



Toxic Chemical Release Inventory Questions and Answers

Revised 1989 Version



Section 313
of the Emergency Planning and
Community Right-to-Know Act
(Title III of the Superfund Amendments
and Reauthorization Act of 1986)

INTRODUCTION

This Questions and Answers document has been prepared to help clarify reporting requirements under 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). Under section 313, facilities that meet all three of the following criteria are required to report releases to the air, water, and land as well as transfers of the chemical in waste to off-site locations of any specifically listed toxic chemicals:

- The facility has 10 or more full-time employees;
- The facility is included in Standard Industrial Classification (SIC) Codes 20 through 39; and
- The facility manufactured (defined to include imported), processed, or otherwise used, in the course of a calendar year, any specified chemical in quantities greater than a set threshold.

Reports under section 313 (EPA Form R) must be submitted annually to EPA and designated State agencies. Reports are due by July 1 of each year and cover activities at the facility during the previous calendar year.

This document has been developed to expedite facility reporting and to provide additional explanation of the reporting requirements. It supplements the instructions for completing Form R. Copies of EPA Form R, instructions for completing the form, and related guidance documents are available from the Section 313 Document Distribution Center, P.O. Box 12505, Cincinnati, Ohio 45212. (A request form is provided at the end of this document for use in obtaining copies of these documents.)

The questions and answers in this document are organized in sections as listed in the table of contents on the following page. Questions that are new to the document this year have an asterisk in front of their number. An index at the end of the document lists question numbers by topic.

To remain responsive to section 313 issues that may arise in the future, this Questions and Answers document will be updated periodically. If you have comments or possible additions to this document, please send them to the Emergency Planning and Community Right-to-Know Information Hotline at the U.S. Environmental Protection Agency, OS-120, 401 M Street, S.W., Washington, D.C. 20460, (800) 535-0202 (or (202) 479-2449, in Washington, D.C. and Alaska).

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I. DETERMINING WHETHER OR NOT TO REPORT: FACILITY

A. Types of Facilities That Must Report

1. What facilities are subject to section 313 reporting?

Section 313 reporting applies to facilities that meet three criteria: have 10 or more full-time employees; are in the manufacturing sector (in SIC major groups 20 through 39 inclusive); and exceed any one threshold for manufacturing (including importing), processing, or otherwise using a toxic chemical listed in 40 CFR Part 372.65.

2. Is a facility meeting the criteria described in question one required to report if they had no releases of the toxic chemicals during the calendar year?

Yes. The requirements for reporting under section 313 are based only upon the industrial classification of the facility, number of employees, and what quantity of a toxic chemical was manufactured, processed, or otherwise used during the calendar year. The amount of toxic chemical released does not affect reporting requirements (except in the case of exemptions for articles). The facility described would report zeros or, NA, not applicable, in the release estimate sections of the form.

3. Must an annual report be submitted by July 1, 1990 for facilities which were in operation part of 1989 but which were closed on December 31, 1989?

Yes. A facility that operated during any part of a reporting year must report if it meets the reporting criteria.

4. Is a facility with SIC code 5161 required to report?

If the primary SIC code of a facility falls outside of the range of 20-39, then the facility is not required to report. A facility with SIC code 5161 is not required to report.

5. Suppose a facility comprises several establishments, some of which have primary SIC codes within the 20-39 range, and some of which have primary SIC codes outside that range. How would this facility determine if it needs to report?

The facility must report if those establishments that are in SIC codes 20-39 have a combined value of more than 50 percent of the total value of products shipped or produced by the whole facility, or if one of those SIC code 20-39 establishments has a value of products shipped or produced that is greater than any other establishment in the facility.

6. Do pilot plants within the SIC classification have to report?

A pilot plant within the appropriate SIC codes would be a covered facility, provided it meets the employee and threshold criteria.

7. Must a Treatment, Storage or Disposal Facility (TSDF) report under section 313?

A TSDF may or may not be subject to section 313 reporting, depending on the activities at the site. The TSDF must determine its primary SIC code based on the various types of activities that occur at the site.

8. An ancillary wastewater treatment plant has taken on the SIC code of a covered facility because it primarily services a covered facility. Does the facility where the treatment plant is located have to report even if the rest of the establishments at that facility are not in SIC codes 20-39?

No, a facility must report only if it meets employee, SIC code and activity criteria. The SIC code criteria are not met by the establishments that represent the major part of the goods and services produced at the facility containing the wastewater treatment plant. Therefore, the facility as a whole need not report. The covered facility producing the waste must report the off-site transfer to the facility containing the wastewater treatment plant.

9. In Alaska, several fish processors have factories on ships. They use ammonia and chlorine in their fish processing operations. Is each ship a "facility" covered under section 313 or is the whole group of ships (assume one company) a covered facility?

A facility is defined as all buildings, equipment, structures, and other stationary items which are located on a single site or adjacent or contiguous sites owned or operated by the same person. A ship is not a facility as defined under section 313. It is not stationary and it is not located on a single site (if it moves to other locations). Therefore the ships should not report even if they are in SIC Codes 20-39.

10. A barge repair facility (SIC Code 3731 - ship building and repairing) cleans barges at their facility by vacuuming out residual chemicals and selling the waste to a chemical recovery company. Must the facility report for the waste? Is it a processor under section 313? What if the waste is not sold?

Because the facility sells the waste, they are processing the chemical. The amount of chemical in the waste sold does not need to be reported as an off-site transfer because off-site transfers for recycling/reuse are exempt from reporting. Releases, from activities such as spills and equipment cleaning, must be reported if the facility exceeds the processing threshold. If the waste is not sold, the facility is not manufacturing, processing, or using the chemical and the waste is not subject to reporting.

B. Employee Threshold

11. Does the full-time employee determination include the hours worked by sales staff whose office is included in the same building as the production staff? This sales staff is not connected with the production facility in any way.

Yes. All employees at a facility, regardless of function or location in a building, count toward the employee threshold determination.

12. Would a facility with nine full-time employees and four part-time employees be required to report under section 313?

The total hours worked by all employees should be reviewed. A "full-time employee" is defined on a full-time equivalent basis of 2,000 labor hours per year. If the total hours worked by all employees at a facility, including contractors, is 20,000 hours or more, the criterion for number of employees has been met.

13. An establishment leases one acre of land adjacent to the reporting facility from a three-acre strawberry farm. The facility imports and repackages methyl bromide for sale and distribution. Does the facility have to include the strawberry pickers when determining whether the 10 full-time employee equivalent criterion applies?

The reporting facility should not tabulate the hours worked by farm workers it does not pay. If, however, the reporting facility actually employs or contracts with these farm workers, then the hours worked on-site by these workers would count towards the 10 full-time employee equivalent.

C. Persons Responsible for Reporting

***14. Who is obligated to report toxic chemical releases for a given reporting year if the facility has changed ownership during the year? Would both owners be obligated to file separate Form R's for that year?**

The owner or operator of the facility on the reporting date, July 1st of each year, is primarily responsible for reporting the data for the previous year's operations at that facility. Any other owner or operator of the facility from January 1st of the data generation year to June 30th of the reporting year may also be held liable. The report submitted will cover the full year. For example, for reports due July 1, 1990, the data generating year is January 1-December 31, 1989.

15. Is the owner or the operator responsible for reporting?

Either the owner or the operator is subject to the section 313 reporting requirements. If no report is received from a covered facility, both persons are liable for penalties. As a practical matter, EPA believes that the operator is more likely to have the information necessary for reporting.

16. Would an owner of a facility who has no knowledge of any operations at the facility be responsible for reporting?

An owner with business interest in the facility, beyond owning the real estate on which the covered facility is located, must report. Neither owners who are part of the same business organization as the operators, nor owners of businesses that contract out the operation of a particular site, are exempt from reporting.

17. Who is the parent company for a 50/50 joint venture?

The 50/50 joint venture is its own parent company.

18. Company A owns a facility which manufactures crude oil. It sells the crude oil to Company B, but the oil is kept in tanks on Company A's facility that are leased to Company B. Who is subject to reporting under section 313?

Since tanks are part of Company A's facility and they are the owner and/or operator of the facility, Company A would be subject to section 313 reporting for any releases from the tanks.

***19. A facility had been operating its manufacturing processes in a leased warehouse. In June, they bought their own warehouse and moved the manufacturing operations there. These two locations are neither adjacent nor contiguous. The company did not shut down or close during this time. How should the facility make threshold determinations and report for section 313?**

The company should consider the locations as two separate facilities because the operations were carried out at two distinctly separate physical sites. Threshold and release determinations should be made for the time during the reporting year that each facility operated. The telephone numbers of the technical and public contacts for the old facility should be the most current numbers, i.e., those at the new site.

20. How would a facility report chemicals in wastes that are treated in waste treatment units that it does not own? For example, if a facility sold a unit that is within its contiguous property to another company, which facility should report?

The facility creating the waste would report the chemicals as an off-site transfer. The treating facility would not need to report unless they manufacture, process or otherwise use the same chemical in excess of the thresholds. In that case, they would report any releases resulting from wastes as part of their total annual releases of the chemical.

21. Must importers/exporters report for materials stored in public warehouses?

Owners or operators of covered facilities must report. If importers/exporters neither own nor operate the warehouse, they would not need to report for that warehouse.

22. A fish processor rents space in a building. The refrigeration system in the building uses ammonia. The building owner supplies the ammonia, runs the refrigeration system, and bills the fish processor based on the amount of fish processed. Must the fish processor report for ammonia? Another business, a frozen food packager, also uses the refrigeration system, but is a separate company from the fish processor.

The owner of the building should report on the ammonia, if the threshold for ammonia is exceeded, since he is operating the system -- he has more than just a real estate interest in the property. Since the facility (both businesses) is in SIC 20-39 and he is operating part of that facility, he should report.

23. Mom and Pop Plastics is a wholly owned subsidiary of a major chemical company which is a wholly owned subsidiary of Big Oil Corp. Which is the parent company?

Big Oil Corporation is the parent company.

D. Multi-Establishment Facilities

24. What is the definition of primary SIC code? How can there be more than one primary SIC code for a facility?

A primary SIC code generally represents those goods produced or services performed by an establishment that have the highest value of production or produce the most revenues for the establishment. The form provides space for more than one primary SIC code because a facility may be made up of several establishments, each of which may have a different primary SIC code.

25. Clarify the application of SIC Codes for facility versus establishment?

The SIC code system classifies businesses on the basis of an "establishment", which is generally a single business unit at one location. Many section 313 covered facilities will be equivalent to an establishment. However, a reporting facility can encompass several establishments located within a property boundary, owned/operated by the same "entity." Therefore, a facility can be a multi-establishment complex.

26. Each establishment of a multi-establishment facility files its own Form R for a toxic chemical. The waste that this multi-establishment facility ships off-site is inventoried on an entire facility basis. To report this waste, does each establishment estimate their percentage of the total waste or can one establishment report the entire waste?

If individual establishments or groups of establishments report separately for one chemical, they must report separately all releases of that chemical. Therefore, in the case cited above one establishment cannot report the offsite transport quantity of a chemical in waste from the entire facility. Each establishment would have to report their percentage of the transfer quantity.

***27. A multi-establishment facility mines ore containing copper. At the mining facility, all the ore is processed through a concentrator. After leaving the concentrator, 20 percent of the product stream is sold, while the remaining 80 percent of the product stream is sent on for further processing, such as smelting and refining. If the facility mines and sells more than it smelts, is it a mining facility? What is the primary SIC code?**

In order to make the facility coverage determination, one must compare the relative value of products shipped and/or produced at the two different establishments (i.e., mining versus the smelting/refining). The value of the product produced at the mining establishment (not in SIC codes 20-39) is the market value of all the concentrated ore produced during the calendar year. The value of products from the smelting/refining establishment (in 20-39) is the value of the products shipped and/or produced minus the market value of the concentrated ore processed to produce the products. In other words, you do not double count the value of the concentrated ore as part of the value of products from the smelting/refining operation. If the "value-added" of refined products is greater than the value of mined/concentrated ore, then the facility's primary SIC code would be within codes 20-39 and would be subject to reporting.

28. Two manufacturing establishments, owned by the same corporation, are divided by a public railroad. One establishment has rented parking lot space from the other establishment, and a walkway was constructed so the employees can go over the railroad tracks to the parking lot. Is this a multi-establishment facility or two separate facilities?

Two establishments owned by the same corporation separated by a railroad constitute one facility for section 313, since they are still physically adjacent to one another except for a public right-of-way. Therefore, reporting thresholds would be determined by the combined chemical volumes processed, manufactured, or otherwise used at both establishments.

29. A facility is filing separate reports for section 313 for each establishment within a facility. How would a transfer of a toxic chemical to another establishment within the facility be reported? (i.e., transfers waste to another establishment that then treats and disposes the toxic chemical).

Inter-facility transfer of wastes would not constitute off-site transport and would not be reported. An establishment need only report releases to the environment and wastes that are transferred off-site from the facility for final disposal.

***30. A food processing establishment in a facility processes crops grown at the facility in a separate establishment. The primary SIC codes should be determined by calculating the value of production attributable to each establishment. How would this facility go about making this determination?**

The facility should subtract the value of the crops grown at the agricultural establishment from the total value of the product shipped from the processing establishment. The value of the crops would be their worth if sold on the open market without further processing. This "value added" approach avoids double counting of products that undergo sequential or additional handling among establishments in the same facility. If the food processing and any other manufacturing establishments have a greater value than the crops production establishment, this is a covered facility that may be subject to section 313 reporting.

31. Is my facility covered by section 313, if the value of laboratory research at my facility is greater than 50 percent of the total value of goods and services produced at my facility?

If the research laboratory is a separate establishment from the manufacturing activities and its SIC code is not between 20 and 39, then the 50 percent test is used to determine if the whole facility is in SIC codes 20-39. In this case, the facility would not be subject to reporting because the primary SIC code is not within codes 20-39. However, if the laboratory is within SIC codes 20-39, because they are "auxiliary" facilities providing research to support manufacturing operations, the facility could be covered by section 313.

32. Is an off-site landfill subject to reporting under section 313 if it a) is not part of a "covered facility" in that it is not contiguous or adjacent to the property of the reporting facility, and/or b) does not fall within SIC Codes 20-39?

A landfill, as a separate facility, is not subject to reporting because it is not in SIC Codes 20-39. However, a manufacturing facility, within SIC Codes 20-39 which meets reporting criteria, must list an off-site landfill (company-owned or not) on the reporting form (Part II of EPA Form R) if they transfer wastes containing the toxic chemical to that landfill for disposal.

33. For reporting year 1988, if a company has a plant in one state which processes 27,000 pounds of methanol and a plant in another state which processes the same amount of methanol, do both plants have to report as "establishments" of a "facility"?

No. The two processing plants are separate facilities because they are not located within the same, or adjacent, or contiguous physical boundary. Thus, their activities are not additive, and neither would report for methanol in 1988 because the processing threshold of 50,000 pounds has not been met by either facility. However, if either facility processes 27,000 pounds of methanol in 1989, it would have to file a Form R for methanol by July 1, 1990.

E. Form R Requirements

34. After contacting Dun & Bradstreet several times to obtain DUNS numbers for several facilities, a consulting firm was told by D&B that they will give out the DUNS number only to the individual facilities. Does the consulting firm have any recourse for obtaining these numbers?

The facility or financial officers may know the number, or may need to call D&B themselves. Company headquarters DUNS numbers are in Dun and Bradstreet reference publications, Reference Book of Corporate Management and Million Dollar Directory, available at some public libraries. Some libraries conduct computer searches of the DUNS Market Identifiers database for a fee to obtain individual facility DUNS numbers. DUNS numbers are also available through online services (e.g., DIALOG). If a facility does not subscribe to the D&B service, a "support number" can be obtained from the Dun & Bradstreet center located in Allentown, Pennsylvania (telephone (215) 391-1886).

35. If a facility does not have a Dun & Bradstreet number but the parent corporation does, should this number be reported?

Report the Dun and Bradstreet Number for the facility. If a facility does not have a Dun and Bradstreet Number, enter NA in Part I, Section 3.7. The corporate Dun and Bradstreet Number should be entered in Part I, Section 4.2 relating to parent company information.

36. If two plants are separate establishments under the same site management, must they have separate Dun & Bradstreet numbers?

They may have separate Dun & Bradstreet numbers, especially if they are distinctly separate business units. However, different divisions of a company located in the same facility usually do not have separate Dun & Bradstreet numbers.

***37. The instructions for completing Form R indicate that the report should only contain SIC codes for manufacturing establishments in Part I, Section 3.5 on page 1. A facility has the option of reporting as an entire facility or as separate establishments, all part of the covered facility. If an establishment filed a separate Form R, what SIC code would be used in Part I, Section 3.5? Would an SIC code be entered for an establishment not in SIC 20-39?**

The establishment completing the Form R would list the SIC code of that establishment. However, if the establishment's SIC code is not within codes 20-39, it can either list its SIC code or enter NA. The instructions do not require the listing of SIC codes outside of the codes 20-39.

38. If you have an NPDES permit, but do not discharge toxic chemicals to surface water, do you have to fill in Part I, Section 3.9?

Yes. This information is part of the facility identification section of Form R and is intended for use in obtaining other information about the facility.

***39. If a facility enters an NPDES permit number on Form R, must it also enter the receiving stream name?**

The NPDES permit number must be supplied whether or not there are releases of that specific reported chemical to surface water. The receiving stream/water body name(s) must be provided on the first page of the form only if the facility indicates release(s) to surface water Part III, Section 5.3 on page 3 of the Form R. The name of the stream should be the same as it appears in the facility's permit.

40. A facility is composed of two separate establishments and is filing two separate Form R's for section 313 reporting. For Part I, Section 3.5, what SIC codes are to be listed?

Enter in Part I, Section 3.5, only the SIC code of the establishment whose data is included in the report. The SIC code for the other establishment of the facility would be included in its own Form R submittal.

41. Our facility operations cover a large area. What longitude should be reported for our facility and how can we locate this information?

Report the latitude and longitude for a location central to the operations for which you are reporting. You may find this information on your NPDES permit. See the instructions for completing Form R (Appendix F) for a detailed description for determining longitude and latitude from USGS maps of your facility location.

F. Chemical Activity Threshold Determinations

42. If a facility buys 10,000 pounds of a listed chemical in 1988 and creates a mixture, for example a metal cleaning bath, and then uses the bath that year and the next calendar year, how do they determine thresholds for both years?

The threshold applies to the total amount of the chemical otherwise used during the calendar year. The facility would count the entire 10,000 pounds and any amount added to the bath during that year toward the otherwise use threshold the first year. The use of this bath during the second year constitutes reuse/recycle of the mixture. Therefore, only the amount of the chemical added to the bath during the second year (1989) would be counted toward the use threshold determination for the second year.

43. A facility knows only the minimum concentration of a chemical in a mixture used in their operations. How should they report?

The facility should use the minimum concentration for threshold and release calculations because this is the best information they have.

44. If you operate a treatment plant as part of remediating a Superfund site on your facility, do contaminants (already there, not being added to) have to be included in calculating thresholds and releases?

Such material is not included in threshold determinations since it is not being manufactured, processed, or used. Release reporting is required if the SIC code, employee number and threshold criteria are met for the chemical. In that event, a release does not include material already in a landfill, but does include any material released to the environment by remedial activity or transferred off-site.

45. Must a facility include welding rods, solders, and the metals being joined during a welding or soldering job in threshold determination?

Yes, however, if no releases occur from the joined metal parts themselves they may be considered articles and only the welding rods or solder must be assessed for threshold purposes.

46. A chemical manufacturer (SIC Code 28) receives other facilities' wastes containing toxic chemicals and disposes of them in their deep well. Does the receiving facility need to report these toxic chemicals?

The receiving and disposing of toxic chemicals would not be factored into a threshold determination because it does not fit any definition of process or otherwise use. However, if the manufacturing facility manufactures, processes or "otherwise uses" the same toxic chemical above the threshold amount, the disposal of other facilities' wastes containing this toxic chemical would be reported as a release on Form R even though the amount of the toxic chemical in these wastes was not included in the threshold determination.

47. If a facility uses a recycle or reuse system, how does it determine the amount that it must consider for threshold determinations?

For recycle or reuse, the amount considered used for a threshold determination is the amount added to the system during the year. If the system is completely empty and is started up during the year, a facility determines the amount used by adding the total amount needed to charge the system to any amount which is added to the system during the year.

***48. A refining facility uses glycols and sends the spent glycols off-site via pipeline to a second refining facility for recycle. This spent glycol stream contains dioxane. The second refining facility recycles the glycols and sends the clean solvent back to the first facility. During the reprocessing, dioxane evaporates to the atmosphere. Is the second facility manufacturing, processing or using dioxane? Is it just treating the chemical and thus should not add it into any threshold determinations?**

The second refinery is neither manufacturing, processing, nor otherwise using the dioxane. It is only disposing of the chemical (i.e., it evaporates as a result of the glycol purification). That dioxane would then not be considered in threshold determinations. However, if for any other reason the second facility met an activity threshold for dioxane, it would need to add in these dioxane releases from the glycol refining process when reporting releases of dioxane.

49. If a facility manufactures 19,000 pounds, processes 18,000 pounds, and imports 7,000 pounds of chemical X during 1989, is it required to report for chemical X?

For 1989, the facility would have to report chemical X because it would have exceeded the manufacture threshold of 25,000 pounds (19,000 (manufacturing) + 7,000 (importing) = 26,000). Note that importing is the equivalent of manufacturing and therefore the amounts must be added together for threshold determinations.

50. Our facility purchases a mixture containing toxic chemicals. We store it and then sell it to our customers without even opening the boxes. Must we report on these chemicals?

Report on toxic chemicals that your facility manufactures, processes, or otherwise uses in excess of the applicable activity thresholds, but do not report on standing inventory. Since you are not manufacturing, processing, or using these toxic chemicals, you do not have to report them.

51. How are warehouses affected by section 313?

A warehouse located within the physical boundary of a "covered facility" is covered for estimating releases. Warehouse contents are not used in threshold determinations, because thresholds are based on manufacture, process, or use (i.e., throughput rather than storage volume). Repackaging at a warehouse is considered processing and the quantities of the toxic chemicals repackaged would have to be factored into facility process threshold determinations for the chemicals.

G. Auxiliary Facilities

52. Are "auxiliary" facilities associated with manufacturing operations in SIC codes 20 through 39 exempt from reporting under section 313?

No. An "auxiliary facility" is one that directly supports another establishment's activities and therefore takes the SIC code of the facility supported. Auxiliary facilities located on separate property must report if they also meet the employee and activity thresholds. Auxiliary establishments that are part of multi-establishment facilities should be included in facility threshold and release determinations. For example, a spill from the warehouse would be included in the covered facility's release quantities.

53. An airplane engine repair shop (generally SIC 7699) owns an "auxiliary" facility at a separate location that does metal plating (generally SIC 3471 -- Plating of Metals and Formed Products). Would the plating facility be exempt?

According to the SIC code manual, this plating facility would not be "auxiliary" but would be considered a separate operating establishment conducting a manufacturing activity. It would, therefore, need to make the employee and activity threshold determinations and report, if appropriate, because it falls between SIC codes 20-39.

II. DETERMINING WHETHER OR NOT TO REPORT: LISTED CHEMICALS

(see also Appendix A: Section 313 Policy Directive #5 -- Chemical Categories)

A. General Questions

54. What list of chemicals is subject to reporting under section 313?

The law defined the list of toxic chemicals. The initial list (with certain technical modifications and revisions) appears in the final rule and in the instruction booklet for completing EPA Form R. EPA, from time to time, has been revising the list. To obtain information on the latest additions or deletion from the list of toxic chemicals, contact the Emergency Planning and Community Right-to-Know Information Hotline.

55. What is the difference between the section 313 list and other EPCRA lists?

Some overlaps exist between lists of chemicals covered by different sections of the law. Section 313 focuses on chemicals that may cause chronic health and environmental effects. The section 313 list was developed from lists of regulated chemicals in New Jersey and Maryland. The EPA "List of Lists" document identifies chemicals that are specifically listed and must be reported under Sections 304 and 313 of EPCRA.

56. Can common or trade names other than those listed in the rule be used for submissions?

No. EPA has provided a list of standard chemical names and CAS numbers for all chemicals which must be reported. The rule requires the use of these standard names. Many Form Rs, submitted previously, could not be processed because unlisted CAS numbers or names were used.

***57. We use a chemical with a CAS number not on the list of section 313 toxic chemicals. There are similar chemicals on the list, but none with the same CAS number. How can I be sure I don't have to report?**

As a general rule, the facility should focus on the available CAS number of chemicals present at the facility and compare them to the CAS number listing of reportable sections 313 chemicals. Be aware, however, that a complex mixture, such as naphtha, has a specific CAS number itself, but may also be composed of listed section 313 chemicals. Therefore, the facility should use all available information at the facility, not just the CAS number, when attempting to identify reportable chemicals in materials. Also, certain specific chemicals (e.g., copper chloride) may not appear in the CAS number list but are reportable under a compound category listing (e.g., copper compounds).

58. How are chemical categories handled under section 313 threshold determinations and release reporting?

All chemicals in the category that are manufactured, processed or otherwise used at a facility must be totaled and compared to the appropriate thresholds. Threshold determination for chemical categories is based on the total weight of the compound. Releases of metal compounds are reported as releases of the parent metal portion of the compounds. If the metal and corresponding metal compounds exceed thresholds, a joint report for metal compounds, including the parent metal, can cover both reporting requirements.

***59. A facility processes aluminum, vanadium, and zinc. These three chemicals are listed under section 313 with the qualifier "fume or dust." Is this processing operation subject to reporting?**

If the processing of these substances generated (i.e., manufactured) any fume or dust during its operation or if the three substances were processed or otherwise used, at any time, as a fume or dust in the operation, the processing would constitute a reportable use of a listed section 313 toxic chemical. The manufacturing, processing, or otherwise use of these substances in fume or dust form would be subject to threshold determinations.

60. If an item on the section 313 list incorporates chemicals with multiple CAS numbers (e.g., nickel compounds), how is the CAS number of the item described?

Do not enter a CAS number in such cases. Instead, enter NA in the space for the CAS number in Part III, Section 1.2 of Form R. The individual chemical members of a listed category are not required to be, and should not be, identified in the report.

61. Do the chemical categories such as nickel compounds include all compounds, even those which have not been associated with adverse health effects? What is the authority for this decision?

The section 313 list established by Congressional legislation included categories. EPA interprets these listings to mean all compounds of nickel for example, regardless of whether specific toxicological problems have been identified for a specific compound in the category.

62. Must releases of listed chemicals used as fumigants be reported if other criteria and thresholds are met?

Yes. Fumigant use would be subject to the 10,000 pound "otherwise use" threshold.

63. Some chemicals released into the environment react to form other chemicals or chemical compounds, for example phosphorus (a listed chemical) oxidizes in air to form phosphorus pentoxide (not a listed chemical). Which should be reported, the transformed chemical or the source chemical? How would the report(s) be prepared if both the source and result chemical are listed?

Report releases of the listed chemical. The facility is not responsible for reporting a chemical resulting from a conversion in the environment.

B. Chemicals in Solution

64. What is the strict interpretation of a sodium hydroxide solution? Does it have to be in solution when it leaves your facility? Should I consider the quantity of the entire solution or just the weight fraction of sodium hydroxide? Why did EPA add the qualifier (solution) to the listing of sodium hydroxide. Should sodium hydroxide pellets be ignored?

Only the actual quantity of sodium hydroxide in the solution should be considered for threshold or release determinations. Congress included the solution qualifier on the section 313 list because this qualifier was used in one of the state lists which served as the basis for the 313 list. Solid forms of chemicals which are listed as solutions should not be included in threshold and release calculations. Solid pellets of sodium hydroxide should not be factored into threshold release calculations. However, if the solid is made into a solution at any point in the process, then it becomes reportable.

65. In determining maximum amount on-site and thresholds, do we count the water in solutions (e.g., NaOH, NH_4NO_3)? Do we count the nonmetal portion of metal compounds?

Exclude the water in solutions. The nonmetal portion of metal compounds is included.

66. Does the qualifier "solution" as used with sodium hydroxide, for example, apply only to aqueous solutions? How would we interpret an aqueous-based slurry such as a drilling mud? What about molten sodium hydroxide?

The qualifier "solution" is not limited to aqueous solutions. For example, petroleum based solutions would also be included. Regarding slurries, NaOH would be dissolved in water in the slurry, and should be considered as a solution. Molten sodium hydroxide is not a solution and is not covered.

C. Chemical-Specific Questions

***67. A facility processes methylenebis(phenylisocyanate) abbreviated MBI. MBI is listed under section 313 with the CAS number 101-68-8. The MBI purchased by the facility, however, has the CAS number 26447-40-5. How should the facility treat this material with regard to section 313 reporting requirements?**

The listed chemical and the purchased chemical are similar but not identical. The purchased chemical is termed by the Chemical Abstract Service as an incompletely defined substance which may contain the listed chemical. The facility must use all available information (e.g., supplier notification information), to identify the amount of the listed toxic chemical present in the purchased material for threshold and release determinations and report for 101-68-8, not the mixture.

***68. Is Xylene (mixed isomers) CAS number 1330-20-7 a specified weight percent combination of m-xylene, o-xylene, and p-xylene? Does the mixture need to contain all three individual isomers or can it contain any combination of two of the isomers?**

Xylene (mixed isomers) is an unspecified mixture that could contain just two of the individual isomers or all three.

***69. Xylene mixed isomers are present in two of a facility's refined products. For Section 313 reporting, may the isomers be reported separately? For a mixture of the isomers, how are thresholds and de minimis to be determined? Reported separately, the facility exceeds thresholds, but is below de minimis concentrations.**

The CAS number 1330-20-7 on the list of Section 313 toxic chemicals is for any combination of the isomers. When the threshold and de minimis concentration for each isomer are exceeded independently, the facility may report separately or as mixed isomers. When the threshold and/or de minimis are not exceeded independently, but are exceeded collectively, they should be reported under the CAS number for mixed isomers.

70. I have hydrochloric acid with a listed content of 100 percent HCl. I know that means 37 percent HCl and 63 percent water - there is no higher concentration made. Which concentration must I use for threshold determination?

You should calculate the HCl content based upon the 37 percent concentration.

***71. A facility neutralizes an acidic waste stream by placing dry sodium hydroxide into the waste stream. Sodium hydroxide is listed on the section 313 list of toxic chemicals as having the qualifier "in solution." In this scenario, if the facility meets the other applicabilities of section 313, would this be considered as an otherwise use of a sodium hydroxide solution?**

The facility is not responsible for reporting sodium hydroxide solution unless the resultant pH of the wastestream is above 9.

72. A facility receives a chemical mixture, 70 percent of which is toluene diisocyanate. Of this 70 percent, the supplier has told them that 80 percent is 2,4-TDI, with CAS number 584-84-9, and 20 percent is 2,6-TDI, with CAS number 91-08-7. The CAS number that appears on the MSDS for TDI is 26471-62-5, which is not on the section 313 list. Should the facility report?

CAS number 26471-62-5 represents the mixture of the 2,4 and 2,6 TDI isomers. Each of these isomers are reportable under section 313. Since the facility knows that the two listed isomers are in the formulation and knows the concentration of each isomer, the facility should report if the individual thresholds are exceeded.

73. Vanadium pentoxide is not explicitly listed under section 313, although vanadium does appear on the list. Are we correct in assuming that we don't need to report for vanadium pentoxide?

Yes. Vanadium is listed only as a fume or dust under section 313. A compound such as vanadium pentoxide is not subject to reporting.

74. For releases of sodium hydroxide (solution) in NPDES effluent discharges within pH 6-9 range, does EPA agree that no reportable amounts are in the pH 6-9 effluent?

Yes, EPA agrees that a neutralized discharge (i.e., with pH between 6-9) contains no reportable amount of sodium hydroxide (solution).

75. Although the category of glycol ethers requires reporting under section 313, I am not clear on whether the glycol ether, diethylene glycol, requires reporting.

Diethylene glycol is not subject to reporting. Glycol ethers, with the following structure, are reportable: $R-(OCH_2CH_2)_n-OR'$, where $n = 1, 2, \text{ or } 3$, $R = \text{alkyl or aryl groups}$, and $R' = R, H, \text{ or groups which, when removed, yield glycol ethers with the structure: } R-(OCH_2CH_2)_n-OH$. R groups for this structure are unsubstituted alkyl or aryl groups. For diethylene glycol, neither R or R' contain alkyl or aryl groups and thus it is not subject to reporting under Section 313.

76. Is dipropylene glycol having a $HOC_3H_6OC_3HOH$ structure considered a glycol ether for section 313 toxic chemical reporting?

Dipropylene glycol is an ether but not a section 313 reportable glycol ether since it has $(OCH_2CH_2CH_2)_N$ instead of $(OCH_2CH_2)_N$ in its structure.

77. I use copper wire in one of my products. I cut it and bend it and then heat seal it into a glass bulb. How do I consider the copper wire for section 313 reporting?

First, the wire would remain an article if no releases of copper (e.g., dusts) occur during manufacture of the glass bulbs. If the wire is not an article, then for an element such as copper, both copper metal and copper compounds are subject to section 313 reporting. First determine the form of the copper in the wire. If it is pure copper wire, the entire weight of the wire must be used. If it is an alloy, the weight percent times the wire weight must be used. If there are copper compounds, the entire weight of each copper compound must be used for threshold determination.

78. Are vinyl chloride, a listed toxic chemical, and polyvinyl chloride, not listed, the same thing?

Polyvinyl chloride is not a listed chemical or a listed synonym of vinyl chloride, and it does not need to be reported. It is a polymer based on the reaction of vinyl chloride. Only "free" vinyl chloride within the polymer should be evaluated for threshold determinations.

79. Are chemical monomers such as acrylonitrile, butadiene and styrene, which are contained in a plastic co-polymer known as ABS, reportable under section 313? The ABS is in pellet form and melted and molded; therefore, it doesn't meet the article exemption.

If the acrylonitrile, butadiene, and styrene are present in an unreacted form in excess of de minimis concentration then they are reportable. Although those monomers comprise ABS, they are probably in the form of another compound and, therefore, are not reportable under section 313.

80. The CAS number for Di-(2-ethylhexyl) phthalate (DEHP) is listed as 177-81-7 on page 4531 of the February 16, 1988 Federal Register. The CAS number for DEHP is also listed on page 4536 of this Federal Register, but is given as 117-81-7. Which CAS number is the correct one?

The correct CAS number for DEHP is 117-81-7.

81. For section 313 reporting, a catalyst contains 61 percent total nickel, which includes 26 percent free nickel and nickel contained in compounds. Should the threshold determination be based on the 61 percent total nickel?

The 61 percent total nickel cannot be used in the threshold determinations. Nickel compounds are a listed category, therefore the full weight of nickel compounds must be used in the threshold determination for nickel compounds. A separate threshold determination is required for the free nickel since nickel is a separately listed chemical under section 313.

82. Asbestos, with CAS number 1332-21-4, is a listed chemical under Section 313. The synonym list does not contain reportable asbestos forms. Our facility uses the following forms of asbestos and would like to know if they are reportable: Azbolen (CAS 17068-78-9), Actinolite (CAS 77536-66-4), Amosite (CAS 12172-73-5), Anthrophyllite (CAS 77536-67-5), Tremolite (CAS 77536-68-6), and Serpentine.

The section 313 listing for asbestos (CAS 1332-21-4) includes specific forms of asbestos, such as those mentioned above, that have their own individual CAS numbers. Therefore, those types of asbestos are reportable as long as they are in the "friable" form.

83. How is the process of removing asbestos from a site reported?

A facility that manufactures, processes, or otherwise uses friable asbestos in excess of an applicable threshold must report asbestos waste disposal (e.g., accumulated asbestos waste pile disposal requires reporting). But a facility that only "uses" the asbestos for piping insulation is not required to report because structural components of the facility are exempt and removing the material does not constitute manufacture, process or otherwise use.

84. Are releases of asbestos from demolition of an old plant reportable?

No. In this case, the asbestos is not being manufactured, processed, or otherwise used. Therefore, no releases of asbestos must be reported unless there are other covered activities involving asbestos at the facility.

85. A product is immersed into a plating bath containing nickel chloride (NiCl). This is done to bond nickel to the product prior to distribution in commerce. Nickel is incorporated into the final product (processed) whereas the chloride remains in the plating bath (otherwise used). Since nickel chloride is reportable under the nickel compound category of section 313, which threshold applies for this situation?

The threshold determination is made based on the total amount of nickel chloride processed and the report will be filed for nickel compounds.

86. 53 FR 4538 describes cyanide compounds as $X+CN^-$ where $X=H^+$ or any other group where a formal dissociation may occur; examples are KCN and $Ca(CN)_2$. Are cyanide compounds that do not dissociate reportable?

Cyanide compounds that do not dissociate are not reportable. Most of the cyanide compounds that dissociate are cyanide salts which are subject to section 313.

III. MIXTURES (see also Appendix A: Section 313 Policy Directive #4 - Compounds and Mixtures)

87. What is the difference between a mixture and a compound?

When a compound is formed, the identities of the reactant chemicals are lost, but in a mixture, the individual components retain their own identity and could be separated again. For example, polyethylene is a reaction product, not a mixture (and is not subject to reporting under section 313). Steel fabricated into its solid form is considered a mixture because the individual metals retain their chemical identity.

88. When a company has a mixture on-site which does not have its own CAS number, what CAS number should be used?

The company should use the best available information at the facility to identify the listed section 313 chemicals in the mixture. A separate report must be filed for each chemical for which the fraction of the chemical in the mixture multiplied by the total weight of the mixture processed or otherwise used exceeds the applicable threshold. The chemicals are treated as if they were present in pure form and each is reported with its CAS number.

***89. For a mixture containing a chemical compound that is part of a listed chemical category, should the weight of the parent material be used in threshold determinations?**

No, the total weight of the chemical compound is used in making threshold determinations.

***90. When should the mixture name field (Part III, Section 2) on Form R be used?**

The mixture name field is to be used only when you know that a mixture you purchase and process or use contains a listed 313 substance but you do not know which chemical (i.e., the supplier keeps the chemical identity trade secret). Use the chemical or chemical category name field (Part III, Section 1.3) in all other circumstances (unless you have a trade secret chemical and are filling out a sanitized version of the form).

91. If a facility only knows the range of concentration of a section 313 chemical in a mixture, are they required to use the upper bound concentration to determine threshold as stated in the February 16, 1988 Federal Register? Use of the average or midpoint of the range will avoid overestimating emissions. If a metal mixture contains a range of 1 to 10 percent of three metals together, how can this information be used to determine thresholds?

The final rule does not discuss ranges, it only says that the upper bound should be used "if the person knows only the upper bound concentration". If a range is available, using the midpoint or average value is reasonable. For the combination of three chemicals, the facility should split the range among the three chemicals based on the knowledge that they have, so the total equals 10 percent. They do not have to assume 10 percent maximum for each chemical.

IV. SUPPLIER NOTIFICATION

92. MSDSs for the solvents we use give trade name or generic names only. Do we have to contact the manufacturer for more information to report under Part III of Form R?

If only a trade name or generic name is known and the presence of a section 313 chemical is known, then that can be reported in Part III. Beginning in January 1989, suppliers will be required to provide the identity of the listed chemical (CAS number and chemical name) and concentration in mixtures. The manufacturer may claim the information trade secret, but must provide a name that is descriptive of the chemical and at least an upper bound concentration in the mixture.

93. By what exact date must supplier notification be done?

A supplier must notify each customer of any toxic chemical present in a mixture or trade name product with at least the first shipment of the mixture or trade name product in each calendar year beginning January 1.

94. Is a facility subject to supplier notification requirements if it distributes products containing more than the de minimis level of a listed metal compound?

Yes, if you distribute these products to other manufacturers or processors, and you are in SIC Codes 20-39, you are subject to the supplier notification requirements. Articles and consumer products are exempt from supplier notification.

***95. Do supplier notification requirements apply only to a situation where the customer is in SIC code 20 through 39 and has more than 10 employees?**

A company is responsible for providing supplier notification to a covered facility within SIC codes 20 - 39 and with 10 or more employees, and to customers who in turn may sell or distribute to a "covered facility." Such a customer may be a wholesale distributor who is not in SIC codes 20 - 39 but sells to other manufacturing facilities.

***96. Are some mixtures of Section 313 listed chemicals exempted from the supplier notification requirements? A mixture, as defined in section 313 regulations, does not include a combination of chemicals produced as the result of a chemical reaction.**

A mixture is defined under section 313 as a combination of two or more chemicals, if they were not combined as a result of a chemical reaction. However, if this combination was formed by a chemical reaction but could have been formed without one, it is also considered a mixture. Any other combination formed by a chemical reaction is not considered a mixture. If a listed toxic chemical is present in a mixture at a concentration below the de minimis level, this quantity of the substance is exempt from Section 313 supplier notification requirements.

***97. Are sales samples covered for purposes of supplier notification?**

Sales samples are covered unless they meet one of the stated exemptions in 40 CFR 372.45(d) of the regulation, such as articles or products distributed to the general public. Such samples are not sold but are "otherwise distributed" by the covered facility. If, however, the sample is a pure covered chemical and is labeled as such, then no supplier notification is required.

98. Does a supplier have to tell a customer that a section 313 chemical is present below the de minimis level (1.0 percent, or 0.1 percent for OSHA carcinogens)?

No. Such information is not required.

***99. Companies are required to notify their customers of the presence of listed toxic chemicals in the products sold to them, regardless of the volume of those chemicals. Why are there no supplier notification thresholds for section 313?**

No lower limit was placed on the quantity of toxic chemicals because EPA cannot predict what combination of products in what volumes will trigger a threshold for any given user/processor of mixtures and trade name products.

***100. A company that makes conveyors for airlines also sells small cans of spray paint to them for use in touch-ups of the paint on the conveyors. The paint is not distributed or used by the general public. Is the company exempt from section 313 supplier notification under the consumer product exemption because the paint is packaged and used like a consumer item?**

No. The exemption does not apply because the paint is not packaged for distribution to the general public.

101. Is supplier notification required for distributors in Standard Industrial Classification (SIC) major group 51 which do not manufacture or process any listed toxic chemicals for mixtures containing toxic chemicals?

Distributors in SIC major group 51 which do not manufacture or process a toxic chemical are not required to prepare notice that the mixture or trade name products which they distribute contain a toxic chemical. They should, however, pass along such notices prepared by their supplier to any facility in SIC codes 20-39, who purchases a mixture or trade name product containing a toxic chemical.

***102. A manufacturer lists chemicals on Section II of the MSDS under hazardous ingredients; it is possible that none of the chemicals listed are subject to section 313 reporting. Is the supplier required to state that none of the chemicals are subject to 313 reporting, removing the need for customers to audit Section II?**

A supplier should include the section 313 statement in their MSDS if one or more of the chemicals in the mixture or trade name product are section 313 chemicals. The facility is not required to make a "negative declaration" that none of the components in the mixture are subject to section 313. A supplier may, however, provide this statement on its own initiative.

***103. A facility is covered under 40 CFR Part 372.45(a)(3) if it sells or otherwise distributes a compound containing a toxic chemical to a person who may sell or otherwise distribute it to a facility described in Part 372.22. To what extent is a facility required to determine if the facility receiving the shipment distributes the toxic chemical to a manufacturer?**

The facility should use the best available knowledge. The manufacturer of the mixture must send the supplier notification to the "middle man" distributor if it has a reasonable basis to conclude that the distributor provides the product to manufacturing facilities. Such a conclusion could be based on the nature of the product and its intended market.

***104. A facility, although in SIC codes 20-39, repackages and distributes some chemicals manufactured by other companies. Is the facility responsible only for passing on the manufacturer's information to its customers?**

The repackaging facility must provide supplier notification to its customers. If the only information the facility knows is from the MSDS, all it can do is provide this same information to its customers. If the facility knows the product contents or concentrations are different from what appear on the supplier's notice, the facility must provide the more accurate information to its customers. EPA suggests, but does not require, that the repackager inform the supplier of the inaccuracy in their MSDS.

105. I own a small chemical company who supplies some section 313 toxic chemicals to customers. My customers are requesting MSDS information and want the CAS number for every chemical in my mixtures. I thought I only had to supply that information for the listed toxic chemicals.

If you wish, you may provide them with the CAS numbers for all of the chemicals in your mixtures, but under section 313 you are only required to provide information on the listed toxic chemicals (i.e., those chemicals subject to reporting under section 313).

***106. Is a company required to contact suppliers if an MSDS sheet does not contain complete or consistent language and/or information?**

No. The company must use the best information at hand, but the rule does not require them to contact the supplier. If, however, the company does voluntarily contact the supplier and the supplier provides more detailed information then that becomes the "best" information and the facility must use it.

***107. A facility produces industrial non-consumer products and includes supplier notification information on the product label. Is this sufficient? Must the MSDS be distributed as the primary vehicle of notification?**

Inclusion of section 313 supplier notification information on the product label will satisfy the notification requirements. However, the rule states that if the products are required to have an MSDS then the supplier notification must be included with the MSDS for those non-consumer products. But, the MSDS does not have to be distributed as the primary vehicle of notification.

***108. Would EPA accept an annual notification by letter to customers as satisfying the supplier notification provisions of the section 313 regulation (40 CFR Part 372, Subpart C)?**

Once customers have been supplied with the MSDS containing the section 313 information, then it would be acceptable for a facility to refer to the MSDS by letter in subsequent years, provided the customer has the most current version of the MSDS. The supplier notification regulations require that a new notification be provided when the presence or composition of a listed toxic chemical in the product changes.

***109. Is supplier notification required for pesticide products packaged for distribution to the general public?**

If the pesticides products are distributed for use by the general public and not specifically for manufacturing facilities in SIC Codes 20-39, supplier notification is not required.

***110. If a mixture contains a chemical compound that is a member of a reportable section 313 chemical category, how should that be addressed on the supplier notification? Is it acceptable to provide the percent of the parent metal?**

If a mixture contains a chemical compound (i.e., 12% zinc oxide) that is a member of a reportable chemical category (i.e., zinc compounds), the supplier is required to notify his customers that the mixture contains a zinc compound at 12% by weight. Supplying only the weight percent of the parent metal (zinc) does not fulfill the requirement, but may be done to aid receiving facilities in estimating releases. The customer must be told the weight percent of the entire compound for threshold determinations.

***111. 40 CFR Part 372.45(b)(1) states that to fulfill the section 313 supplier notification requirement, the notification shall include: "(a) statement that the mixture or trade name product contains a toxic chemical or chemicals subject to the reporting requirements of section 313..." Does a facility have to include the word "toxic" in its notifications?**

The word "toxic" does not have to appear in the statement to fulfill the requirement of 40 CFR Part 372.45(b)(1). However, the statement should clearly state that the chemical is subject to section 313.

***112. Do the supplier notification requirements under section 313 require notification for a shipment of a pure (i.e., 100%) toxic chemical that has not been assigned a trade name?**

A manufacturer is not required to provide supplier notification for a pure chemical (e.g., a product labelled with the listed section 313 name or identified by CAS number). The identity of the toxic chemical will be known based on label information and CAS numbers as long as a trade name is not used. Supplier notification applies to mixtures and trade name products.

113. How will the supplier notification work for imported products -- do exporters from Japan have to comply?

No. Foreign suppliers are not required to comply with supplier notification. However, we strongly encourage importers to request content and composition data on imported mixtures. EPA will also be exploring means of voluntary notification by foreign suppliers.

114. Is supplier notification required from a manufacturer of a toxic chemical in SIC codes 20 through 39 which sells a waste mixture containing a toxic chemical off-site to a recycling or recovery facility that is covered by section 313?

Yes, supplier notification is required because the toxic chemical is sold to the recycler. The notice the facility would be required must provide the percentage and identity of the toxic chemical in the mixture that is sent to the recycling or recovery facility. If the material is, however, sent off-site as a waste for the treatment or disposal, then no supplier notification is required.

115. A facility sends empty drums containing toxic chemicals residue to a drum recycler (within SIC Code 20-39.) Must the facility provide a supplier notification?

No, the supplier notification requirement only applies to products that are supplied or distributed. The only chemicals being transferred are in the form of waste and the supplier notification does not apply to waste.

***116. Do transfers of products or materials from one of our company's facilities to another require supplier notification?**

Yes. The language of the rule covers material that it "sells or otherwise distributes." In this sense, the "otherwise distributes" language would apply 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 toxic chemicals in their products, then the Agency would accept this as satisfying the supplier notification requirement.

***117. A multi-establishment facility is not covered (i.e., does not meet the SIC code criteria) but one of the establishments within the facility is within SIC codes 20-39. Does the language "facility or establishment" in the supplier notification part of the rule subject this one establishment to the supplier notification provisions?**

No. EPA has determined as a matter of policy that the phrase "or establishment" does not extend coverage of the supplier notification provisions beyond that of a "facility" as defined by section 372.22 (b) of the rule. Therefore, in the case of a multi-establishment facility not subject to the rule, an SIC 20-39 establishment within that facility would not be required to provide section 313 supplier notification. However, the Agency encourages such an establishment to comply voluntarily so that its customer will have the information necessary to make proper compliance determinations under the section 313 rules. The "or establishment" language provides an option similar to that available to establishments that submit reports as a part of a covered facility. For example, if only one establishment in a covered facility is actually distributing a product containing a toxic chemical then that establishment may assume the supplier notification responsibility for that facility.

V. ACTIVITIES AND USES OF THE CHEMICAL AT THE FACILITY

118. What is the difference between "process" and "otherwise use"?

"Process" implies incorporation; the chemical added is intended to become part of a product distributed in commerce. "Otherwise use" implies non-incorporation; the chemical is not intended to become part of a product.

119. Are the thresholds for manufacture and process considered separately? That is, if one manufacturer 49,000 pounds of chemical A and processes 49,000 pounds of chemical A, does chemical A need to be reported?

Thresholds are considered separately for manufacture, process, or otherwise use of the same chemical. Reporting is required for 1989 and beyond because the threshold is 25,000 pounds for those years.

120. Are materials in inventory (i.e., amounts on hand at year end) factored into threshold determinations?

No. Only quantities of a chemical actually manufactured (including imported), processed, or "otherwise used" during the calendar year are to be counted toward a threshold.

121. Under manufacture/import, what constitutes import? Does the threshold apply if you have a broker who imports the chemical for you, stores it for you, and then ships the chemical to you? What criteria apply?

Use of a broker does not negate facility "importation" of a covered chemical. If your facility specified that a listed chemical or mixture be obtained from a foreign source and you specified the amount, then your facility "imported" the chemical. The criteria are that you caused the chemical to be brought into the customs territory of the U.S. and you "control the identity of the chemical and the amount to be imported."

122. Do chemicals produced coincidentally to manufacturing, processing, or otherwise using have to be reported?

Chemicals produced coincidentally are subject to reporting. In the case of coincidental production of an impurity, however, the de minimis limitation applies. An impurity is the residual amount of chemical remaining in a final product for distribution in commerce.

123. How can wastewater treatment "products" be considered as manufactured from a treatment process?

The rule's definition of "manufacture" includes the coincidental generation of a listed toxic chemical as a consequence of the facility's waste treatment or disposal activities. These chemicals may not be produced for commercial purposes. They are, nevertheless, created as a result of the facilities activities and their release to the environment must be accounted for.

124. A facility adds hydrochloric acid and sodium hydroxide to waste water to neutralize the waste water prior to discharge. Are these activities manufacturing or processing, or are these chemicals "otherwise used"?

Because hydrochloric acid and sodium hydroxide are not incorporated in a final product distributed in commerce, both chemicals are "otherwise used" with thresholds of 10,000 pounds each.

125. A process at a facility draws steel rods into a smaller diameter. Is this manufacture, process, or otherwise use? How do I report?

This activity is considered processing because the toxic chemical remains incorporated in the final product distributed in commerce. Only apply the amount of each chemical in the rods processed toward the applicable activity threshold if the toxic chemical is present above the de minimis level.

126. A facility manufactures fire fighting and fire protection equipment. The facility has a training school on how to use that equipment. As part of the training school, on-site fires are set using gasoline containing benzene, a toxic chemical. For section 313 threshold determination, would this be an "otherwise use" of benzene, or would this use be exempt as product testing?

This would be considered otherwise used for the section 313 threshold determination, since the benzene is being used in a non-incorporative activity in order to train individuals to use a product. Training is not considered product testing or research and development.

127. What is the difference between a manufacturing aid and processing aid?

A chemical processing aid is added directly to the reaction mixture or is present in a mixture used to aid in processing and does not intentionally remain in the product. Examples include catalysts, solvents, and buffers. A manufacturing aid helps to run the equipment and is never incorporated into the product. Examples include lubricants, coolants, and refrigerants.

128. We have purchased in excess of 100,000 pounds of aluminum material in block form to make a mold which stays on site. When making the mold, fumes and dust are a byproduct. Do we report aluminum as the chemical?

Aluminum appears on the list of chemicals as "aluminum (fume or dust)". You must determine if you manufacture, process, or otherwise use aluminum fume or dust. In this case, you are not processing or otherwise using, but do "manufacture" aluminum fume or dust coincidentally as a byproduct of making molds. Therefore, you must report for aluminum (fume or dust) if you exceed the 25,000 pound manufacturing threshold for the reporting year.

129. A facility melts aluminum ingots, reshapes them, and injects them into a die to form parts. Does the 25,000 pounds processing threshold apply to the amount of molten aluminum processed?

For calendar year 1989, the 25,000 pounds threshold applies to the amount of aluminum fume or dust generated at the facility, not the aluminum in molten (liquid) or solid form. Therefore, the facility must determine whether they produce more than 25,000 pounds of aluminum fume or dust air emissions in their processing operation.

130. A remanufacturer of auto engines cleans the engine parts and thereby produces a lead-containing waste (from gasoline lead deposits). Are they a manufacturer, processor, or otherwise user of lead compounds?

The facility neither manufactures, processes, nor otherwise uses lead. Lead is not incorporated into products for distribution nor is it a manufacturing aid or a processing aid as those terms are defined. Lead in the waste would not be included for threshold determination.

***131. A multi-establishment facility, with a primary SIC code of 2911, operates a petroleum bulk station and terminal, with SIC code 5171. The bulk station receives gasoline from tanker trucks and stores the gasoline in storage tanks onsite. The facility also loads other tanker trucks with gasoline that distribute the gasoline to service stations. Are the toxic chemicals in the gasoline processed, otherwise used, or neither?**

Since the facility repackages the gasoline by transferring it between trucks and bulk storage containers for further distribution into commerce, the facility is processing the the toxic chemicals in the gasoline.

132. If a solvent is used in a process and 85 percent evaporates but 15 percent stays with product, is toxic chemical processed or otherwise used? The 15 percent was not necessarily intended to stay with the product.

In this case, the entire quantity of the solvent should be considered "otherwise used" and subject to the 10,000 pound threshold. If the solvent was intended to remain in the product, this would be processing.

133. Is soldering light bulbs using lead solder considered processing of the solder?

Yes, it incorporates the solder into a product for distribution in commerce.

134. An electroplating facility uses metal cyanide compounds in their electroplating operations. Are they processing or otherwise using those cyanide compounds, and how do they determine whether they meet the threshold and which activity threshold applies?

The parent metal from the metal cyanide compound is plated onto a substrate electrochemically, leaving the cyanide as waste product. The parent metal is "processed", while the cyanide is "otherwise used". Metal cyanides are reportable under section 313 as both cyanide compounds and metal cyanides. Select the threshold based on the action that involves the portion of the compound that identifies the category (i.e., cyanide for cyanide compounds). The total weight of the compound counts for both the metal cyanides threshold and the cyanide compounds threshold.

135. A facility uses sulfuric acid to etch chips, then the sulfuric acid is neutralized with ammonia, forming ammonium sulfate. Which thresholds apply to each chemical? A facility uses sodium hydroxide solution in a scrubber to control fluoride emissions. Which activity threshold applies to the sodium hydroxide?

Chemicals not incorporated into a product for distribution in commerce are otherwise used. A 10,000 pound threshold applies to the sulfuric acid, ammonia, and sodium hydroxide if the byproducts are not sold. The 25,000 pound manufacturing threshold applies to ammonium sulfate because it is manufactured coincidentally as a result of the neutralization process.

***136. A facility uses methanol in its gas-carburizing heat treatment of steel. The main purpose of methanol in the facility's operations is to provide the source of carbon that is deposited on the steel. Is this "processing" or "otherwise use" of the methanol?**

The methanol is being "processed," not "otherwise used," because the methanol is the source of the carbon for the carburization activity. The methanol is being reacted and the carbon from it is being incorporated into the steel.

***137. A chemical company processes formaldehyde in its manufacture of resin. The customers using the resin must consider the formaldehyde toward a threshold determination under section 313. Some formaldehyde will evaporate during use, although this evaporation process was not intended. Are the users of the resin processing or otherwise using the formaldehyde?**

Since the users do nothing to remove the formaldehyde, it is intentionally left in the final product. Therefore, the formaldehyde would be processed.

***138. A facility uses a chrome anode in an electroplating bath of sulfuric acid to plate chrome onto fabricated metal. Chromium compounds are generated in the bath and some chrome is deposited onto the fabricated metal part. The unutilized compounds are sent to the facility's waste treatment process, where hexavalent chromium is reduced to trivalent chromium. How are these reduced compounds counted for section 313 threshold determination?**

The threshold determination for chromium compounds is based upon the amount of chromium compounds generated in the plating bath. Any subsequent transformations of hexavalent to trivalent chromium compounds as a result of waste treatment does not affect the threshold determination. To do so would involve double counting.

***139. A company processes a galvanized sheet metal containing elemental zinc, not a zinc compound. When the sheet metal is processed it generates zinc dust, all of which is captured and sent off-site for recycle. Can the company claim an exemption because the sheet metal remains an article, or must it do a threshold determination because it has coincidentally manufactured zinc (fume or dust)?**

Though the sheet metal remains an article during the processing of the sheet metal, zinc (fume or dust), a listed chemical, is manufactured. This release negates the article exemption. The recycle/reuse exemption does not apply to cases of manufacture. The company would have to make a threshold determination based upon the quantity of zinc dust generated. The amount sent off-site for recycle is not reportable, being the equivalent of a product sold in commerce. Any amount not recycled would also be a reportable release.

140. Does the placing of a bulk liquid containing a small percentage of a section 313 chemical into small bottles for consumer sale constitute a "use" of the mixture?

Yes, it is a type of "processing." If the bulk liquid contains a section 313 covered chemical in excess of the de minimis level, the chemical in the liquid would have to be factored into calculations in determining whether the processing threshold is exceeded for that chemical.

141. Paint containing listed chemicals is applied to a product and becomes part of an article. Does the 25,000 pound threshold apply? What about the volatile chemicals from the painting operation -- are they "otherwise used," thus subject to the 10,000 pound threshold?

Yes to both questions. This is a case in which listed chemicals in the same mixture may have different uses and, therefore, different thresholds. The listed chemicals that are incorporated as part of the coating are "processed," whereas the volatile solvents in the paint are "otherwise used" because they are not intended to be incorporated into the article.

142. A facility removes chemicals from groundwater in a cleanup action. The listed chemicals, after treatment, are sent off-site for disposal. Is the facility required to report? Does the exemption for intake water apply?

Since the chemicals are not manufactured, processed, or otherwise used, no reporting threshold applies to the cleanup action. If the chemicals are manufactured, processed, or otherwise used elsewhere at the facility and exceed a threshold, releases from the cleanup must also be reported on the Form R. Intake water exemption does not apply since the chemicals are not being used in process water or noncontact cooling water.

143. A covered facility includes an agricultural establishment that use pesticides to spray crops. The pesticides contain toxic chemicals subject to section 313 reporting. Is the pesticide considered "otherwise used"?

Use of the chemicals in pesticides is considered "otherwise used" and the entire amount is reported as a release.

***144. When completing Form R, how would a facility report the releases of a toxic chemical that is used as a fertilizer? Would a facility which sends material to an off-site location need to count the materials when they are used as fertilizers at that location? Would the application on-site constitute a release to land on Part III, Section 5.5 of Form R?**

If the toxic chemical is sent off-site to be recycled or reused as a fertilizer, then this activity would not be considered a transfer of waste off-site. If it is used on-site, it would be otherwise used if it contributes to the manufacturing process. The toxic chemical in the fertilizer would be reported as a release to land: land treatment/application farming on Part III Section 5.5.2. If the fertilizer is used to maintain the lawn, it would be part of facility grounds maintenance and exempt from threshold and release determinations.

***145. A car manufacturer has a central 25,000 gallon storage tank on-site. A pipe leads from the central storage tank to a fill station where the cars are filled with gas before being sent off-site to be sold. Is the processing of the toxic chemical components of the gasoline considered "repackaging only" or "as an article component?"**

The toxic chemicals in the gasoline should be reported as processed as an article component.

VI. EXEMPTIONS

A. General, Personal Use, and Intake Water or Air

146. Does a material retain its exemption even if other formulations, articles, or fuels with the same chemical are not exempt?

Yes, the material retains its exemption.

147. Do office supply type products require coverage under section 313 reporting?

EPA does not intend to require covered facilities to account for listed chemicals in office supplies such as correction fluid and copier machine fluids. Although not specifically exempt in the regulation, EPA interprets such mixtures or products to be equivalent to personal use items or materials present in a facility's cafeteria, infirmary, or materials used for routine janitorial activities and facility grounds maintenance.

148. A facility meets the threshold for "otherwise use" of 1,1,1-Trichloroethane as a cleaner. Would the release of that chemical contained in the office supply product "white-out" also be included?

Office products fall within the same realm as the personal use and janitorial maintenance exemptions; the release of 1,1,1, trichloroethane in "white-out" would not be reported.

***149. A facility uses ammonia in gas cylinders in their blueprint machines. The facility uses a total of 12,000 pounds of ammonia per year in this operation, and does not use or process any other quantities of ammonia. Is this use exempt from reporting under 313? There is an exemption for use of office supplies for personal use under section 313.**

Blueprint machines are not typical office supply items for personal use. Since the 10,000 pound otherwise use threshold is exceeded, the facility must report for the ammonia.

150. A facility uses river water as process water. The water taken from the river contains more lead (1.0 ppb) than the water returned to the river (0.5 ppb). Is it subject to the process water exemption? If not, is the facility treating the water?

The process water can be considered exempt because the toxic chemical was present as drawn from the environment (Section 372.38 (c)(5)).

151. Would a listed chemical present in compressed air be exempt? What if the chemical is present in boiler emission air?

A listed chemical present in compressed air would not have to be counted toward a threshold determination. If that same chemical is present in the boiler emission air only because it was in the compressed air fed to the boiler, then that would remain an exempt use. However, if the chemical is created as a result of combustion, you have coincidentally manufactured the chemical and must consider it for reporting.

B. Facility Maintenance and Structural Components

152. How is routine maintenance defined in the exemption list? Is equipment maintenance included?

Equipment maintenance such as the use of oil or grease is not exempt. The routine maintenance exemption is intended to cover janitorial or other custodial or plant grounds maintenance activities using such substances as bathroom cleaners, or fertilizers and pesticides used to maintain lawns, in the same form and concentration commonly distributed to consumers. Painting of equipment is exempt because the paint becomes part of the structure of the facility.

153. Are solvents and other listed chemicals in paint used to maintain a facility exempt?

Yes. Painting to maintain the physical integrity of the facility is consistent with the "structural component" exemptions, even though the solvents in the paint don't become part of the structure.

***154. The "structural component" exemption from section 313 reporting covers the small amounts of abraded/corroded metals from pipes and other facility equipment. Would the structural component exemption apply to equipment which regularly suffers abrasion, such as grinding wheels and metal working tools? What criteria can a facility use to decide which pieces of equipment are structural components and which are not?**

The section 313 structural components exemption would not apply to grinding wheels and metal working tools. These items are intended to wear down and to be replaced because of the nature of their use. The structural component exemption applies to passive structures and equipment such as pipes. The abrasion/corrosion includes normal or natural degradation, such as occurs in pipes, but not active degradation, such as occurs in a grinding wheel.

***155. A facility uses welding rods to maintain its equipment. The painting of equipment is exempt because the paint is intended to become part of the structure. Are welding rods used to maintain equipment exempt because the materials are intended to become part of the facility?**

Welding rods used to repair and maintain equipment would be exempt from reporting under section 313 because they are becoming a fixed part of the structure of the facility. In this way, they are similar to paint, and unlike some replaceable maintenance materials like oil or grease. The term "facility" includes all buildings, equipment, structures and other stationary items located on a single site, or on contiguous or adjacent sites.

156. If a facility stores a toxic chemical on-site, and then uses it by installing it in the facility (i.e., copper pipes), is the facility required to consider the toxic chemical (a component) for section 313 submission?

If the chemical is in an article (i.e., copper pipe) it is not considered in threshold determinations. When the substance is installed as a structural component, then the structural component exemption applies to the toxic chemical in the pipes.

157. A facility has an ornamental pond on-site. Chemicals such as H_2SO_4 , NaOCl, and other acids are added to the pond to control algae. Does the addition of toxic chemicals to an ornamental pond on a facility site qualify for the routine janitorial or facility grounds maintenance exemption [40 CFR 372.38(c)(2)]?

Yes. The chemicals used, however, must be similar in type or concentration to consumer products. The facility owner/operator should also be aware that coincidental manufacture of other toxic chemicals that may result from the addition of chemicals to the pond (e.g., Cl_2 may be manufactured when NaOCl and acids are mixed) is not covered by the routine janitorial or facility grounds maintenance exemption.

158. Are pesticides which are used to control algae in cooling water towers exempt?

No, such pesticides would not fit the routine maintenance exemption. The "otherwise use" threshold would apply.

159. Are degreasers used in plant maintenance shops exempt?

No, the degreasers would be considered "otherwise used."

C. Vehicle Maintenance (see also Appendix A: Section 313 Policy Directive #3 -- Motor Vehicles Use Exemption)

160. Please verify that any motorized vehicle operated by the facility, whether licensed or not, is subject to the exemption listed in section 372.38. This includes forklifts, tow motors, automobiles, etc., that contain a motor. Also, please verify that gasoline, lubricants, oils, and anti-freeze are all considered to be substances subject to this exemption.

The exemption includes benzene in gasoline and glycol ether in antifreeze used to maintain and operate a facility motor vehicle. This exemption would not apply, however, in the case of an automobile manufacturing plant. As part of the production of vehicles, such a facility would be incorporating the chemicals into an article for distribution in commerce.

161. In the process of maintaining fork lift truck batteries, they are opened to add sulfuric acid as needed. Is this sulfuric acid reportable under section 313?

No. Section 313 exempts the "use of products containing toxic chemicals for the purpose of maintaining motor vehicles operated by the facility" (40 CFR Part 372.38). That amount would not be included in the threshold determination.

D. Laboratory Activities

162. Does section 313 reporting include laboratory chemicals?

The quantity of a listed chemical manufactured, processed, or "otherwise used" in a laboratory under the supervision of a technically qualified person is exempt from threshold and release calculations. This exemption includes laboratories performing quality control activities and those located in manufacturing facilities.

163. What is meant by "specialty chemical production" as an exception to the laboratory activities exemption?

Specialty chemical production refers to chemicals produced in a laboratory setting that are distributed in commerce.

164. Assume that a quality control laboratory, or area control laboratory, is part of a manufacturing facility. Would it be exempt from calculating threshold quantities and release amounts for listed chemicals?

Yes, assuming that such a laboratory is under the supervision of a technically qualified person and is not engaged in pilot plant scale or specialty chemical production.

165. A facility sends materials which are sampled from processing operations to a laboratory for quality control purposes. Are these quantities exempted under the laboratory exemption, provided that they are handled by a technically qualified individual?

No, any quantity of a covered chemical manufactured, processed, or "otherwise used" must be counted for the purpose of threshold determination. The fact that it is drawn from a process for purposes of quality control testing does not allow the facility to subtract that quantity from the total amount of the chemical factored into the threshold determinations.

166. Is a bench scale or pilot scale reactor for a pilot plant excluded from the laboratory exemption?

A bench scale reactor would not be exempted as part of the pilot plant laboratory activities if it is used to make products distributed in commerce.

***167. A facility tests specific components of a machinery line. Its functions include testing for durability of engines, hydraulic systems, power trains, electrical systems and transmissions; building prototypes of products; and qualitative and quantitative analytical testing of materials in a chemical laboratory. Since these activities are test, development, and research oriented, is the facility eligible for the laboratory exemption?**

Equipment and component testing are interpreted as the equivalent of a laboratory activity and thus are subject to the laboratory activity exemption.

168. Are the following marine engine testing operations that use listed section 313 chemicals exempt under the laboratory activities exemption: (a) testing of production engines intended for sale in specialized engine test cells; (b) testing engines for research and development purposes in specialized engine test cells; (c) testing for research and development purposes in open water bodies?

Yes, all of the noted operations are considered "product testing" and as such are intended to be included under the laboratory activities exemption.

169. Section 372.38 lists uses of chemicals in laboratories which are exempt from threshold determination and release reporting. It states, "if a toxic chemical is manufactured, processed, or otherwise used in a laboratory at a covered facility under the supervision of a technically qualified individual, as defined in Section 720.3(ee) of this title," it is excluded from 313 reporting requirements. What is that reference?

Section 720.3(ee) is found in Toxic Substances Control Act (TSCA) regulations (40 CFR 720.3(ee)) and defines "technically qualified individual" as "a person or persons who, because of education, training or experience, or a combination of these factors, is capable of understanding" and minimizing risks associated with the substance, and is responsible for safe procurement, storage, use, and disposal within the scope of research.

E. De Minimis (see also Appendix A: Section 313 Policy Directive #2 -- De Minimis Exemption)

170. What is "de minimis" under Section 313?

De minimis refers to a concentration of a listed chemical in a mixture so low that threshold determinations and release calculations are not required. It does not apply to wastestreams, but applies to products purchased, sold, or commercially used by the facility.

171. Please explain the de minimis limitation for mixtures and trade name products.

Listed toxic chemicals present in mixtures or trade name products at concentrations below the de minimis level of 1.0 percent, or 0.1 percent for OSHA-defined carcinogens, do not have to be factored into threshold or release determinations. This de minimis level is consistent with the OSHA Hazard Communication Standard requirements for development of Material Safety Data Sheets (MSDSs).

172. Does the de minimis exemption apply regardless of whether a chemical is present as an ingredient, an impurity, or in a waste?

The de minimis exemption applies to ingredients of mixtures or to impurities present in products processed or used. It does not apply to wastes when chemicals in mixtures above the de minimis level are manufactured, processed or used, and meet the applicable activity threshold. Wastes and releases must be reported regardless of concentration. Further, when your operations create (manufacture) the chemical in waste treatment, the de minimis exemption does not apply.

173. How do we determine whether the de minimis level for a section 313 listed chemical should be 1 percent or 0.1 percent?

The instructions for completing Form R for 1988 contains a list of covered toxic chemicals with the de minimis level for each.

174. A facility uses a chemical mixture that contains a toxic chemical. If the maximum and minimum concentrations listed on the MSDS range above and below the de minimis concentration levels, how can the facility determine quantities for section 313 compliance?

The amount of the chemical in the mixture that is present above the de minimis level and therefore counts toward the threshold, can be assumed to be proportional to the ratio of the above-de minimis concentration range to the overall concentration range. The concentration of the chemical in the mixture that is not exempt is the average of the de minimis level and the maximum concentration.

175. A raw material contains less than the de minimis level of a listed chemical. During processing, the chemical is concentrated to above the de minimis level in a solid waste that is disposed in an on-site landfill. Should the chemical handled in the process line be included in the facility threshold determination? Do releases from the process line or wastestreams containing above the de minimis level require reporting?

The de minimis exemption applies to the raw material. You do not have to consider it further even if a toxic chemical is concentrated above the de minimis level in a waste.

F. Articles

176. Are metal "articles" exempt from threshold determinations in normal processing, use, or disposal?

Metal "articles" are exempt from threshold determinations if, during their normal processing or use no toxic chemical is released and no substantial change in form occurs. Disposal of solid wastes that are recognizable as the processed article is not a release that negates the article status.

***177. Please clarify the Agency's policy on releases of less than 0.5 pounds per year.**

The Agency has adopted a "round to the nearest pound policy". Therefore, releases or off-site transfers of less than 0.5 pounds per year of a chemical to any environmental media could be rounded down to zero. For purposes of the exemption for articles, if the processing or use of an article(s) results in a release less than 0.5 pounds in a year, the release could be considered zero and the article status would be maintained.

***178. A facility cuts metal sheets containing nickel, releasing fumes. It then further grinds the metal to its final shape, producing grindings. For the sheets to retain their article status, releases must be less than 0.5 pound/year to any media. Does this cut-off value apply to aggregate releases of the same type of item being processed or used in the same way or to releases from all manners of processing or use of the same type of item?**

The 0.5 pound/year release cut-off value applies to aggregate releases from the same type of item being processed or used in all manners at the facility. This value applies to the total aggregate releases of the toxic chemical from both steps of the process. The various shapes resulting from the cutting are "the same type of item" as the initial sheet. Thus any releases from grinding should be added to those from cutting.

179. Does the article exemption in the Section 313 rule apply to preparation of the article? What about processing or using that article?

The article exemption does not apply to the processing of chemicals to make articles. Manufacturing of articles such as tableware is not exempt. When a facility manufactures a metal part and coats it, neither process is exempt.

180. We take copper wire, cut it, and wind it around smaller spools. Is the wire still an article?

If there is no release of a toxic chemical during normal processing of the copper wire, then the wire remains an article.

181. I run a metal fabrication facility, SIC code 34. If I cut the metal sheets and send the shavings off-site for reuse, can I consider the metal sheets articles?

If the shavings that are formed during the cutting are the sole releases, and if all the shavings are sent off-site for reuse, and the thickness of the metal sheet does not change during processing, then the metal sheets are still considered articles and are exempt.

***182. Is bar stock that is used to make precision tuned parts an article and thus exempt from section 313 reporting? The bar stock is processed to produce parts that in whole or in part retain the basic dimensional characteristic of the bar stock. The production of the part itself is dependent upon the specific shape and dimension of the bar stock.**

Bar stock is an article if its basic dimensional characteristics are maintained in whole or in part in the finished product and zero releases occurring during processing. If the end product is totally different in diameter or thickness, then the bar stock would not be an article.

183. Can facilities which extrude copper bars or rods into wire treat the bar or rod as an article?

No, an article has end use functions dependent in whole or in part upon its shape or design during end use. The end use function is dependent upon the copper being in the shape of the wire, so the copper

bar cannot be considered an article. If you are changing the shape or form of an item substantially, you are processing the chemicals; the article exemption no longer applies.

184. A facility uses a product that is in pellet form in its manufacturing operations. Is this product considered an article and therefore exempt from reporting under section 313?

A pelletized product is not an article. If it is a chemical or mixture that is in a pelletized form because such form is convenient for further processing by the facility or its customers, then the pellet is not an article and its processing or otherwise using is subject to threshold determinations.

185. A facility uses PCB transformers. Are these considered to be articles, and therefore exempt from reporting under section 313?

PCB transformers are considered to be articles, as long as they do not release PCBs during normal use or if the facility does not service the transformer by replacing the fluid with other PCB containing fluid. (See also: Section 313 Policy Directives - Directive #6: PCBs Threshold Determinations and Release Reporting.)

186. A manufacturer of plastic bottles makes the bottles by blow-molding a mixture of plastic resin and polymer pellets that contain lead chromate (a toxic chemical) and fillers. Once the bottles are made, they are checked for flaws (i.e., a quality assurance check). Any bottles that do not pass the quality assurance test are placed in the facility dumpster and are consequently disposed of in the local municipal landfill. Do these substandard bottles meet the article exemption and thereby exempt the lead chromate from being a release of toxic chemical under section 313?

No. The lead chromate that is sent to the landfill is considered a release of lead chromate since the substandard bottles that are disposed of are waste from the manufacturing process. Manufacture of articles is not exempt.

187. A facility (ship builder) uses lead bricks in ships as ballast. They remain permanently with the ship. The lead bricks could be considered articles and therefore be exempt from reporting. However, they infrequently cut some of the bricks, generating lead dust, which they collect and send to an off-site lead reprocessor. How should they report? What should be counted towards the threshold if they are not considered articles?

If all of the lead solid waste is recycled (i.e., none released to air) then no "release" occurs. Shipment off-site for recycle does not constitute a reportable release. Therefore, the cut bricks retain their article status. If any emissions of lead occur that are not recycled that exceed 0.5 pounds for a year, then the cut bricks would not be considered articles. In this case, count only the lead in bricks actually "processed" (i.e., cut) toward the threshold determination. For release estimates, only the lead not recycled is counted.

VII. RELEASES OF THE CHEMICAL

188. Is it true that the facility need not make any special effort to measure or monitor releases for section 313 reporting and may use information that is on hand? If this is true, how will section 313 reporting produce complete data for the public on environmental releases?

The law states that covered facilities need not conduct monitoring or other activities beyond that required by other statutory or regulatory requirements. Congress included this language to limit the burden on the affected industry for development of release and other required data. Without measurement or monitoring data, the facility is required to make reasonable estimates.

189. Section 313(g)(2) of the statute states that the owner or operator of a facility may use readily available data. In some cases, the available data may be known to be non-representative and reasonable estimates offer more accurate release information. Would EPA, in this instance, favor use of the estimates rather than data?

Yes, it is preferable to use reasonable estimates if monitoring data is known to be non-representative.

190. What is the definition of a chemical "release" under section 313?

The law defines a release as any "spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing to the environment". Under section 313, facilities are required to take into account in their reports both "routine" and "accidental" releases to any environmental medium.

***191. When reporting release estimates on Form R, release estimates are required to be rounded to no more than two significant digits. Should release estimates always be reported in whole numbers, or should decimal places be reported in certain instances?**

When reporting release estimates on Form R, always report using whole numbers (i.e., round to the nearest pound).

192. Is the disposal of wastes such as dusts, shavings, or turnings that result from grinding or drilling of metal items considered "releases of toxic chemicals"?

Yes, such releases of "non-recognizable" solid wastes such as dusts, shavings, or turnings are considered releases of toxic chemicals.

193. Tank trucks and rail cars physically enter a facility. While loading, toxic chemical emissions occur. Are these emissions subject to reporting under section 313?

Yes, because the loading and the releases occur within the facility boundary, the releases must be reported if the applicable activity threshold is exceeded for the toxic chemical.

194. Are barge loading/unloading releases exempt?

Such releases must be reported if the barge terminal is part of a covered facility.

***195. Are releases from lab hoods considered fugitive air emissions?**

The releases from lab hoods are point source air emissions. Therefore, the releases should be accounted for in Part III, Section 5.2 of Form R.

196. Do we need to report leaking, abandoned landfills? What if we don't know if it is leaking?

Leaks from landfills need not be reported. EPA requires reporting of the amount of a chemical placed in an on-site landfill during the year. It is not necessary to estimate migration from the landfill.

***197. A facility discharges waste containing listed section 313 metals to an on-site cooling pond. The metals accumulate and settle over time, and the water is then drained from the cooling pond, leaving the heavy metal sludge. The sludge is then dredged and sent off-site to a recycler. How should this be reported?**

The ultimate disposal of listed chemicals from the facility during the reporting year must be reported. Chemicals remaining in the sediments are "released to land." Chemicals sent to a receiving stream when the waste water is drained are "released to water." Materials dredged and sent off-site for recycle of the chemical are not reported as a release or transfer; others sent off-site not for recycle are reported as a "transfer off-site."

***198. How are chlorine releases reported? Must chlorine, CAS number 7782-50-5, be reported if it is transformed into another chemical compound during the release process?**

If chlorine is present in waste released by a facility it must be reported even though the chlorine may be transformed in the environment subsequent to the release. If the chlorine is transformed in the wastestream prior to release, the facility must still report if an activity threshold is met, but the amount reported may be zero.

199. I process a plastic pipe which is 3 percent formaldehyde. I also know how much formaldehyde is emitted when I process the pipe. Do I need to report these emissions?

Yes, if the processing threshold for formaldehyde is exceeded.

200. A facility buys and sells rigid polyurethane foam insulation containing a fluorocarbon. If the fluorocarbon is Freon 113, would they have to report the Freon 113 released to the air when they cut the insulation?

Freon 113 is a frothing agent used to produce rigid polyurethane foam and is intended to remain in the foam cells to give it density and insulating value. If foam containing higher than the de minimis concentration of Freon 113 is cut, releasing the chemical, that foam cannot be considered an article. The Freon 113 in cut foam pieces counts toward the processing threshold and if the threshold is met, the facility must report the chemical released when the insulation is cut. Normal/natural diffusion of Freon 113 from the foam does not have to be considered a release.

201. Our facility paints metal cabinets and the paint solvents contain a listed toxic chemical. The system consists of a closed vacuum vented painting room and a closed oven room vented by an oven stack. Is the vent to the outside of the building over the painting room a "releases from building ventilation systems" fugitive emission?

No, fugitive releases are emissions that are not in a confined directional air flow. Since your building vent system over the painting room is a confined air stream, it can be combined with the oven stack as a stack or point emission in Part III, Section 5.2 of Form R.

202. A facility has a liquid wastestream which is incinerated. The incineration is 99.9 percent effective and eliminates the liquid wastestream. However, the 0.1 percent is released to air as a gaseous wastestream. Does the facility need to report this wastestream in the waste treatment section of Form R?

The facility does not need to report a gaseous wastestream in Part III, Section 7 of Form R. The liquid wastestream is 100 percent treated through incineration. The air emissions created, if any, would be reported as a release to air and the quantity would be included in Part III, Section 5.2, stack or point air emissions. If the air emission is further treated then that air emission would be listed as a gaseous wastestream and the treatment documented in Part III, Section 7.

203. Where does one report routine leaks from pipes? Would these be reported as disposal to land?

Reporting leaks from pipes requires determining where the released material goes. A material that evaporates would be reported as a fugitive air emission. A nonvolatile material leaking onto land, or any material leaking from an underground pipe, would be reported as a release to land, and entered in Part III, Section 5.5.4, Other disposal.

***204. A facility mines magnesium-rich brine from an on-site well. After extracting the magnesium, it disposes of the brine in on-site disposal wells. In order to keep the disposal well formation clean and usable, the facility pumps 280,000 pounds of hydrochloric acid into the wells. It considers this an "otherwise use" of the acid. Since the acid would be neutralized before it leaches off-site, is it also a release to land?**

The facility must consider their use of hydrochloric acid as a release to land even though the acid is neutralized in the process of cleaning the well. EPA does not allow facilities to take credit for conversions of the chemical in the environment after that chemical has been released by the facility.

205. A section 313 substance is emitted as an air particulate which deposits on the facility grounds or roof, such that it will be washed into a NPDES-permitted pond or swept into a solid waste pit for landfill. Will the release be reported as a release to land or water, but not air? This would prevent a substance from being reported twice, once as an air emission, and once as a water/land emission.

If the facility can develop a supportable estimate that part of a release to air is deposited within the facility (and subsequently collected or deposited in an on-site landfill or surface impoundment), then these quantities can be separated from the air release figure(s) and reported as released to land (on-site). The remaining air releases, not deposited on the facility, would be reported as releases to air.

206. Do the section 313 reporting requirements overlook the possibility that a substance can lose its identity as a side product in a reaction, and that the difference between "input and output" volumes may not always be due to a release?

The section 313 rule does recognize that a chemical can lose its identity in a reaction. The facility has to account for the amount they either manufacture or process regardless of whether the chemical is converted to another chemical in the process. Releases must then be calculated for any part of the process involving the chemical.

207. If a facility monitors for a chemical and the measurement is below the limit of detection of the method, can they report zero releases?

Although monitoring results may be below detectable limits, this does not mean that the chemical is not present. The facility must use reasonable judgment as to the presence and amount of the chemical; one

approach is to use half the detection limit as the wastestream concentration. The facility should not estimate releases based solely on monitoring devices, but also on their knowledge of specific conditions at the plant.

208. If a company measures its own leaks (valve, flange, pump, etc.) and determines a new fugitive factor, is this code "E" or "M" or "O"?

The company should use the code "M" if it measured releases of the chemical from its equipment at the facility to determine its release amount. "E" is used only for published emission factors which are chemical specific. However, in this case, the company would use "O" which is used if it measured leaks generally or applied non-published factors developed at other facilities.

209. If total releases are obtained using combination of basis, how do we report "Basis of Estimate" in Section 5, Column B?

Report the basis used to calculate the major portion of each release entry. See the examples in the instructions to the form.

210. Are SOCM (Synthetic Organic Chemicals Manufacturing Industry) emission factors applicable to the petroleum refining industry as well as organic chemical manufacturers?

Yes, SOCM fugitive emission factors can be used for the petroleum refining industry even though they are based upon synthetic organic manufacturing. The refinery user would have to correct for differences in concentrations of the mixtures, because SOCM factors are based upon pure substances being released.

211. EPA's fugitive emission factors for equipment leaks for the Synthetic Organic Chemical Manufacturing Industry (SOCM) and some air emissions factors listed in EPA's document AP-42, "Compilation of Air Pollutant Emission Factors," are not chemical specific. Should the basis of estimate code be entered as "E" or "O"?

Use "O" for non-chemical-specific emission factors.

212. Should we report the composition of stormwater as it falls from the sky or do we report its composition once the rainwater has run off soil?

The composition should be counted once the rainwater has run onto and off the soil, equipment, concrete pads, etc. as a portion of the total facility release to surface water.

213. How does one use the storage tank equations in Appendix C to estimate air emissions for a specific chemical in a liquid mixture?

You must estimate emissions of the total mixture using average molecular weight and vapor pressure for the mixture, then multiply by the weight fraction of the chemical in the gaseous emission. The required formulas are found in this technical guidance document but are not listed in a step-by-step procedure.

214. The emission factors used to estimate releases to air from leaks in pipes are time dependent. What amount of time should be used to determine fugitive emissions from emission factors?

In using emission factors to determine fugitive emissions to the air from leaks in pipes, a facility must use the total amount of time which a pipe contains the toxic chemical, since a release will occur whether a chemical is moving or stagnant in the pipe.

215. How does a facility owner or operator estimate fugitive or working losses from drums contained in a warehouse or storage facility?

Fugitive emissions from drums in storage at a covered facility may include emissions from opening and emptying the drums. The facility may consider each drum as a small tank and estimate the amount of toxic chemical contained in the vapor space using methods such as partial pressure determinations found in EPA's technical guidance document, Estimating Releases and Waste Treatment Efficiencies for the Toxic Chemical Release Inventory Form.

216. Is there any recommended approach for estimating emissions from facilities whose raw material is of a constantly varying and unknown composition. For example, tar plants receive crude coal tar in batches. No analysis is done on incoming raw materials or on products (or on intermediates) at such facilities.

If available, data on the average composition for the specific material or published data on similar substances should be used.

217. If off-site reclaimers are not to be included in the off-site locations which handle wastes, are emissions discharged by these reclaimers included as point emissions or are they not reported?

A facility owner/operator should not report either transfers for off-site recycling of the chemical or the chemical releases from such a reclaimer. The facility owner/operator is only responsible for reporting toxic chemical releases from this own facility.

218. If the calculated threshold of sodium hydroxide, for example, is based on the mass utilization of the solution, would the emission of a wastewater stream containing 1 ppm of NaOH be the actual mass of NaOH or the mass of wastewater?

Only the actual mass of the toxic chemical being released should be reported, in this case the mass of sodium hydroxide. Note, however, that in this specific case, if the wastestream has been neutralized so that the pH is in the range 6-9, the release of sodium hydroxide would be zero for reporting purposes.

219. We manufacture paint and one of the chemicals we use is toluene. We used the "Estimating Releases" guidance document but the answer given is for toluene and mineral spirits and thus is much too high. Can we use the 6 percent present in the paint mixture times the number and report that?

The partial vapor pressure of toluene in formulations, which is a function of its vapor fraction and mole fraction (not weight percent), can be used. See Appendix C, Note (1), p. C-6 of Estimating Releases and Waste Treatment Efficiencies for the Toxic Chemical Release Inventory Form, EPA document 560/4-88-002.

220. How should a facility estimate emissions from horizontal storage tanks? The AP-42 equations were developed for vertical tanks.

For fixed roof tanks, the working loss equation for vertical tanks can be used. For breathing losses, one can still use the vertical tank equation, except that an effective tank diameter must be substituted for D

in the equation. D is the square root of $\{(4)(\text{area of liquid surface})\}/3.14$. H is the same as for vertical tanks.

221. How can one estimate emissions of chlorine from use in cooling water treatment? We have tried to estimate the emissions for some cooling water systems based on the amount of water evaporation, wind drift, and the amount of chlorine used, but the releases seem too high.

Estimating emissions based on the amount used overestimates release since: chlorine is only slightly soluble in water, reacts with chemicals in the water, and dissipates in side reactions. Measured residual chlorine times recirculation rate times lost water fraction may also overestimate release (residual includes other forms of chlorine), but may be the only way to make a reasonable estimate. There are no readily available emission data on chlorine from cooling water systems.

***222. In Part III, Section 6 of Form R (discharge to POTW), if the facility monitors hydrogen chloride in waste and the pH is between 6-9 (considered to be 100 percent neutralized), would the release reported be zero or NA?**

No toxic chemical is released to the POTW. However, since there is a potential for release of the particular chemical to the POTW, the POTW should still be listed on Part II of Form R and the releases to the POTW in Part III, Section 6 of Form R would be reported as zero rather than NA.

223. If $\text{H}_2\text{SO}_4/\text{HCl}$ (sulfuric acid/ hydrochloric acid) were spilled outside a building on a facility and an absorbent (e.g., kitty litter) was used to absorb the toxic chemicals, would the use of the absorbent be listed as a treatment and be reported under Part III, Section 7 of Form R?

No, the use of the absorbent would not be considered a treatment. Only if the acids were neutralized would that activity be considered treatment. If the absorbent were drummed and sent to a landfill, that would be listed as a transfer to an off-site location. Any acid left on the ground must be accounted for as a release to land.

224. Form R requires estimates of the release to the environment of chemicals in specific release categories. If a facility is unable to complete its estimate of these releases by the deadline, should the company leave that entry blank and promise a future estimate, or make the best estimate possible and submit later revisions?

Any covered facility must report by July 1 for the previous calendar year, and the data provided should be the best estimate using the best data available; records supporting the data must be kept for three years. If more accurate data are developed, the facility may submit revised forms. EPA can take enforcement action if they believe that the data do not represent reasonable estimates.

225. For releases or transfers off-site that are reported as zero, what should be reported as a basis of estimate? If we put "NA" (i.e., there's no potential for release) is it necessary to put "NA" in "the basis of estimate" column of the Form R?

Leave the basis of estimate box blank or enter NA. If you report zero ("0") releases then you need to supply a basis of estimate.

226. Explain the naming of receiving streams.

You are required to report the name of each stream "to which chemicals being reported are directly discharged". If you have no such discharge, enter "NA".

227. A facility determines that it can estimate stormwater releases of a listed chemical from the facility. However, such releases go to a city-owned storm sewer system and the facility has no direct knowledge of the receiving stream or surface water body to which the chemical is ultimately released. What do they report as the "receiving stream" on Part I, Section 3.10(a) of the form?

The facility would put "city-owned storm sewer" or the equivalent because this is all they know. To leave the receiving stream item blank or put "NA" would be identified as an error when the Form R is entered to the computerized database of section 313 data.

228. If a facility has a cement lining or other leak restricting device in the area where they store toxic chemical containers and a release from the stored chemicals occurs, how is this reported on Form R?

If the facility does not have specific measures for land filling, land farming, or land disposal, then for the purposes of Form R, the releases would be entered on Part III, Section 5.5.4, Other Disposal. This would apply to amounts released that were not "cleaned up" and removed from the site or otherwise treated and disposed on-site.

229. If a POTW has no current estimate of treatment efficiency for each section 313 chemical, is "NA" acceptable?

You need not report the treatment efficiency for any off-site facility to which transfers of toxic chemicals occur. Facilities must account for the annual quantity of the listed toxic chemical(s) released to a POTW, but are not required to estimate the treatment efficiency of the POTW.

230. What are the technical guidance manuals for specific industries?

These documents help specific industries or operations to determine reporting requirements and estimate releases. They cover: electroplating; semiconductors; textile dyeing; wood products manufacture and preservation; organic coatings application; rubber production; printing; paper and paperboard; leather tanning; monofilament fiber manufacture; formulating aqueous solutions. To order copies of any of these documents, see the section 313 document request form on page 66.

231. Why are the range codes grouped together in logarithmic scale?

For quantities on-site, the ranges were patterned after TSCA inventory reporting as suggested by Congress.

VIII. WASTE TREATMENT METHODS AND EFFICIENCY

232. Does the waste treatment section apply only to the facility completing the report?

Yes, this section of Form R applies only to the treatment of toxic chemicals that occur at the reporting facility.

233. Where multiple sources are combined for treatment, should each source be listed in the Part III, Section 7 of Form R with a common efficiency, or should only the combined stream be shown?

Report only the combined (or aggregate) wastestream and report the treatment and its efficiency. However, a wastestream that is treated before combination with other wastes, which are then subsequently treated, should be reported on a separate line.

234. A facility has a sequential treatment process in which the influent concentration and treatment efficiency for each step is known. How should they report on the form?

The facility may report in either of two ways: (1) Report influent concentration for the first step and report overall treatment efficiency for the entire process as per the instructions and check the sequential treatment for each step; or (2) Report each influent concentration and efficiency for each step. In this case, do not check sequential treatment boxes, as this will create confusion as to the meaning of the efficiency listed in the last treatment step.

235. If a wastewater treatment system contains an oil skimmer or other phase separation treatment, is this reported as a sequential treatment step for each of the separated phases, or for just for one phase?

The separation step is a sequential treatment step for one liquid phase (the one with the larger volume, in this case, water). The other phase must be considered a new wastestream and must be listed separately on the form if treated subsequent to its separation.

236. We send our sludge to a biological treatment device on-site. The microbes in the system exist in a buffered solution. As a result, the toxic chemical (a mineral acid) in the sludge is neutralized (pH 7.3). How do I account for biological and neutralization treatment in one process in Part III Section 7 of Form R? After that, the waste goes to settling ponds where solids settle out. Is this also a sequential treatment step?

List the biological treatment first with a zero efficiency because it does nothing to the toxic chemical. Enter the neutralization treatment with a 100 percent efficiency since pH 7.3 is considered complete neutralization for an acid. Check the sequential treatment box. As for the settling ponds, the toxic chemical ceased to exist upon complete neutralization, so this step does not need to be included in Part III, Section 7 of the Form R for the mineral acid.

237. On-site wastewater treatment plant sludges which may contain trace amounts of section 313 chemicals are composted on-site. The finished compost is then used as daily cover for the on-site sanitary landfill and for landscaping around the site. Is this considered land treatment, land impoundment, or not a release?

The amounts supplied to the on-site sanitary landfill as cover should be reported on Part III, Section 5.5.1 of the Form R. The amount used for landscaping on-site is exempt under the facility grounds maintenance exemption (Section 372.38(c)(2)).

***238. A facility uses one vat to store either acid or base depending on their orders. When the vat is emptied, it is treated with base if it contained acid; acid if it contained base. The resulting wastestream is outside the 6-9 pH range. Does a new wastestream have to be entered in Part III, Section 7 of Form R each time the vat contents switch?**

No. Enter one line of waste treatment data that describes treating the acid, if that is the chemical being reported. Enter one line of data that describes treating the base, if that is the chemical being reported.

239. We have two waste streams, one contains NaOH and the other HCl. These streams are combined for neutralization; they then stay in the settling pond until the solid settles out. The water is sent to a POTW, the solid to a landfill. How should we report on these chemicals? When does a toxic chemical cease to exist by neutralization?

Neutralization is the treatment method for both chemicals. If the pH is between 6 and 9, then the efficiency is 100 percent -- no toxic chemicals are released -- no off-site transfer need be reported. If the waste is acidic, report transfer of HCl off-site and calculate efficiency from input and remaining acid; no NaOH is released. For a basic waste, acid is 100 percent neutralized and the efficiency is 100 percent with no HCl transfer off-site, but the NaOH must be reported as an off-site transfer.

240. If sodium hydroxide (solution) is spilled, but neutralized before leaving plant boundaries, should the quantity spilled be included in the facility's release report?

If the sodium is 100 percent neutralized, no quantity should be reported.

241. How is an auxiliary scrubber that is designed and used only to mitigate emergency releases reported?

The influent concentration and treatment efficiency of the scrubber as it operates during an emergency event should be reported. The emergency scrubber is not considered to be "sequential" treatment with a scrubber which treats routine emissions from the same process, unless the two units function in series on a single wastestream.

242. Should the influent concentration to treatment for metal compounds be reported for the parent metal only?

Yes, because only releases of the parent metal are reported on a Form R for a listed metal compound category.

IX. TRANSFERS TO OFF-SITE LOCATIONS

243. A facility sends waste containing a section 313 chemical off-site to a TSDF which, in turn, sends the waste to another facility for recycling. Should the facility report this activity, since the waste is ultimately recycled? Or should they report as M90: Other Off-site Management in Part III, Section 6C, since it is a location to which they transfer wastes?

Part VII of the preamble to the section 313 final rule states that "transfers to a reprocessor or recycler of chemical waste are not reportable as off-site transfers." Since the reporting facility knows the toxic chemical is ultimately being recycled or reprocessed, the facility would not report the off-site transfer. If the facility could not document that the waste was being recycled, it must report the off-site transfer.

***244. The section 313 instructions require listing of different types of treatment for a particular waste sent off-site to the same location. Does this apply to sequential treatment of waste at the same location? Should the same estimate for amount sent off-site be entered for both treatment steps or just the final treatment step?**

For waste sent off-site to the same location, the reporting facility is not required to list sequential treatment steps. For wastes that are sequentially treated off-site, the facility would provide one code that best describes the type of treatment occurring as a sequence and report the total quantity of the toxic chemical sent to this off-site location. If however, a waste sent offsite is treated in two different ways (e.g., half incinerated, half landfilled) enter the amounts to each.

245. What about shipment for recycle? For example "empty" drums containing a residue of a toxic chemical are sent to a drum remediation site which is not a treatment, storage, or disposal facility. Are such facilities listed as off-site TSD facilities? (The chemical is not being recycled, but the carrier, that is the container, is.)

Shipments for recycle of the chemical should not be reported. However, recycle of drums or recycle of other constituents of a waste does not qualify as recycle of the chemical; such transfers should be reported. The example cited should be reported as an off-site transfer with appropriate code such as M99- unknown, or M61- wastewater treatment in Part III, Section 6C of Form R.

246. Why does the section 313 Form R require disclosure of off-site locations to which toxic chemicals are transferred? The Act only requires the disposal method employed.

The conference committee report directed EPA to require reporting of releases to air, water, land, and waste treatment and disposal facilities. Legislative history treats off-site facilities as an equivalent environmental medium. EPA believes Congress intended to include reporting of quantities and locations of off-site waste treatment and disposal facilities to identify how and where chemicals enter the environment.

***247. Some waste brokers recycle or resell to other "disposers." By considering the treatment disposal category waste broker (M91) as a release under section 313, could releases be double-counted?**

A facility would not double count by using the waste broker code if that is the only or last recipient of the waste that they have knowledge of. An off-site transfer is not considered a release, and waste brokers may not report under section 313 because their facility may not be in SIC codes 20-39.

***248. If a waste is sent to an off-site facility to be recycled or reclaimed, does the material meet the requirements for being recycled or reclaimed for the purposes of section 313 regardless of what the off-site recycling facility actually does with the waste?**

The recycling "exemption" must be based on the positive knowledge that the listed chemical being reported is actually recycled, recovered, or reused by the off-site facility.

***249. Some toxic chemicals shipped off-site are manifested by a handling code that relates to "Transfer Station." They must also list the location to which the waste was last shipped but not the ultimate disposal or treatment site. In Part II, Section 2, "Other Off-Site Locations," should reporting facilities list the transfer station "waste broker" as indicated by the manifest or list the facility which ultimately disposes of or treats the toxic chemical?**

The reporting facility should list the "ultimate" destination of which they have knowledge. If the last known destination of the waste is the transfer station, then the facility would use the code for waste brokers (M91) on Part III, Section 6C of Form R.

***250. A facility receives chemicals in a tank car. The car once emptied remains at the facility for a period of time before being returned to the supplier (or wherever). Does the residue in the tank car that leaves the facility have to be counted as an off-site transfer for section 313?**

If the facility knows the car will be refilled, the residue is not counted as an off-site transfer. If the facility knows it will be cleaned out and the quantity disposed, it must be counted as an off-site transfer.

***251. Chromium dioxide is part of a waste stream sent to an incinerator. In the incinerator, the chromium dioxide is reduced to elemental chromium that remains in the ash. The ash containing elemental chromium is mixed with cement and sold. Is this toxic chemical recycled or reused and therefore not reported as an off-site transfer?**

The chromium compound can be considered reused because the off-site facility is incorporating it into a product distributed in commerce. According to the information provided, the ash containing the chromium is not being disposed of by the off-site facility. Thus, for purposes of the section 313 regulation, the chromium compound sent to this location does not have to be reported as an off-site transfer.

***252. A facility treats their wastewater on-site and discharges it to a pipe which runs through a POTW and then on to a stream. The POTW does not treat the waste but monitors the wastewater and allows it to pass into the stream if it meets treatment standards. If it does not meet standards, the POTW shuts a valve in the pipe. The wastewater is released under the POTW's NPDES permit. How should the wastewater be listed on Form R?**

The facility should consider the wastewater as a transfer off-site to the POTW since the POTW is ultimately responsible for the release. The POTW has the authority to allow or prevent that release and it enters the stream under their NPDES permit.

253. How do we treat a solvent sent off-site for distillation and returned to us for use?

The amount of solvent sent to another facility for distillation is not reported as a transfer of the chemical to an off-site location (e.g., it should not be reported in Part III, Section 6 of Form R). The quantity of the solvent returned to you must be treated as if it were a quantity of the chemical purchased from any other supplier and must be used for threshold determination.

254. What RCRA ID number does a facility list if it sends a non-hazardous waste containing a section 313 chemical to a solid waste landfill?

If an off-site location such as a solid waste landfill does not have a RCRA ID number, the facility would enter "NA" in the space provided. If the facility does have such a RCRA ID number, it must list the number if known, even though the waste being transferred may not be a listed RCRA hazardous waste.

255. Our facility produces 200,000 pounds of waste annually. Of that amount, we treat 100,000 pounds on-site and send 100,000 pounds to an off-site treatment plant that has a 99.9 percent efficiency. Can we factor in the efficiency when we report the off-site transfer amount in Part III, Section 6 of Form R?

That section of Form R requires you to report the actual amount of toxic chemical you send off-site. The efficiency would be taken into account by the off-site facility if they are reporting under section 313.

256. A printer uses a solvent to clean presses and sends soiled rags to a launderer. Is the material sent to the launderer considered waste transferred to an off-site location? Which disposal code should be used?

The material sent to the launderer is considered an off-site transfer. The facility could use code M90 - Other Off-site Management or M99 - Unknown in Part III, Section 6C of Form R.

X. WASTE MINIMIZATION

257. What is waste minimization? Are solid wastes as well as hazardous wastes included?

Waste minimization means reduction of the generation of listed toxic chemicals in wastes. Waste minimization reporting applies to air emissions, solid wastes, wastewater and liquid materials that are released, disposed, or treated.

258. What do facilities that have not performed any waste minimization include in the report?

The waste minimization portion of the reporting form is optional.

259. Where can facilities obtain waste minimization figures from the previous year?

Companies can obtain waste minimization information about the year prior to reporting from various sources, including (but not limited to) inventory data, recycle/reuse data, engineering reports on process modification, and product development studies.

260. If a facility modifies a process for economic reasons which results in a waste reduction, should this be reported as minimization?

Yes. Any changes that result in less of the listed toxic chemical being generated in waste may be included. Codes are provided to identify changes. Examples include equipment and technology modifications, process changes, procedure modifications, and improved housekeeping.

261. Would RCRA-permitted incineration of waste count as waste minimization under M8 (Other Treatment Methods)?

No. Treatment or disposal can not be reported as waste minimization on Form R. The emphasis is on facility activities that reduce generation of wastes, not treatment of wastes.

XI. TRADE SECRETS

262. How can the identity of a listed toxic chemical be protected from disclosure for trade secrecy purposes?

Section 313 allows only the specific identity of a chemical to be claimed as a trade secret. The rest of Form R must be completed, including releases of the chemical. For trade secrecy claims, two versions of Form R (one identifies the chemical, the other contains only a generic chemical identity) and two versions of a trade secret substantiation form must be completed and sent to EPA.

263. On Form R, if I don't check the "Trade Secrets" box in Part III, Section 1.1, what other blocks can I leave blank? Do I still have to fill in the CAS number?

If the chemical you are reporting is not a trade secret, the CAS number must be filled in along with the chemical name (Part III, Section 1.3). However, if you are reporting for a chemical category, no CAS number applies. Trade secret claims require that the generic name (Section 1.4) be completed.

264. How can competitors find out what has been reported to EPA?

Any person, including a competitor, can gain access to the non-trade secret reports received under section 313. Except for the specific identity of a reported chemical that is claimed trade secret, all information received under section 313 is public information. All non-trade secret information reported will be available in a computer database.

265. For claiming trade secrets under EPCRA, would disclosure, without a confidentiality agreement to the State and/or city having jurisdiction, negate a chemical identity's trade secret status under Federal provisions?

In general, any disclosure of a chemical identity would negate the chemical identity's trade secret status under Federal provisions. Once the trade secret claim is made, State governors are permitted to request the specific chemical identity. The decision to provide information to any state employee is left to the governor's discretion.

266. How will trade secret data be protected when EPA publishes health effects notices for the public?

A generic statement of the health and environmental effects of the chemical will be made available through the computer database.

***267. A company with both domestic and foreign operations wishes to file a EPCRA trade secrecy claim. All non-government entities in the foreign country are bound by a confidentiality agreement regarding a chemical's identity and usage. However, there is no such agreement with the foreign government because of its statutory guarantee of confidentiality for foreign business interests. Does this constitute public disclosure?**

Since there is no tangible "confidentiality agreement" this disclosure is reportable. Question 3.2 on the trade secret substantiation form should be checked "Yes." However, since the foreign government's law guarantees confidentiality, regardless of a tangible agreement, the identity and usage of the chemical has not been disclosed and is being protected, and this should be included in question 3.1 asking about confidentiality measures.

XII. CERTIFICATION AND SUBMISSION

268. Where and how do I get copies of the forms?

Copies of Form R and other support documents may be obtained by contacting: Emergency Planning and Community Right-To-Know Document Distribution Center, P.O. Box 12505, Cincinnati, Ohio 45212 (see the section 313 document request form on page 66).

269. Are there any extensions that a facility could get for filing Form R?

No. All toxic chemical release inventory forms must be postmarked no later than July 1. No extensions will be given.

270. Can computer-generated forms be submitted for compliance with section 313?

The Agency has approved the facsimile outputs of certain privately developed software packages. A list of the providers of software packages has been made available by EPA. Contact the Emergency Planning and Community Right-to-Know Information Hotline for more information.

271. What is the status of magnetic media submission (e.g., on tape or floppy disk) for section 313 reports?

The Agency has published instructions for magnetic media submission (see the section 313 document request form on page 66).

272. The instructions state that photocopied versions of Part I may be submitted. Does this mean that a senior official at a facility, certifying the validity of the forms, only has to sign one submission?

No. The final rule states that each unique chemical submission must contain an original signature. The purpose of this requirement is to ensure that the certifying official has reviewed each chemical submission. A photocopied signature does not fulfill this purpose and would be considered an incomplete submission.

***273. Form R is to be submitted on or before July 1 of the year following the reporting year. When is the official due date if July 1 falls on a Saturday or a Sunday?**

If the reporting deadline falls on a Saturday or Sunday, the EPA will accept the forms which are postmarked on the following Monday (i.e. the next business day).

274. If a facility has a manager who is the originator of the data in the form report, would he/she sign the form or would it be the facility manager to whom this manager reports?

Your facility must make the determination regarding who meets the definition in the rule of a "senior management official."

275. Are facilities required to include an original signature on forms going to the State as well as EPA?

Under EPA's rule, an original signature on the certification statement is not required for the copy that is sent to the State. However, if the state requires an original signature under their state right-to-know laws, then the facility must comply.

276. If the public contact item (Part I, Section 3.4) is left blank, can the facility later use a public contact to speak to the news media on behalf of the technical contact, who may not be publicly conversant?

If a public contact is not identified, EPA will enter the technical contact into the database as a public contact. Thus, this person would receive public inquiries. You may, of course, use any person you choose to respond to such inquiries.

***277. For section 313, a facility submitted a Form R for isopropyl alcohol, CAS number 67-63-0, but does not manufacture the chemical by the strong acid process. How should the facility notify EPA about the correction?**

The facility should resubmit a copy of their Form R submission for verification accompanied by a cover letter explaining that the facility does not manufacture isopropyl alcohol by the strong acid process. The Form R's will be processed by the Title III Reporting Center and assigned a Document Control Number (DCN) as a miscellaneous entry in the tracking system, but will not be entered in the release database. The form should be marked "revision" in red on top of page 1.

***278. A facility mistakenly determined a section 313 chemical to be otherwise used, rather than processed, at their facility. As a result, the facility reported the chemical on Form R with 15,000 pounds used during the previous calendar year. Since they will not be reporting this chemical for the next reporting year, is there any need to retract the previous year's reporting forms to prevent an enforcement contact by EPA?**

The facility is not required to retract the report. A facility may request to retract a form submitted unnecessarily (i.e., a legitimate case of over reporting). However, in order to provide for long-term integrity in the data base, EPA will not accept requests for form retraction later than one year from the due date of that form. Since the facility overreported as a result of a threshold determination error, it should thoroughly document the mistake in its recordkeeping for that Form R. No letters or other documentation need be sent to the state commission or EPA at this time.

279. Regarding the technical contact, can this person be a different person for (a) each chemical? (b) each separate part of a facility?

Yes. It is allowable to have different technical contacts for different chemicals or different establishments within the facility, provided that only one "technical contact" is listed on each form.

***280. If a facility finds that it has submitted the forms with minor errors (e.g., boxes incorrectly checked, NA in the wrong place, all pages were not sent for each chemical even if the pages should be blank), should the forms be resubmitted or should the facility wait for the forms to be returned by the agency for correction?**

The facility should resubmit the form, clearly marking in red ink on the space, "This space for your optional use" that it is a voluntary revision. The information elements that are different from the initial report should be made and circled in red ink and the document control number (DCN) for each form being corrected should be included if available.

281. Does EPA plan to go after non-reporters first before "auditing" reports from complying facilities?

Enforcement efforts during 1989 will focus on identifying non-reporters. In addition, notices of non-compliance will be issued for forms containing errors or omissions, allowing a period of time for corrections before penalties are assessed. Also, submissions with questionable technical entries will be investigated, not purely as enforcement, but to identify problems in calculating releases to improve EPA's guidance and instruction documents.

282. Are specific audit provisions in the regulations? Will audit results be made public? Can released information be changed? What about resolving differences of opinion, i.e., does the auditor have final judgement?

Specific audit provisions are not in the regulations. The Agency, however, has the responsibility to assure that the data submitted is based on reasonable estimates. Audit results will be used to identify problems with calculating releases. In resolving differences of opinion, we expect that a final judgement will be made by the Agency.

283. What type of quality control check does EPA make on each form it receives?

EPA has incorporated edit checks into the database to identify missing, incomplete, incorrect, and suspect data elements.

284. How will questionable data be identified by EPA?

EPA has developed checks for completeness and, for some types of data, reasonableness of an entry. For example, zero air emissions of a volatile chemical would be flagged. EPA will contact the facility for clarification of such "questionable" data.

***285. A facility received 20 pages of errors and the Notice of Noncompliance (NON) states that they did not have an original signature on the Form R submitted to EPA. How should the facility respond to this NON?**

EPA needs an original signature on file. A complete Form R must be resubmitted and this form should be attached to the NON before they send it in. They should also respond to any other issues on the NON, if any, and return the notice to EPA and to their state contact.

286. The enforcement requirements of EPCRA (section 325), state that the civil and administration penalties for section 313 non-compliance shall not exceed \$25,000 for each violation. Is a non-compliance violation determined on a per facility or per toxic chemical basis? Also, is that penalty assessed on a per day basis?

Section 325(c)(i) states: "any person who violates any requirement of section 313 shall be liable to the United States for a civil penalty in an amount not to exceed \$25,000 for each such violation," for each day a violation continues. Therefore, the facility can be assessed a penalty for each Form R not submitted or willfully submitted wrong, and the penalty can be assessed on a per day basis. EPA intends to assess penalties on a per chemical/facility basis with the option to include per day penalties, depending on the circumstances of the violation.

287. In some sections of Form R, facilities are asked to report "NA" if that section does not apply to a submission. Are blank spaces left on the form the equivalent of "NA"?

No. The rule requires "NA" to be entered to inform the Agency that the submitter has not just overlooked a section of the form. Leaving blanks would be considered non-compliance with the rule.

288. Can a facility submit one original copy each of Parts I (Facility Identification Information) and II (Off-Site Locations) with several copies of Part III (Chemical Specific Information) for different listed chemicals?

No. Submission of multiple copies of Part III, with only one copy of Parts I and II, would be considered non-compliance. The final rule clearly requires that each completed submission contains all parts of Form R (including Part IV, even if it is left blank). A Part I can be filled out once and photocopied for inclusion in each report, but each copy of Part I requires an original certification signature.

289. How can a facility be assured that the Agency has received a submitted form?

To be acknowledged of receipt of submissions, facilities should send forms using the U.S. Post Office "Return Receipt Requested" mail service. The Agency will not respond to cover letters requesting acknowledgement.

XIII. EPA'S SECTION 313 PROGRAM AND GENERAL INFORMATION

***290. A facility would like to receive information on who requested their section 313 Form R's. Can they request this information from the EPCRA Reporting Center?**

No, the request for the names cannot be made to the Title III Reporting Center. The names of those individuals and companies who requested section 313 Form R's can be obtained through a Freedom of Information Act (FOIA) request to EPA (mailing address: USEPA, Geraldene Green, Freedom of Information Officer, 401 M Street, SW, Washington, DC 20460).

291. Where is the court case citation that cites Title III of the Superfund Amendments and Reauthorization Act (SARA) as a distinct law separate from the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)?

The court case was decided on August 25, 1987 in the U.S. Court of Appeals (D.C. Circuit), case number 87-1334, A.L. Laboratories vs. EPA, 826 F. 2d 1123 (D.C. Circuit 1987).

292. Where will information on toxic chemical emissions and health effects be made available?

A computer database is available to the public through the National Library of Medicine's TOXNET computer system. The toxic release inventory database provides information on the toxic chemicals which are routinely released to the environment. Health and environmental effects information on the section 313 chemicals are also be available through TOXNET. EPA intends to make the data available on microfiche to all county public library systems and federal depository libraries. In addition, EPA has published a national report summarizing the data submitted. A magnetic tape of the entire database may also be purchased from NTIS.

293. Will EPA be calculating or monitoring concentrations of toxics in ambient air?

The Agency plans to use TRI data for the purpose of screening and identifying potential environmental problems.

294. What does OSHA consider to be a carcinogen under the hazard communication standard? Does a potential carcinogen need to be included under this definition?

According to OSHA's definition: "a chemical is a carcinogen or potential carcinogen for hazard communication purposes" if it is found on any of three lists: (1) the National Toxicological Program, Annual report on Carcinogens; (2) the International Agency for Research on Cancer (IARC) Monographs; or (3) 29 CFR Part 1910, Subpart 2, OSHA Toxic and Hazardous Substances. Both actual and potential carcinogens are included under OSHA's definition.

***295. De minimis levels of 0.1 percent are assigned to carcinogens under section 313. How are carcinogens defined? Is the OSHA definition or the ACGIH definition used?**

The OSHA definition is used to determine the de minimis limits for section 313 (see instructions to Form R for the list of de minimis limits). Chemicals listed by ACGIH as suspect human carcinogens meet the OSHA definition of a carcinogen only if they have been so classified by NTP or IARC. Under IARC, a chemical with a ranking of 1, 2A, or 2B, or having "sufficient" animal evidence is deemed to meet the OSHA definition.

***296. A facility was assessed a penalty under the section 313 enforcement response policy. How can that facility contest this penalty assessment?**

Section 313 penalties are administrative penalties (as opposed to criminal fines) and can be contested as follows: an EPA Administrative Law Judge will hear the case at the regional level or at EPA Headquarters. If the facility disagrees with that decision, they can appeal to an EPA Judicial Officer. If they disagree there, they can appeal to the US Court of Appeals, and lastly, to the US Supreme Court.

SECTION 313 DOCUMENT REQUEST FORM

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 your full mailing address in the space provided on this form. Send this request form to:

Section 313 Document Distribution Center
P.O. Box 12505
Cincinnati, OH 45212

☐ **Toxic Chemical Release Inventory Reporting Package for 1989 (EPA 560/4-90-001)**

Comprehensive guidance document for complying with section 313 requirements. This document includes a blank Form R, the reporting instructions, the section 313 final rule, questions and answers about Section 313 and the instructions for making magnetic media submissions.

☐ **Toxic Chemical Release Inventory Reporting Form R and Instructions (EPA 560/4-90-007)**

Detailed instructions for complying with the section 313 reporting requirements. This document includes a blank Form R, step-by-step instructions for completing Form R, and lists of SIC codes 20-39, all toxic chemicals, and Regional and State designated contacts.

☐ **Section 313 Rule (40 CFR 372)**

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

☐ **TRI Magnetic Media Submission Guidance Package (EPA 560/4-90-008)**

Reports under section 313 may be submitted by computer tape or floppy disk. This guidance package gives the format requirements and other details for such submissions.

☐ **Toxic Chemical Release Inventory Questions and Answers (EPA 560/4-90-003)**

Answers to frequently asked questions about the section 313 rule, organized by subject area. Appendix provides technical directives to clarify complex reporting issues.

☐ **Common Synonyms for Section 313 Chemicals (EPA 560/4-90-005)**

This document contains common synonyms for the specially listed section 313 chemicals (synonyms for chemicals in covered categories are not included).

☐ **Comprehensive List of Chemicals Subject to Reporting Under the Act (Title III List of Lists) (EPA 560/4-90-011)**

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 which reporting requirement(s) the chemical is subject to.

☐ **The Emergency Planning and Community Right-to-Know Act: Section 313 Release Reporting Requirements English Version: December 1989 (EPA 560/4-90-002)**

This 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 560/4-90-006)**

This pamphlet assists chemical suppliers who may be subject to the supplier notification requirements under section 313 of Title III. The pamphlet explains 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 (FR Reprint)**

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). Includes a copy of the trade secret substantiation form.

Industry Specific Technical Guidance Documents

EPA has developed a group of smaller, individual guidance documents that target activities in industries who primarily process or otherwise use the listed toxic chemicals.

- ☐ **Electrodeposition of Organic Coatings** January 1988 (EPA 560/4-88-004c)
- ☐ **Electroplating Operations** January 1988 (EPA 560/4-88-004g)
- ☐ **Formulating Aqueous Solutions** March 1988 (EPA 560/4-88-004f)
- ☐ **Leather Tanning and Finishing Processes** February 1988 (EPA 560/4-88-004l)
- ☐ **Monofilament Fiber Manufacture** January 1988 (EPA 560/4-88-004a)
- ☐ **Paper Paperboard Production** February 1988 (EPA 560/4-88-004k)
- ☐ **Presswood & Laminated Wood Products Manufacturing** March 1988 (EPA 560/4-88-004i)
- ☐ **Printing Operations** January 1988 (EPA 560/4-88-004b)
- ☐ **Roller, Knife and Gravure Coating Operations** February 1988 (EPA 560/4-88-004j)
- ☐ **Rubber Production and Compounding** March 1988 (EPA 560/4-88-004q)
- ☐ **Semiconductor Manufacture** January 1988 (EPA 560/4-88-004e)
- ☐ **Spray Application of Organic Coatings** January 1988 (EPA 560/4-88-004d)
- ☐ **Textile Dyeing** February 1988 (EPA 560/4-88-004h)
- ☐ **Wood Preserving** February 1988 (EPA 560/4-88-004p)

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 _____

OTHER RELEVANT SECTION 313 MATERIALS

The Toxic Release Inventory: A National Perspective (EPA 560/4-89-005)

This document summarizes the first year of toxic release inventory data, and analyzes where toxic chemicals are being released, along with the amounts and types of releases. Available from: Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325, (202) 783-3238, Stock Number: 055-000-00290-8, \$14.95.

Toxic Release Inventory -- On-line Database

A computerized on-line database of the toxic release inventory data is available through the National Library of Medicine's (NLM) TOXNET on-line system 24 hours a day. Other NLM files on TOXNET can provide supporting information in such areas as health hazards and emergency handling of toxic chemicals. Information on accessing the TOXNET system is available from: TRI Representative, Specialized Information Services, National Library of Medicine, 8600 Rockville Pike, Bethesda, MD 20894, (301) 496-6531, up to \$25.00 per hour.

Toxic Release Inventory 1987 -- Magnetic Tape

Contains the complete toxic release inventory for reporting year 1987. Includes a brief overview of section 313 reporting requirements, a sample Form R, lists of Regional and State section 313 contacts. Available from: National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4650, Document Number: PB89-186068-HCR, 1600 (BPI) Density -- \$1,025.00, 6250 (BPI) Density -- \$525.00.

Toxic Release Inventory 1987: Reporting Facilities Names and Addresses -- Magnetic Tape

Contains the name, address, public contact, phone number, SIC code, Dun and Bradstreet number of each facility that reported under section 313 in reporting year 1987. Also includes, if applicable, parent company name and the parent company's Dun and Bradstreet number. Available from: National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4650, Document Number: PB89-186118-HCR, \$210.00.

Section 313 Roadmaps Database -- Diskette

A database of sources of information on the toxic chemicals listed in section 313. The database, created in 1988, is intended to assist users of the toxic release inventory data in performing exposure and risk assessments of these chemicals. The roadmaps system displays information the section 313 toxic chemicals' health and environmental effects, the applicability of Federal, State, and local regulations, and monitoring data. Available from: National Technical Informa-

tion Service, 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4650, Document Number: PB89-133631-HCR, \$175.00.

Comprehensive List of Chemicals Subject to Reporting Under the Act (Title III List of Lists)

Available as an IBM compatible disk from: The National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4650, Document Number: PB 89-158653-HCR, \$50.00.

Estimating Releases and Waste Treatment Efficiencies for the Toxic Chemical Release Inventory (EPA 560/4-90-009)

Suggested methods on the development of release estimates and waste treatment efficiency calculations required on Form R. Available from: Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325, (202) 783-3238, Stock Number: 055-000-00270-3, \$11.00.

The Toxic Release Inventory: Meeting the Challenge (April 1988)

This 19 minute videotape explains the toxic release reporting requirements for plant facility managers and others. State governments, local Chambers of Commerce, labor organizations, public interest groups, universities, and others may also find the video program useful and informative. 3/4 inch = \$30.75; Beta = \$22.95; VHS = \$22.00.

To purchase, write or call:

Color Film Corporation
Video Division
770 Connecticut Avenue
Norwalk, CT 06854
(800) 882-1120

Chemicals in Your Community, A Citizen's Guide to the Emergency Planning and Community Right-to-Know Act September 1988 (OSWER-88-002)

This booklet is intended to provide a general overview of the Title III requirements and benefits for all audiences. Part I of the booklet describes the provisions of Title III and Part II describes more fully the authorities and responsibilities of the groups of people affected by the law. Available through written request for no charge from:

Emergency Planning and Community Right-to-Know
Information Service
Mailcode: OS-120
401 M Street, SW
Washington, DC 20460

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APPENDIX A

SECTION 313 POLICY DIRECTIVES

This appendix contains in-depth descriptions of some of the more complex issues involved in section 313 reporting.

The questions and answers contained in the body of this document address specific situations. For some issues, such as de minimis and article exemptions, however, multiple factors become involved in determining threshold and release information. These issues have generated many inquiries and requests for clarification from regulated facilities. The directives contained in this appendix provide comprehensive written interpretations of such issues. While the information contained in these directives is the most up-to-date guidance available from EPA, no new policy information is contained in this appendix that is not represented in other EPA documents.

If you feel you have specific circumstances or situations for which you need additional EPA guidance, contact your Regional section 313 coordinator or call the Emergency Planning and Community Right-to-Know Information Hotline at 1-800-535-0202, or in Washington, D.C. 202-479-2449.

DIRECTIVE #1: ARTICLE EXEMPTION

Listed toxic chemicals contained in articles that are processed or used are exempt from threshold determinations. For a material to be exempt as an article, an item must meet all of the following three criteria in the section 313 article definition; that is, the item must be one:

- i) which is formed to a specific shape or design during manufacture;
- ii) which has end use functions dependent in whole or in part upon its shape or design during end use; and
- iii) which does not release a toxic chemical under the normal circumstances of processing or use of the item at the facility.

If, as a result of processing or use, an item retains its initial thickness or diameter, in whole or in part, then it meets the first part of the definition. If the item's basic dimensional characteristics are totally altered during processing or use, the items would 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. However, cutting a manufactured item into pieces which are recognizable as the article would not change the original exemption as long as the diameter and the thickness of the item remained the same. For instance, metal wire may be bent and sheet metal may be cut, punched, stamped, or pressed without losing their article status as long as there is no change in the diameter of the wire or tubing or the thickness of the sheet.

An important aspect of the article exemption is what constitutes a release of a toxic chemical. Any processing or use of an article that results in generation of a waste containing the chemical can be considered a release which negates the exemption. Cutting, grinding, melting or other processing of a manufactured item could result in a release of a toxic chemical during normal conditions of use and, therefore, negate the exemption as an article.

However, there are two circumstances for which releases may not negate the exemption of the item as an article:

- If the resulting waste containing a listed toxic chemical is 100 percent recycled or reused, on-site or off-site, then the article status is maintained. For section 313 purposes, wastes containing toxic chemicals are not reportable on Form R if the waste is reused or recycled, on-site or off-site.
- If the processing or use of similar manufactured items results in a total release of less than 0.5 pound of a toxic chemical to any environmental media in a calendar year, EPA will allow this release quantity to be rounded to zero and the manufactured items remain exempt as articles. Facilities should round off and report all estimates to the nearest whole number. The 0.5 pound limit does not apply to each individual article, but applies to the sum of all releases from processing or use of like articles.

DIRECTIVE #2: DE MINIMIS EXEMPTION

The de minimis exemption allows facilities to discount certain minimum concentrations of listed toxic chemicals in mixtures they process or otherwise use in threshold and release determinations for section 313 reporting. This de minimis level is 0.1 percent by weight for OSHA defined carcinogens and 1 percent by weight for all other section 313 chemicals. 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.

1. Processing or Use of a Mixture

If a listed toxic 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 determination, release reporting, or supplier notification requirements.

For processes where the chemical concentration fluctuates above and below the de minimis level due to dilution or concentration activities, the de minimis exemption applies to the process stages where the de minimis level is not exceeded. This application is further described in the general section of the Toxic Chemical Release Inventory Reporting Form R and Instructions document (EPA 560/4-90-007).

Example of Decreasing Process Concentration to Below the De Minimis Level:

A facility buys 29 percent 1,1,1-trichloroethane solution and processes it as a constituent of a cleaning solution produced. The 1,1,1-trichloroethane is present in the final product at 0.5 percent. The facility must consider all amounts of the 1,1,1-trichloroethane in concentrations greater than 1 percent in mixtures for threshold and release determinations. Releases might include fugitive emissions from transferring, mixing, and storing the 29 percent 1,1,1-trichloroethane solution. However, releases of the 1,1,1-trichloroethane from the 0.5 percent solution, such as spills, loading, and storage tank emissions, do not have to be reported since the concentration is below the de minimis concentration of 1 percent for 1,1,1-trichloroethane. Supplier notification for the 1,1,1-trichloroethane in the cleaning product is not required because the toxic chemical is present below the de minimis level.

Example of Increasing Process Concentration to Above De Minimis Level:

A manufacturing facility receives toluene which 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 exceeds 1 percent in process streams, the amount present must be factored into threshold determinations and release estimates. The facility does not need to consider the amount of chlorobenzene in the raw material when making threshold determinations. They do not have to report emissions of chlorobenzene from storage tanks or any other equipment where the chlorobenzene content is less than 1 percent.

Example of Increasing Concentration Through Beneficiation:

An oil refinery receives crude oil containing less than the de minimis concentration of toluene. Through distillation, extraction, and catalytic reforming, the toluene content of the process stream is increased to above the de minimis level. De minimis exemption does not apply to this operation since the raw materials are obtained and processed at the facility to produce the toxic chemical through beneficiation. Note that beneficiation applies specifically to ores, crude petroleum, and natural gas.

2. Manufacture of the Listed Chemical in a Mixture

The de minimis exemption does not apply to manufacture of a toxic chemical. One exception applies to the toxic chemical which is made (manufactured) as an impurity and remains in the product distributed in commerce at below the de minimis levels, the amount remaining in the product is exempt from threshold determinations. However, any amount that is separated from the product (e.g., ends up in a wastestream) is subject to threshold and release determinations regardless of the concentration of the toxic chemical in the wastestream.

Example of Coincidental Manufacture as a Product Impurity:

Phosgene reacts with water to form trace quantities of hydrogen chloride (HCl). The resulting product contains 99 percent phosgene and 0.2 percent hydrochloric acid. The HCl would not be subject to section 313 reporting nor would supplier notification be required because the concentration of HCl is below its de minimis concentration of 1 percent.

Example of 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 produced and separated as byproduct must be included in threshold determinations and is subject to supplier notification requirements 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 exemption can, however, be applied to the chloroform remaining in the carbon tetrachloride as an impurity. Because the concentration of chloroform is below the de minimis level, this quantity of chloroform is exempt from threshold determination, release reporting, and supplier notification.

Example of 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 as waste must be included in threshold and release determinations 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.

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

3. De Minimis Levels Impact Supplier Notification Requirements

If the toxic chemical in a product (mixture or trade name product) is present below the de minimis level for that toxic chemical, supplier notification is not required for that chemical.

DIRECTIVE #3: MOTOR VEHICLES USE EXEMPTION

The use of "products containing toxic chemicals for the purpose of maintaining motor vehicles operated by the facility" is exempt from threshold determinations and release reporting under section 313. This exemption includes toxic chemicals found in gasoline, diesel fuel, brake and transmission fluids, oils and lubricants, antifreeze, batteries, cleaning solutions and solvents in paint used for touch up as long as the products are used to maintain the vehicle operated by the facility. Motor vehicles include cars, trucks, some cranes, forklifts, tow motors, locomotive engines, and aircraft.

1. Motor Vehicles Use Exemption Applies Only to "Otherwise Use" of Chemical

The exemption applies only for the "otherwise use" of these chemicals, not their manufacture or processing for distribution in commerce. For example, manufacturing gasoline is not exempt from reporting. Similarly, an automobile manufacturer who places transmission fluids in automobiles before shipping them would be "processing" the listed toxic chemical because the fluid is being incorporated into an article that the facility distributes in commerce.

Releases from the storage of fuel or motor vehicle maintenance products are exempt from reporting by virtue of the fact that their use is exempt. For example, releases of listed toxic chemicals in gasoline stored on-site for use by company owned vehicles, including vehicles from other facilities, are exempt from inclusion in facility-wide release determination for those chemicals.

2. Motor Vehicle Use Exemption Does Not Apply to Stationary Equipment

The motor vehicle exemption does not apply to use of lubricants for stationary process equipment such as pumps or compressors. Likewise, fuels used for furnaces, boilers, heaters, or any stationary source of energy are not exempt.

3. Uses of Fuels in Stationary Equipment May Not Trigger Reporting

In many cases, refined petroleum or fossil fuels may not trigger reporting because any section 313 chemicals (e.g., metals in fuel oil and coal) are usually present at very low concentrations and are likely to be below the de minimis concentration of 1% (0.1% for carcinogens). Manufacturers, processors and users of gasoline will have to take into account that gasoline contains several aromatic compounds that are on the section 313 list, including benzene, toluene, xylene, naphthalene, and anthracene.

Be aware, however, that combustion of fuels may coincidentally produce section 313 toxic chemicals, such as formaldehyde, hydrogen fluoride, and hydrogen chloride. Such coincidental manufacture is not subject to de minimis limitations (see the directive on de minimis) and amounts produced must be compared against the manufacturing threshold. The EPA publication, Toxic Air Pollutant Emission Factors -- A Compilation of Selected Air Toxic Compounds and Sources (EPA 450/2-88-006a) contains emission factors for many specific compounds emitted during fuel combustion.

DIRECTIVE #4: COMPOUNDS AND MIXTURES**1. Definition of Compounds**

A "compound" is any combination of two or more chemicals where the result is (in whole or in part) a product of a chemical reaction. In the formation of a compound, the reactant chemicals lose their individual chemical identities. Polymers formed as non-reversible reaction products are an example of compounds.

2. Definition of Mixtures

A "mixture" is any combination of two or more chemicals, if the combination is not, in whole or in part, the result of a chemical reaction. In a mixture, the individual components retain their identities. Mixtures include any combination of a chemical and associated impurities. Alloys are mixtures because the individual metals in the alloy retain their chemical identities.

3. Mixtures Must be Considered for Section 313 Reporting

Thresholds and release determinations for section 313 reporting must include the amount of the listed toxic chemical present above the de minimis level in all mixtures processed or otherwise used by the facility. If a listed toxic chemical is present in a mixture at or above the de minimis level, only the amount of the toxic chemical, and not the mixture itself, is used for threshold and release determinations.

4. Solutions Listed Under Section 313 are a Special Case

Section 313 toxic chemicals listed with the special qualifier "solution" refers to the form of the chemical and indicates that it is to be reported only if manufactured, processed, or used in solution form. However, only the weight of the actual chemical, not the full mass of the solution is used in threshold and release calculations.

5. Supplier Notification and Concentration Ranges Provide Information for Reporting

The section 313 supplier notification requirements are designed to provide chemical users with information on the identities and concentrations of listed toxic chemicals present in the mixtures that they use. There can still be situations, however, when a facility may not have this information for a mixture. If the facility knows that a mixture contains a toxic chemical but no concentration information is provided by the supplier, then the facility does not have to consider the chemical present in that mixture for purposes of threshold and release determinations. If a facility owner/operator only knows the lower bound concentration of a toxic chemical present in a mixture, the owner/operator should base their threshold determination on that lower bound concentration number. If only a range of concentrations is available for a toxic chemical present in a mixture, the owner/operator should use an average of the low and high concentrations numbers for threshold determinations.

DIRECTIVE #5: CHEMICAL CATEGORIES**1. All Compounds in a Listed Chemical Category are Aggregated for Threshold Determinations**

Toxic chemical categories listed under section 313 require a different approach when making threshold and release determinations. For a chemical that is included in a listed metal compound category, the total weight of that chemical compound, not just the parent metal, is used in making threshold determinations. A facility will need to calculate the total weight of all compounds that are in the category, sum the amounts involved throughout the facility in each threshold activity, and compare the totals to the applicable thresholds. A compound in a listed chemical category that is present in a mixture below the de minimis concentration based on the total weight of the compound is exempt from threshold and release calculations under section 313. Again, all individual members of a compound category must be totalled to determine if that compound category has exceeded the de minimis concentration in a mixture.

2. Make Threshold Determinations for Listed Toxic Chemicals Separately from the Listed Chemical Category

The section 313 list contains some listed substances that also are members of a listed chemical category. Threshold determinations for a specifically listed toxic chemical are calculated separately from the threshold determinations for the chemical category. For example, 2-Methoxyethanol, which is specifically listed on the section 313 list, is also a member of the glycol ether compound category. Because the chemical is specifically listed, a facility must make a threshold determination for 2-Methoxyethanol and a separate threshold determination for all other glycol ethers meeting the criteria for that chemical category which are not specifically listed under section 313.

3. Calculate Releases Based on Parent Metal For Metal Compound Categories

Once a reporting threshold is met for a metal compound category, releases of compounds are calculated based on the pounds of the parent metal released, rather than the total weight of the compound. EPA adopted this approach because of the difficulty of calculating releases of potentially numerous compounds within a metal compound category, and recognizing that methods and data for monitoring of the parent metal often exist while those for the compound(s) rarely will.

4. Optional Form R Submission for Parent Metal and Associated Metal Compound Category

If both the parent metal and associated metal compound category exceed their respective thresholds, one section 313 reporting Form R, covering all releases of the parent metal from activities involving both the chemical and the chemical category may be filed. For example, if a facility processes 30,000 pounds of lead and otherwise uses 13,000 pounds of lead oxide, the facility could submit one Form R for lead and lead compounds. On this Form R, the facility would report all activities involving lead and lead compounds and all releases of the parent metal, lead. This option, preferred by EPA, is available to facilities, although separate reports may be filed if desired.

DIRECTIVE #6: PCBs THRESHOLD DETERMINATION AND RELEASE REPORTING

Polychlorinated biphenyls (PCBs) are a listed chemical under section 313.

1. PCBs in Articles are Exempt

EPA has stated that transformers are articles (and thus exempt from threshold determinations) but that the release or removal of fluid from the transformer negates the article status. Only the article status of those transformers which have fluids removed or escaping is affected. However, the PCBs are still not reportable if no new PCB-containing fluid is added, since the threshold determination is based on fluid added, not lost. (See Directive #7 on reuse and recycling exceptions.)

EPA has stated that disposal or removal of articles does not constitute release. Therefore, disposal on-site or off-site transfer of the whole transformer, with fluid content undisturbed, does not negate the article status. The transformer is not included in threshold determinations, and does not have to be reported as a release or an off-site transfer of PCBs for purposes of section 313 reporting.

PCBs will rarely meet "otherwise use" thresholds. Calculating the threshold for "otherwise use" considers the amount of PCBs added to transformers during the reporting year and does not consider the amount of working fluid contained in the transformer. Legally and practically, facilities will not add PCB containing fluid to a transformer -- so thresholds should not be exceeded in this way.

2. Coincidental Manufacture of PCBs is Subject to Section 313

Facilities involved in coincidental manufacture of PCBs and further processing of mixtures containing PCBs (in excess of the 0.1 percent de minimis level) must perform manufacturing and processing threshold determinations.

3. Treatment or Disposal of PCBs Are Unlikely to Require Section 313 Reporting

Facilities outside the SIC codes 20-39 which treat and/or dispose of PCBs are not be subject to section 313 reporting. Those that are in the covered SIC codes may not be subject to reporting because treatment and/or disposal activities will not represent manufacturing, processing, or using PCBs as defined under section 313.

Processing represents a potentially covered activity. However, facilities are not likely to be incorporating PCBs into items distributed in commerce or to be using PCBs as starting material or intermediate for the production of other chemical substances that are distributed in commerce or used on site.

DIRECTIVE #7: REUSE AND RECYCLE EXCEPTIONS

Reuse or recycling of a listed toxic chemical can impact threshold determinations, article exemption status, reporting of off-site transfers and supplier notification.

1. Process or Otherwise Use of Toxic Chemicals in an On-Site Recycle/Reuse Operation May Be Exempt From Threshold Determinations

Quantities of a toxic chemical that are present in an on-site recycle/reuse operation at the beginning of the reporting year are not counted toward a threshold determination for that reporting year. This exemption prevents the facility from counting the same amount of a toxic chemical everytime it cycles through the on-site operation. However, only the amount of a toxic chemical newly added to an on-site recycle/reuse operation during the reporting year is counted in the threshold determinations. Such additional amounts would include any quantities of a toxic chemical added to "top off" the recycle/reuse operation or amounts added as result of start-up or total replacement of the contents of the recycle/reuse operation during the reporting year.

For example, if 2,000 pounds of ammonia is added in the calendar year to a closed loop refrigeration system that is run at its 12,000 pound capacity all year, then only 2,000 pounds would be applied to the "otherwise use" threshold for ammonia. In this case, the threshold (10,000 pounds for "otherwise use") would not be met if this is the facility's only use of ammonia. However, if the entire supply of ammonia in the refrigeration system was flushed and replaced in addition to the 2,000 pounds being added throughout the calendar year, then 14,000 pounds would be counted towards the "otherwise use" threshold for ammonia. In this case, the 10,000 pound threshold for "otherwise use" would be exceeded and a Form R report would be required for ammonia.

This exemption does not apply to toxic chemicals "recycled" off-site and returned to the facility. Such toxic chemicals returned to the facility are treated as the equivalent of newly purchased material for purposes of section 313 threshold determinations.

2. Article Status Is Maintained If All Releases Are Reused or Recycled

An important aspect of the article exemption is what constitutes a release of a toxic chemical. Any processing or use of an article that results in generation of a waste containing the chemical can be considered a release which negates the exemption. Cutting, grinding, melting or other processing of a manufactured item could result in a release of a toxic chemical during normal conditions of use and, therefore, negate the exemption as an article. However, if the resulting waste containing a listed toxic chemical is 100% recycled or reused, on-site or off-site, then the article status is maintained. Wastes containing toxic chemicals are not reportable under section 313 if the waste is reused or recycled, on-site or off-site.

3. Do Not Report Amounts Sent Off-Site for Reuse or Recycling As Off-Site Transfers

If a toxic chemical is sent off-site for purposes of reuse or recycling, the location does not have to be reported on Form R as an off-site transfer. EPA requires the identification of all other toxic chemicals in wastes which are transferred off-site for final disposal. Off-site reuse or recycling activities, however, are more closely related to facility products distributed in commerce.

4. Supplier Notification Applies to Chemicals Sent Off-Site for Reuse or Recycling

While the amount of the listed toxic chemical which is sent off-site for reuse or recycling does not have to be reported on Form R, supplier notification is still required to be provided to the off-site location if the location is a manufacturing facility in SIC codes 20-39, or is a facility outside of SIC codes 20-39 that distributes to manufacturing facilities.

DIRECTIVE #8: AMMONIA AND AMMONIA SALTS**1. Determine Total Ammonia By Adding the Ionized and Non-ionized Forms**

Aqueous solutions of ammonia contain both non-ionized ammonia, NH_3 , and ionized ammonia, NH_4^+ . As the chemical equation below indicates, an equilibrium exists between the non-ionized and ionized forms of ammonia.



The term "total ammonia" refers to the sum of these species, i.e., $\text{NH}_3 + \text{NH}_4^+$. The relative amounts of NH_3 and NH_4^+ are dependent upon a number of factors (e.g., temperature, pH, ionic strength). Estimates, of releases for section 313, should be made for total ammonia to account for all forms that are present.

Aqueous solutions of ammonium salts that dissociate in water are environmentally equivalent to aqueous solutions of ammonia. There are differences in the equilibrium concentrations of un-ionized ammonia (NH_3) and ionized ammonia (NH_4^+) between equimolar aqueous solutions of ammonium salts that dissociate in water and aqueous ammonia due to buffering effects from the counter ion in the ammonium salt solution. These differences are reflected by differences in pH. However, this difference disappears when both solutions are released to the environment. The relative amount of un-ionized ammonia present after release is dependent upon the conditions (i.e., pH and temperature of the receiving waters). Releases of ammonia to water and releases of ammonium salts to water are environmentally equivalent. Therefore, facilities which manufacture, process, or otherwise use an aqueous solution of an ammonium salt that dissociates in water are required to report these releases as ammonia if an activity threshold is met or exceeded.

For example, a facility that buys ammonium sulfate in dry form and then makes a solution by adding water is required to add all non-ionized ammonia, NH_3 , and ionized ammonia, NH_4^+ in the solution when making threshold determinations and release estimates.

2. Consider Ammonium Hydroxide Solutions as Ammonia Solutions

Ammonium hydroxide solutions should be considered to be ammonia because ammonium hydroxide is aqueous ammonia. The commercial products "aqua ammonia" or "ammonium hydroxide" are approximately equivalent to 30 percent solutions of ammonia in water. These products are considered mixtures of ammonia and water and therefore, should be reported as ammonia.

3. Consider Aqueous Solutions of Most Ammonium Salts as Ammonia

Ammonium salts that dissociate in water such as ammonium chloride, ammonium carbonate, and ammonium bicarbonate will dissociate in water to form solutions of ammonia. Consequently, facilities which manufacture, process, or otherwise use an aqueous solution of most ammonium salts are required to make threshold determinations and if necessary release estimates for ammonia under section 313.

Facilities that manufacture, process, or otherwise use more than one ammonium salt, or ammonia source must aggregate their data when making threshold determinations and release estimations. Also, the ammonia from each ammonium salt should be based on the percentage by weight of ammonia in the salt, and not the entire weight of the ammonium salt. For example, an aqueous ammonia solution is generated by dissolving 20,000 pounds of ammonia, 100,000 pounds of ammonium sulfate, and 100,000 pounds of ammonium chloride in water. Ammonium sulfate consists of 27% NH_3 by weight. Ammonium chloride consists of 32% NH_3 by weight. Thus, 79,000 pounds of ammonia [20,000 pounds

from ammonia + 27,000 pounds from ammonium sulfate + 32,000 pounds from ammonium chloride] should be compared to the 25,000 pound manufacturing threshold.

4. Determining Threshold Levels and Activities for Ammonia and Ammonium Salts

By adding an ammonium salt to water, the facility is manufacturing aqueous ammonia and consequently, is subject to the manufacturing threshold of 25,000 pounds. This manufacturing threshold applies to the ammonia portion of the ammonium salt. The counter ion is not considered for threshold determinations. If the resulting ammonium salt solution is "otherwise used" at a facility, both activities, manufacturing and otherwise used, should be indicated on the Form R.

If an ammonia byproduct is not incorporated into a product for commercial distribution, the "otherwise use" threshold of 10,000 pounds applies. For example, a facility uses sulfuric acid to etch chips, and then neutralizes the acid with ammonia forming ammonium sulfate. Since the ammonium sulfate is a byproduct and forms an aqueous solution of ammonia, the facility is otherwise using ammonia.

5. Special Considerations for Ammonium Nitrate and Listed Ammonium Salts

Aqueous releases of other ammonium salts which are individually listed on the section 313 list of toxic chemicals should be reported as releases of the specific ammonium salt rather than ammonia, because there may be concerns for the toxicity of the salt in addition to the concerns for ammonia toxicity.

Specifically, ammonium nitrate (CAS number 6484-52-2) is a listed chemical under section 313. Facilities which manufacture, process, or otherwise use aqueous solutions of ammonium nitrate should report their releases as ammonium nitrate (solution), and not as aqueous ammonia.