEET FOR DEVELOPING A WRITTEN INSPECTION PLAN

(One Page)

Worksheet for Developing a Written Inspection Plan

Components of the Written Inspection Plan

Does the written inspection plan include:	Yes	No
• Objective of the background data search/review and the inspection?		
• Scope and assessment topics of interest/concern?		
• Anticipated inspection activities and field techniques ?		

Objective of the Background Data Search/Review and the Inspection

Does this component of the written inspection plan include:	Yes	No
• Brief history of factors relevant to the facility?		
• Objective or reason for the inspection?		

Scope and Assessment Topics of Interest/Concern

Does this component of the written inspection plan:	Yes	No
• Clearly establish the scope of the inspection and the assessment		
• Discuss the boundaries of the inspection?		
• Designate the assessment topics?		

Anticipated Inspection Activities and Field Techniques

Does the written inspection plan consider the following activities:	Yes	No
• Facility tour ?		
• Records review?		
• Conduct of interviews?		
• Sample collection?		

ATTACHMENT 8-12

ANSWERS TO LESSON 8
REVIEW QUESTIONS

(Two Pages)

ANSWERS TO LESSON 8 REVIEW QUESTIONS

1. What are the goals of a pre-screening call?

   - To establish a point of contact
   - To determine if the information you have collected is correct and complete
   - To verify that the facility is subject to EPCRA Section 313 reporting requirements

2. What information do you need to determine if a facility is subject to EPCRA Section 313 reporting?

   - Is it a manufacturing facility?
   - What is the number of full-time equivalent employees on site?
   - Does it manufacture, process, or otherwise use specific amounts of EPCRA Section 313 chemicals required for reporting?
   - MSDSs

3. What facility records do you need to research and review for a non/late reporter inspection? A data quality inspection?

   The same resources can be reviewed for each inspection with the exception of the Form R. For a non/late reporter inspection, the inspector will have no Form R to review.

4. Why is it important to have a prepared list of questions for facility officials?

   Developing inspection questions is an important activity when preparing for the on-site portion of the inspection. After you have reviewed all of the relevant inspection data, facility- and chemical/industrial-specific, it is time to formulate questions that will be asked of facility personnel during the on-site activities. The basis for these questions will stem from the deficiencies and discrepancies found while reviewing records.

5. Why is it important to have chemical-specific data while on site?

   You should gather and review specific chemical information to take with you to the inspection. This specific data may be needed for on-site calculations or to determine where releases may occur. It is needed also for health and safety precautions.

6. What are the advantages of having reviewed facility documentation and industrial processes?

   You will be familiar with the specific operating procedures of the facility which you can then compare and contrast with general industry procedures.

7. What are some of the advantages of providing advanced notification?

- The facility will have the necessary documents, records, and/or personnel accessible to you, saving valuable time on site and during the follow-up stages of the inspection.
- A facility generally appreciates being provided advanced notification so that regular operations are not interrupted. This fosters a cooperative relationship between EPA and the regulated industry.

8. What are some disadvantages of providing advance notification?

- You may not have the opportunity to view the subject facility under normal operating conditions because the facility could alter its operations to fit preconceived notions of what an inspector may want to see.

- If a tip or complaint is involved, advanced notification could put an employee's, customer's, or associate's relationship with the company in jeopardy. For example, the company may become suspicious of the timing of an inspection in relation to an incident.

9. What information should you exchange with a facility contact if advance notification is given?

- Introduction
- Nature of the inspection
- Administrative details of the inspection
- Technical information review
- Supplier notification information
- Logistical arrangements

10. What are the mandatory inspection documents that you must take to the on-site inspection?

- Notice of Inspection
- Receipt for Samples and Documents
- Credentials

11. What information should be covered in a written inspection plan?

- Objective of inspection and background data
- Scope and assessment topics
- Inspection activities

Lesson 9

Health and Safety

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LESSON 9: HEALTH AND SAFETY

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ATTACHMENT

9-1 ANSWERS TO LESSON 9 REVIEW QUESTIONS L9-A1-1

INTRODUCTION

Purpose

Your health and safety during an inspection is extremely important. This lesson presents the different risk factors involved in an inspection; personal protective equipment (PPE) that can be worn; and precautions that should be taken to ensure your safety.

Objectives

- Discuss the risks related to the health and safety of EPCRA inspectors while conducting on-site activities.
- Recall the basic PPE necessary to ensure the health and safety of EPCRA inspectors while conducting on-site activities.

HEALTH AND SAFETY ISSUES

Risk Factors

Prior to conducting the on-site inspection, it is important that you also determine the health and safety hazards of the chemicals being used or produced at the target facility. There are two primary concerns you should have:

- Chemicals' volatility
- Chemicals' route(s) of exposure to humans

Chemical Volatility. Once you identify the chemicals that you will be dealing with on site, take time to determine how dangerous they are. An opportune time to do this is while you are conducting chemical/industry-specific research. You should determine if the chemical(s) are flammable, acidic, combustible, carcinogens, and so on. A good source for this information are MSDSs. Basically, the more information you know about the chemicals you will encounter, the better you will be able to prepare for any unexpected accidents. Additionally, you should discuss the safety procedures for emergencies with facility officials prior to conducting any facility tour.

Chemical Route(s) of Exposure. There are two common routes of exposure to chemicals that are most likely to affect you while on an EPCRA Section 313 inspection:

- Dermal Exposure
- Inhalation

Dermal Exposure

Dermal exposure is the exposure of chemicals to the skin. During the facility tour, you may have contact with chemicals while inspecting waste storage facilities, product release points, and so on. It is important to be careful when touching anything while in the manufacturing area of the facility. The most common symptoms of dermal exposure are:

- Skin irritation or rash
- Blisters
- Muscle pain or burning sensation

Inhalation

Inhalation of toxic chemicals is the intake of a chemical's fumes through the nose or mouth. Inhalation of fumes is the most common health risk on an EPCRA Section 313 inspection because during normal manufacturing processes, chemical fumes naturally escape into the air. Additionally, problems or violations in how chemicals are processed and disposed of can cause fumes to escape as well. The most common symptoms of toxic inhalation are:

- Headache
- Itchy or swollen eyes
- Coughing
- Nausea
- Vomiting
- Dizziness

Safety Precautions and Protective Equipment

To ensure your health and safety while on an inspection, make sure to inquire about the type(s) of PPE they require while taking a facility tour. If they do not require any special equipment, you must make your own decision, based on your research, of whether to take precaution against exposure. The following items are recommended for on-site inspections:

- Hard hat
- Steel-toed safety boots
- Safety glasses or goggles
- Respirator
- Chemical resistant gloves

Health and Safety Training

EPA is committed to ensuring your health and safety in your job as an inspector. Therefore, as previously stated in Lesson 3, you will need to complete an initial health and safety course and annual health and safety refresher courses in order to conduct EPCRA inspections. Ongoing medical monitoring may also be required, depending on the nature of the facilities being inspected.

SUMMARY

Your health and safety is extremely important while on an EPCRA Section 313 inspection. You should be aware of all the chemicals you will encounter while on a facility tour and be prepared to protect yourself against their harmful effects to your health and safety.

REVIEW QUESTIONS

Note: See Attachment 9-1 for the answers to the following review questions.

1. What are the two primary routes of exposure an EPCRA Section 313 inspector should be aware of?

2. What are some common symptoms of dermal exposure?

3. What are some common symptoms of inhalation exposure?

4. What are the common types of protective equipment used by inspectors?

ATTACHMENT 9-1

ANSWERS TO LESSON 9 REVIEW QUESTIONS

(One Page)

ANSWERS TO LESSON 9 REVIEW QUESTIONS

1. What are the two primary routes of exposure an EPCRA Section 313 inspector should be aware of?

   - Dermal exposure
   - Inhalation

2. What are some common symptoms of dermal exposure?

   - Skin irritation or rash
   - Blisters
   - Muscle pain or burning sensation

3. What are some common symptoms of inhalation exposure?

   - Headache
   - Itchy or swollen eyes
   - Coughing
   - Nausea
   - Vomiting
   - Dizziness

4. What are the common types of protective equipment used by inspectors?

   - Hard hat
   - Steel-toed safety boots
   - Safety glasses or goggles
   - Ear protection
   - Respirator

EPCRA SECTION 313
INSPECTOR TRAINING MANUAL

Module V

On-Site Activities

MODULE OBJECTIVES

At the end of this module, students will be trained to:

- Conduct and explain the facility opening conference activities.
- Explain the basic components of on-site activities for non/late reporter and data quality inspections.
- Explain the closing conference activities.

CONTENTS

Module V contains:

- Lesson 10: Facility Entry and Opening Conference
- Lesson 11: Non/Late Reporter Inspections
- Lesson 12: Data Quality Inspections
- Lesson 13: Closing Conference

Lesson 10

Facility Entry and Opening Conference

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INTRODUCTION

Purpose

This lesson discusses the required procedures for entering a facility to conduct an EPCRA Section 313 inspection. The purpose of this lesson is to provide guidance on the preliminary aspects of an EPCRA Section 313 inspection. These aspects range from a discussion of the importance of receiving consent from the owner/operator of a facility, to procedures for conducting an opening conference with facility personnel.

Objective

- Given an inspection assignment, obtain facility entry and conduct opening conference activities.

FACILITY ENTRY

EPCRA implicitly authorizes the EPA to enter and inspect any establishment or facility in which chemical substances are manufactured, processed, stored, held, or otherwise used before or after their distribution in commerce. The authority to enter facilities targeted for an EPCRA Section 313 inspection is derived from the U.S. Supreme Court's decision in Marshall, Secretary of Labor v. Barlow's, Inc. (1978). This established that inspectors may enter a facility without obtaining express consent from the facility. This does not mean, however, that inspectors can simply force their way into a facility if consent to enter is not provided. If there is no consent, the inspector should contact a Regional attorney who can pursue obtaining either a warrant executed by federal marshals or a subpoena. However, in nearly all cases, facilities have voluntarily given access to EPCRA Section 313 inspectors conducting inspections.

An inspection under EPCRA Section 313 may be conducted only after you have presented the following items to the owner, operator, or agent in charge:

- Appropriate credentials
- Written Notice of Inspection

The scope of an EPCRA Section 313 inspection includes the inspection of all records, files, papers, processes, controls, and facilities that will support the inspector's inspection. Additionally, EPCRA Section 313 does not prohibit inspection of certain types of data. You

have the latitude to inspect any and all of the above resources while on site, so do not allow a facility to limit the scope of your EPCRA Section 313 inspection.

Arrival

If your State or Region provides advanced notification to facilities, you will have already scheduled your arrival time (see Lesson 8). Regardless of when this scheduling takes place, it is your responsibility to ensure that you arrive promptly and conduct the EPCRA Section 313 inspection at a reasonable time (that is, normal working hours).

Step One: Introductions and Presentations. After arriving at the facility, your first step is to locate a facility official immediately. This official needs to have the authority to grant express consent to the impending EPCRA Section 313 inspection. After locating the appropriate facility official(s), there are three procedures you need to follow immediately:

- Present EPA credentials identifying yourself as an EPA inspector/NCSC employee for an EPCRA Section 313 inspection.
- Introduce the inspection team (if a team is present).
- Present a Notice of Inspection (NOI).

At this time you may also wish to exchange business cards with the facility official as a courtesy.

Credentials

Upon arrival at the facility, you will present the EPCRA 313 inspector credentials provided by your Regional EPA office. These credentials indicate that you are a lawful representative of the EPA Administrator, and you are therefore duly designated as an EPA representative to perform inspections under EPCRA Section 313. SEE inspectors also have credentials (generally in the form of a letter). The SEE Program is explained in greater detail in Lessons 3 and 8.

All credentials should be presented whether or not identification is requested by the facility. Not presenting your credentials may jeopardize any future enforcement action taken against the facility. You may use your business cards for introductory purposes, but they do not replace the presentation of your official credentials. Additionally, credentials should never leave your sight while at the facility. For example, do not permit photocopying of your credentials.

Notice of Inspection (NOI)

After you have presented your credentials, present the written NOI to corporate officials. The NOI form (see Figure 10-1) should have been completely filled out by this point during the

Figure 10-1 Example Notice of Inspection (NOI)

EPA

NOTICE OF INSPECTION

U.S. Environmental Protection Agency
Emergency Planning and Community Right-to-Know Act of 1986
(EPCRA)

1. INVESTIGATION IDENTIFICATION			2. TIME	3. FIRM NAME
DATE	INSPECTOR NO.	DAILY SEQ. NO.		
4. INSPECTOR ADDRESS				5. FIRM ADDRESS

REASON FOR INSPECTION: This inspection is for the purpose of determining compliance with the Emergency Planning and Community Right-to-Know Act of 1986, Section 313 toxic chemical release reporting requirements. The scope of this inspection may include, but is not limited to: reviewing and obtaining copies of documents and records; interviews and taking statements; reviewing of chemical manufacturing, importing, processing, and/or use facilities, including waste handling and treatment operations; taking samples and photographs; and any other inspection activities necessary to determine compliance with the Act.

SAMPLE

INSPECTOR SIGNATURE	RECIPIENT SIGNATURE
NAME	NAME
TITLE DATE SIGNED	TITLE DATE SIGNED

pre-inspection activities (see Lesson 8). The NOI you will present formally informs the owner, operator, or agent in charge of the facility of the reason for an EPCRA Section 313 inspection, and provides the facility with your address and signature. Once you have arrived at the facility, fill in the accurate date and actual time of the inspection as proof that entry was requested at a reasonable hour. Make a note in the inspection notebook that you did indeed present the NOI and keep a copy of the NOI for the records. You will need this information when you begin writing the inspection report.

Consent to Enter and Inspect

Expressed consent (that is, an actual written statement from the facility official expressly permitting you on the premises to conduct an EPCRA Section 313 inspection) is not necessary for a credentialed federal inspector or NCSC employee. Furthermore, consent is considered to have been given if there is not an expressed denial of consent. However written consent is necessary for any uncredentialed persons accompanying an inspector. For example, this may include personnel from EPA Headquarters who are not inspectors, but are involved in the EPCRA program area and need exposure to the actual activities of an EPCRA Section 313 inspection.

If it is your Region's policy to do a walkthrough of the nonpublic portions of facilities, then consent from the facility is generally required, and although the law does not require you to obtain consent for the inspection, EPA policy does. Receiving this consent minimizes conflict with the facilities and tends to result in a more effective inspection. Once consent is granted, entry is considered to be voluntary and consensual, unless the inspector is expressly told to leave the premises.

Step Two: Receiving Consent to Enter and Inspect. Facility officials sometimes withhold consent or attempt to impose restrictions or conditions upon entry. Therefore, you must either:

- Obtain consent prior to conducting the inspection.
- If unable to obtain consent, follow proper procedures for when entry to a facility is denied or when conditions or restrictions are imposed by facility officials.

The exact procedures for denied or restricted entry may vary from State to State and Region to Region. Find out what the specific guidelines are for this situation in your Region or State. The general EPA procedures for this situation are discussed later in this lesson. Regardless of the specific situation, consent to enter always must be given knowingly and freely. For example, as an EPCRA Section 313 inspector, you must not coerce or lie to facility officials in order to obtain consent.

Consent must be given by the person with authority to give consent at the time of the inspection. Remember that an owner does not always have the authority to give consent. If someone with

the necessary authority cannot be located, it is your responsibility to make a good faith effort to determine who may otherwise consent to the entry (such as the agent in charge). Present your credentials to that individual and record the name and title of that person in the inspection notebook. As stated previously, you do not need to receive written consent in order to enter and inspect. You do not need a written statement from the facility official of "Yes, you have my permission to enter and inspect this facility." The absence of express denial constitutes consent. Furthermore, once consent is received, entry is assumed to remain voluntary and consensual, unless there is a withdrawal of consent from the facility official.

In most instances, if you follow proper procedures upon arrival at the facility (that is, presentation of credentials and NOI), it will be simple to obtain consent to enter. However, special situations may arise. The facility official may:

- Be reluctant to give consent
- Withdraw consent
- Refuse to sign the NOI

These situations and your responsibilities in each situation are discussed in the subsequent sections.

Reluctance to Give Consent

Acceptance toward inspectors will vary from facility to facility. However, in most instances, you will be able to proceed without difficulty, and you should therefore assume you are entering a cooperative atmosphere until proven otherwise. In some cases, officials may be reluctant to give entry consent because of misunderstandings of responsibilities, inconvenient scheduling, or other reasons that may be overcome by diplomacy and discussion. Whenever you encounter resistance, tactfully probe the reasons for the resistance and work with officials to overcome the obstacles. This kind of discourse with the facility officials is an important step in building rapport with the facility. Your inspection and all future interaction with that facility are likely to proceed smoothly if you carefully build a base of open and amiable communication.

Some of the ways in which you can overcome resistance is by first explaining, in detail, the purpose of the inspection. Answer any and all of the facility officials' concerns and questions and carefully avoid threats of any kind, inflammatory discussions, or any other actions that may result in increased misunderstanding. However, it is crucial during any negotiations or discussions that you not agree to any restrictions on the scope of an inspection authorized under EPCRA. Types of restrictions that facility officials may attempt to impose on inspectors are described in Figure 10-2.

Figure 10-2 Types of Inspection Restrictions

Types of Inspection Restrictions on Inspectors

- Waivers and Other Restrictive Agreements. EPA inspectors have the right and the responsibility to refuse to sign any agreement or waiver that promises that records or other data obtained from the facility will not be released to any third party. Any attempt by a facility to restrict inspection activities by requiring inspectors to sign such restrictive agreements should be viewed as a denial of consent to inspect the facility and treated accordingly.

- Health and Safety Restrictions. The inspector should be aware that she/he is subject to the applicable safety requirements that the facility requires of all visitors. For example, if safety boots and glasses are required of any visitor who needs to walk through the manufacturing area, then the inspector must wear these items. However, EPA inspectors cannot be required to participate in the facility's safety training program as a condition of conducting an EPCRA Section 313 inspection, with the exception of site-specific mine safety training required under EPA Order 1440.4. If facility officials make such a demand, the inspector can refuse and may treat the situation as a denial of consent. However, there are situations where an inspector may want to use discretion and participate in short videos or exercises that may seem appropriate.

- Refusal to Allow Access to Certain Areas of the Facility. If during the course of the inspections, access is denied or restricted to certain areas of the facility, the inspector should make a notation describing such denial or restriction in her/his notebook and identify which portion of the inspection could not be completed because of the denied or restricted access. However, despite the access restriction, the inspector should proceed with the remainder of the inspection. After leaving the facility, the inspector should contact his/her supervisor to determine whether a warrant should be obtained to complete the inspection.

If, after you have exhausted all your options, consent to enter still is denied, follow the denial of entry procedures that will be described in the following section. However, under no circumstances should you attempt to gain entry or consent to enter by coercive actions or by making statements that suggest that the facility representatives could be fined or otherwise "punished" unless entry is allowed.

Withdrawal of Consent

Occasionally, facility officials may initially consent to an inspection and later withdraw the consent during the inspection. Consent to the inspection may be withdrawn at any time after entry has been made. EPA policy concerning withdrawal of consent is to view it as an outright denial of consent. In such cases, the appropriate procedures for denial of consent, which are described in the next section, should be followed. However, all activities and evidence obtained prior to the withdrawal of consent are valid. Therefore, evidence obtained before consent was withdrawn should be retained, as it would be usable in any subsequent enforcement actions. Do not return any of the evidence collected before the withdrawal of consent, even if requested to do so by the facility official.

Refusal to Sign NOI

You may encounter a situation in which the facility official refuses to sign the NOI when you present it, but still allows you to conduct the inspection. This could be for a variety of reasons; some as simple as the official does not want his/her name on any document linking himself/herself to the inspection. In this situation, you can still proceed with the inspection, and this refusal will not affect the integrity of the inspection. In Section 313 inspections, the NOI is NOT equivalent to expressed consent or denial. It serves more as a formal announcement of the upcoming inspection rather than a legally binding document indicating consent.

Procedures for Denial of Entry. As noted previously, make certain that you have properly presented all credentials and notices to the facility owner/operator or agent in charge. If you are denied entry, withdraw from the premises and leave a signed copy of the written NOI, with the accurate date, stating that entry has been denied with facility officials to show that proper procedures were followed.

In your field notebook, carefully note all observations pertaining to the denial, including the following items:

- Facility name and exact address
- Name and title of person(s) approached
- Time of denial and reason for denial

- Authority of person who refused entry
- Facility appearance/condition
- Any reasonable suspicions that refusal was based on a desire to cover up regulatory violations

If you are denied access to some parts of the facility, note the circumstances surrounding the denial, as well as the portion of the inspection that could not be completed, and then proceed with the rest of the inspection. After leaving the facility, immediately contact your supervisor to determine whether a warrant should be obtained to complete the inspection. Once contacted, the supervisor will confer with attorneys to discuss the desirability of obtaining an administrative warrant.

DEFINITION
A ***warrant*** is judicial authorization for an appropriate official (EPA inspector, U.S. Marshal, or other Federal officer) to enter a specifically described location and perform specifically described inspection functions.

Generally, a designated EPA official should contact the U.S. Attorney of the district in which the facility is located if a warrant is the appropriate next step. However, you may also obtain a warrant before you conduct an inspection. A pre-inspection warrant may be obtained at the discretion of the EPA Regional Office. This action may be a result, for example, of a tip or complaint. Typical situations in which you may want to obtain a pre-inspection warrant include the following:

- A suspected violation could be covered up during the time needed to secure a warrant.
- Prior correspondence or other contact with the facility provides reason to believe that entry will be denied when you arrive.
- The facility is unusually remote from the EPA Regional Office or a U.S. District Court, and obtaining a warrant after the inspection has begun would be inconvenient to the Government.

REVIEW

After entering a facility, an inspection under EPCRA Section 313 may be conducted only after the inspector has presented the following items to the owner, operator, or agent in charge:

- Appropriate credentials
- Written NOI

After locating the appropriate facility official(s), there are three procedures you need to follow immediately:

- Present EPA credentials identifying yourself as an EPA inspector/NCSC employee for an EPCRA Section 313 inspection.
- Introduce the inspection team (if a team is present) in a courteous manner.
- Present an NOI.

Facility officials sometimes withhold consent or attempt to impose restrictions or conditions upon entry. Therefore, you must either:

- Obtain consent prior to conducting the inspection.
- If unable to obtain consent, follow proper procedures for when entry to a facility is denied or when conditions or restrictions are imposed by facility officials.

There are special situations that may arise when obtaining consent for the EPCRA Section 313 inspection. The facility official may:

- Be reluctant to give consent
- Withdraw consent
- Refuse to sign the NOI

As an EPCRA Section 313 inspector, you must be familiar with the appropriate procedures for the above situations.

Typical situations in which you may want to obtain a pre-inspection warrant include the following:

- A suspected violation could be covered up during the time needed to secure a warrant.
- Prior correspondence or other contact with the facility provides reason to believe that entry will be denied when the inspector arrives.
- The facility is unusually remote from the EPA Regional Office or a U.S. District Court, and obtaining a warrant after the inspection has begun would be inconvenient to the Government.

OPENING CONFERENCE

Once credentials and required notices have been presented, you can hold the opening conference with facility officials. Part of the purpose of this meeting is to present an overview of the inspection plan. However, this is also an opportunity for you to gain a full understanding of the facility's organization and obtain current information regarding facility operations and processes. Also, take this time to clarify any key issues or ambiguities identified during the pre-inspection preparation phase (see Lesson 8).

Purpose of Opening Conference

The purpose of the opening conference is to establish a forum for the exchange of information between EPA inspection personnel and facility officials. To facilitate the inspection, you should develop some objectives to be accomplished during the opening conference:

- Start the inspection on a positive and professional note.
- Present and discuss any supporting information for the inspection (such as, a copy of EPCRA Section 313, Form R Packet, or other resources).
- Explain the nature of the inspection activities and approximately how long the inspection will take.
- Listen carefully and be willing to answer questions from the facility officials.
- Avoid compromising EPA policies or procedures or overstepping your authority to accommodate facility representatives.

Additionally, present to facility officials a copy of a Receipt for Samples and Documents (see Attachment 8-10). Explain that you will be completing this form throughout the inspection and that the facility will receive a copy when the inspection is finished.

Rapport

A cooperative working relationship developed during the opening conference can set the tone for the remainder of the inspection. If approached properly, the opening conference provides an ideal opportunity for you to function as a public relations liaison for the EPCRA Section 313 program. From the perspective of both EPA and the regulated community, you are well-positioned to serve as a conduit of information on the EPCRA program. As such, you can share information about the EPCRA Section 313 regulations, pollution prevention resources, and the availability of EPA compliance or technical assistance tools.

During the conference, focus on the topics listed below. By discussing these topics immediately, you may be able to dispel any of the officials' immediate questions or concerns and facilitate the development of a rapport.

- Brief explanation of EPCRA
- Overview of EPCRA Section 313
- Explanation of the inspection activities
- Specific regulation requirements

While explaining the inspection activities to facility officials, try to gain an understanding of facility operations and practices by asking facility officials questions. Also, use this opportunity to describe your inspection plan.

Explaining Inspection Activities

An outline of inspection objectives will inform facility officials of the purpose and scope of the inspection and may help avoid misunderstandings. Explain the anticipated inspection activities in general terms and avoid providing the facility representatives with the precise focus of the inspection for the following reasons:

- To avoid creating a situation in which facility officials use specific knowledge as advance notification and attempt to hide violations in areas they know will be subject to scrutiny
- To minimize the likelihood that facility officials, once having consented to the inspection, will withdraw consent based on their perception that the inspection includes more than

they understood and agreed to. Such perceptions could contribute to misunderstandings later during the inspection.

- To allow facility representatives to prepare the documents needed for a data quality inspection and minimize the possibility that facility officials will limit the number of documents for review.

Understanding Facility Operations and Practices

The opening conference is your opportunity to get a thorough understanding of the facility's operations and practices. Ask facility representatives about current operations and practices, as well as organizational accountability, sales numbers, SIC code, EPA identification number, D&B number, and number of personnel, that may not have been included (or requires clarification) in EPA records. The key areas are listed below:

- Nature of the Operations. Determine the facility activities from an operational standpoint, the materials used, and the management and/or disposal of wastes that are generated. Obtain copies of inventory records and MSDSs. Obtain copies of manufacturing or process diagrams to use during the inspection. Obtain copies of plant diagrams showing emission or release points, such as air exhausts and sewer discharge lines.

- Major Facility Environmental Programs. Ask which environmental programs are part of the facility's operations, such as effluent sampling, analysis, and reporting; inspection and maintenance of pollution control equipment; and emergency response.

- Applicability of Environmental Regulations. Verify that facility operations and programs have not changed in such a way as to alter the regulations or requirements that apply to the site. Such information will provide the appropriate data for you to review and revise the inspection plan, if necessary. You may need to shift the emphasis of planned activities, deleting inappropriate activities and/or adding new activities not initially considered to be relevant.

- Key Responsibilities, Authorities, and Accountability. Establish which facility officials are responsible for specific environmental activities, communicating the chain-of-command in case of emergencies, and developing environmental performance measures. In addition, it is important to clarify what authorities have been specifically delegated and how responsibilities are established and maintained. A telephone directory or an organizational chart can be requested. This information will assist you in determining which individuals are knowledgeable about specific areas and who should be interviewed.

Logistical Arrangements for an EPCRA Section 313 Inspection

Determine logistical requirements and make arrangements in the opening conference to minimize delays and avoid misunderstandings. The following items should be addressed:

- Facility Support. It may be beneficial to identify the facility official(s) who should accompany you during the inspection (or selected parts of it). This individual should be able to describe the facility and its principal operating characteristics.

- Safety Requirements. Determine what OSHA and facility safety regulations will be involved in the inspection and be prepared to comply with them. EPA typically has its representatives use the same safety equipment that is actually used by employees. EPA has the right and declines to undergo the safety training that facilities require of their employees, with the exception of site-specific mine safety training required under EPA Order 1440.4. While on site, be aware of compliance with OSHA requirements and be prepared to make a referral to OSHA if violations are suspected.

- Order of Inspection. A discussion of the order in which operations will be inspected will help eliminate wasted time by giving facility officials time to gather the records needed for review.

- List of Records. A list of records to be inspected will permit facility officials time to gather and make them available. If, however, you have any reason to believe that such advance notice will tempt facility representatives to sanitize, withhold portions of, or destroy records, such a list should be prepared for "Inspector-use" only, not for submission to facility officials.

- Meeting Schedule. Based on the planned inspection activities and your understanding of facility personnel responsible for key assessment topic areas, a schedule of meeting times can be developed for the duration of the inspection. This will allow key personnel to plan and schedule the time needed to meet with the inspector.

An inspection checklist developed by Region 10 to aid EPCRA Section 313 inspectors in conducting the opening conference and the other phases of the inspection is included as Attachment 10-1. Your Region may have developed a similar tool. Now that you have gained entry to the facility and conducted the opening conference, you are ready to initiate the on-site phase of a data quality or non/late reporter inspection. These inspections will be discussed in the following two lessons.

EXERCISE 1

Generate, either individually or in groups, a list of three to five questions you would ask during the opening conference. After 5 to 7 minutes, discuss as a class the questions that have been generated.

SUMMARY

This lesson has introduced you to the first of the on-site activities you will conduct as an EPCRA Section 313 inspector. It is important to recognize the importance of all your actions once you are at a facility. For example, everything you do or say to the facility officials will contribute to, or detract from, the establishment of a comfortable rapport with the facility. This lesson has discussed the procedures for facility arrival and entry, how to deal with the issues of consent, and what is involved in conducting a successful opening conference at a facility.

EXERCISE 2

This exercise is a role play. You will be working in groups of three and assigned one of the following roles: facility official, EPCRA 313 inspector, or observer. The exercise will last approximately 10 to 15 minutes, followed by small group discussion and a class discussion for 5 to 10 minutes.

The scenario is that the EPCRA Section 313 inspector has entered a facility to conduct an inspection. The inspector informs the facility official that this inspection was scheduled with the previous facility official two weeks ago. It is 8 a.m., and both the facility official and the EPCRA inspector have just arrived at the facility.

You have been given a description of the person you are to portray and a brief background of the other person with whom you are dealing. Observers will be taking notes on their observations of the situation and critiquing the players' decisions. When the players have completed their scenario, the observer will provide them with feedback, followed by group discussion.

Attachments 10-2 through 10-4 contain the three descriptions.

REVIEW QUESTIONS

See Attachment 10-5 for the answers to the following review questions.

1. What are the three procedures an EPCRA Section 313 inspector must follow after locating the appropriate facility officials?

2. Explain the purpose of the Notice of Inspection.

3. When is written consent necessary, and who is required to have written consent?

4. What must the inspector do if facility officials withhold consent or attempt to impose restrictions or conditions upon entry?

5. What must the inspector do if entry is denied?

6. Identify situations when you might want to obtain a warrant before you conduct an inspection.

ATTACHMENT 10-1

EPCRA SECTION 313 INSPECTION CHECKLIST

(Seven Pages)

EPA REGION 10
TRI INSPECTION CHECKLIST

452

FACILITY: _____
INSPECTOR: _____
DATE: _____

REF.	✓	INSPECTION ACTIVITY
1		**GENERAL INFORMATION**
		FACILITY: _____ DATE: _____ Address: _____ TIME: _____ _____ Contact: _____ Phone: _____ FAX: _____ Inspector: _____
2		**INTRODUCTION / ENTRY**
		A. Present Credentials B. Denial of Entry? Reason for denial, explain: (Review Denial of Entry Procedure)
3		**OPENING CONFERENCE**
		A. Opening Conference Attendees (exchange business cards): _____ _____ _____ _____ _____ _____ B. Fill out and present Notice of Inspection (get signature) C. Present copy of Act / Provide brief overview D. State reason(s) for inspection

Facility: _____
Date: _____
Inspector: _____

REF.	✓	INSPECTION ACTIVITY
4		**STATEMENT OF OBJECTIVES / SCOPE OF INSPECTION**
		Objectives: 1. To inform regulated community on requirements of EPCRA and to ensure compliance. 2. Provide assistance in preparing Form R 3. Improve data quality of reporting program Scope: 1. SIC Code verification and other documentation 2. Number of employees verification 3. Material Safety Data Sheets (MSDS) for all Sec. 313 chemicals used or products containing such chemicals 4. Purchasing and inventory records for all Sec. 313 chemicals used 5. Emergency and Hazardous Chemical Inventory Forms (as applicable) 6. Permits (State, local, and Federal, as applicable) 7. Disposal records (invoices, manifests, etc.) 8. Form Rs (as applicable) 9. Monitoring data, emission measurements, other information for release reporting 10. Facility tour
5		**FACILITY INFORMATION**
		Primary SIC Code(s) 1. _____ 2. _____ 3. _____ 4. _____ Continuation Sheet: Document products of company. If multi-establishment facility, document value of products and services in each SIC code. Employment level: 10 or more full time employees, incl. owners, contractors (Year/Number) 2001_____ 2000_____ 1999_____ 1998_____ 1997_____ Obtain documentation of number of employees, payroll hours, Dept. of Labor submissions, etc., if number of employees is an issue.

Facility: _____
Date: _____
Inspector: _____

REF.	✓	INSPECTION ACTIVITY
5		**FACILITY INFORMATION**
		D&B Number: _____ Public / Private Co.? _____ Years in business? _____ At this location? _____ Does company operate other facilities? _____ How long under present management? _____ Changes in ownership? _____ Customer base? _____ Sales Territory? _____ Approximate annual sales: $ _____ Obtain: → Annual Report → Sales brochures Brief History of Company: Who has environmental compliance responsibility? For how long? _____ Internet access and use? _____ Software for TRI recordkeeping and reporting? _____

Facility: _____
Date: _____
Inspector: _____

REF.	✓	INSPECTION ACTIVITY
6		**FACILITY PROCESSES, OPERATIONS, AND PRODUCTS**
		Obtain any available process flow diagrams, written descriptions, facility maps
		Description of processes using Sec. 313 chemicals, including raw materials, operations, and products produced. Use continuation sheets as needed.
		Review / obtain copies of MSDS sheets for Sec. 313 chemicals.
		Review / obtain purchasing (incl. import) and inventory records for Sec. 313 chemicals for applicable years. <u>Document threshold and release calculations. Obtain COMPLETE data for evaluation / validation of compliance status.</u>
		Does facility require or initiate import of any chemicals into the U.S.? _____ (If YES, obtain import invoices and certifications)
		Does facility export chemicals from the U.S.? _____ (If YES, obtain documentation)
		Document Sec. 313 chemical or chemical category use, amounts, and activity (Use worksheet as applicable)
		Document other applicable Federal / State / Local permits / licenses _____ NPDES _____ _____ AIR _____ _____ WATER _____ _____ RCRA Subtitle C _____ _____ OTHER _____
		Facility subject to EPCRA Sec. 302, Emergency Notification? _____ Any CERCLA 103 or EPCRA 304 Emergency Releases? _____ (If YES, obtain copy of report)

Obtain copies of data relevant to TRI inspection. Minimal documentation should include cover page and/or transmittal letters. Include all permit ID numbers.

Facility: _____
Date: _____
Inspector: _____

REF.	✓	INSPECTION ACTIVITY
6		**FACILITY PROCESSES, OPERATIONS, AND PRODUCTS**
		Does facility submit MSDS or list of MSDS chemicals (Sec. 311) to SERC, LEPC, or local Fire Dept.? _____(if YES, obtain copy)
		Does facility submit an Emergency and Hazardous Chemical Inventory (Sec. 312) to SERC, LEPC, or local Fire Dept.? _____(if YES, obtain copy)
		Provide information to facility as appropriate.
7		**RECYCLING / WASTE REDUCTION**
		Status as waste generator? _____
		Obtain any written recycling/waste reduction plans or documentation.
		Document waste products, by-products, or impurities generated in any activity or process involving Sec. 313 chemicals.
8		**FACILITY TOUR / SITE REVIEW**
		Tour participants: _____
		Square footage estimates for all buildings and real estate:
		Identify major process equipment in use:

Facility: _____
Date: _____
Inspector: _____

REF.	✓	INSPECTION ACTIVITY
8		**FACILITY TOUR / SITE REVIEW**
		Chemical storage: Inside / outside / both? _____ Underground tanks? _____ Bulk storage tanks? _____ Drum storage areas? _____ Quantify chemical storage: area and tank capacity Identify release points: Fugitive or non-point air _____ Building ventilation systems _____ Evaporative losses _____ Tanks _____ Tank vents _____ POTW or water discharges _____ Land / wastepiles / impoundments _____ Recycling and waste minimization? _____ Pollution Prevention? _____ Observations on housekeeping, odors, unusual operation conditions and procedures:
9		**CLOSING CONFERENCE**
		Discuss inspection findings; emphasize that inspection file will be reviewed by others. If additional information is required, list each item on receipt form with date expected; get signatures. Provide facility with copy of receipt. **Provide copy of SEBREFA fact sheet.** Provide outreach information (publications) as appropriate. Offer assistance in preparing FORM R or help for improvement of reporting program.
10		**GENERAL COMMENTS AND NOTES**
		Provide additional comments as required on continuation sheet(s).

Facility: _____

Date: _____

Inspector: _____

EPA REGION 10
TRI INSPECTION CHECKLIST
CONTINUATION PAGE

REF	ACTIVITY / DESCRIPTION

ATTACHMENT 10-2

LESSON 10 EXERCISE 2:
ROLE 1 - EPCRA SECTION 313 INSPECTOR

(One Page)

Lesson 10 Exercise 2:
Role 1 - EPCRA Section 313 Inspector

INSTRUCTIONS: Read the following role description. Portray your character as accurately as possible given the background of the situation below. Except for this constraint, you may act or react in any way you feel is appropriate.

You are an NCSC employee. This facility was targeted as a result of a complaint from the irate leader of the community's environmental concern group. This leader reported that an inordinate number of dead fish had been washing up on the banks of the city's largest river. The waste stream of this facility feeds into that river.

You have 25 years of industry experience from the private sector prior to entering the NCSC program. You have been an EPCRA Section 313 inspector for two years. You have an "Section 313 inspector-in-training" accompanying you today, who has not yet received his credentials. You have arrived at the scheduled time of 8:00 a.m., and have been intercepted by a facility official.

Conduct the appropriate facility entry activities.

ATTACHMENT 10-3

LESSON 10 EXERCISE 2:
ROLE 2 - FACILITY OFFICIAL

(One Page)

Lesson 10 Exercise 2:
Role 2 - Facility Official

INSTRUCTIONS: Read the following role description. Portray your character as accurately as possible given the background of the situation below. Except for this constraint, you may act or react in any way you feel is appropriate.

You have had this position at this facility for three days. While you have previous industry experience, you are still not entirely certain of all the "INs" and "OUTs" of this particular facility. You are aware that this facility manufactures chemicals that are subject to the EPCRA Section 313 reporting regulations. However, you have not been there long enough to review the actual records.

As you are walking through the facility at 8:00 a.m., you intercept two individuals; one of whom has the appropriate EPCRA Section 313 credentials, and the other displays nothing. You notice those credentials are not Federal, but rather from a program called NCSC. This program is unfamiliar to you. You have had bad experiences in the past with inexperienced EPA officials, and believe inspections to be intrusive and a bother.

These "inspectors" say they scheduled an inspection two weeks ago, and you realize that your new secretary has been sick for the past three days and has not informed you about this inspection.

ATTACHMENT 10-4

LESSON 10 EXERCISE 2:
ROLE 3 - OBSERVER COPY

(One Page)

Lesson 10 Exercise 2:
Role 3 - Observer Copy

INSTRUCTIONS: Read the following role descriptions. These are provided to give you the maximum insight into the situation. The role players have been asked to portray their characters as accurately as possible given the background of the situations below. Except for this constraint, they may act or react in any way they feel is appropriate.

The EPCRA Section 313 Inspector:

You are an NCSC employee. This facility was targeted as a result of a complaint from the irate leader of the community's environmental concern group. This leader reported that an inordinate number of dead fish had been washing up on the banks of the city's largest river. The waste stream of this facility feeds into that river.

You have 25 years of industry experience from the private sector prior to entering the NCSC program. You have been an EPCRA Section 313 inspector for two years. You have an "Section 313 Inspector-in-training" accompanying you today, who has not yet received his credentials. You have arrived at the scheduled time of 8:00 a.m., and have been intercepted by a facility official.

Conduct the appropriate facility entry activities.

The Facility Official

You have had this position at this facility for three days. While you have previous industry experience, you are still not entirely certain of all the "INs" and "OUTs" of this particular facility. You are aware that this facility manufactures chemicals that are subject to the EPCRA Section 313 reporting regulations. However, you have not been there long enough to review the actual records.

As you are walking through the facility at 8:00 a.m., you intercept two individuals; one of whom has the appropriate EPCRA Section 313 credentials, and the other displays nothing. You notice those credentials are not Federal, but rather from a program called NCSC. This program in unfamiliar to you. You have had bad experiences in the past with inexperienced EPA officials, and believe inspections to be intrusive and a bother.

These "inspectors" say they scheduled an inspection two weeks ago, and you realize that your new secretary has been sick for the past three days and has not informed you about this inspection.

ATTACHMENT 10-5

ANSWERS TO LESSON 10 REVIEW QUESTIONS

(Two Pages)

ANSWERS TO LESSON 10 REVIEW QUESTIONS

1. What are the three procedures an EPCRA Section 313 inspector must follow after locating the appropriate facility officials?

   - Present EPA credentials identifying yourself as an EPA inspector/SEE employee for an EPCRA Section 313 inspection.
   - Introduce the members of the inspection team (if a team is present).
   - Present an NOI.

2. Explain the purpose of the NOI.

   The NOI formally informs the owner, operator, or agent in charge of the facility of the reason for an EPCRA Section 313 inspection and provides the facility with your address and signature.

3. When is written consent necessary, and who is required to have written consent?

   Written consent is not necessary for a credentialed Federal inspector or SEE employee. Written consent <u>is</u> necessary for any uncredentialed persons accompanying an inspector. For example, this may include personnel from EPA Headquarters who are not inspectors but are involved in the EPCRA program area and need exposure to the actual activities of an EPCRA Section 313 inspection.

4. What must the inspector do if the facility officials withhold consent or attempt to impose restrictions or conditions upon entry?

   - Obtain consent prior to conducting the inspection.
   - Follow proper procedures when entry to a facility is denied or when conditions or restrictions are imposed by facility officials.

5. What must the inspector do if entry is denied?

   - Withdraw from the premises and leave a signed copy of the written NOI indicating a denial of entry with facility officials to show that proper procedures were followed.

6. Identify situations when you might want to obtain a warrant before you conduct an inspection.

- You have serious reason to believe that there are violations that could be covered up or records that might be destroyed or tampered with during the time to needed to secure a warrant, if done after the inspection.

- Prior correspondence or other contact with the facility provides reason to believe that entry will be denied when you arrive.

- The facility is unusually remote from the EPA Regional Office or a U.S. District Court, and obtaining a warrant after the inspection has begun would be inconvenient to the Government.

Lesson 11

Non/Late Reporter Inspections

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INTRODUCTION

Purpose

An inspector conducting a non/late reporter inspection generally is allowed relatively little time to collect all the necessary information. You may only be permitted a half-day onsite. This lesson will provide you with the basic guidelines for conducting an efficient non/late reporter inspection that will result in the most information possible.

Objectives

- Discuss the basic components of on-site activities for a EPCRA Section 313 non/late reporter inspection.
- Utilize the EPCRA Section 313 Toxic Chemical List.

ON-SITE ACTIVITIES OF NON/LATE REPORTER INSPECTIONS

The EPCRA Section 313 non/late reporter inspection process is broken into the following three-step process.

Step 1: Discussion with Facility Officials

Before beginning the facility tour, you will review the facility processes and chemical activities. You may discuss any changes or concerns that you have regarding the facility's compliance status. Also, take this opportunity to ask questions regarding specific chemical process or reporting issues. These are the questions you identified during the pre-inspection activities. Detailed information on pre-inspection review is found in Lesson 8 of this manual.

This discussion may begin as part of the opening conference (Lesson 10) or later. It is the inspector's responsibility to determine the appropriate timing of this discussion.

Step 2: Identification of Chemicals

The identification of EPCRA Section 313 chemicals that are used in significant quantities (that is, 1,000 to 2,000 lbs and over) on site is one of the most important components of an on-site inspection. You must try to identify and list all of the EPCRA Section 313 chemicals present at the facility that are used in significant quantities, as well as PBTs in small quantities. The primary difference between this inspection and a data quality inspection is that you will identify the chemicals on site, without the assistance of a Form R report. This will be done through:

- Reviewing the following materials:
  - Additional information available onsite
  - Facility records
  - Type of chemicals and chemical processes used at the facility
- Conducting discussions with facility officials
- Conducting a facility tour

For every chemical identified at the facility that is used in significant quantities, you will need to document certain information. At a minimum, you should record the following information:

- Chemical name
- CAS Number (if available)
- EPCRA Section 313 chemical (yes or no)

Chemicals Identified by the Inspector. Record all significantly used EPCRA Section 313 chemicals, plus PBT chemicals in small amounts that were identified during the inspection. This information is obtained through facility records, discussions with facility officials, and the facility tour. You will be called upon to use any industry experience and knowledge you acquired prior to becoming an EPCRA Section 313 inspector. This insight will enable you to synthesize your observations of the facility, in conjunction with the data you have gathered, to identify the chemicals that are being manufactured, processed, or otherwise used at the facility.

You must be sure to consider the possibility of a EPCRA Section 313 chemical being used in chemical mixtures. Mixtures will be defined and discussed in greater detail in the following lesson (Lesson 12), but note that this may be a source of EPCRA Section 313 chemical usage.

chemical. Additionally, you need to be aware of the possible exemptions that may be applicable to the process. These exemptions will be discussed in greater detail later in this lesson.

On-Site Documentation. A crucial step in conducting a non/late reporter inspection is the examination of on-site documentation. Review of these documents, combined with the records and facility information you reviewed during the pre-inspection phase, will help you to be able to detect and, more importantly, prove that a facility is or is not in violation of EPCRA Section 313 reporting requirements. There are several common documents that you may request and/or examine while on site. These are:

- MSDSs
  - Refer to Lesson 5 to review the information on MSDSs.
- Accounting Records
  - This source will identify all chemicals that were purchased throughout the previous year, and therefore will determine whether any EPCRA Section 313 chemicals were purchased.
- Invoices
  - For chemicals that appear to exceed threshold limits, this source will further verify the quantity and frequency in which a chemical was purchased.
- Inventory Levels
  - By comparing the inventory level at the beginning of the year (BI) and at year-end (EI), in conjunction with the invoices and accounting records (P = purchases), you will be able to determine the rate at which a chemical was manufactured, processed, or otherwise used. In other words:

$$(BI + P) - EI = \text{Usage of Chemical per Year}$$

- Tier II Reports
  - This document will indicate whether large quantities of chemicals are stored on site at the facility.

By utilizing the data collected from all these sources, you can make an initial determination about the compliance status of the facility. However, do not limit yourself to the resources listed above. Augment this with any other documentation you believe is available and appropriate to

the inspection. You will also use the information from your discussions with the facility officials and observations from the next step, Facility Tour, to verify or eliminate any compliance suspicions you may have developed.

Questions for Reviewing the Threshold Determination of Chemicals Found On Site. These questions will obtain the information that has been described in this lesson. During your non/late reporter inspection, you should ensure that the name of the chemical being reviewed is recorded in your notes in association with the answers to the following questions, if you can obtain these answers while on site:

1. How is the chemical employed at the facility?

In answering this question, you will document all of the ways the chemical is being employed, based on:

- The facility's documentation
- Your own review of process diagrams
- Discussions with the facility personnel
- The plant tour

When deciding the answer to this question, bear in mind the three activity categories (manufacture, process, and otherwise use), as well as the possibility of exempt uses. Indicate if the chemical is employed in one of the exempt uses. These uses include the following:

De minimis exemption. The de minimis exemption allows facilities to disregard certain minimal concentrations of chemicals in mixtures or other trade name products they process or otherwise use when making threshold determinations and release and other waste management calculations. The de minimis exemption does not apply to the manufacture of a EPCRA Section 313 chemical, except if that chemical is manufactured as an impurity and remains in the product distributed in commerce, or if the chemical is imported below the appropriate de minimis level (0.1 percent for carcinogens or potential carcinogens, 1.0 percent for all others). The de minimis exemption does not apply to a byproduct manufactured coincidentally as a result of manufacturing, processing, otherwise use, or any waste management activities.

If a EPCRA Section 313 chemical in a process stream is manufactured as an impurity, imported, processed, or otherwise used, document the percent concentration of the EPCRA Section 313 chemical in mixtures and other trade name products in process streams in which the EPCRA Section 313 chemical is undergoing a reportable activity. Documentation is necessary because the chemical is exempt from reporting if it is only present below the de minimis concentration,

provided that the other criteria for the de minimis exemption are met. If an EPCRA Section 313 chemical in a process stream is below the appropriate de minimis level, all releases and other waste management activities associated with the EPCRA Section 313 chemical in that stream are exempt from Section 313 reporting. De minimis levels for chemical categories apply to the total concentration of all chemicals in the category within a mixture, not the concentration of each individual category member within the mixture.

Laboratory Activities exemption [40 CFR 372.38(d)]. EPCRA Section 313 chemicals that are manufactured, processed, or otherwise used in laboratory activities at a covered facility under the direct supervision of a technically qualified individual meet this exemption. However, pilot plant scale and specialty chemical production do not qualify for this laboratory activities exemption, nor do the use of EPCRA Section 313 chemicals for laboratory support activities, such as the use of chemicals for equipment maintenance.

Otherwise Use Exemptions (40 CFR 372.38(c)). The following "otherwise uses" of listed EPCRA Section 313 chemicals are specifically exempted:

- Otherwise use as a structural component of the facility
- Otherwise use in routine janitorial or facility grounds maintenance
- Personal use by employees or other persons
- Otherwise use of products containing EPCRA Section 313 chemicals for the purpose of maintaining motor vehicles operated by the facility
- Otherwise use of EPCRA 313 chemicals contained in intake water (used for processing or non-contact cooling water) or in the intake air (used either as compressed air or for combustion)

The exemption of an EPCRA Section 313 chemical used (1) as a structural component of the facility, (2) in routine janitorial or facility grounds maintenance, or (3) for personal use by an employee cannot be taken for activities involving process-related equipment.

Article exemption (40 CFR 372.38(b)). EPCRA Section 313 chemicals contained in "articles" that are processed or otherwise used at a covered facility are exempt from threshold determinations and release and other waste management calculations. The exemption applies when the facility receives the "article" from another facility or when the facility produces the "article" itself. The exemption applies only to the quantity of EPCRA Section 313 chemical present in the "article".

Coal Extraction Activities Exemption. Many materials containing EPCRA Section 313 chemicals may be used or otherwise managed during coal mining extraction activities. Included among these are explosives for blasting operations, solvents, lubricants, and fuels for extraction-related equipment maintenance and use, as well as overburden and mineral deposits. The EPCRA Section 313 chemicals contained in these materials are exempt from threshold determinations and release and other waste management calculations, when manufactured, processed, or otherwise used during extraction activities at coal mines (facilities in SIC Code 12).

Metal Mining Overburden Exemption. If an EPCRA Section 313 chemical that is a constituent of overburden is manufactured, processed, or otherwise used by facilities in SIC Code 10, the quantity of the EPCRA Section 313 chemical so manufactured, processed, or otherwise used is not required to be considered when making threshold determinations and release and other waste management calculations.

2. Was the chemical reported by the facility?

For this question, you are simply indicating whether the chemical was reported by the facility. If it was not, record why the facility felt that this chemical was not reportable. You can obtain this information from the facility's documentation. However, if the documentation is not available, you should ask the facility official why it was not reported and document the answer.

3. Is the chemical exempt from reporting?

Record whether the chemical is exempt from reporting. The chemical is exempt if it is employed in one of the uses or is manufactured, processed, or otherwise used at an exempt facility, as described under Question 1 in this section.

4. Is documentation supporting the threshold determination available for review?

Determine if the facility has supporting documentation on the threshold calculation for the chemical in question and obtain copies, if available. If not available, record the most appropriate reason listed explaining why the facility does not have the documentation. For example, the facility may have been unaware that they were required to retain such documentation, or they may simply be unable to locate it at that time. In the latter situation, try to have the documentation mailed to you when it is located. Nevertheless, an explanation should be obtained through discussion with the facility officials.

5. How much chemical did the facility manufacture, process, or otherwise use during the reporting year?

Review the facility's documentation supporting the threshold determination for the chemical in question and record the amount for each activity category. Document whether the facility failed

to estimate the quantities or whether there is enough information available to estimate these quantities. In addition, you may find that you need to do your own calculation of the amount of chemical manufactured, processed, or otherwise used during the reporting year.

To do a thorough review of the threshold determinations, you need to address the issue of mixtures, which will be discussed in Lesson 12. The concentration of toxic chemicals in the mixture can be retrieved from the MSDS. The amount of mixture used can be obtained from inventory or purchasing records. Calculate the amount of EPCRA Section 313 chemical used in the mixture by multiplying the concentration of chemical in the mixture by the amount of mixture used.

6. What was the basis of the estimate for the amount of chemical manufactured, processed, or otherwise used during the reporting year?

Determine the answer to this question by reviewing the facility documentation and/or discussions with facility officials. Discuss what method the facility used to estimate the amount of chemical manufactured, processed, or otherwise used. Record the method(s) used by the facility, keeping in mind that more than one method or approach may have been used.

7. Was a threshold exceeded for this chemical in the reporting year?

Document whether the threshold value has been exceeded for this chemical. This is done by comparing the amounts of chemicals in Question 6 to the threshold values for the activity categories. If either the "manufactured" or "processed" value is greater than 25,000 pounds, or if the "otherwise used" value is greater than 10,000 pounds, a threshold has been exceeded.

8. Was the chemical correctly not reported?

Record whether the chemical was correctly reported or not reported as follows:

Correctly Omitted. The chemical was not reported by the facility and is either exempt or did not exceed the applicable threshold limit. If this is the answer to your question, you may omit this chemical from the rest of your considerations.

Incorrectly Omitted. The chemical was not reported, but was not exempt and exceeds the applicable threshold limit.

9. Why was the chemical not reported?

Record the reason, as obtained through the facility's documentation, the facility tour (which will be discussed in the next section), and/or discussions with facility officials, that most closely describes why this chemical was not reported. The reasons may include:

- The facility overlooked the activity of a chemical as being "manufactured," "processed," or "otherwise used. " Examples include:

  - Manufacturing byproducts
  - Coincidentally manufactured chemicals
  - Wastewater treatment byproducts
  - Wastewater treatment chemicals
  - Cleaning chemicals

- The facility misclassified the chemical activity as "processed" or "manufactured," when it was really "otherwise used".

- The facility made a calculation error while determining the threshold quantity, which did not exceed a threshold limit.

- The facility did not consider or incorrectly addressed ammonia or chemical categories, including organic compounds, metal-containing compounds, and water-dissociable nitrate compounds, when making threshold determinations.

- Any other reason not previously described.

You should be thorough, but brief, in your descriptions.

Step 3: Facility Tour

During the tour of the facility, focus on areas in which EPCRA Section 313 chemicals are used in process lines and treatment areas. If possible, try to either sketch the process diagram(s) of what you observe during the tour or obtain them from the facility, if they are available. In particular, you should identify areas where releases could occur in the facility (such as, drains, exhaust fans, vents, and ducts), keeping in mind the following items:

- Housekeeping practices

- Method(s) of receiving and unloading chemicals

- Chemical storage practices

- Disposal method(s)

- Use(s) of each EPCRA Section 313 chemical

- Waste treatment and pollution control devices

The above items will be discussed in greater detail in Lesson 12. Record descriptions and document how each EPCRA Section 313 chemical is used to determine its activity classification (i.e. , manufactured, processed, and otherwise used). Finally, document the types of control methods that are used at the facility and make a qualitative assessment of their efficiency by observing their operation and then recording these observations. For example, a degreasing unit that is open to the atmosphere would release a greater amount of solvent to the air than a unit with a solvent recovery system.

EXERCISE

Refer to Attachments 11-1 through 11-4. These are two sample MSDSs, a facility year-end inventory sheet, and a summary of the chemical purchases for the year. Use the EPCRA Section 313 Toxic Chemical List to assist you in identifying all of the EPCRA Section 313 chemicals in these materials and determine whether the quantities indicate a potential violation.

SUMMARY

This lesson addressed the basic steps that should be taken when conducting an EPCRA Section 313 non/late reporter inspection. The basic steps were as follows: discussion with facility officials, chemical identification, and the facility tour. These three steps will also be used to conduct a data quality inspection, which will be discussed in the next lesson. This lesson also provided a short list of some common documents that may be referenced when inspecting the facility and some common questions to ask regarding the threshold determination of chemicals found on site.

ATTACHMENT 11-1

LESSON 11 EXERCISE:
MATERIAL SAFETY DATA SHEET FOR
ICEBREAKER II RUNWAY DEICER PRODUCT

(One Page)

ATTACHMENT 11-2

LESSON 11 EXERCISE:
MATERIAL SAFETY DATA SHEET FOR
METHOXYCHLOR PRODUCT

(One Page)

MATERIAL SAFETY DATA SHEET

MAY BE USED TO COMPLY WITH
OSHA'S HAZARD COMMUNICATION STANDARD.
29 CFR 1910.1200 STANDARD MUST BE
CONSULTED FOR SPECIFIC REQUIREMENTS.

SECTION I: PRODUCT IDENTIFICATION

PRODUCT NAME: METHOXYCHLOR

CAS NUMBER: 72-43-5

SECTION II: MANUFACTURER INFORMATION

MANUFACTURER'S NAME: AGRICON

MANUFACTURER ADDRESS: P.O. BOX 549
MORGANTOWN, WV 25143

EMERGENCY TELEPHONE NUMBER: (304) 555-SPIL

INFORMATION TELEPHONE NUMBER: (304) 555-4543

SECTION III: COMPONENTS

COMMON NAME (CAS NUMBER)	OSHA PEL	ACGIH TLV	OTHER LIMITS	% BY WEIGHT
METHOXYCHLOR (72-43-5)	400 PPM			88
RELATED ISOMERS				12

SECTION IV: PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: NO DATA

S.G. (WATER=1): 1.41

VAPOR PRESSURE: NO DATA

MELTING POINT: 89 DEG C

VAPOR DENSITY (AIR=1): HEAVIER THAN AIR

EVAPORATION RATE: SLOWER THAN ETHER

SOLUBILITY: 0.1 MG/L WATER @ 22 DEG C

APPEARANCE AND ODOR: GREY FLOWABLE POWDER

SECTION V: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: NOT FLAM.

FLAMMABLE LIMITS: LEL: N/A UEL: N/A

EXTINGUISHING MEDIA: NOT FLAMMABLE

SPECIAL PROCEDURES: STORE IN COOL DRY PLACE

UNUSUAL HAZARDS: NONE

ATTACHMENT 11-3

LESSON 11 EXERCISE:
SMOKEY RIVER RANGER SYSTEM
INVENTORY REPORT

(One Page)

Smokey River Ranger Station
Monthly Inventory Control System: MICS 2.0
File: MICS/CHEMINVEN.94
Inventory Date: 12/31/94
Print Out Date: 01/03/95

ITEM	UNITS	INVENTORY
1,1,1-Trichloroethane	lbs	0
Butyl cellusolve	lbs	5,000
Carbaryl	lbs	2,000
Ethylene Glycol	lbs	No Data
Freon 114	lbs	3,000
Fuel Oil # 2	lbs	50,000
Icebreaker II	lbs	50,000
Jet Fuel #4	lbs	200,000
Ultrex Replenisher & Developer	lbs	2,000
Lindane	lbs	0
Methoxychlor	lbs	10,000
Paint - Building	lbs	1,700
Paint - Aircraft	lbs	5,000
Tar	lbs	10,000
FIRE-STOP	lbs	10,000

ATTACHMENT 11-4

LESSON 11 EXERCISE:
CHEMSERV ENGINEERING
MONTHLY CHEMICAL PURCHASES FOR 1994

(One Page)

CHEMSERV Engineering
Chemical Purchases thru 12/31/94
(1/1/94 - 12/31/94)

ITEM	QTY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR TOTAL
1,1,1-Trichlorethane	lbs	1,300	1,300	1,300	1,300	650	650	650	650	650	650	650	0	9,750
Butyl cellusolve	lbs	4,100	4,100	4,300	4,100	4,100	4,300	4,100	4,100	4,300	4,100	4,100	4,300	50,000
Cabaryl	lbs	10,000	0	0	9,000	0	0	9,000	0	0	9,000	0	0	37,000
Ethylene Glycol(*)	lbs													
Freon 114	lbs	0	0	0	0	5,000	3,000	0	0	0	0	0	0	8,000
Fuel Oil #2	lbs	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	900,000
Icebreaker II	lbs	50,000	50,000									50,000	50,000	200,000
Jet Fuel #4	lbs	190,000	180,000	200,100	190,000	183,000	183,300	190,00	170,000	185,000	185,000	170,000	173,600	2,200,000
Ultrex Replenisher & Developer	lbs	2,500	3,000	2,500	2,000	2,500	2,500	3,000	3,000	2,000	2,500	2,000	2,500	30,000
Methoxychlor	lbs	30,000	0	0	30,000	0	0	30,000	0	0	30,000	0	0	120,000
Paint - Building	lbs	0	0	0	0	0	0	0	2,000	3,000	2,000	0	0	7,000
Paint - Aircraft	lbs	4,000	4,000	0	4,000	0	4,000	4,000	0	0	4,000	0	0	24,000
Tar	lbs	0	0	30,000	30,000	30,000	30,000	30,000	30,000	0	0	0	0	180,000
FIRE-STOP	lbs	0	0	0	300,000	0	600,000	600,000	300,000	0	0	300,000	0	2,100,00

(*) Direct purchase by motor vehicle maintenance group, no data maintained by central computer

Lesson 12

Data Quality Inspections

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INTRODUCTION

Purpose

You may be on site at a facility for up to three days when trying to complete an inspection. The length of the visit depends on the size and complexity of the facility and the inspection process you choose to use. While on site, you will be expected to review all submitted data and supporting materials that the facility has available. A large percentage of your time will be spent documenting all reported and documented calculations and assumptions (such as, on the Form R report). The purpose of this lesson is to discuss both the procedures for conducting a data quality inspection and the reasons for data discrepancies and reporting errors.

Objective

- Discuss the components of on-site activities specific to an EPCRA Section 313 data quality inspection.

ON-SITE ACTIVITIES FOR DATA QUALITY INSPECTIONS

Step 1: Discussion with Facility Officials

In addition to the topics you would discuss during a non/late reporter inspection (see Lesson 11), you may also address any changes that have occurred in the reporting year. This is your opportunity to ask questions regarding specific data quality reporting issues. Most of these will be the questions you identified during the pre-inspection review of the facility's Form R reports. However, this is also an opportunity to collect the Supplier Notification and MSDSs you requested during your inspection planning phase (see Lesson 8).

The Supplier Notification and MSDSs contains the "percent by weight of the EPCRA Section 313 chemical." This is critical information for threshold determinations and amounts of chemicals used. This can later be used to determine release estimates. While you are on site, you should take the opportunity to examine the Supplier Notification form applicable to, and received for, each chemical used in significant quantities. After you have reviewed this information, you should:

- Question the company on its use of Supplier Notification information to determine the amount of chemical used and if that amount is used in release estimates.

- Address these issues during your discussion with facility officials.

Step 2: Identification of Chemicals

The identification of EPCRA Section 313 chemicals used in significant quantities on site (that is, 1,000 to 2,000 lbs or more) is one of the most important components of an on-site inspection. You must identify and list all significantly used EPCRA Section 313 chemicals present at the facility. Include chemicals both reported (on Form R report) and not reported. This will be done through:

- Reviewing the following materials:
  - Facility's Form A submissions
  - Facility's Form R reports
  - Documentation supporting Form Rs
  - Additional information available on site
  - Facility records
- Conducting discussions with facility officials
- Conducting a facility tour

For every significantly used chemical identified at the facility, you will need to document certain information. The inspection checklist is provided in Attachment 10-4 of this manual to record the following information:

- Chemical name
- CAS Number (if available)
- EPCRA Section 313 chemical (yes or no)

The following sections address **all** of the chemicals present at a facility. This includes not only chemicals that have been reported or documented, but also chemicals that have not been reported or documented, but are present in some form at the facility. (As you proceed through this lesson, the additional information that needs to be documented will be indicated.)

At this point, you will also ask the list of questions you generated during your pre-inspection activities.

Chemicals Reported on Form R. The following categories of chemicals encompass those that were reported. Throughout the inspection, you will verify how they are used and in what

quantity. You will also identify whether they are EPCRA Section 313 chemicals that have been used in significant quantities at the facility.

Reported EPCRA Section 313 Chemicals

You will be collecting usage information while on site to help in release estimation and threshold calculations.

Other Documents/Chemicals

Record all chemicals documented by the facility for EPCRA Section 313 reporting that were used in significant quantities that did not have Form R reports submitted. This information can be obtained from the supporting materials provided by the facility.

If the chemical is included as an EPCRA Section 313 Toxic Chemical, indicate this in your notes. However, if you are unable to determine whether the chemical is an EPCRA Section 313 toxic chemical, collect the necessary information in your inspection notebook for your post-inspection activities.

Other Chemicals Identified by the Inspector. Record all other EPCRA Section 313 chemicals identified during the inspection. This information is obtained through facility records, discussions with facility officials, and the facility tour. You will be called upon to use any industry experience and knowledge you acquired prior to becoming an EPCRA Section 313 inspector. This insight will enable you to synthesize your observations of the facility, in conjunction with the data you have gathered, to deduce what chemicals must be involved in the processes that are being used.

Mixtures.

MIXTURE (as defined in 40 CFR Part 372.3)

Any combination of two or more chemicals,

- **IF** the combination is not, in whole or in part, the result of a chemical reaction.
- **BUT**, if the combination was produced by a chemical reaction but could have been produced without a chemical reaction, it is also treated as a mixture.

A mixture also includes any combination that consists of a chemical and associated impurities.

Under EPCRA Section 313, toxic chemicals in mixtures, as well as trade name products, must be factored into threshold determinations and release and other waste management calculations. Record all mixtures identified during the inspection that may contain EPCRA Section 313 chemicals and then investigate whether the mixtures that are identified during the facility tour contain a EPCRA Section 313 chemical. This is done by reviewing the MSDS to verify the constituents of the mixture and to record concentrations of any EPCRA Section 313 chemical in the mixture. The following information should be documented in your inspection notebook:

- Mixture name
- EPCRA Section 313 chemical present
- Concentration of chemical
- Amount of mixture used
- Amount of EPCRA Section 313 chemical used

Please note that the facility is not required to consider the quantity of toxic chemical present in a mixture if the mixture contains de minimis concentrations of toxic chemicals. De minimis concentrations means the toxic chemical is present at less than 1 percent of a mixture, or, if the toxic chemical is a carcinogen, as defined in 29 CFR Part 1910. 1200 (d)(4), less than 0.1 percent of the mixture.

Step 3: Facility Tour

During the tour of the facility, focus on areas in which EPCRA Section 313 chemicals are used in process lines and treatment areas. If possible, try to either sketch the process diagram(s) of what you observe during the tour or obtain them from the facility, if they are available. In particular, you should identify areas where releases could occur in the facility (such as, drains, exhaust fans, vents, and ducts), keeping in mind the following items:

- Housekeeping practices
- Method(s) of receiving and unloading chemicals
- Chemical storage practices
- Disposal method(s)
- Use(s) of each EPCRA Section 313 chemical
- Waste treatment and pollution control devices

- Emissions
- Container residues

The above items will be discussed in greater detail later in the lesson. Record descriptions and document how each EPCRA Section 313 chemical is used to determine its activity classification (manufactured, processed, and otherwise used). Finally, document the types of control methods that are used at the facility and make a qualitative assessment of their efficiency by observing their operation and then recording these observations. For example, a degreasing unit that is open to the atmosphere would release a greater amount of solvent to the air than a unit with a solvent recovery system.

REVIEW

Data quality inspections follow three basic steps:

- Discussion with the facility official
- Identification of chemicals
- Facility tour

The step of chemical identification is more involved than simply identifying the EPCRA Section 313 chemicals. As an EPCRA Section 313 inspector, you will try to identify every chemical used in significant quantities at the site. These will include:

- Reported EPCRA Section 313 chemicals
- Other documented EPCRA Section 313 chemicals
- Other chemicals identified by the inspector while onsite
- Chemicals found in mixtures

REVIEW EPCRA SECTION 313 CHEMICALS

The following section, Review of Threshold Determination, discusses questions that should be answered for every EPCRA Section 313 chemical present at the facility that is used in significant quantities, such as 1,000 to 2,000 pounds or more. Several of these questions you will recognize from Lesson 11. However, there will be additional questions to be answered (found in subsequent sections of this lesson) for those EPCRA Section 313 chemicals that are manufactured, processed, or otherwise used at the facility that meet the requirements for reporting. Document all calculations and assumptions. Bear in mind, calculations should be reproducible by a reviewer unfamiliar with the facility. In addition, you should constantly look for and collect supporting documents for your assertions about the facility's chemicals and their usage for future evidence in any potential enforcement actions.

Review of Threshold Determination

During this part of the inspection, you will review the facility's decision to report a chemical, the use of the chemical, and the quantity used. It is your responsibility to ensure that the name of the chemical being reviewed is recorded in your notes in association with the answers to the following questions:

1. How is the chemical employed at the facility?

   Remember the possible exemptions:

   - De minimis
   - Laboratory activities
   - Otherwise use exemptions
   - Article exemption
   - Coal extraction activities
   - Metal mining overburden exemption

2. Was the chemical reported by the facility?

3. Is the chemical exempt from reporting?

4. Is documentation supporting the threshold determination available for review?

5. How much chemical did the facility manufacture, process, or otherwise use during the reporting year?

6. What was the basis of the estimate for the amount of chemical manufactured, processed, or otherwise used during the reporting year?

7. Was the reviewer's estimate of the amount of chemical manufactured, processed, or otherwise used (throughput) recalculated using available documentation or recreated using other facility data?

   Depending on your Region, you may answer this question on site or during the post-inspection activities. Regardless of when you answer this question, you may need to do one of the following things:

   (i) Recalculate the amount of chemical throughput using the available facility documentation.

   (ii) Recreate the amount of chemical throughput if the facility has no documentation or if the inspector is aware of additional, more accurate information to use.

   If you recalculate or recreate the threshold value, appropriately record any differences between your calculations and the facility's calculation.

   Additionally, you should document if the facility overlooked this chemical and therefore did not estimate the threshold value. Finally, if you are unable to perform these calculations, you should document the reason for this.

8. Was a threshold exceeded for this chemical in the reporting year?

9. What was the maximum amount of chemical on site at any time?

   Review and document the maximum amount of the chemical on site at any time during the reporting year, as indicated in the Form R report and/or in facility documentation.

   Additionally, you may need to calculate the maximum amount on site. In calculating this value, consider the amount of chemical in all storage areas, in use at any time, and in each waste stream. You may need to review inventory records and tour the plant storage areas to complete these calculations. Also keep in mind that if you are trying to document a Tier II violation, you may want to use the Tier II data as a general guide to identify high-use chemicals.

For an example of calculating the maximum amount of the chemical on-site, please refer to Page C-3 of the Form R Packet in Attachment 7-1 of this manual.

10. Was the chemical correctly reported or not reported?

In this section, record whether the chemical was correctly reported, or not reported as follows:

- Correctly Included. The chemical was reported by the facility, is not exempt, and exceeded the applicable threshold limit.

- Correctly Omitted. The chemical was not reported by the facility and is either exempt or did not exceed the applicable threshold limit. If this is the answer to your question, you may omit this chemical from the rest of your considerations.

- Incorrectly Included. The chemical was reported by the facility, but is either exempt or did not exceed the applicable threshold limit.

- Incorrectly Omitted. The chemical was not reported, but was not exempt and exceeds the applicable threshold limit.

11. Why was the chemical incorrectly reported?

For this question, record the reason obtained from the review of the facility's documentation and/or through discussions with the facility officials that most closely describes why this chemical was reported.

Although the facility was aware that this chemical did not exceed the threshold limit, it was still reported "to be safe." For example:

- The facility incorrectly assumed a threshold limit was exceeded (did not complete a calculation).

- The facility misclassified the chemical activity as "otherwise used," when it was really "processed" or "manufactured."

- The facility made a calculation error while determining the threshold quantity, which resulted in the chemical exceeding a threshold limit.

- The facility reported the chemical, because a threshold limit was exceeded. However, all uses of the chemical are exempt, and therefore, nonreportable.

- Any other reason not previously described.

12. Why was the chemical incorrectly omitted?

Be thorough, but brief, in your descriptions. For any of the above answers, you can begin your review of the next chemical.

Review of Release Estimation

For this stage of data analysis, you will review the facility's methodology and support documentation for calculating the release and other waste management activities estimates. This includes the review of the sources of releases and other waste management activities to ensure that all sources have been accounted for. The following are questions that will guide you through this analysis. You may use this information on site or during the post-inspection activities.

1. Is documentation on release and other waste management activities estimates available for review?

   You must obtain and review the facility's supporting documentation on each release and other waste management activities estimates available for the chemical in question. If this is not available, record the reason (as determined through discussions with facility officials) that describes why the documentation is not available. Reasons may include:

   - Documentation cannot be located.
   - The facility did not retain documentation.
   - The facility overlooked the chemical.

2. If monitoring data were used, are data available for review?

   Obtain copies of any monitoring data used to develop the release and other waste management activities estimates. Note that the facility must use all readily available data collected to meet other regulatory requirements or as part of routine plant operations for the toxic chemical. However, the facility is not required to conduct additional monitoring or measurements of the toxic chemical for the purposes of completing the Form R report. Also, document the reason if such monitoring data was used but is not available for review. If monitoring data was available at the facility, but was not used, document what data was used and why.

3. If a percent from storm water estimate was reported, are the monitoring data on which the estimate was based available for review?

   Obtain copies of any monitoring data used by the facility to calculate the percent from storm water estimate (found at Question 5.C of the Form R report). Note that if the facility has monitoring data on the toxic chemical and the flow rate, such data must be used to calculate the percent from storm water estimate. In addition, if the facility does not have periodic measurements of storm water releases of the toxic chemical, but has submitted chemical-specific monitoring data in permit applications, these data must be used to calculate the percent from storm water estimate. In this case, obtain copies of the data used in the permit application. Also document the reason if such monitoring data was used but is not available for review.

4. If emission factors were used, what is the source of the factors?

   Record and document the source of any emission factors used by the facility to calculate the release estimate. Such factors could be:

   - Facility-derived factors
   - EPA-published emission factors
   - Trade association factors, and so on

   Indicate if emission factors were not used.

5. Was each air or waste stream counted only once in the release estimate?

   Review the facility's documentation and record whether each air stream or waste stream that contributed to the release estimates was counted only once. Document any streams that were double counted. An example of double counting would be reporting releases that are vented from a spray paint booth as an air stack release as well as building fugitive emissions.

6. Were all waste streams of the chemical included in the release and other waste management calculations?

   Review the facility's documentation and indicate whether all waste streams containing a toxic chemical were included in the release and other waste management calculations. The de minimis exemption applies to ingredients of mixtures or to impurities present in products processed or used. However, it does not apply to wastes. Releases and other waste management quantities must be reported, regardless of the concentration. In

addition, when the facility's operations produce (manufacture) the chemical in waste treatment, the de minimis exemption does not apply.

Also, record if the facility has misinterpreted the de minimis rule and did not include waste streams with less than 1 percent of the chemical. If this is not the reason, explain the reason that most describes why such waste streams were not included.

7. Was on-site treatment of this chemical included in release and other waste management estimates?

Review the facility's documentation and record whether on-site treatment of the chemical is included in the facility's release and other waste management activity calculations. All on-site treatment processes must be included in these calculations. These processes would include:

- Air emissions treatment
- Biological treatment
- Chemical treatment
- Incineration/thermal treatment
- Physical treatment
- Solidification/stabilization
- Other (specify)

If the facility did not include on-site treatment in its estimate, determine (through discussions with facility officials) and document why such treatment was not included.

8. If sequential treatment was reported, was the efficiency based on overall treatment?

Document whether the facility used overall treatment efficiency for any sequential treatment that was reported. Sequential treatment refers to several individual treatment steps used in a series to treat the toxic chemical. When the facility has sequential treatment, it should use the overall treatment efficiency in its release and other waste management calculations.

TIPS

The treatment efficiency (expressed as percent removal):

- Represents the mass or weight percentage of chemical destroyed or removed, not merely changes in volume or concentration of the chemical in the waste stream.
- Only refers to the percent destruction, degradation, conversion, or removal of the listed toxic chemical from the waste stream, not the percent conversion or removal of other wastewater constituents that may occur together with the listed chemical.

9. Were treatment efficiencies used consistent with vendor specification or EPA-published efficiencies?

   Review and document whether treatment efficiencies used by the facility were consistent with vendor specifications or with EPA-published values. The efficiencies reported on the facility's Form R report should be compared to literature values before the inspection, if possible. Discuss any identified inconsistencies with facility officials during the inspection, document the reason for such discrepancies, and record whether the facility used treatment efficiencies in the release determination in Section 6.0 of the checklist.

Sources of Chemical Releases and Transfers

Under EPCRA Section 313, the facility is required to account for the aggregate releases and other waste management quantities of the toxic chemical to the environment for the reporting year. The facility is not required to count as releases and other waste management quantities of a toxic chemical lost as a result of natural weathering or corrosion, normal/natural degradation of a product, or normal migration of a chemical from a product. This applies only off site. If a product is allowed to cure on site, these losses need to be accounted for. An example of this would be Styrofoam production.)

Releases and other waste management activities to media that must be included in release calculations are as follows:

- Fugitive or Nonpoint Air Emissions. This includes all releases to air that are not released through stacks, vents, ducts, pipes, or any other confined air stream.
- Stack or Point Air Emissions. This includes all releases to air that are released through stacks, vents, ducts, pipes, or any other confined air stream.

- Discharges to Receiving Streams or Water Bodies. This includes releases from the facility to each receiving stream or water body. It does not include discharges to POTWs or other off-site wastewater treatment systems.

- Underground Injection. This includes the injection of the toxic chemical into all wells.

- Releases to Land On Site. There are four subcategories for reporting quantities of the chemical released to land within the boundaries of the facility. These categories include:

  - Landfill
  - Land treatment/application farming
  - Surface impoundment
  - Other disposal (such as spills or leaks of the chemical to land).

- Discharges to POTWs. This includes discharges to sewer lines that ultimately go to wastewater treatment plants.

- Off-Site Transfers. The off-site transfer consists of the total quantity of chemical sent offsite for waste management activities.

For each release and other waste management medium, indicate whether the source of release and other waste management was:

- Yes - Considered in the estimate

- No - Not considered in the estimate

- N/A - Not present at the facility for the chemical and medium.

TIPS ON COMMON ERRORS

Errors commonly made by facilities in the preparation of the release and other waste management activity estimate include:

Error: Not reporting materials being transferred off site for recycling, reuse, or resource recovery
Reason: Materials being sent off site for recycling or reuse are not considered waste management activities.

Error: Reporting zero air emissions for VOCs
Reason: VOCs are chemicals that readily evaporate at room temperature and therefore will evaporate when present in an open tank or painting or degreasing operation.

Error: Reporting discharges of mineral acids after neutralization
Reason: A mineral acid stream neutralized to a pH of 6 or above is considered to be 100 percent neutralized. Such a discharge may be reported as zero acid released.

Error: Incorrectly identifying/reporting fugitive and stack emissions
Reason: Fugitive and stack emissions must be reported separately as releases to air.

Error: Reporting total metallic compound as a release
Reason: Facilities should only report the metallic portion of the metal compounds as release and other waste management quantities. For example, if the compound is lead sulfate, only the quantity of lead released or involved in other waste management activities should be reported.

Summary of Release Estimates/Transfers

This section will provide a method for summarizing both the reviewer's and the facility's release and other waste management activity estimates for each medium and the methods used to estimate each. When entering the release and other waste management estimate for a particular medium, sum each occurrence of the release and other waste management activity type. For example, the facility may release a chemical to two or more receiving streams. The amount in each stream should be added, and the total should be recorded. The following is an explanation of the proposed process:

Step 1: Estimate Facility's Release and Other Waste Management Quantities. Document the facility's release and other waste management quantities estimates reported on Form R for each medium. If the facility did not report a release or other waste management quantities, consider it to be zero.

Step 2: Identify the Method(s) Used by the Facility to Estimate its Releases and Other Waste Management Quantities. Document the methods that were actually used by the facility to estimate each release and other waste management quantities. The methods may not necessarily be what the facility reported on the Form R chemical report. The types of methods that can be used include:

- Monitoring Data. The estimate is based on monitoring data or on measurements for the toxic chemical as released to the environment and/or off-site facility.

- Mass Balance. The estimate is based on mass balance calculations, such as a calculation of the amount of the toxic chemical in streams entering and leaving process equipment.

- Emission Factors. The estimate is based on published chemical-specific emission factors, such as those relating release quantity to throughput.

- Engineering Judgment. The estimate is based on engineering calculations (such as, estimating volatilization using published mathematical formulas) or best engineering judgment. This includes applying an estimated removal efficiency to a wastestream, even if the composition of the stream before treatment was fully characterized by monitoring data.

Step 3: Indicate Whether the Facility Chose the Best Method, Based on Data Available to the Facility. After reviewing the facility's documentation for this release and other waste management activity estimates, record whether the facility used the best method for determining the release, keeping in mind the four primary methods listed above. Decide whether one method is better than another, and if it is necessary to evaluate the type and quality of data available to the facility at the time of reporting. For example, if a facility used engineering judgment but had very good monitoring data for the toxic chemical, the facility should have used the monitoring data. If the facility used the best method based on available data, the inspector should proceed to Step 6.

Step 4: Identify the Method Producing a More Accurate Release and Other Waste Management Activity. Record the method that would produce the most accurate release and other waste management activity based on the data available to the facility. Be sure to thoroughly document your selection.

Step 5: Identify the Reviewer's Release and Other Waste Management Activity Estimate Using the Preferred Method(s). Using the preferred method stated in Question 3, calculate a new release and other waste management activity estimate for the facility. Be sure to document all of your calculations.

Step 6: Enter the Reviewer's Release and Other Waste Management Activity Estimate Using the Same Method(s) as the Facility. Using the same method as the facility, recalculate the release and other waste management activity estimates and record your answer. Be sure to calculate the estimates appropriately, avoiding the common problems previously noted. If the facility had no documentation and you are unable to recreate the estimate, consider this aspect to be "Unknown."

Calculations Summary

In summary, the three primary types of calculations that you will review are:

- Threshold determination
- Maximum amount on site
- Release and other waste management activity estimation

In general, for all the above calculations, document all your assumptions and record and document the basis for any conclusions that the facility's reported release and other waste management activity is accurate or inaccurate. This is necessary so that a second reviewer, not necessarily familiar with the facility, should be able to recreate the calculations.

Reasons for Reporting Errors/Data Discrepancies

A number of items contribute to differences in the amount of reported releases and other waste management activity from one year to another. These changes can be attributed to:

- Reporting errors caused by a lack of understanding in:
  - Reporting requirements
  - Calculation errors
  - Personnel changes
- Data discrepancies caused by:
  - Process modifications
  - Production changes

- Product substitution
- Product elimination

In some cases, significant reductions in releases and other waste management activity quantities result from the implementation of pollution prevention activities.

Some reasons for potential data quality errors, which should be kept in mind as you move through the on-site phase of the data quality inspection, are described as follows:

- Technical Contact. Changes in technical contact personnel have led to errors or inconsistent reporting. Often, the new technical contact may not be familiar with the reporting requirements and therefore must go through a learning process.

- Administrative Errors. The most common errors involve entry of information on the Form R (such as, calculation of releases and other waste management activity quantities and threshold determination errors). Although data may have been correctly collected by a facility, the data were incorrectly transferred onto the form or were entered in the wrong section of the form.

- Data/Calculation Errors. Common calculation errors occur when a facility records the entire weight of a chemical in a mixture instead of just the weight of the chemical itself, or a facility includes the amount of a chemical purchased in a calendar year rather than the amount used. Threshold determination errors include incorrectly interpreting threshold definitions for manufactured, processed, or otherwise used activity categories.

Some reasons for significant changes in amounts of chemicals used or amounts of chemicals released and otherwise managed as wastes are described as follows:

- Process Change. Several process changes may be observed during the site visits. With the emphasis shifting from pollution control to pollution prevention, facilities are attempting to decrease the amount of EPCRA Section 313 chemicals used in their processes.

- Housekeeping. Some facilities may be able to decrease the amount of EPCRA Section 313 chemicals used by incorporating simple housekeeping practices (such as, adding cooling coils on a vapor degreaser and keeping the cover closed when it is not in use).

- Product Substitution/Elimination. The substitution of less toxic or hazardous chemicals for EPCRA Section 313 chemicals, or the total elimination of EPCRA Section 313 chemicals, may have many economic and environmental benefits, including:

  - Economic benefits
    Reduction of raw material costs
    Decrease in transport, treatment, and disposal costs
    Reduction of insurance liability through a safer work environment

  - Environmental benefits
    Reduction in potentially harmful effects to the environment and public health
    Protection of worker health: An example of such benefits would be a large manufacturing facility that installed a powder paint system, thus reducing its overall usage of common paint-carrying solvents, such as xylene, toluene, methyl ethyl ketone, and n-butyl alcohol.

- Production Changes. In some years, facilities have been affected by a weakened economy, which has led to decreased production and a reduction in raw material usage. Because of production slowdowns, some facilities may not meet the reporting thresholds.

REVIEW

There are three activity categories for EPCRA Section 313 chemicals:

- Manufacture
- Process
- Otherwise use

There are a number of different calculations you will be reviewing during the EPCRA Section 313 data quality inspection. While doing so, you will be specifically looking for:

- Threshold determination
- Release and other waste management calculations
- Sources of chemical releases and other waste management activities
- Reasons for data discrepancies/reporting errors

When reviewing the threshold determination, you must bear in mind the exempt uses of chemicals. The exemptions are as follows:

- De minimis
- Laboratory activities
- Otherwise use exemption
- Article exemption
-
- Coal extraction activities
- Metal mining overburden exemption

EXERCISE

Turn to Attachments 12-1 and 12-2. Read the instructions and complete the checklist in Attachment 12-2 to the best of your ability. You have approximately 20 minutes to complete this exercise. Be prepared to discuss your results with the class. The answer to this exercise is provided in Attachment 12-3.

SUMMARY

The first half of this lesson has provided you with the information you will need to look for while walking through the three step on-site data quality inspection process. The remainder of this lesson focused upon the different ways in which a chemical may be used at a facility and the different manipulations of the chemical data that are necessary to determine if a facility is in compliance. As you have realized, to perform a thorough and accurate data quality inspection, you will need to feel confident in drawing upon your knowledge and/or past experience in the field or industry in question.

REVIEW QUESTIONS

See Attachment 12-4 for the answers to the following review questions.

1. Name and describe briefly the three steps involved in an on-site data quality inspection.

2. What are the three activity categories you need to be concerned with in an EPCRA Section 313 inspection?

3. During the data quality inspection, what are the primary concerns you should focus on during your inspection?

4. What are the releases to media that must be included in release calculations?

ATTACHMENT 12-1

LESSON 12 EXERCISE:
CASE STUDY

(One Page)

Lesson 12 Exercise:
Case Study

INSTRUCTIONS: Using the Section 3.0 Review Threshold Determination worksheets in Attachment 12-2, read the information in the passage below, and complete the checklist to the best of your ability. You may want to open the *Interim Final EPCRA Section 313 Data Quality Inspection Manual,* and refer to the appropriate facility profile at the end of the manual.

You are inspecting the Krude Oil Petroleum Company for possible data quality violations. In preparing for the visit, you receive the Form Rs filed by the facility. Based on your experience, you are puzzled because the Form R does not indicate two chemicals common to most refineries. One is diethanolamine used in natural gas sweetening and the other is sulfuric acid.

During the facility tour, you notice bulk storage of sulfuric acid but no indications of diethanolamine. In subsequent conversations, it was determined that the feed stock for the refinery contained no natural gas. However, the Environmental Manager stated that a small amount of acid was used for neutralization of column bottoms. You ask to review the facility's purchase and inventory records. After reviewing the records, you determine that the "small" amount of 60 Baume used for neutralization of column bottoms was actually over 186,000 pounds for the calendar year. You also realize the facility did not report its usage of 60 Baume on the Form R. When questioned about this, the Environmental Manager replied, "I didn't realize we used that quantity of 60 Baume at the facility."

ATTACHMENT 12-2

LESSON 12 EXERCISE:
SECTION 3.0 REVIEW THRESHOLD DETERMINATION WORKSHEETS

(Six Pages)

Lesson 12 Exercise;
Section 3.0 Review Threshold Determination Worksheets

Chemical Name: _____

1. How is this chemical employed at the facility? *(Check all that apply.)*

Manufacture

a. Import/produce for on-site use/processing . . . . . ☐

b. Import/produce for sale/distribution . . . . . ☐

c. Byproduct of process . . . . . ☐

d. Byproduct of waste treatment . . . . . ☐

e. Impurity[3] (% = ___) . . . . . ☐

f. Purchased in tank truck . . . . . ☐

Process

g. Chemical reactant (raw materials, intermediates, etc.) . . . . . ☐

h. Formulation component . . . . . ☐

i. Article component . . . . . ☐

j. Repackage . . . . . ☐

Otherwise Use

k. Chemical processing aid (added to reaction mixture) . . . . . ☐

l. Manufacturing aid (process lubricants, coolants, etc.) . . . . . ☐

m. Ancillary use (cleaners, degreasers, lubricants) . . . . . ☐

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[3] If impurity is present below *de minimis* concentrations (0.1 percent for carcinogens, 1.0 percent for all others), it is exempt from reporting.

Exempt Uses

n. Laboratory chemical . . . . . ☐

o. Structural component . . . . . ☐

p. Routine janitorial/facility grounds maintenance . . . . . ☐

q. Personal employee use . . . . . ☐

r. Motor vehicle maintenance . . . . . ☐

s. Intake water component . . . . . ☐

t. Contained in an article . . . . . ☐

2. Was the chemical reported by the facility?

YES. . . . ☐ NO. . . . ☐ *(If yes, skip to Q.3.)*

2.1 If no, why did the facility decide this chemical was not reportable?

a. Below threshold . . . . . ☐

b. Exempt use . . . . . ☐

c. Overlooked chemical altogether . . . . . ☐

d. Other (specify) . . . . . ☐

3. Is chemical exempt from reporting?

YES. . . . ☐ NO. . . . ☐ *(If yes, skip to Q.10.)*

4. Is documentation supporting the threshold determination available for review?

YES. . . . ☐ NO. . . . ☐ *(If yes, skip to Q.5.)*

4.1 If no, why not?

a. Documentation cannot be located . . . . . ☐

b. Documentation was not retained by facility . . . . . ☐

c. Facility unaware that documentation is required . . . . . ☐

d. Facility did not monitor the consumption of the chemical . . . . ☐

5. What was the basis of estimate used by the facility for the amount manufactured, processed, or otherwise used during the reporting year? *(Check all that apply.)*

a. Purchase/inventory records . . . . . ☐

b. Emission factors . . . . . ☐

c. Mass balance . . . . . ☐

d. Assumed threshold exceeded (no calculations completed) . . . . ☐

e. Process recipes . . . . . ☐

f. Monitoring data . . . . . ☐

g. Production data . . . . . ☐

h. Other (specify) . . . . . ☐

6. How much chemical did the facility manufacture, process, or otherwise use during the reporting year?[4]

   a. Manufactured . . . . . ☐ _____ lbs

   b. Processed . . . . . ☐ _____ lbs

   c. Otherwise used . . . . . ☐ _____ lbs

   d. Facility did not estimate these quantities . . . . . ☐

   e. Reviewer unable to estimate quantities . . . . . ☐

7. Was the reviewer's estimate of the amount of chemical manufactured, processed, or otherwise used recalculated using available documentation or recreated using other facility data?

   a. Recalculated, within a factor of 2 . . . . . ☐

   b. Recalculated, within a factor of 10 . . . . . ☐

   c. Recalculated, greater than a factor of 10 . . . . . ☐

   d. Recreated, within a factor of 2 . . . . . ☐

   e. Recreated, within a factor of 10 . . . . . ☐

   f. Recreated, greater than a factor of 10 . . . . . ☐

   g. Facility did not estimate these quantities . . . . . ☐

   h. Reviewer unable to estimate quantities[5] . . . . . ☐

---

4 Record calculations and assumptions for the threshold determination on the worksheet in Section 6.0.

5 Document why you are unable to estimate chemical quantities for the reporting year on the threshold determination worksheet in Section 6.0.

8. Was a threshold exceeded for this chemical in the reporting year?

YES . . . . ☐ *(This chemical should have been reported. Continue)*

NO . . . . . ☐ *(This chemical should not have been reported. Skip to Q.10.)*

Cannot be determined ☐ *(Skip to next chemical.)*

9. What is the maximum amount of this chemical on-site at any time?[6]

a. Maximum on-site . . . _____ lbs

10. This chemical was:

a. Correctly included . . . ☐ *(If checked, skip Section.)*

b. Correctly omitted . . . ☐ *(If checked, skip to next chemical.)*

c. Incorrectly included . . ☐ *(If checked, skip to Q.11.)*

d. Incorrectly omitted . . . ☐ *(If checked, skip to Q.12.)*

---

[6] Record calculations and assumptions for the maximum on-site quantity on the worksheet in Section 6.0.

11. Why was this chemical incorrectly included?

a. Facility reported, although amount used was below threshold . . . . ☐

b. Facility incorrectly assumed threshold was exceeded . . . . . ☐

c. Chemical activity was misclassified . . . . . ☐

d. Threshold quantity was miscalculated . . . . . ☐

e. Chemical was exempt . . . . . ☐

f. Other (specify) . . . . . ☐

(Skip to next chemical)

12. Why was this chemical incorrectly omitted?

a. Chemical activity was overlooked . . . . . ☐

b. Chemical activity was misclassified . . . . . ☐

c. . Threshold quantity was miscalculated . . . . . ☐

d. Other (specify) . . . . . ☐

ATTACHMENT 12-3

ANSWER TO LESSON 12 EXERCISE: COMPLETED SECTION 3.0 REVIEW THRESHOLD DETERMINATION WORKSHEETS

(Six Pages)

Answer to Lesson 12 Exercise:
Completed Section 3.0 Review Threshold Determination Worksheets

INSTRUCTOR NOTE: Instruct the students to use the information given in the case study to complete their checklist. Below is the answer key to the checklist. After the class has completed their own copy, compare and discuss their answers to those marked here.

Chemical Name: 60 Baume

1. How is this chemical employed at the facility? *(Check all that apply.)*

Manufacture

a. Import/produce for on-site use/processing . . . . . ☐

b. Import/produce for sale/distribution . . . . . ☐

c. Byproduct of process . . . . . ☐

d. Byproduct of waste treatment . . . . . ☐

e. Impurity[3] (% = ___) . . . . . ☐

f. Purchased in tank truck . . . . . **X**

Process

g. Chemical reactant (raw materials, intermediates, etc.) . . . . . ☐

h. Formulation component . . . . . ☐

i. Article component . . . . . ☐

j. Repackage . . . . . ☐

Otherwise Use

k. Chemical processing aid (added to reaction mixture) . . . . . ☐

l. Manufacturing aid (process lubricants, coolants, etc.) . . . . . ☐

m. Ancillary use (cleaners, degreasers, lubricants) . . . . . **X**

[3] If impurity is present below *de minimis* concentrations (0.1 percent for carcinogens, 1.0 percent for all others), it is exempt from reporting.

Exempt Uses

n. Laboratory chemical . . . . . ☐

o. Structural component . . . . . ☐

p. Routine janitorial/facility grounds maintenance . . . . . ☐

q. Personal employee use . . . . . ☐

r. Motor vehicle maintenance . . . . . ☐

s. Intake water component . . . . . ☐

t. Contained in an article . . . . . ☐

2. Was the chemical reported by the facility?

YES. . . . ☐ NO. . . . **X** *(If yes, skip to Q.3.)*

2.1 If no, why did the facility decide this chemical was not reportable?

a. Below threshold . . . . . ☐

b. Exempt use . . . . . ☐

c. Overlooked chemical altogether . . . . . **X**

d. Other (specify) . . . . . ☐

3. Is chemical exempt from reporting?

YES. . . . ☐ NO. . . . **X** *(If yes, skip to Q.10.)*

4. Is documentation supporting the threshold determination available for review?

YES. . . . ☐ NO. . . . **X** *(If yes, skip to Q.5.)*

4.1 If no, why not?

a. Documentation cannot be located . . . . . ☐

b. Documentation was not retained by facility . . . . . ☐

c. Facility unaware that documentation is required . . . . . ☐

d. Facility did not monitor the consumption of the chemical . . . . **X**

5. What was the basis of estimate used by the facility for the amount manufactured, processed, or otherwise used during the reporting year? *(Check all that apply.)*

a. Purchase/inventory records . . . . . **X**

b. Emission factors . . . . . ☐

c. Mass balance . . . . . ☐

d. Assumed threshold exceeded (no calculations completed) . . . . ☐

e. Process recipes . . . . . ☐

f. Monitoring data . . . . . ☐

g. Production data . . . . . ☐

h. Other (specify) . . . . . ☐

6. How much chemical did the facility manufacture, process, or otherwise use during the reporting year?[4]

a. Manufactured . . . . . ☐ _____ lbs

b. Processed . . . . . ☐ _____ lbs

c. Otherwise used . . . . . X 186,000 lbs

d. Facility did not estimate these quantities . . . . . ☐

e. Reviewer unable to estimate quantities . . . . . ☐

7. Was the reviewer's estimate of the amount of chemical manufactured, processed, or otherwise used recalculated using available documentation or recreated using other facility data?

a. Recalculated, within a factor of 2 . . . . . ☐

b. Recalculated, within a factor of 10 . . . . . ☐

c. Recalculated, greater than a factor of 10 . . . . . ☐

d. Recreated, within a factor of 2 . . . . . ☐

e. Recreated, within a factor of 10 . . . . . ☐

f. Recreated, greater than a factor of 10 . . . . . ☐

g. Facility did not estimate these quantities X

h. Reviewer unable to estimate quantities[5] . . . . . ☐

---

4 Record calculations and assumptions for the threshold determination on the worksheet in Section 6.0.

5 Document why you are unable to estimate chemical quantities for the reporting year on the threshold determination worksheet in Section 6.0.

8. Was a threshold exceeded for this chemical in the reporting year?

YES . . . . X *(This chemical should have been reported. Continue)*

NO . . . . . ☐ *(This chemical should not have been reported. Skip to Q.10.)*

Cannot be determined ☐ *(Skip to next chemical.)*

9. What is the maximum amount of this chemical on-site at any time?[6]

a. Maximum on-site . . . 50,000 lbs

10. This chemical was:

a. Correctly included . . . ☐ *(If checked, skip Section.)*

b. Correctly omitted . . . ☐ *(If checked, skip to next chemical.)*

c. Incorrectly included . . ☐ *(If checked, skip to Q.11.)*

d. Incorrectly omitted . . . X *(If checked, skip to Q.12.)*

---

6 Record calculations and assumptions for the maximum on-site quantity on the worksheet in Section 6.0.

11. Why was this chemical incorrectly included?

a. Facility reported, although amount used was below threshold . . . . ☐

b. Facility incorrectly assumed threshold was exceeded . . . . . ☐

c. Chemical activity was misclassified . . . . . ☐

d. Threshold quantity was miscalculated . . . . . ☐

e. Chemical was exempt . . . . . ☐

f. Other (specify) . . . . . ☐

(Skip to next chemical)

12. Why was this chemical incorrectly omitted?

a. Chemical activity was overlooked X

b. Chemical activity was misclassified . . . . . ☐

c. Threshold quantity was miscalculated . . . . . ☐

d. Other (specify) . . . . . ☐

ATTACHMENT 12-4

ANSWERS TO LESSON 12 REVIEW QUESTIONS

(Two Pages)

ANSWERS TO LESSON 12 REVIEW QUESTIONS

1. Name and describe briefly the three steps involved in an on-site data quality inspection.

Step 1: Discussion with Facility Officials

Before beginning the facility tour, you will review all processes with the facility representative, and discuss any changes that have occurred in the reporting year. This will be your opportunity to ask questions regarding specific data quality issues in the facility's reporting. Ask the questions you have developed during the pre-inspection review of the facility's Form R reports.

Step 2: Chemical Identification

Initially, you will look for every chemical present on the facility, whether it is on the EPCRA Section 313 chemical list or not. You will need to document them as follows:

- Form R Chemical
  - Listed Section 313 Chemical
  - Reported but not listed as a Section 313 Chemical
- Undocumented Chemical Identified by the Inspector
- Other Documented Chemicals
- Mixture

Step 3: Facility Tour

During the tour of the facility, focus on areas in which EPCRA Section 313 chemicals are used in process lines and treatment areas. If possible, try to either sketch process diagram(s) of what you observed during the tour or obtain them from the facility if they are available.

2. What are the three activity categories you need to be concerned with in an EPCRA Section 313 inspection?

Manufacture, Process, or Otherwise Used

3. During the data quality inspection, what are the primary concerns you should focus on during your inspection?

- Threshold Determination
- Release Estimation
- Sources for Releases and Transfers
- Reasons for Data Discrepancies and General Reporting Errors

4. What are the releases to media that must be included in release calculations?

- Fugitive or Nonpoint Air Emissions
- Stack or Point Air Emissions
- Discharges to Receiving Streams or Water Bodies
- Underground Injection
- Releases to Land On Site
- Discharges to POTWs
- Off-site Transfers

Lesson 13

Closing Conference

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INTRODUCTION

Purpose

The closing conference with facility officials allows you the opportunity to "wrap up" an inspection. At this time, you should prepare and present to the facility officials any remaining receipts for documents. Also, resolve information gaps by obtaining either the necessary information or a written agreement with the facility that the information will be forthcoming. Ask any final questions and provide the facility officials with the opportunity to ask any final questions of you. This lesson provides guidance for issues that may arise during the closing conference (such as, the facility's compliance status, facility questions, confidentiality claims, and compliance outreach).

Objective

- Given an inspection assignment, conduct closing conference activities.

INSPECTION CLOSING CONFERENCE

Inspection Wrap-up

The closing conference allows you to wrap up any loose ends that were generated by the pre-inspection activities and/or the actual EPCRA Section 313 inspection. For example, one of the objectives of the closing conference is to resolve remaining information gaps. During your pre-inspection activities, you developed a list of questions for the on-site facility inspection. This is your opportunity to ensure that all your initial concerns have been either clarified or verified through your inspection activities. If these concerns have not been eliminated, or if you have found new sources of potential violations during your inspection, you may need additional information from the facility to complete your analysis during the post-inspection activities.

Take this time to identify the remaining information (facility records and/or other documentation) you need to complete the inspection. Then you can arrange to either:

- Obtain the information while on site.
- Arrange with the facility to have the information sent to your office.

This is also the last opportunity, while on site, for a "question/answer" period. The facility officials will often have questions for you about the inspection you just completed. For example, one of the first questions is likely to be, "Did you find any violations?" or "Are we in trouble?" Guidance on how to handle these kinds of questions are in a later section of this lesson.

Inspection Findings

Summarizing the inspection findings in an objective and factual manner is one of the most important steps in concluding the inspection. This will provide you with an adequate response if facility officials ask if any violations were found. You may choose to point out various items that facility officials might want to address in the future. However, EPA inspectors are never authorized to say that EPCRA Section 313 violations were or were not present during the inspection. At most, you may communicate that there were areas of possible concern or that no major problems were "readily apparent." However, always emphasize that you do not make the decision on whether a violation exists.

There are several reasons why the inspector should not offer conclusions regarding the facility's compliance status, even if it appears to be complete and final. These are:

- You have not had time to conduct a complete analysis. For example, you have not had time to reflect upon and correlate all the data you have collected or observed.
- A case development officer has not yet analyzed the inspection report. Any conclusion you draw may prove to be unfounded and could compromise later compliance decisions.
- EPA-administered statutes and regulations usually do not lend themselves to simple or quick assessments.
- The inspection findings may represent only a portion of a larger enforcement case that is on-going, of which you may not be fully aware.
- Final judgments on statutory violations are the province of EPA's enforcement attorneys.

Additionally, if the facility is informed later that the inspection substantiated a violation, and you had stated previously that there were no violations when you left the premises, the facility may question the final assessment.

During the closing conference, facility officials may assert that they have the right to see or to copy notes that you made during your inspection. EPA does not permit the EPCRA Section 313 inspector to show inspection notes to facility representatives or to copy the inspection notes collected during the inspection. Although the facility may submit a Freedom of Information Act request, there is no guarantee that they will receive the notes.

PROPRIETARY INFORMATION

During the inspection, the facility may have declared some of the information to be proprietary or confidential. These claims should be confirmed with facility officials and documented by a facility representative. NCSC employees should be aware that, pending congressional legislation, they are not allowed to see TSCA CBI.

When facility officials review the completed Receipt for Samples (if prepared, as discussed in Lesson 8), they may decide to make further claims. Check Regional policies for information on what to do when encountering proprietary information at a facility.

OUTREACH ACTIVITIES

You are often the only contact between EPA and the regulated industries, so be aware when opportunities arise to promote compliance with EPA regulations. Before conducting an inspection, check with your Regional management on whether there is any Regional policy or guidance on providing technical, compliance, or pollution prevention assistance during the inspection. If allowed, the closing conference provides a potential opportunity to educate facility officials. This could involve advising facilities of assistance that is available from EPA, State and local programs, and/or trade organizations in the form of compliance assistance centers on the Internet, guidance and technical documents, and pollution prevention resources. For a list of recommended EPCRA Section 313 background sources, refer to EPA's Internet site for TRI information, http://www.epa.gov/tri. The information sheet in Attachment 13-1 identifies EPA compliance assistance tools and resources that are available specifically for small businesses.

On the other hand, be careful to answer only those questions that are within your ability or authority. Never recommend that a particular step be taken to address a problem. If your advice proves to be wrong, and if the facility is later found to be in noncompliance, EPA's ability to pursue an enforcement action may be jeopardized. It is generally advisable to limit your role to providing or suggesting resources that are available for facility officials to use to answer questions or help solve problems (such as, technical publications and special services). You may also be able to refer questions and problems to other EPA personnel, as needed. Follow up with those personnel, when practical, to see that facility officials receive a response. The bottom line is that you will need to assess, on a case-by-case basis, whether on-site compliance assistance is appropriate and if so, to what degree.

EXERCISE

Read the Closing Conference case study (see Attachment 13-2). You have 10 minutes to read the case study and follow the instructions provided. The remainder of the lesson will be spent discussing the results from the study. The answer to the case study is provided in Attachment 13-3.

SUMMARY

This lesson addressed the issues involved in conducting the closing conference. As an inspector, you must be prepared to handle situations involving questions and/or demands from facility officials regarding the results of your inspection, confidentiality claims, and understanding the importance of your role in outreach activities. You may find yourself in any number of difficult situations. However, with the guidelines presented here, along with experience, you will be able to handle any events that may arise while on site.

REVIEW QUESTIONS

The following questions are designed to assess your comprehension of the lesson. The answers to these questions are found in Attachment 13-4.

1. What are some of the reasons you should not offer conclusions regarding the facility's compliance status while on site?

2. What is the difference in authority between NCSC employees and Federal EPA inspectors regarding confidentiality claims?

3. What are some of the reasons that compliance assistance or outreach activities are an important part of an EPCRA Section 313 inspector's duties?

ATTACHMENT 13-1

EPA SMALL BUSINESS RESOURCES INFORMATION SHEET

(Two Pages)

United States
Environmental Protection
Agency

Office of Enforcement and Compliance Assurance (2201A)
EPA 300-F-99-004 September 1999

Office of Enforcement and Compliance Assurance

INFORMATION SHEET

U.S. EPA Small Business Resources

If you own a small business, the United States Environmental Protection Agency (EPA) offers a variety of compliance assistance and tools to assist you in complying with federal and State environmental laws. These resources can help you understand your environmental obligations, improve compliance and find cost-effective ways to comply through the use of pollution prevention and other innovative technologies.

EPA Websites

EPA has several Internet sites that provide useful compliance assistance information and materials for small businesses. Many public libraries provide access to the Internet at minimal or no cost.

EPA's Small Business Home Page (http://www.epa.gov/sbo) is a good place to start because it links with many other related websites. Other useful websites include:

EPA's Home Page
http://www.epa.gov

Small Business Assistance Programs
http://www.epa.gov/ttn/sbap

Compliance Assistance Home Page
http://www.epa.gov/oeca/oc

Office of Site Remediation Enforcement
http://www.epa.gov/oeca/osre

Hotlines, Helplines and Clearinghouses

EPA sponsors approximately 89 free hotlines and clearinghouses that provide convenient assistance on environmental requirements.

EPA's Small Business Ombudsman Hotline can provide a list of all the hot lines and assist in determining the hotline best meeting your needs. Key hotlines include:

EPA's Small Business Ombudsman
(800) 368-5888

Hazardous Waste/Underground Tanks/ Superfund
(800) 424-9346

National Response Center
(to report oil and hazardous substance spills)
(800) 424-8802

Toxics Substances and Asbestos Information
(202) 554-1404

Safe Drinking Water
(800) 426-4791

Stratospheric Ozone and Refrigerants Information
(800) 296-1996

Clean Air Technical Center
(919) 541-0800

Wetlands Hotline
(800) 832-7828

Continued on back

Recycled/Recyclable

U.S. EPA SMALL BUSINESS RESOURCES

Compliance Assistance Centers

In partnership with industry, universities, and other federal and state agencies, EPA has established national Compliance Assistance Centers that provide Internet and "faxback" assistance services for several industries with many small businesses. The following Compliance Assistance Centers can be accessed by calling the phone numbers below and at their respective websites:

Metal Finishing
(1-800-AT-NMFRC or www.nmfrc.org)

Printing
(1-888-USPNEAC or www.pneac.org)

Automotive Service and Repair
(1-888-GRN-LINK or www.ccar-greenlink.org)

Agriculture
(1-888-663-2155 or www.epa.gov/oeca/ag)

Printed Wiring Board Manufacturing
(1-734-995-4911 or www.pwbrc.org)

The Chemical Industry
(1-800-672-6048 or www.chemalliance.org)

The Transportation Industry
(1-888-459-0656 or www.transource.org)

The Paints and Coatings Center
(1-800-286-6372 or www.paintcenter.org)

State Agencies

Many state agencies have established compliance assistance programs that provide on-site and other types of assistance. Contact your local state environmental agency for more information. For assistance in reaching state agencies, call EPA's Small Business Ombudsman at (800)-368-5888 or visit the Small Business Environmental Homepage at http://www.smallbiz-enviroweb.org/state.html.

Compliance Incentives

EPA provides incentives for environmental compliance. By participating in compliance assistance programs or voluntarily disclosing and promptly correcting violations, businesses may be eligible for penalty waivers or reductions. EPA has two policies that potentially apply to small businesses: The Audit Policy (http://www.epa.gov/oeca/auditpol.html) and the Small Business Policy (http://www.epa.gov/oeca/smbusi.html). These do not apply if an enforcement action has already been initiated.

Commenting on Federal Enforcement Actions and Compliance Activities

The Small Business Regulatory Enforcement Fairness Act (SBREFA) established an ombudsman ("SBREFA Ombudsman") and 10 Regional Fairness Boards to receive comments from small businesses about federal agency enforcement actions. The SBREFA Ombudsman will annually rate each agency's responsiveness to small businesses. If you believe that you fall within the Small Business Administration's definition of a small business (based on your Standard Industrial Code (SIC) designation, number of employees or annual receipts, defined at 13 C.F.R. 121.201; in most cases, this means a business with 500 or fewer employees), and wish to comment on federal enforcement and compliance activities, call the SBREFA Ombudsman's toll-free number at 1-888-REG-FAIR (1-888-734-3247).

Your Duty to Comply

If you receive compliance assistance or submit comments to the SBREFA Ombudsman or Regional Fairness Boards, you still have the duty to comply with the law, including providing timely responses to EPA information requests, administrative or civil complaints, other enforcement actions or communications. The assistance information and comment processes do not give you any new rights or defenses in any enforcement action. These processes also do not affect EPA's obligation to protect public health or the environment under any of the environmental statutes it enforces, including the right to take emergency remedial or emergency response actions when appropriate. Those decisions will be based on the facts in each situation. The SBREFA Ombudsman and Fairness Boards do not participate in resolving EPA's enforcement actions. Also, remember that to preserve your rights, you need to comply with all rules governing the enforcement process.

EPA is disseminating this information to you without making a determination that your business or organization is a small business as defined by Section 222 of the Small Business Regulatory Enforcement Fairness Act (SBREFA) or related provisions.

ATTACHMENT 13-2

LESSON 13 EXERCISE:
CLOSING CONFERENCE CASE STUDY

(Two Pages)

Lesson 13 Exercise:
Closing Conference Case Study

INSTRUCTIONS: The following passage describes a scenario of a closing conference for an EPCRA Section 313 inspection. Read the case study, then identify examples of required closing conference procedures, and list which were, or were not, conducted correctly. Write all possible answers in the space provided on the next page.

The following is a dialog between Mr. Finks, the EPCRA Section 313 inspector (an NCSC employee), and Ms. Bates, Bates & Sons, Inc., the facility official who sanctioned the data quality EPCRA Section 313 inspection of the facility. Mr. Finks has just completed his inspection and is preparing to leave the facility. The conversation is as follows:

Mr. Finks: Well, Ms. Bates, I believe I'm finished with everything I need to do here today. I appreciate your cooperation throughout this inspection.

Ms. Bates: Well, I appreciate your efforts to make this a relatively painless procedure. We've never been inspected before under Section 313. Is there anything that I should be aware of that you discovered during your investigation?

Mr. Finks: Here. This is a list of potential background sources about the legislation, if you have any additional questions. I suggest you read these and follow their directions if you want to be sure to stay out of trouble. I need to receive some additional information which I've identified here on the Receipt for Samples. Could you have this sent to me?

Ms. Bates: Uh, sure, I'll gather and mail it to you tomorrow, but some of this documentation is sort of, well, sensitive or confidential.

Mr. Finks: Oh, that's not a problem. I'll make sure it is handled properly. You just sign the bottom of the receipt, and I'll take care of the rest.

Ms. Bates: Is there anything else I should be aware of ?

Mr. Finks: Although I don't have the final say in these compliance decisions, I wouldn't worry about it. Everything looks pretty good. Again, thanks for your time.

Ms. Bates: Okay, when can we expect to hear from you again?

Mr. Finks: Oh, some time soon. Goodbye.

In the space below, write down examples of closing procedures that were used incorrectly in the case study. Then write down examples of closing procedures that were used correctly.

ATTACHMENT 13-3

ANSWERS TO LESSON 13 EXERCISE: CLOSING CONFERENCE CASE STUDY

(One Page)

Answer to Lesson 13 Exercise:
Closing Conference Case Study

INSTRUCTIONS: After the class has read the case study and listed their correct and incorrect procedures, have the class discuss their answers aloud. Provide them with any answers they may have missed. Emphasize to the class that these are possible answers based on this particular scenario and may not reflect actual events.

Incorrect Procedures

1. Mr. Finks was relatively cavalier about conducting his outreach activities. This was obviously a new experience for Bates & Sons, Inc. Minimally, he should have indicated that the outreach information he provided may need to be tailored to meet the specific needs of the company. Simply doing what the information says will not guarantee compliance with EPCRA Section 313.

2. Mr. Finks made a judgement about the status of the compliance of the facility when he said, "Everything looks pretty good." It was outside his authority to make this determination.

3. Mr. Finks did not allow Ms. Bates an opportunity to ask any questions she may have had about the rest of his procedures, although she was obviously interested.

4. Mr. Finks did not provide satisfactory responses to the questions she did manage to ask. For example, in response to her inquiry into when she would receive further information, Mr. Fink nonchalantly responded, "Sometime soon."

Correct Procedures

1. Mr. Fink did conduct a closing conference.

2. Mr. Finks conducted outreach activities by recommending a list of background sources about EPCRA Section 313.

3. Mr. Finks arranged to receive additional information from the facility.

ATTACHMENT 13-4

ANSWERS TO LESSON 13 REVIEW QUESTIONS

(One Page)

ANSWERS TO LESSON 13 REVIEW QUESTIONS

1. What are some of the reasons you should not offer conclusions regarding the facility's compliance status while on site ?

   - You have not had time to conduct a complete and comprehensive analysis.
   - A case development officer has not yet analyzed the inspection report. Any conclusion you draw may prove to be unfounded and could compromise later compliance decisions.
   - EPA-administered statutes and regulations do not usually lend themselves to simple or quick assessments.
   - The inspection findings may represent only a portion of a larger enforcement case, about which you may not have complete information.
   - If the facility is informed later that the inspection substantiated a violation, and you had stated previously that there were no violations when you left the premises, the facility may question the final assessment.
   - Final judgments on statutory violations are the province of the EPA's enforcement attorneys.

2. What is the difference in authority between NCSC employees and Federal EPA inspectors regarding confidentiality claims?

   NCSC employees are not allowed to view TSCA CBI.

3. What are some of the reasons that compliance assistance or outreach activities are an important part of an EPCRA Section 313 inspector's duties?

   - An EPCRA inspector may be well positioned to convey information about the regulations and how they impact a particular facility.
   - An inspector can raise the facility's awareness of EPCRA Section 313.
   - Having just completed an inspection of the facility, an inspector can provide firsthand insight into specific areas of compliance concerns.

EPCRA SECTION 313
INSPECTOR TRAINING MANUAL

Module VI

Post-Inspection Activities

MODULE OBJECTIVES

At the end of this module, students will be trained to:

- Identify appropriate follow-up activities.
- Distinguish between acceptable and unacceptable reports, according to the criteria listed in the Interim Final EPCRA Section 313 Data Quality Inspection Manual.

CONTENTS

Module VI contains:

- Lesson 14: Follow-up Activities
- Lesson 15: Report Writing

Lesson 14

Follow-up Activities

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INTRODUCTION

Purpose

There are three components to the post-inspection phase. As an EPCRA Section 313 inspector, you will be responsible for two of those components: inspection follow-up and writing the inspection report. The third component is case development, which is usually handled by a Case Development Officer (CDO). Effective case development is dependent on many aspects of the inspection process. However, it is your thorough analysis of the documentation collected and writing an effective inspection report that enables and supports effective case development of suspected EPCRA Section 313 violators. This lesson specifically focuses on the review of inspection documentation, analysis of that documentation, and how to fill in any remaining information gaps before you begin writing your inspection report.

Objectives

- Discuss appropriate follow-up activities.
- Given a scenario, conduct follow-up activities.

CONDUCTING FOLLOW-UP ACTIVITIES

The effectiveness of a EPCRA Section 313 non/late reporter and data quality inspection is dependent on many factors, including:

- Thoroughness of inspection
- Evidence collected during targeting, pre-inspection, and on-site inspection
- Cooperation from the inspected facility

However, critical to the success of the entire inspection process, are the two components that directly follow the inspection itself:

- Conducting follow-up activities helps to ensure that any outstanding questions or data discrepancies are answered and resolved and contribute to a more detailed and thorough inspection report.

- Preparing an inspection report that clearly states the inspection findings. This report will aid CDOs in making informed enforcement decisions.

The four major steps in follow-up activities are:

- Documentation Review
- Additional Information Requests
- Data Analysis
- Recalculations

Although a clear and concise inspection report is a necessary document for EPA to support enforcement action against facility violations, the follow-up activities that precede the inspection report are critical for establishing the facts for that document. Your thorough review and analysis of documentation collected during the targeting, pre-inspection preparation, and on-site phases of the inspection process are the precursor to preparing an effective and enforceable inspection report. Your review and analysis will determine discrepancies in the facility's reports or establish the facility's need to report.

Additionally, analysis will identify any information gaps or processes you will need to verify by either contacting the facility, or conducting additional research to fill in the absent or unclear data. The following sections will present you with the recommended activities involved in conducting effective follow-up activities.

Documentation Review

Before analyzing the inspection data, you should thoroughly review the information collected during all previous phases of the EPCRA Section 313 inspection process. Take note of any obvious data discrepancies or gaps in knowledge, inspection processes, or timelines. To find these gaps and discrepancies, examine the following materials:

- Field notebooks
- Checklists
- Facility documents
- Completed inspection forms
- NOIs and Receipts for Samples and Documents

- Sketches of flow diagrams and process lines
- Statements by facility officials

When you discover gaps in your data that will affect your analysis, contact the facility and request the additional information or documentation you need.

Additional Information Requests

If you discover gaps or discrepancies that could affect the quality of the inspection report, the information needed to fill those gaps may be requested from the facility by:

- Telephone call
- Written request with an attached return timeframe (usually 30 days)
- Follow-up visit

Telephone Call. The easiest way to request additional information and documentation is to call the designated contact official at the facility and request it. Provide the official with a list of the documents you need and request that they be sent to you within a thirty-day timeframe. It is a good idea to keep a log of your telephone communications that includes the person you spoke with, the date, and a brief description of the conversation. This information will become part of the inspection report. In some cases, the information you need can be obtained verbally. Whether you need written documentation of this information is left up to your judgment. That determination should be based on the importance of the information and its relationship to the enforcement of a violation. Telephoning the facility directly is generally the quickest way to obtain additional information.

Written Request. A written request serves the same purpose as a telephone call. However, it is a more formal way of requesting information and may be the most appropriate method of contact if the inspection process had been tense or uncooperative. A defined timeframe should also be included when requesting additional information and documentation by mail. Consider that writing to the facility usually takes longer than a request by telephone.

Follow-Up Visits. Additional visits to a facility are rare. However, if the information you need can only be obtained through observation, scheduling another visit is appropriate. This method should be avoided when at all possible, because it is time-consuming and again interrupts the facility's daily operation.

Subsequent contact with a facility can be used not only as a means to obtain remaining relevant inspection documents, but also as an opportunity to answer any outstanding questions that the

facility might have regarding your inspection. This will help build rapport with facility officials. However, do not forget that your main focus is obtaining the necessary information that will fill in the existing information gaps that you identified from the material already obtained from EPA records and/or the facility.

In actuality, the closing conference is the best time to request additional information from the facility; however, most discrepancies and information gaps are identified once you begin reviewing and analyzing the inspection data.

Data Analysis

Once you have gathered all of the necessary documentation, it is time to start analyzing the data. There are a couple of different methods of analysis that are used. The first is to compare the documentation gathered during the pre-inspection phase to the information collected during the on-site inspection. This will isolate any reporting discrepancies, as well as identify chemicals that should have been reported to the EPA, but were not. There should be a Form R for every EPCRA Section 313 chemical that exceeds the threshold criteria. Additionally, you should have information on the facility processes. The second method is to recalculate all threshold determinations and release and other waste management activity quantities estimations, compare them to the data collected during the facility tour, and then compare them to the releases reported on the Form R.

Recalculations

There are two areas in which you may need to perform recalculations:

- Threshold determination
- Release and other waste management activity quantity estimation

There are several different ways that a facility can miscalculate their threshold determinations and four different ways they can calculate their release estimations (see Lesson 12). These calculations can take time that is not always available during the on-site inspection. Sometimes you will need to recalculate an estimate using all four methods for release estimations to determine if the facility used the correct method.

Because time on site is limited, it is easier to perform your recalculations during the follow-up activities. This ensures that they are analyzed carefully and that you will not be rushed. Also, you then have the opportunity to compare your calculations with what was reported on the Form Rs submitted by the facility to the EPA.

EXERCISE

Refer to Attachment 14-1 in your manual. The objective of the exercise is to determine if additional information or documentation is needed to prepare an effective inspection report. Also, if additional information is needed, determine what in particular is required and determine how you will go about getting it. You have 15 minutes individually or as a group to review and analyze the data. Then write down your determinations and method for obtaining the needed information. Finally, determine what you will do if the facility does not respond to your request. Refer to Attachment 14-2 for possible answers to this exercise.

SUMMARY

This lesson presented the activities that are necessary for you to conduct after an on-site inspection has been completed. These follow-up activities are extremely important, because this is your opportunity to analyze the documentation collected. This is what becomes the basis for the inspection report, which supports possible enforcement against a facility. Keep in mind that there may be rare situations where, after conducting an inspection and follow-up activities, EPA concludes that a facility is not subject to the EPCRA Section 313 reporting requirements (see Attachment 14-3 for a model letter developed by Region 10 for this situation).

REVIEW QUESTIONS

The answers to these review questions may be found in Attachment 14-4.

1. What are two of the most critical components of the inspection process?

2. What are the main purposes of documentation review?

3. What are the three ways in which to contact the facility?

4. Of the three methods of contact, which is used the most and why? Which is used the least and why?

5. What is the objective of data analysis?

6. Why is it more efficient to perform recalculations of threshold determinations and release estimations during follow-up activities?

ATTACHMENT 14-1

LESSON 14 EXERCISE: FOLLOW-UP ACTIVITIES

(Two Pages)

Lesson 14 Exercise:
Follow-up Activities

INSTRUCTIONS: Read the following scenario carefully. Inspect the list of documents and information collected by the inspector up to this point. You are to identify gaps in the information and determine whether or not you require additional information and/or documentation. If further contact with the facility is required, based on your needs, determine the most appropriate way to obtain the additional materials, and be prepared to explain why you made that choice.

You are an EPCRA Section 313 inspector who has recently finished an on-site inspection at Zeus, Inc. This is a medium-sized furniture manufacturing facility located on the Chester River on the eastern shore of Maryland. The facility was reported to you by local fishermen who work the river and have observed a slight increase in the number of dead fish in the area, but more importantly, in their catches, they have noticed that some of the fish have an unusual color. The fishermen are not sure, but they suspect that Zeus could be illegally dumping materials into the Chester River.

Once you received this tip/complaint, you proceeded by conducting the facility research involved in targeting and pre-inspection activities. EPA records show that Zeus, Inc., because of its SIC classification, has been subject to EPCRA Section 313 reporting for the past five years. Additionally, EPA records indicate that Zeus, Inc. has submitted Form Rs on all of the EPCRA Section 313 chemicals used during each of those years. The EPA has never suspected the company of a violation based on those reports.

Two weeks prior to your inspection, you called to inform Zeus of your intentions to inspect their facility and to try and set up a convenient time to do so. The facility official was very pleasant and helpful in making the arrangements.

At the time the inspection arrangements were made, you, a Federal inspector, were the only inspector scheduled to arrive at the facility. However, on the day of the inspection, your supervisor requested that Harry, a new, uncredentialed NCSC employee, accompany you. Your supervisor thought that since the inspection was generated from a tip/complaint, that it would be a good experience for the NCSC employee to observe.

When you arrive at the facility, the friendly official is not quite as happy to see you **and** your companion. He is reluctant to let you or Harry in because of Harry's not yet official status. After a twenty minute explanation of Harry's role in the inspection, the facility official consents to the inspection, but is still a little miffed.

You proceed with your opening conference and facility tour activities as with other inspections.

Listed below are the documents that you collected during the targeting, pre-inspection, and on-site phases.

Targeting	Pre-Inspection	On-Site
• TRIS printout • County Business Patterns	• Form Rs from the most current year and previous reporting years • Facility's compliance history • Other EPA Program reports (e.g., TSCA, Emergency Response Notification System [ERNS]) • Operating Permits	• Form Rs dating back three years • Process flow diagram(s) • Waste treatment and pollution control devices • Storage practices • Housekeeping practices

ATTACHMENT 14-2

ANSWER TO LESSON 14 EXERCISE: FOLLOW-UP ACTIVITIES

(One Page)

Answer to Lesson 14 Exercise: Follow-up Activities

INSTRUCTOR NOTE: Below are possible, but not all potential answers for this exercise. Point out additional correct answers that may be discovered.

Possible Answers

Pre-Inspection:

- Past and present operations and production levels
- General facility information
- Physical layout of facility
- Tier I & II Reports

On-site:

- Disposal methods
- Uses of each EPCRA Section 313 chemical

The inspector should contact the facility by phone and request the information. Because the facility official remained cooperative throughout the inspection, he will most likely be helpful when contacted again. There is no need to visit the facility again.

ATTACHMENT 14-3

MODEL LETTER FOR DETERMINATION THAT FACILITY IS NOT SUBJECT TO EPCRA SECTION 313

(One Page)

Reply to
Attn Of: WCM-128 _____date_____

_____
_____
_____
_____
_____

Dear_____

This concerns the _____DATE_____Environmental Protection Agency (EPA) inspection performed by Mr. _____ at _____Inc.,_____ City_____,_____State_____. This inspection was carried out to determine compliance with the Toxic Chemical Release Inventory Reporting regulations adopted by EPA pursuant to Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986.

Based on a review of the documentation and information that your firm provided during/after this inspection, your facility appears not to be subject to the Section 313 annual release reporting requirements under 40 C.F.R. Part 372 for calendar years 199__ through 19__.

However, your facility may be subject to the reporting requirements for future years, depending on activity and level of production and employment. Therefore, you should ensure that you are familiar with these requirements and consult with us if you have any questions.

Please note that all records which you provided during the inspection will be kept on file in this office. Thank you for your cooperation.

Sincerely,

Christina Colt
Program Manager
Toxics Release Inventory

ATTACHMENT 14-4

ANSWERS TO LESSON 14 REVIEW QUESTIONS

(Two Pages)

ANSWERS TO LESSON 14 REVIEW QUESTIONS

1. What are two of the most critical components of the inspection process?

   - Follow-up activities
   - Writing of the inspection report

2. What are the main purposes of documentation review?

   - To identify any obvious information gaps in data collected throughout the inspection process
   - To note any potential errors that may result in data quality or non/late reporter violations

3. What are the three ways in which to contact the facility?

   - Telephone call
   - In writing, specifying a return timeframe for the information
   - Additional on-site visit

4. Of the three methods of contact, which is used the most and why? Which is used the least and why?

   - The telephone call is the quickest method of obtaining additional documentation, because often, information only needs to be clarified. The telephone call is the most productive means of getting the information if additional documents must be collected and a good rapport has been established with facility officials.
   - The least frequently used method is the additional on-site visit. In general, the first on-site visit is sufficient for observing the facility's processes; however, there are occasions where an additional visit may be the only solution to filling your information gaps. This method is also the most time-consuming and expensive of the three.

5. What is the objective of data analysis?

   To compare and contrast all of the inspection data and outline that data so it can be presented objectively in the written inspection report.

6. Why is it more efficient to perform recalculations of threshold determinations and release estimations during follow-up activities?

Recalculations can be time-consuming, and you only have a limited amount of time while onsite.

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15-1 LESSON 15 EXERCISES 1 AND 2: SAMPLE INSPECTION REPORTS ... L15-A1-1

INTRODUCTION

Purpose

This lesson will enable you to write an inspection report that is accurate, objective, and relevant. It will also enable you to identify acceptable and unacceptable characteristics of an inspection report. The purpose of an inspection report is to present a complete and factual account of the inspection process. An effectively prepared report will ultimately save time for you and the CDO. If the report is not complete and factual, time may be wasted gathering supplemental information. The report also provides a permanent record of the results of the inspection.

Your inspection is not finished until the report is complete. Additionally, unless the report is prepared timely, objectively, and accurately, it may not be adequate to either refresh your memory or save as admissible evidence in court.

Objective

- Given examples of inspection reports, distinguish between acceptable and unacceptable reports according to the criteria listed in the Interim Final EPCRA Section 313 Data Quality Inspection Manual.

ELEMENTS OF AN EPCRA SECTION 313 INSPECTION

It is suggested that the following information should be included in every inspection report to ensure that the CDO will have all of the information necessary to make the correct enforcement decision.

Title Page

The title page should include:

- The name and address of the facility inspected
- The date the report was written
- The name of the inspector(s) writing the report

Index

The index should list all of the major portions of the report and the page on which they appear.

Facility Information

The section containing information about the facility should include:

- Company name, address, and telephone number
- Parent company name and address (if applicable)
- Primary SIC code and D&B number
- Type of facility
- Number of employees
- Threshold quantities of listed EPCRA Section 313 chemicals
- History of violations/receipts of NONs, NOSE, and/or NOTEs

Inspection Information

This is the narrative portion of the report. The narrative report should be a concise, factual summary of observations and activities. It should be organized in a logical, legible manner and supported by specific references to accompanying evidence. Specific steps for writing the narrative portion of the inspection report will be discussed later in the section of this lesson entitled, "Writing an EPCRA Section 313 Inspection Report."

The information to be included in the narrative section includes:

- Inspector name
- Date of notification
- Date, time, and type of EPCRA Section 313 inspection
- Accountable facility official's name, title, and phone number
- Other contributing facility representatives

- Reason for inspection
- Physical and operational description of facility
- Compliance with entry and inspection procedures
- Chronology of actions during the inspection
- Factual observations
- Deviations from the inspection plan, if any

Evidence and Exhibits

All evidence and exhibits are to be referenced and explained in the narrative portion of the report. Evidence would include:

- Notification letter, if used
- NOI
- Receipt for Samples and Documents
- Inspection plan and inspection checklist
- Facility documentation supporting an estimate of releases and other waste management quantities
- Process flow diagrams

Summary

The summary of the report should include:

- Type of inspection conducted
- Priorities of the inspection
- Preliminary identification of potential violations

Although the lists above are ideal, the information may not always be available. However, the following list is what information the CDO must have minimally:

- Number of employees
- SIC code
- Sales information for the reporting year in question
- Pounds/year of each Section 313 chemical
- How the chemical is manufactured, processed, or otherwise used
- Filed/reported or not reported

ESSENTIAL CHARACTERISTICS OF AN INSPECTION REPORT

The characteristics of an inspection report are:

Fairness

An inspection report must be entirely objective, impartial, unbiased, and unemotional. Avoid distortion by being aware of the emotional tone of words. For example, compare "planning" and "scheming." Do not include rumors or gossip unless it is relevant to the inspection and is clearly identified as hearsay. Do not mention a person's race, religion, or political persuasion unless it is material and relevant.

An effective way of conveying facts without distortion is to put them in the words of the witness (for example, John Jones said, "I saw. . . "). Be sure to quote exactly.

Accuracy

Be exact and avoid exaggerations. Omit opinions, conclusions, and inferences. For example, do not state that something was obvious; just state the facts. Report facts clearly so that no interpretation is necessary and do not allow inferences to replace facts. Avoid superlatives, such as "most," "best," "worst," and "very. " Accuracy means truthfulness. An exaggeration, opinion, or any other inaccuracy found in the report will cast doubt on the accuracy and objectivity of the entire report.

Completeness

Include all information that is relevant and material. All known facts and details should be reported, either in the narrative report or in an exhibit, so that no further explanation is needed. Include in the narrative report only those parts of exhibits that are material to the inspection and give the reader a complete understanding of the compliance matter involved. For example, if you have a statement that is five pages long, and the relevant information is on page two, just reference page two as the exhibit.

Always report the source of evidence. Explain how an interviewee acquired the knowledge you are reporting and how you obtained the information.

Submit original or duplicate copies of statements, affidavits, correspondence, and other documents as exhibits to the narrative report. Consecutively number exhibits in the order they are mentioned in the narrative report. If duplicates, make sure that they are legible to the CDO.

Test the report for completeness by ensuring that it answers the questions who, what, when, where, and why.

- Who - Identify all individuals, the first time they are mentioned in the report, by their first, middle, and last names, as well as by a brief descriptive phrase.
- What - Clearly present what happened, not what could have happened, or what someone thought might have happened.
- How - Clearly indicate how it happened.
- When - Clearly state the order of occurrences, accompanied by the date and time of the occurrence. It is better to put the time and date first or last in a sentence, not in the middle, to attract more attention.
- Where - Identify the location of the occurrence clearly so that no confusion or misinterpretation is possible.
- Why - Present the facts that impact the issue of intent with clarity so that there is no need for conclusions or opinions within the report.

Conciseness

Avoid all words and phrases that are elaborate or not essential, but do not omit facts, details, and necessary explanations. Use short sentences and brief paragraphs. Utilize tables for describing a group of items having similar characteristics. Write plainly and use active verbs whenever possible. Avoid repeating the same material in several sections of the report.

Clarity

Write the report clearly to avoid misinterpretation. Whenever possible, use quantitative rather than qualitative descriptions. Each sentence, paragraph, and division must represent a unit of thought.

Avoid the use of the pronoun "it" and the word "there" as substitutes for a precise word selection. For example, state that "changes have been made" instead of "there have been changes. " Use specific and concrete statements instead of general or abstract expressions. An example of this would be: "I saw three men dumping a yellow liquid into the sewer in the northeast corner of the property," instead of, "I saw some guys dumping stuff."

Repeat a word or phrase if doing so is necessary for clarity. Remember that the purpose of a report is to communicate clearly, not to entertain. For example, use "The facility official signed the Notice of Inspection and the Receipt for Samples. The Notice of Inspection was completed appropriately, but not without discussion," instead of, "The facility official signed the Notice of Inspection and the Receipt for Samples. It was completed appropriately, but not without discussion."

Punctuate to make the meaning easy to understand. For example, note the difference between the following sentences:

- The supervisor said the employee is a blockhead.
- The supervisor said, "The employee is a blockhead."
- "The supervisor," said the employee, "is a blockhead."

Finally, include diagrams and maps in notes and the final report when they help to clarify your observations.

Organization

Structure the report to allow logical order and coherence in the presentation of facts. Relate each event to the main idea and to the events immediately preceding it in the report.

Emphasize important facts and events through careful selection and placement of words, phrases, and paragraphs. Do not insert comments to give emphasis. For example, emphasize a sentence by indentation or by making it a separate paragraph. Emphasize a paragraph by leaving margins wider than those of other paragraphs. Emphasize important names, words, or phrases by capitalizing or underlining them. Use these techniques sparingly; otherwise the emphasis is lost.

REVIEW

The basic elements of an inspection report are:

- Title page
- Index
- Facility information
- Inspection information
- Evidence and exhibits
- Summary

The essential characteristics of an inspection report are:

- Fairness
- Accuracy
- Completeness
- Conciseness
- Clarity
- Organization

EXERCISE 1

Review sample EPCRA inspection reports included as Attachment 15-1. Compare actual reports to the criteria for reports identified in this lesson. Identify which reports are acceptable and/or unacceptable according to the report criteria. Also identify if there are any particular strengths and weaknesses in the writeups. Discuss your findings with the group.

WRITING AN EPCRA SECTION 313 INSPECTION REPORT

Organizing the Writing Process

The following are steps for developing a report. Think of the word POWER when writing a report: Plan, Organize, Write, Evaluate, Rewrite.

Plan. The first step in writing your report is to determine your objective. In other words, what is the purpose of the report?

Prepare a detailed topic outline, including a brief reference to each supporting exhibit. Such an outline reduces the chance of omitting necessary facts, assists in recognizing irrelevant details, and assists in achieving a logical arrangement.

Organize. Arrange the supporting materials (field notes, checklists, statements, and so on) in the order of the topic outline. From this material, refine the topic outline and build the body of the report.

Write. Refer to your office's directives and official sample reports to determine the format for the report. Be willing to revise the topic outline to improve structure and clarity.

Use a simple writing style. Use an active, rather than passive approach (for example, "He said that. . . " rather than "It was said. . . "). Keep paragraphs brief and to the point. Avoid repetition of ideas.

Evaluate. Analyze the report from the perspective of the CDO and answer the following questions:

- What is the report trying to communicate?
- Has it fulfilled the purpose of the inspection?
- Can reviewers make correct decisions based on this report?
- Does it answer the questions who, what, when, where, why, and how?
- Are any further inquiries necessary?
- Is it readable?

- Is it fair, concise, complete, accurate, and logical?
- Is any part ambiguous?
- Does it provide a sound basis for legal action?

Also, proofread the report for inconsistency, repetition, inappropriate tone, omission of important information, and typographical errors.

You may want to put the report aside and review it yourself after a day or two, or you may choose to have a colleague review the report.

Rewrite. Rewrite or revise the portions of the report that do not answer the questions used in the evaluation.

Developing a Narrative Report Outline

The narrative report outline consists of the following components:

- Introduction
- Inspection activities
- Attachments

While the specific information will vary, the following outline can be adapted to most report writing situations.

Introduction. Briefly present all relevant background information about the inspection and summarize the findings of the inspection in the introduction.

- General Information
  - State the purpose of the inspection and why the facility is being inspected (that is, data quality or non/late reporter) and state the facts of the inspection, including the date, time, location, and so on.
  - Introduce the EPCRA Section 313 and facility participants in the inspection. Include the complete name and a brief descriptive phrase about each person's role.

- History of Facility
  - Give the size of the organization based on your observation or EPA records. List any related firms, subsidiaries, branches, and so on. List the type of operations performed at the facility. List the names and titles of facility officials interviewed and the name(s) of the official(s) responsible for day-to-day operations at the facility.
- Summary of Findings
  - Give a brief, factual summary of the inspection findings.

Inspection Activities. Present the chronology of the inspection in the same order the inspection was conducted. Include all observations and cover the following topics. (Note: If standard operating procedures had been followed precisely, note in the report that standard operating procedures were followed. You do not have to explain the details of each activity, unless an unusual circumstance or deviation from procedure occurred.)

Inspection activities include the following:

- Entry/Opening Conference
  - Describe the procedures used, and any special problems or observations. Summarize the topics discussed.
- Records
  - List the types of records reviewed, noting the reasons for their review and referencing documents that were borrowed or copied. Describe any inadequacies in recordkeeping procedures, or if any information was unavailable or incomplete.
- Evidence Collection
  - Note and reference statements taken during the inspection. Describe and reference photographs taken during the inspection if they were relevant to possible discrepancies. Reference any drawings, maps, charts, process flow diagrams, or other documents made or taken during an inspection.

- Physical Samples
  - Describe the purpose for which any samples were obtained. Include the exact location from which they were obtained, the sampling techniques used, and the exact amount of the material collected.
- Closing Conference
  - Note and reference receipts for samples and documents given to facility officials. Note any recommendations, referrals, and so on made to facility officials.
- Follow-up Activities
  - Give a description of any follow-up activities performed and document them as you would in the original inspection.

Attachments. Attach supporting information to the report to ensure that the CDO has all of the necessary data to completely evaluate the compliance situation. Reference all attachments in the body of the report.

- Index of Attachments
  - Prepare an index of all documents, photographs, and other supporting information to be attached to the report.
- Documents
  - Attach copies of all documents and other evidence collected during the inspection. This would include the checklists, statements, photographs, and so on, collected during the inspection and referenced in the narrative portion of the report. Clearly identify all documents. Substitute descriptive information in cases where documentary support items cannot be easily included.

PROCESS FOR SUBMISSION OF REPORT

Once the report has been developed, it should be reviewed by the EPCRA Section 313 coordinator (or equivalent) from your State or Regional office and then forwarded to the CDO. The CDO will:

- Review the report carefully.

- Determine if a possible violation exists.
- Draft a complaint.
- Begin to develop a case.

Even though your role in the investigation is technically complete once the report has been filed, you should remain available to the CDO to provide clarification on technical and logistical issues, and you should be ready to testify if the case goes to court.

REVIEW

Organize the writing process.

- Plan
- Organize
- Write
- Evaluate
- Rewrite

Develop a narrative report outline.

- Introduction
  - General information
  - Summary of findings
  - History of facility
- Inspection Activities
  - Entry/opening conference
  - Records
  - Evidence collection
  - Physical samples
  - Closing conference
  - Follow-up activities

- Attachments
  - Index of attachments
  - Documents

Process for submitting the report

EXERCISE 2

Choose one of the sample inspection reports in Attachment 15-1. You have approximately 20 minutes to revise the report to incorporate changes that you think will improve the clarity and usefulness of the report. Share your rewritten report with the rest of your group.

SUMMARY

The inspection report is the final activity and one of the most critical components of the inspection process. The report enables the CDO to make informed enforcement decisions. Therefore, it is imperative that the report is complete and factual and accomplishes the following goals:

- Contains all of the components of the report, including copies of relevant forms and documents as appendices, as well as the narrative component of the report referencing forms and documents
- Substantiates each potential violation cited in the report with as much evidence as possible, while ensuring that any documentation is appended and referenced in the narrative portion of the report
- Is written in clear and precise language
- Presents factual and accurate information pertaining to all steps of the inspection process
- Makes only those observations that are based on firsthand knowledge of the facility, because enforcement personnel must be able to depend on the accuracy of all information.
- Includes only information that is relevant to the facility and its compliance with EPCRA Section 313.

ATTACHMENT 15-1

LESSON 15 EXERCISES 1 AND 2: SAMPLE INSPECTION REPORTS

(7 Pages)

INSPECTION REPORT
Emergency Planning and Community Right-to-Know Act of 1986
EPCRA Section 313

1. **Inspection Identification**

Date	Inspector#	Time
5/21/99	1500	10:30 a.m.

2. **Facility Name:**
   Aunt Bea's Dairy Farms

3. **SIC Code:** 2026
   Number of Employees: 100
   Annual Sales: 10 million dollars
   Inspection Notification Date: 5/10/99

4. **Facility Address:** Main Street
   Anywhere USA

5. **Date Prepared:** 6/10/99, 7/14/99

Inspection Targeting

In the late summer/early fall of 1998, EPA Inspector Joe Smith conducted a survey of dairy farms to evaluate compliance with EPCRA Section 313. As part of this evaluation, he contacted Aunt Bea's Dairy Farms located in Anywhere, USA, in September 1998. There are no Form Rs for Aunt Bea's Dairy Farms in the Toxics Release Inventory System. Joe Smith spoke with Bill Jones, plant manager, who confirmed that the plant:

* has 100 full-time employees
* falls within the SIC code range for TRI
* uses toxic chemicals

According to Dun and Bradstreet, Aunt Bea's Dairy also operates a milk processing facility (SIC code 2026) on Poplar Ave. in Someplace, USA.

On-site Inspection

On 5/21/99, the EPA inspection team comprised of Joe Smith and Bob Evans drove to Anywhere to conduct the inspection. The facility is located in a rural area and the team did not see any residences within the immediate area.

The EPA inspection team met with Bill Jones, the Chief Engineer. Mr. Jones said that Aunt Bea's Dairy currently operates only one processing plant. The facility used to own a milk processing facility in Someplace, USA, which shut down two years before. Mr. Jones said that

there are 6 dairy farms that provide milk to the plant and numerous distribution centers. There are no slaughterhouses associated with the dairy farms.

The facility is broken into two plants: A & B. Plant A produces fluid milk, orange juice, and fruit punch, and operates Sunday, Monday, Wednesday and Thursday for 24 hours/day. Plant B produces powdered milk and butter, and operated 24 hours/day, seven days/week. In each plant, there is a 16,000 pound capacity refrigeration unity using anhydrous ammonia (see below for more information).

Site Tour

There are three broilers, 2 operating at 500 Hewlett Packard (HP) and one at 600 HP. The boilers use evaporated water from the condensed milk process, known as "cow water". There are 700 ton capacity cooling towers, but not in quantities that would trigger TRI thresholds. The plant generates 12 million gallons of wastewater per month, and 7 million gallons of the total are cow water.

The plant is cleaned through a Cleaning in Place (CIP) system. Cleaning occurs throughout the facility nearly 24 hours/day. In Plant B, there is a central CIP room, and cleaning solutions are transferred in pipes through Plant B and to a CIP in Plant A. From the CIP room in Plant A, the cleaning solutions are again transported in pipes. Cleaning solutions can be transported at a rate of 120 gallons/minute. Four types of cleaning agents are run through the pipes in sequential order: (1) Nitric acid solution, a caustic wash (which Mr. Jones said did not use TRI listed chemicals), (2) Acid 555, which is comprised of phosphoric and nitric acid, (3) Acid 400, which is primarily phosphoric acid, and (4) a pasteurized water rinse. Before 1994 or 1995, the facility used chlorinated water to rinse out the cleaning solutions; however, chlorine is hard on the pipes and the facility switched to pasteurized water instead. The pasteurized water and residual cleaning solution are sent to the city sewer. The trucks are cleaned using a similar four-part system.

There is a 16,000 pound refrigeration unit in Plant A and another in Plant B. Plant A's unit is not "tight" and requires periodic recharging. Plant B's refrigeration unit is a "tight" system and does not require frequent recharging. There are also refrigeration units in the trucks that use Freon.

Records Request

At the conclusion of the plant inspection, we asked Mr. Jones to provide purchase records, use records, and MSDS for any TRI-listed chemicals exceeding use thresholds for 1993-1997. We also asked for copies of purchase or use records and MSDS for chlorine for 1993.

Data Review

Aunt Bea's provided purchase or use records and MDSDs for TRI chemicals exceeding use thresholds. The facility also provided Form R worksheet for all TRI chemicals, whether or not thresholds were exceeded. All of the chemicals were otherwise used. Below is a summary of the

findings for chemical use exceeding the 10,000 pound otherwise use thresholds for the years 1995 through 1997.

Aunt Bea's Dairy

	Phosphoric Acid	*Nitric Acid*	*Ammonia*
1995	65791	27522	10189
1996	129450	42571	15289
1997	96230	78823	20057

Inspector Signature Date Signed Page___of____

EPA SECTION 313 INSPECTION REPORT

FACILITY NAME:	**Port General, Inc.**
FACILITY ADDRESS:	111 West Pier Street Walla Walla, WA 97215
MAILING ADDRESS:	P.O. Box 9999, Walla Walla, WA 97215
TELEPHONE NUMBER:	(492) 582-9999
DATE OF INSPECTION:	July 28, 1993
INSPECTOR:	John Mathews
REPORT PREPARED BY:	John Mathews

FACILITY BACKGROUND:

Port General is a private company engaged in the repair and renovation of large ocean going vessels (tankers, cargo vessels, fish factories). The firm occupies property leased from The Port of Walla Walla to perform work and relies on the Port for large dry dock facilities. These resources are time-shared with competitors in an immense and very impressive environment. Many of the vessels brought to Port General approach or exceed 1000 feet length.

INTRODUCTION:

This firm was inspected on July 27, 1993 to determine facility compliance with EPA regulations concerning Toxic Chemical Release Reporting under 40 CFR Part 372. The operation was inspected using a Neutral Administrative Inspection Scheme which prioritizes non reporters. Port General, Inc. was represented by Jim Smith, Manager of Planning and Davey Jones, safety and environmental specialist. EPA was represented by John Mathews.

The company had been first contacted by telephone on July 9, 1993 to determine compliance with the rule. An inspection was scheduled for August 27, 1993.

SUMMARY OF FINDINGS:

It was determined that Port General has never reported under the EPA act in question. The facility meets the prerequisites of required reporters and exceeds threshold reporting as outlined below. Furthermore a administrative procedure to identify in use Section 313 sensitive chemicals was not in place. Efforts to relate reportable chemicals and the MSDS that explain them were started after my original contact and announced inspection. (See breakdown under **Record Review**)*

OPENING CONFERENCE:

The inspection began at 10:00 am. Mr. Smith advised that Davey Jones had just been assigned the EPA and safety responsibilities for Port General. An overview of SARA and Section 313 was covered and a variety of information was supplied to assist in constructing a reporting foundation.

Records were available for review at the initial meeting but not organized to accommodate reasonable inspection. The company acknowledged a reporting responsibility but had done nothing to date. In fact it was this inspection by the EPA that started a concerted effort by Port General to unite purchasing, EPA, and MSDS files to generate a cohesive reporting center. Henceforth Section 313 purchases will be automatically flagged and accrued.

Administration of the requirements is complicated by the very high percentage of TRI materials (70%) supplied to the company by ship owners. Port General had interpreted all outside supply sources as exempt from reporting requirements. It was emphasized that EPA does not distinguish this supply arrangement from any other Section 313 purchase and threshold testing must include customer supplied materials.

RECORD REVIEW

The SIC Code assigned to Port General is 3731 (Ship building and repairing) and represents the sole activity of the company. As explained in several previous sections of this report no system was in place at time of inspection to support this company in meeting Section 313 reporting requirements. Cooperation by the company has placed the following chemicals above threshold levels and reporting documents have been submitted.

RECORD REVIEW (Cont'd)

	Otherwise Use (lbs.)	Threshold (lbs.)
1988*		
Methyl ethyl ketone (CAS 78-93-3)	30,465	10,000
1989		
Methyl ethyl ketone (CAS 78-93-3)	21,548	10,000
1990		
Methyl ethyl ketone (CAS 78-93-3)	30,121	10,000
1991		
Methyl ethyl ketone (CAS 78-93-3)	19,320	10,000
1992		
Methyl ethyl ketone (CAS 78-93-3)	15,451	10,000
Cooper Compounds (Section 313 Category Code N100)	44,434	25,000
n-Butyl Alcohol (CAS 71-36-3)	14,238	10,000
Xylene (CAS 1330-20-7)	31.875	10,000

FACILITY TOUR/SITE EVALUATION:

This is a vast shipyard (refer to attachment H). Employees use bicycles to save time. The tour was conducted from a golf cart and took over two hours to accomplish. Section 313 chemicals can be found in all parts of the yard used for cleaning, degreasing, and painting.

Dry docks approach 1000 ft. lengths, repair departments of 300,000 sq. ft., and all the support structures make this facility difficult and time consuming to inspect. Grounds are well maintained and TRI chemicals are stored orderly with good ventilation and fire protection in place. There is bulk storage in use. A solvent recovery system is inactive at this time. Residual paint and solvent is removed by a recycling contractor.

CLOSING CONFERENCE:

I met with Mr. Smith after the tour. This size of operation is difficult to put into perspective in a five hour concentrated inspection. I agreed to give the company time to isolate from the hundreds of MSDS and purchase order records, the Section 313 chemicals and exercise threshold determinations. They must include substantiated estimates, if necessary, of owner supplied materials.

In a subsequent meeting held August 31, 1993 I received the first draft of work accomplished. The company had progressed to preliminary threshold determinations but owner supplied material was not included. A further extension to October 1, 1993 was granted considering the possible complications involved in this effort.

LIST OF ATTACHMENTS:

A	Inspection Report
B	Notice of Inspection
C	Receipt for Documents
D	Material Safety Data Sheets
E	Purchase/Receipt Records
F	Chemicals summary/Threshold test
G	Flow Chart
H	Company Literature

_____
Date

_____
Signature