

ENVIRONMENTAL PROTECTION AGENCY**40 CFR Part 372**

(OPTS-400002A; FRL 3298-2)

Toxic Chemical Release Reporting; Community Right-to-know**AGENCY:** Environmental Protection Agency (EPA).**ACTION:** Final rule.

SUMMARY: This rule contains the uniform toxic chemical release reporting form as required by section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. Section 313 requires that owners and operators of certain facilities that manufacture, import, process, or otherwise use certain toxic chemicals report annually their releases of those chemicals to each environmental medium. This rule also requires certain suppliers of toxic chemicals to notify recipients of such chemicals in mixtures and trade name products.

DATE: This rule is effective March 17, 1988.

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SUPPLEMENTARY INFORMATION:**I. Authority**

The Agency is promulgating this rule pursuant to sections 313 and 328 of Title III of the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99-499 (42 U.S.C. 11913 and 11928). Title III is also titled "The Emergency Planning and Community Right-To-Know Act of 1986." Section 313 of Title III requires owners and operators of covered facilities to report annually their releases of listed toxic chemicals. Section 313 also specifies that EPA must publish a uniform toxic chemical release form. In addition, section 328 provides EPA with the authority to promulgate such regulations as may be necessary to carry out the purposes of Title III.

II. Background**A. Regulatory History and Summary of Public Participation**

On October 17, 1986, the President signed into law the Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. 99-499. The major function of this legislation is to

amend and reauthorize provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). However, Title III of SARA is a free-standing statute (not part of CERCLA) that is titled "The Emergency Planning and Community Right-To-Know Act of 1986." In general, Title III contains authorities relating to emergency planning, emergency notification, community right-to-know on chemicals, and a toxic chemical release inventory.

The focus of this rule is the toxic chemical release inventory provision contained in section 313 of Title III of SARA. Section 313 requires owners and operators of certain facilities that manufacture, process, or otherwise use a listed chemical to report annually their releases of such chemicals to each environmental medium. The reports are to be sent to both EPA and the State in which the facility is located. The basic purpose of this provision is to make available to the public information about releases of certain toxic chemicals that result from operations of certain facilities in their community.

EPA issued a proposed rule, published in the Federal Register of June 4, 1987 (52 FR 21152). The proposed rule contained the toxic chemical release inventory reporting form and interpretive requirements for reporting. The preamble of the proposed rule outlined the public participation activities that led up to the development of the proposal. After publication, EPA received over 100 written comments on the proposed rule. In addition, EPA held public meetings in Washington, DC, Chicago, IL, and San Francisco, CA. Attendees at these meetings presented oral comments representative of wide range of interests including the affected industry, environmental and other public interest groups, State and local governments, and individual citizens.

In addition, EPA has held other meetings with, and received other communications from, interested parties.

B. Overview of Final Rule Requirements

The reporting requirements of this rule apply to owners and operators of covered facilities that manufacture, process, or otherwise use listed toxic chemicals. A covered facility is one that:

- Has 10 or more full-time employees.
- Is in SIC codes 20 through 39.
- Exceeds an applicable manufacture, process, or use threshold.

EPA interprets "in SIC codes 20 through 39" to relate to the primary SIC code of the facility. If the facility is comprised of multiple establishments, facility coverage is based on a relative comparison of the value of products

shipped and/or produced at 20 through 39 establishments versus non-20 through 39 establishments in that facility.

EPA has included a definition of "full-time employee" and guidance on determining SIC coverage.

EPA has not included a small business exemption in this rule different from that provided by section 313. However, the Agency is allowing reporting in ranges for releases to an environmental medium and for off-site transfers of wastes that are below 1,000 pounds per year. EPA expects that small businesses will benefit most from this provision. The range reporting is for calendar years 1987, 1988, and 1989 only.

The thresholds are those provided by the statute:

For manufacturing or processing as defined—75,000 pounds for 1987, 50,000 pounds for 1988, 25,000 pounds per year for 1989 and thereafter.

For toxic chemicals otherwise used the threshold is 10,000 pounds per year for all years.

Reports must be submitted annually on or before July 1 for the preceding year's data.

The chemicals subject to reporting initially are those chemicals as provided by section 313(c), with certain technical modifications.

Additions or deletions of chemicals from the list may result from petitions or EPA's own review of the list. Any such changes will be by notice and comment rulemaking, and EPA will identify the reporting years which they apply.

Mixtures and trade name products imported, processed, or used at a facility must be evaluated for the presence of listed toxic chemicals. However, EPA has applied a *de minimus* concentration limitation of 1 percent (or 0.1 percent if the chemical is a carcinogen) consistent with the Occupational Safety and Health Administration (OSHA) Hazard Communications Standard (HCS) in 29 CFR 1910.1200. Toxic chemicals present in concentrations below the *de minimus* limit do not have to be factored into threshold and release reporting calculations.

In relation to reporting on mixtures, EPA has developed a supplier requirement. Owners or operators of facilities in SIC codes 20 through 39 who supply mixtures or trade name products containing listed toxic chemicals must notify their customers about the presence and concentration of those chemicals in their products. However, the *de minimus* limit as described above also applies to this requirement. The supplier notification requirement takes effect with the first product shipment in 1989.

Certain definitions have been modified. The definition of "article" has been revised to more closely parallel the OSHA HCS article definition. In addition, article processing or use is exempt from threshold and release determinations under this rule. However, respondents must pay careful attention to the non-release criteria in this definition.

The definition of "manufacture" retains the interpretation that coincidentally produced impurities and other byproducts must be accounted for. However, the consideration of an impurity is subject to the above-referenced *de minimis* limitation. This *de minimis* limitation does not apply to the byproducts produced coincidentally as a result of manufacturing, processing, use, waste treatment, or disposal.

EPA has attempted to clarify the differences between processing and use. Processing activities are basically those that incorporate a chemical into a product for distribution in commerce. Use activities are primarily non-incorporative activities.

A new part of the rule is an exemptions section. The major function of this section is to outline activities that are not subject to certain requirements. In particular, this section exempts activities in laboratories from threshold and release determinations.

There are a number of specific changes from the proposed rule in Form R, the Toxic Chemical Release Inventory Reporting Form. The form is more modular in design in order to reduce the frequency of the same information having to be filled in for each chemical-specific submission. Other specific changes are as follows:

1. The certification statement (Part I, Section 2) has been modified.
 2. The facility identification section of the form (Part I, Section 3) contains the name and telephone number of a public contact person for the facility. In the first reporting year, if this information is available, the facility must provide its latitude and longitude. In subsequent years, if this information is not readily available, the facility must develop it and provide it.
 3. In the chemical identity section of the form (Part III, Section 1) one change in the reporting requirements affects the generic chemical identity to be provided in cases where the specific chemical identity is claimed trade secret. The respondent is to develop its own generic chemical name rather than using a predefined generic name as EPA had proposed. The generic name is to be structurally descriptive of the chemical.
- Reporting may also be based on a generically identified mixture or trade

name product component. (See Part III, Section 2 of the form.) This reporting would occur in cases where a user has information that a generically identified component of a mixture or trade name product is a section 313 chemical that, by itself, exceeds a threshold but the user does not know the specific identity.

4. The release reporting section of the form (Part III, Section 5) contains several modifications. As mentioned above, for calendar years 1987, 1988, and 1989, facilities may take advantage of range reporting check boxes for releases of a toxic chemical to an environmental medium of less than 1,000 pounds per year. The releases to water portion of the form has been disaggregated by stream and respondents must indicate what percentage of the release was contributed by stormwater runoff if they have monitoring data. In addition, underground injection of wastes at a facility must be entered on a specific line in the release section.

The proposed columns indicating section 304 releases or that a permit applies to releases have been deleted from the final form.

5. EPA has included the reporting of transfers of section 313 toxic chemicals in waste to off-site locations. However, these transfers are to be reported in a separate section of the form (Part III, Section 6).

6. The waste treatment section of the form remains unchanged from the proposal except that EPA has provided for reporting sequential waste treatment.

7. The optional section on waste minimization has been retained but the narrative part of this section has been removed. A 3-year sunset provision will apply to this form section.

8. The form also contains a preformatted supplemental information sheet (Part IV).

III. Issues Relating to Facility coverage

A. Interpretation of SIC Code Coverage

Standard Industrial Classification (SIC) code coverage is one of three criteria specified in section 313(b) for determining whether a facility is subject to reporting. The preamble of the proposed rule stated that "in SIC codes 20-39" meant that the primary SIC code for the facility is within the 20 through 39 designations. The proposed rule also included facilities that engage in one or more activities in SIC codes 20 through 39 even if the primary SIC code for the facility itself is not SIC 20 through 39.

Many commenters argued against including "secondary" SIC activities. First, commenters stated that the definition of a facility is the whole

collection of buildings, not parts thereof. Second, they argued that SIC codes are used to define the primary purpose of an establishment, not all activities.

Therefore, including facilities that engage in activities in SIC code 20 through 39 but for which the primary SIC code for the facility is outside SIC code 20 through 39 is in direct contradiction to the established assignment and usage of SIC codes. Third, commenters stated that it exceeded the intent of the legislation and stretched the capabilities of the industrial classification system. Finally, the commenters stated that any increase in SIC code coverage should be through discrete and more focused rulemakings, as prescribed in section 313(b)(1)(B) and (b)(2), with substantial sector-by-sector justification to warrant increased reporting on non-manufacturing sectors.

The SIC code system was developed to classify establishments by type of economic activity. A SIC code applies to an establishment, which was defined as an economic unit, generally at a single physical location, where business is conducted or where services or industrial operations are performed. SIC codes are not directly applicable to facilities as defined in section 329(a) of Title III and this rule. A "facility" is defined as all buildings, equipment, structures, and other stationary items which are located on a single site or adjacent contiguous sites owned or operated by the same person. Therefore, a facility can be a much larger, more complex operation than an establishment. The definition of primary SIC code is generally considered to be the code related to the types of products distributed from an establishment that have the highest dollar value added.

Based on the public comments received on the proposed rule, the Agency has revised its interpretation of "in SIC Codes 20 through 39." The revision is designed to remove the confusion and ambiguity in the proposed rule caused by linking the concepts of facility and primary SIC code. The final rule provides that a facility is in SIC codes 20 through 39 based on the SIC codes for the one or more establishments that comprise the facility.

EPA has identified the following three possible scenarios relating establishments, SIC codes, and facilities:

1. *The establishment is the same as the facility.* Where an establishment is the same as a facility, given that the other eligibility criteria are met, and the establishment's primary SIC code is in 20 through 39, the facility is covered for purposes of reporting. Because there is

manufactured, processed, or otherwise used in excess of an applicable threshold, but only for those establishments they operate. Appropriate provisions have been added to the rule, form, and instructions to provide for this approach. To ensure that related companies do not avoid reporting for multi-establishment facilities, EPA has limited use of this approach to operators of separate establishments in the same facility who do not have any common corporate or business interest, i.e. they are not engaged in partnerships, joint ventures, ownership of a controlling interest in one by the other, or ownership of a controlling interest in both by a third person.

Another situation may arise where a person owns a parcel of land on which it operates one or more establishments and also leases land immediately adjacent to it on which that same person operates one or more additional establishments. Section 329(4) of Title III defines "facility" to include "a single site or . . . contiguous or adjacent sites . . . which are owned or operated by the same person . . ." Thus in this situation the "facility" would be the total site including the land owned by the person and the adjacent land leased by the person. To make the SIC code determinations and reporting threshold determinations, the person is required to consider the activities at all the establishments he or she operates on the total site. Having made the determinations that the total facility is a covered facility and that an applicable reporting threshold has been met, the person may submit separate reports for the establishments as described above.

C. Auxiliary Facilities—Laboratory Activity Exemption

Commenters requested that EPA clarify whether auxiliary operations which have primary SIC codes within 20 through 39 (manufacturing) are covered for purposes of section 313 reporting.

Auxiliary establishments are defined under the SIC code system as operations which primarily support other establishments. Common types of auxiliary operations are research and development laboratories, warehouses, storage facilities, and waste treatment facilities. The SIC code system assigns these facilities SIC codes according to the establishment they service; thus, auxiliary establishments tied to manufacturing establishments are given a manufacturing SIC code.

Commenters argued that the statute did not contemplate including establishments that do not engage in manufacturing. They stated further that

EPA has the discretion to modify the facility coverage criteria to correct such anomalies.

1. *Auxiliary facilities must make a compliance determination.* EPA has determined that the most consistent way to treat a stand-alone auxiliary establishment (i.e. one that is not a part of a larger facility) is to require that it make a compliance determination. If such an establishment is classified in SIC codes 20 through 39 because it supports a manufacturing activity, it must review its chemical activities and the level of such activities to determine if it must report. It is possible that an establishment such as a warehouse standing alone will not be subject to reporting, if no manufacture (including importation), processing (including repackaging), or use of covered toxic chemicals occurs, the facility is not subject.

Similarly, persons who own or operate auxiliary establishments that are within the defined boundaries of a larger multi-establishment facility must review the manufacture, processing, or use activities involving listed toxic chemicals at all the establishments in the facility. Such auxiliary establishments must be factored into the "value of shipments and/or production" calculation to the extent it is applicable, and must be counted toward the employee threshold. The activity of manufacturing, processing, or using a toxic chemical in the auxiliary establishment counts toward the chemical thresholds for the facility.

2. *Exemption of laboratory activities.* Commenters stated that it would be burdensome to require laboratories to determine whether they must comply because of the potentially large number of mixtures and chemicals on-site in small volumes and the relatively rapid turnover of such chemicals and mixtures in the laboratory setting.

EPA agrees with comments that manufacturing, processing, or use of chemicals in a laboratory under the supervision of a technically qualified individual should be exempt from the provisions of this rule. This exemption is consistent with the exemption provided in rules implementing sections 311 and 312 of Title III, and the OSHA HCS. The exemption does not apply to specialty chemical production or pilot plant scale operations.

The Agency believes that this exemption provides a consistent and necessary reduction in the reporting burden. For example a stand-alone laboratory is classified in SIC codes 20 through 39 because it is an auxiliary facility supporting a manufacturing operation of a company. This laboratory

is, in essence, exempt from the threshold determination and reporting requirements of this rule. Also a covered facility will not have to review chemical manufacture, processing, or use in a laboratory within that facility, provided such operation is not conducting specialty chemical production or pilot plant scale activities.

If a toxic chemical is removed from such a laboratory for further processing or use in the facility, the facility must factor such amounts into threshold determinations and release reporting.

The Agency does retain certain concerns about releases of toxic chemicals from laboratories. Therefore, EPA will review laboratories as part of its overall review of the types of facilities that should be covered by amendments to this rule.

D. The Rule Contains no Modification of Facility Coverage

EPA has discretionary authority to modify the coverage of facilities under section 313(b)(1)(B). The report of the congressional conference committee for Title III states that any such modifications are limited . . . to adding SIC codes for facilities which, like facilities within the manufacturing sectors SIC codes 20 through 39, manufacture, process or use toxic chemicals in a manner such that reporting by these facilities is relevant to the purposes of this section." (H.R. Rep. No. 962, 99th Cong., 2nd sess. 292—hereafter referred to as the conference report.) The conference report further states that section 313(b)(1)(B) is given to provide EPA with the authority to adjust coverage but that "it does not provide EPA the authority to change the overall scope of the reporting program for Toxic Chemical Release Forms." Id. at 293.

The Agency proposed that facilities within SIC codes 20 through 39 be required to report. Comments from trade associations, private companies, State agencies, public interest groups and academia requested that EPA use its authority under section 313(b)(1)(B) to include other facilities. These commenters noted that other kinds of facilities beyond those in the manufacturing sector can have significant releases of toxic chemicals. They contend that if the current scope of reporting is not expanded, the public will not realize that manufacturing releases constitute only a part of the total releases of these chemicals into the environment.

Most commenters provided specific examples of facilities that they would like to see added. They include:

and reasonable judgment on the part of the facility's management. No further monitoring or analysis of production, process, use, or disposal streams is required, consistent with section 313.

2. *Import of toxic chemicals.* Section 313(b)(1)(c) defines "manufacture" to include import. Thus the owner or operator of a facility that manufactures or imports a toxic chemical is potentially subject to the reporting and supplier notification provisions of the final rule. If a toxic chemical is both manufactured and imported at a facility, the total amount manufactured and imported is aggregated for purposes of determining whether the reporting threshold for manufacturing has been met. Thus it is important for a facility to determine whether it is importing a toxic chemical, either in relatively pure form or as part of a mixture.

The U.S. Customs Service defines an importer as a person who imports a chemical into the customs territory of the United States and includes the person primarily liable for the payment of any duties on the merchandise or an authorized agent acting on that person's behalf, the consignee, the importer of record, the actual owner if an actual owner's declaration and superseding bond has been filed in accordance with 19 CFR 141.20, and the transferee, if the right to draw merchandise in a bonded warehouse has been transferred in accordance with Subpart C of 19 CFR Part 144.

Section 313 refers to a facility which manufactured (including imported) a toxic chemical. Section 313 does not define "import" or explain when a facility is considered to have imported a chemical. Given the broad Customs definition of who is an importer, several persons may be "importers" for any given shipment of a toxic chemical brought into the customs territory of the U.S. For example, a facility may conduct the entire import transaction using its own personnel in which case it would be the only importer. In other cases, facilities may act through import brokers or others who do the paperwork and pay the duties but provide for direct shipment of the chemical to the facility.

EPA determined that for a given imported shipment of a toxic chemical, only one facility should be considered to have imported the shipment. Otherwise, there could be double counting of each shipment. Thus for purposes of the final rule, EPA has defined "import" to mean to cause a chemical to be imported into the customs territory of the U.S. For purposes of the definition of "import," EPA has defined "to cause" in a way which designates the person who in effect controls the importing of the

chemical, i.e. the person who intends that it be imported and controls the identity of the chemical and the amount to be imported, not those who are merely involved in the transaction.

Accordingly, through this definition, a facility which completes the entire import transaction for toxic chemical using its own personnel would be considered to have imported the chemical. Further, a facility that ordered the import of a toxic chemical through an import broker, specifying the identity, amount, and that it is to be imported, also would be considered to have imported the chemical. However, if a facility ordered a toxic chemical from a chemical supplier in the U.S., who in turn decided to import the chemical to fill the order or filled the order from a previously imported stock of the chemical, the chemical supplier's facility would be considered to have imported the toxic chemical. The facility which ordered the chemical would not be considered to have imported the chemical because it did not control the amount to be imported or specify that it was to be imported.

In most cases, determining whether a facility caused the import of a toxic chemical will not be critical because a facility in SIC codes 20 through 39 which receives such a toxic chemical from an import shipment is also likely to process or otherwise use the chemical. Since the thresholds for manufacturing and processing are the same and the use threshold is lower than the manufacturing threshold, EPA does not believe that defining "import" in this way will result in any facility escaping the reporting requirements of the final rule. In addition, EPA does not believe that facilities will evade supplier notification requirements under this approach.

3. *Toll Manufacturers of Toxic Chemicals.* EPA recognizes that it is a practice in the chemical industry for one company to contract with another company to produce a chemical exclusively for it. This may be done to use available production facilities, to take advantage of cheaper production techniques, or to avoid building additional plant capacity. The company initiating the activity typically retains control over the identity of the chemical, the amount to be produced, and the production technology. The company actually producing the chemical in these situations is often referred to as a "toll manufacturer."

Under TSCA, which authorizes EPA to apply certain requirements to persons who manufacture chemical substances and mixtures, EPA has sometimes treated both companies in a toll

manufacturer relationship as "manufacturers" subject to the requirements. However, for purposes of section 313 reporting, EPA interprets the definition of manufacture to apply only to a facility that actually produces a toxic chemical. Thus, in a toll manufacturer situation, the facility actually producing a toxic chemical would be subject to reporting, if it produced more than the threshold for manufacturing. The other company's facility would be subject to the reporting for that chemical only if it also actually manufactured the chemical in excess of the manufacturing threshold, or if it processed or otherwise used the chemical in excess of an applicable threshold. EPA believes this interpretation is consistent with congressional intent to capture releases associated with manufacturing activities.

B. Clarifications Regarding Process and Otherwise Use; Exemption of Certain Uses

EPA included the statutory definition of "process" in the proposed rule and proposed a definition of "otherwise use." The statute does not specifically define "use" or "otherwise use" yet there are different reporting thresholds associated with manufacturing and processing activities versus the "otherwise using" of a listed toxic chemical. Therefore, the basic purpose of including a definition of "otherwise use" was to distinguish for the potential respondent what activities would be subject to the different thresholds. The proposed "otherwise use" definition was broad in scope, basically encompassing all uses of a chemical at a facility not covered by the definitions of the terms "manufacture" or "process." The preamble of the proposed rule contained one example of processing versus use of a chemical, and the proposed instructions for the form gave examples of manufacturing, processing, and use activities.

Commenters from industry took issue with the proposed definition of otherwise use and requested further clarification of the differences between processing and use activities. Still other commenters recommended that certain uses be exempted from the final rule reporting requirements.

1. *Clarification of the terms "process" and "otherwise use".* In the public meetings, workshops, and in a preliminary question and answer document on section 313 issues, EPA has made the following basic distinction between processing and use activities.

counts could be determined by an average of the quarterly maximum number of full-time employees for the calendar year. This option would be the most burdensome to calculate.

EPA decided to define full-time employee on the basis of a full-time equivalent calculation. Total annual hours worked by all employees, including contract employees, at the facility is divided by 2,000. In this way, a facility is able to make an easy determination of whether it equals or exceeds a 10 employee equivalent level by determining if the total hours worked at the facility equals or exceeds 20,000 hours. EPA believes that this approach provides a fair and consistent measure of employment.

D. Definition of Article and Article Exemption

These issues deal with the definition of article and whether articles should be explicitly exempt for the purposes of threshold determinations and release calculations.

1. Modification of the article definition. The definition of article that appeared in the proposed rule is the same definition used in regulations under TSCA. One commenter asserted that the definition of article that appears in the OSHA HCS should be substituted for the proposed article definition. The commenter contended that the OSHA article definition is more appropriate for section 313 because the language in the latter part of the OSHA definition relates to the potential for release and exposure during normal end use. Also, it would be consistent with provisions of the Title III sections 311 and 312 rule (52 FR 38344). The instructions for the sections 311 and 312 reporting forms incorporate exemption language from the OSHA HCS, part of which is the exemption of articles.

The article definition in the proposed rule read as follows:

"Article" means a manufactured item which is formed to a specific shape or design during manufacture, which has end use function(s) dependent in whole or in part upon its shape or design during end use, and has either no change in chemical composition during its end use or only those changes of composition which have no commercial purpose separate from that of the article, or result mixtures or articles, except that fluids and particles are not considered articles regardless of shape or design. The article definition in the OSHA HCS reads as follows: "Article" means a manufactured item: (i) Which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which does not release, or otherwise result in exposure to a hazardous chemical under normal conditions of use.

The first part of each definition are identical. The latter parts of the definitions differ significantly. The commenter pointed out that the OSHA HCS definition will function more appropriately because it will keep certain exposure-causing items from being considered articles whereas the proposed definition would not. The commenter also asserts that the exception at the end of the proposed definition for fluids and particles is unnecessary.

In its review of this issue EPA considered several options, including retaining the article definition as proposed, retaining the proposed definition but clarifying the wording of the latter part, and adapting the OSHA HCS article definition for use in this rule. EPA has determined that it agrees with the commenter and has adopted the OSHA HCS article definition with some modifications because it is more appropriate for section 313 purposes than the TSCA definition. The TSCA article definition is worded primarily to distinguish "chemical substances" and "mixtures" from those manufactured items that contain chemical substances and mixtures. The OSHA HCS definition was adapted from the TSCA regulatory definition, for the purpose of exempting certain items from the MSDS preparation requirements; the supposition being that the item's normal end use would not release or cause exposure to a "hazardous chemical" in the article.

The revised article definition in the final rule reads as follows:

"Article" means a manufactured item: (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 normal conditions of processing or use of that item at the facility.

EPA wishes to emphasize that under this definition an item will not qualify as an article if there are releases of toxic chemicals from the normal use or processing of that item. When attempting to apply this definition to an item used or processed at a facility, the facility should keep this release factor in mind. For example, under normal conditions the milling of metals (e.g. copper) can generate fume or dust containing listed toxic chemicals. Thus, the metal or plastic item being processed would not qualify as an article in that manufacturing setting. However, if the only "release" from processing an item is the disposal of solid scrap (e.g., pieces of cloth or sections of pipe that are recognizable as having the same form as the item) then

EPA considers that the processed item still qualifies as an article.

Toxic chemicals in an item that qualifies as an article are not subject to reporting even if the facility disposes of the article after use. For example, the facility uses a battery that contains lead. Lead is not released from the battery during normal use at the facility. When the facility disposes of the battery, it does not have to factor the amount of lead in that article into a threshold or release calculation.

2. Articles exemption. The proposed rule covered the processing and use of toxic chemicals and mixtures containing such toxic chemicals. EPA included a proposed definition of article but, as certain commenters pointed out, did not specifically exclude the use or processing of articles. Commenters encouraged EPA to specifically exempt the use and processing of articles from the threshold determination and release reporting requirements of the rule. According to these comments, the normal end uses of such articles by definition do not result in the release of toxic chemicals contained within such articles. Therefore, such an exemption will reduce the burden on industry significantly because fewer materials will have to be evaluated for threshold and release determinations.

The purpose of including an article definition in the rule was for the expressed purpose of exempting such articles. The final rule contains a new exemption section (§ 372.38). This section exempts articles containing covered toxic chemicals as defined under section D above from threshold and release determinations. EPA cautions facilities to evaluate carefully normal processing and use of an item to determine if release of a toxic chemical occurs (i.e., if indeed the item qualifies under the definition as an article).

V. Threshold Issues

A. Comments Requesting Modification of Thresholds

The thresholds for reporting that were presented in the proposed rule are the thresholds mandated by section 313. The threshold for manufacturing or processing a toxic chemical is 75,000 pounds for 1987, 50,000 pounds for 1988, and 25,000 pounds for 1989 and thereafter. The threshold for otherwise using a toxic chemical is 10,000 pounds for any year. EPA has the authority to modify these thresholds provided that such modification obtains reporting of a substantial majority of total releases of each toxic chemical for all facilities subject to reporting.

presence and composition of covered toxic chemicals in mixtures at the facility. The proposed instructions for the form also outlined a method for factoring mixtures into the threshold determinations. In addition, the proposal presented EPA's belief that suppliers of mixtures and trade name products have a responsibility to provide their customers with information sufficient for them to comply with the requirements of section 313. EPA requested comment on several options for a supplier notification requirement in connection with, or in lieu of, a user determination requirement. EPA received a wide range of comment on the mixture issue.

A. De Minimis Concentration Limit

A predominant area of comment was the request for some type of *de minimis* concentration limitation for listed toxic chemicals in mixtures. Commenters argued that many mixtures or trade name products may contain "trace" quantities of section 313 chemicals. They asserted that it would be both unreasonable and extremely burdensome for processors and users of such products to have to account for these quantities in developing threshold determinations. In addition, commenters asserted that it would be equally as burdensome for suppliers of these products to have to determine and disclose small percentages of section 313 chemicals in their products beyond that currently required under the OSHA HCS. Most commenters suggested that EPA adopt a *de minimis* concentration limitation consistent with the OSHA HCS requirement. The HCS provides that a supplier does not have to list a "hazardous chemical" component in a mixture if that chemical comprises less than 1 percent of the mixture or 0.1 percent where the chemical is a carcinogen (as defined in the HCS). Other commenters suggested *de minimis* levels ranging from 2 percent to 10 percent. Other related concepts would exempt from consideration solutions containing greater than 75 percent water or would establish *de minimis* release standards.

Based on the comments received, EPA has determined that it is reasonable and appropriate to adopt a *de minimis* concentration limitation for toxic chemicals in mixtures under section 313. EPA believes that it is necessary to provide a *de minimis* limitation to help reduce the information development burden both on the part of the user and the supplier of such products. For the final rule EPA has adopted a *de minimis* limitation of 1 percent, or 0.1 percent in the case of an OSHA HCS defined

carcinogen. EPA believes that the *de minimis* level chosen is appropriate for two reasons. First, it is consistent with existing OSHA HCS requirements for development of MSDS information and with other requirements under sections 311 and 312 of Title III. Suppliers of products are familiar with these levels and, at least for the first two years of reporting, users of these mixtures are only likely to be able to rely on the product MSDS for information about the content and percentage composition of covered toxic chemicals in these products. Second, EPA does not expect that the processing and use of mixtures containing less than the *de minimis* concentration would, in most instances, contribute significantly to the threshold determinations or releases of listed toxic chemicals from any given facility.

Therefore, any listed toxic chemical that is present in a mixture below these *de minimis* concentrations does not have to be factored into threshold or release determinations by the facility. This exemption applies to all mixtures or trade name products imported, processed, or otherwise used at the facility.

EPA defined "mixture" in the final rule to cover combinations of chemicals that are mixed together, as well as relatively pure chemicals which have impurities present. Thus, if a toxic chemical were present as an impurity with another chemical at a level less than 1 percent, or 0.1 percent in the case of a carcinogen, the *de minimis* exemption would apply, and the person processing or using the toxic chemical impurity would not be required to count the quantity present as an impurity toward the threshold determination. They would also not be required to consider that quantity when determining releases to the environment.

The *de minimis* exemption applies only to the presence of the toxic chemical in the mixture. If a person formulates a mixture by mixing various chemicals together, including a toxic chemical, the person is a processor of the toxic chemical. The person must consider the quantity of the toxic chemical added to the mixture, both for threshold determinations and release reporting, including releases from the formulation activity. However, such a person would not be required to consider releases of the toxic chemical resulting from its presence in the mixture at less than 1 percent or 0.1 percent, as appropriate.

If a person manufactures a chemical and in the process creates a toxic chemical impurity present at less than 1 percent or 0.1 percent, as appropriate,

the person is not required to consider the amount of the toxic chemical so manufactured for threshold determinations or release reporting (provided that the impurity is not separated from the commercial product).

EPA plans to review this *de minimis* policy and the assumptions upon which it is based in light of data that will be collected under this rule.

B. User Determination Versus Supplier Notification

As stated in the introduction to this unit, EPA proposed a detailed approach for users to make a reasonable determination of the presence of section 313 chemicals in products they use. In response to the proposed approach, one commenter stated that the standard in the statute is "known to be present at the facility" and asserted that a facility has no affirmative obligation to seek information where there is no apparent information about a section 313 chemical in a mixture beyond such readily available sources as the MSDS for that product.

Others commented on the options in the proposed rule preamble for suppliers to notify customers or EPA about the presence and percent composition of covered toxic chemicals in their products. A number of commenters stated that a supplier should be required to notify its customers about the presence and composition of listed toxic chemicals in the product. From an overall burden standpoint, these commenters stated that there are naturally fewer suppliers than users. Without a supplier notification provision, users would have to contact each of their suppliers each year. These commenters stated that a supplier notification requirement would ultimately place less burden on the suppliers themselves because their staffs would not have to be constantly responding to user requests. Also, most suppliers could "piggyback" such notice with the OSHA HCS required MSDS for the product and thereby not incur a significant additional burden. Other commenters agreed with the supplier notification concept but preferred that EPA allow a voluntary customer/supplier interaction, not require such notification as part of the rule. Other commenters stated that EPA does not have the authority under section 313 to require this type of notification nor would it be appropriate to invoke the general rulemaking authority under section 328 of Title III to authorize such requirement.

Other comments addressed trade secret related implications of a supplier

present, its generic chemical identity, and its upper bound concentration in the mixture or trade name product. However, even after supplier notification begins, customers may receive such mixtures or trade name products from persons not in SIC codes 20 through 39 or from foreign suppliers. Neither of these suppliers would be subject to the supplier notification requirements. Therefore, customers might receive less information about toxic chemicals in such mixtures and products. Accordingly, EPA has included in the final rule and instructions detailed provisions for reporting by owners and operators of covered facilities who import, process, or otherwise use toxic chemicals as part of mixtures or trade name products.

All reporting by persons who import, process, or use mixtures or trade name products containing toxic chemicals is predicated on those persons knowing that toxic chemicals are present in the mixture or trade name product. If such a person receives a mixture or trade name product, the person must determine whether it meets an applicable reporting threshold in either of the following situations: (i) The person was told, or had determined through chemical analysis or otherwise, the specific identity or CAS Registry Number of a chemical in the mixture or trade name product and that chemical appears in § 372.65 of the rule; or (ii) the person was told that the mixture or trade name product contains a toxic chemical subject to section 313. If either of these situations applies, the person is not required to inquire further about the mixture or trade name product. Section 313 and the final rule do not impose any obligation to test a mixture or trade name product to determine whether it contains a toxic chemical. However, if a person has tested such a mixture or trade name product for its own reasons, it must consider the results in determining whether to report.

The final rule identifies six scenarios for persons making reporting determinations for toxic chemicals in mixtures or trade name products:

1. The person knows the specific chemical identity of the toxic chemical in the mixture or trade name product, and

a. The person knows its specific concentration in the mixture or product;
b. The person knows only its upper bound concentration in the mixture or product; or
c. The person has no information about its concentration in the mixture or product.

2. The person does not know the specific chemical identity of the toxic

chemical in the mixture or trade name product, and

a. The person knows its specific concentration in the mixture or product;

b. The person knows only its upper bound concentration in the mixture or product; or

c. The person has no information about its concentration in the mixture or product.

When the person knows the specific chemical identity of the toxic chemical in the mixture or trade name product, making the threshold determination will involve combining the amount of the chemical in that mixture or product with amounts of the same chemical also manufactured, processed, or otherwise used at the facility. However, the person is only required to consider the weight of the toxic chemical in the mixture or trade name product, not the total weight of the mixture or trade name product.

Determining the weight of the toxic chemical in the mixture or trade name product depends on the information the person has about the percentage composition of the chemical in the mixture or product. If the person knows the specific concentration, determining the weight of the chemical is straightforward. However, if the person knows only the upper bound concentration, the person is required to assume that the toxic chemical is present at that concentration and calculate the weight accordingly. In the event that the person does not know the specific concentration or the upper bound concentration then the person is not required to further estimate or otherwise factor that chemical in that mixture or product into threshold or release calculations.

Where the person does not know the specific chemical identity of the toxic chemical in the mixture or trade name product, the person is required only to consider the quantity of that chemical component in that mixture or product in making a threshold determination. Since the person does not know the specific identity of the chemical, the person cannot combine the weight of the chemical in the mixture with any other toxic chemicals manufactured, processed, or otherwise used at the facility because the person cannot determine that they are the same chemical. Accordingly, the threshold determinations and the reporting, if any, will be specific to the toxic chemical in the mixture or product.

Determining the weight of the toxic chemical in the mixture or product in this case is the same as for determining the weight when the specific chemical identity is known.

Determining the weight of the toxic chemical in the mixture or product in this case is the same as for determining the weight when the specific chemical identity is known.

Once the applicable threshold is met, reporting the chemical identity varies with the degree of knowledge. If the specific identity is known, the person must report the identity and CAS Registry Number, if any, in Part III, Section 1 of Form R. If only a generic chemical name is known, that name must be reported in Part III, Section 2 of Form R. If no generic name is known, the trade name or other name applied to the chemical, or to the mixture or product of which it is a component, must be reported in Part III, Section 2 of Form R.

With respect to estimating releases, such estimates must be based on the concentration of the toxic chemical in the mixture or trade name product.

VII. Form Specific Issues

A. Certification Statement

Section 313 requires that a senior management official sign a certification statement for submitted forms. The proposed statement would have required that the person certify that the submitted information is true, accurate, and complete based upon his or her personal examination of the completed forms.

The Agency received several comments on certification relating to three issues: (1) The definition of a senior management official, (2) the requirement that the certifier has "personally examined and is familiar with" the submitted information, and (3) the requirement that the company must certify that the submitted information is true, accurate, and complete.

1. *Senior management official.* Section 313(g)(1)(B) defines a senior management official as "a senior official with management responsibility for the person or persons completing the report."

In the preamble to the proposed rule, EPA stated that a senior management official could be an officer of a company, a facility manager (rather than a corporate officer), or the manager of environmental programs (for the facility or for the corporation) responsible for certifying similar reports under other environmental regulatory requirements.

Commenters were concerned that neither definition appeared in EPA's regulations or in the instructions to the proposed form. Also, commenters wanted to maintain flexibility of having either a facility management officer or

Recovery Act (RCRA)), the NPDES permit numbers, and the receiving stream or body of water for the facility. Commenters pointed out that some multi-establishment facilities can have more than one of these identifiers or permits, or may discharge a reported toxic chemical into two or more streams or bodies of water. Therefore, the Agency has provided additional lines on the form for these reporting elements.

C. Releases to the Environment

1. *Total release.* EPA proposed that reporting under section 313 account for the total amount of toxic chemicals entering each environmental medium from the facility. EPA based this interpretation on the statutory provisions.

The definition of "releases" contained in section 329 of Title III covers all types of releases, both intentional as well as unintentional. Section 313 requires reporting of "the annual quantity of the toxic chemical entering each environmental medium." This led EPA to ask for information on total releases from the facility. Commenters cited the conference report to support their claim that Congress did not intend for facilities to include accidental or unintentional type of releases in the quantities reported under section 313. In discussing section 313 the conference report begins by saying that:

This section establishes requirements for annual reporting on releases of certain toxic chemicals to the environment. This reporting covers releases that occur as a result of normal business operations, as distinct from abnormal, emergency releases which must be reported under section 304.

Thus, commenters would argue, the statutory definition of release is modified by the conference report.

EPA believes that the above-quoted conference report language was provided for the purpose of clarifying differences between the basic types of reporting that occur under section 313 versus section 304 of Title III. A section 313 report is an annual report involving annual aggregate estimates of releases to all environmental media. A report under section 304 is an emergency notification. EPA does not find language in section 313 or any other conference report language that precludes the quantity of a toxic chemical released during an "abnormal, emergency release" from being included in the total annual amount reportable under section 313.

One of the purposes of section 313 is assessment of cumulative exposure to toxic chemicals. EPA believes that the best way to accomplish this assessment is to include all releases of toxic

chemicals over the reporting year regardless of the mode of release. EPA also believes that most facilities will calculate their releases based on a total release concept. Therefore, it could be more burdensome to require a facility to "back-out" the section 304 releases and other "accidental" type releases than to just leave them as part of the total. Also, if the quantities of section 304 releases were excluded from the annual aggregate total, most data users would not have ready access to this additional data. This is because section 304 releases quantities will not be entered into a nationally accessible computer data base as will section 313 data. Thus the public can do no automated cross-matching of facilities in order to obtain this additional release data for exposure analysis purposes. Therefore, EPA is retaining its interpretation of total releases for the purpose of section 313 reporting.

2. *Removing the section 304 release indicator.* EPA proposed that companies indicate by checking a box whether or not any part of the reported release was an accidental release reported under section 304 of Title III. Section 304 releases are certain accidental releases of specific chemicals listed under section 302 of Title III as well as section 103 of CERCLA (RQ chemicals). The purpose of asking about section 304 releases on the section 313 form was to provide the public with an additional means of obtaining information about total releases (both routine and accidental) of chemicals subject to reporting under section 313. Several commenters protested that asking for information about section 304 was not in keeping with congressional intent and created trade secret problems.

Concerning trade secrets, commenters were concerned about linkages that could be made between the section 313 report and the section 304 report. Under section 304, companies are not allowed to claim chemical identity as trade secret; under section 313, chemical identity is the only information element that can be claimed as a trade secret. The situation could arise where the release of a particular chemical reported under section 304 was the only release of that chemical during the calendar year. By checking the section 304 box on the section 313 form, commenters asserted that competitors could find the chemical identity by referring to the section 304 report.

EPA believes that the section 304 check-box would create unnecessary reporting complications. Therefore, EPA has decided to delete the check-box.

3. *Deletion of the permit indication.* EPA proposed that for each aggregate

release, facilities would indicate whether the toxic chemical is specifically cited in a permit by checking a "yes" or "no" box. The intent of the permit indication was to provide a starting point for the public to obtain relevant permit information on the specific chemical released. It was also a way of providing some kind of information on air permits without requiring facilities to list numerous air permit numbers. Most of the comments on this issue were negative. There was strong concern that this check-box would be misleading and confusing to the public. Commenters asserted that a "no" answer may lead the public to believe the release is unpermitted or "unallowed" and thereby imply that a facility is in violation of the law. The permit indication also does not reveal how much of the release is covered by permits. Some commenters noted that confusion is bound to result on the part of the reporting facilities as to when the permit indication should apply since most permits do not cite or limit releases by specific chemical. For example, most air permits apply to categories of chemicals, such as volatile organic compounds (VOCs) and particulates. In addition, many permits may limit the release of a chemical by specifying that a control device or particular type of treatment be employed. Therefore, many permitted releases would not be allowed to be checked under the proposed rule's approach. Certain commenters believed that EPA should broaden the permit indication to include most other types of permitted releases or drop it altogether.

Because the permit indication has a high potential to provide misinformation to the public, EPA has decided not to include the permit check box in the final form. EPA believes that it would inevitably lead to misunderstanding and confusion, not only on the part of the public, but also by the reporting community. EPA chose not to broaden the interpretation of which releases would be covered by a permit because this would no longer serve the original purpose of providing a link to chemical-specific permit data. Additionally, it would be difficult in some situations to give a clear indication of when a permit actually controls the release of a specific chemical versus other components in the wastestream. EPA requires the listing of specific permit numbers in the facility identification part of the form. EPA believes that these permit numbers provide a useful link between the release information and any relevant permit data.

4. *Accuracy of reporting.* EPA proposed that the annual release data

the public and regulated community. EPA plans to propose an amendment to this rule dealing with this issue within the second quarter of 1988. At that time, EPA will seek comment on this issue in order to develop the most appropriate way of obtaining this data.

6. *Disaggregation of air emissions.*

EPA proposed that fugitive or non-point air emissions be reported separately from stack or point source air emissions. Facilities would include all emissions to air of a listed chemical and separate such emissions quantities into fugitive or stack type emissions. The instructions gave clarification as to how to differentiate between the two types of sources. EPA proposed to distinguish between these two source categories for two reasons. First, estimates of stack emissions are likely to be more accurate than estimates of fugitive emissions because stack emissions can be directly measured. Better overall information on air releases can be obtained if fugitive emissions are reported separately and the accuracy of the data on stack emissions is preserved. Second, separate reporting of fugitive and stack emissions will enable regulatory agencies and other users of the data to judge the relative significance of the two sources of releases.

Many commenters thought EPA should not require this disaggregation. Two commenters agreed with the proposal while one commenter stated that the form should collect five categories of release on air emissions: Process, fugitive, storage, transfer operations, and waste treatment emissions. Some commenters thought EPA should require only reporting of point source releases because fugitive emissions are too difficult to estimate accurately.

EPA has retained the reporting of air emissions as proposed. This issue received much discussion and review before the rule was proposed and the reasons for not further disaggregating air emissions still remain the same. First, further disaggregation would not be consistent with EPA's approach of not requiring specific information on the sources of releases to minimize trade secret claims. Second, the burden on facilities would increase tremendously if further disaggregation were required. For example, a facility will be able to estimate an aggregate non-point air release using a mass balance approach, but it would be very difficult for it to further divide this amount into releases from transfer operations, leaks, and waste treatment emissions. Because the majority of measured data available will be on stack emissions, this is one

mechanism available to facilities to distinguish between two types of air emissions. EPA believes that requiring disaggregation only into point and non-point source categories is the best balance of data usefulness and industry burden for this reporting requirement.

7. *Releases to water—a.*

Disaggregation of releases by receiving stream. For direct discharges, the issue of how to report multiple receiving streams for one facility was raised by one commenter. The proposed form allowed only one line on page 1 of the form to report a stream or body of water that receives a facility's wastewater flow. EPA has revised the form to allow reporting of up to three receiving streams. These streams are to be numbered and the applicable stream numbers reported in connection with the direct discharge release amount to that stream.

b. *Inclusion of stormwater releases.*

EPA proposed that the total releases of a chemical to surface waters include the contribution from stormwater if the facility's permit included stormwater sources. Given the potential difficulty in estimating the contribution of stormwater to the total release of a chemical, EPA specifically asked for comment on the inclusion of stormwater discharges and how these releases should be estimated and reported.

Many commenters thought that EPA should not require reporting on release in stormwater because it is very difficult to estimate amounts of toxic chemicals present and intermittent flowrates without monitoring and measurement. Without such information, it would be virtually impossible to estimate these types of releases to any degree of accuracy. Several commenters pointed out that EPA has not yet developed final stormwater regulations or guidelines under the Clean Water Act because of the technical problems involved. Two commenters believed that facilities should be required to include stormwater releases to surface waters and publicly owned treatment works (POTWs) and that these should be reported separately on the form.

Some facilities have submitted permit applications relative to stormwater discharges. As a result of passage of the Clean Water Act Amendments in February 1987, EPA is currently drafting new stormwater regulations. Some facilities may have stormwater discharges permitted under NPDES industry subcategory effluent limitations or through the discretion of the permit writer. Even if a facility's stormwater is covered by a permit, however, it may not have any specific chemical

monitoring data depending on when the permit was issued. Also, most permitted stormwater releases are required to be monitored for conventional pollutants such as biological oxygen demand (BOD), total organic carbon (TOC), etc., rather than specific chemicals.

Therefore, EPA is requiring facilities to indicate the stormwater contribution to surface water releases only if the facility has monitoring data on the section 313 chemicals in such stormwater and a measurement or estimate of flowrate. If so, the facility must enter the percent of the release that is attributable to stormwater in Part III, Section 5.3C of the form. If the facility does not have periodic measurements of the chemical releases but has submitted chemical-specific monitoring data in its permit application, it should use these data as a basis for its estimate. Flowrate data can either be data submitted in a permit application or measurements as required by the permit (either periodic or continuous), or can be estimated by multiplying the annual rainfall times the land area times the degree of imperviousness or by another appropriate method.

Appropriate responses to be entered on the form include: (1) A numerical figure representing the percent contribution to the total release, (2) "O" if the facility has monitored but not detected the chemical in stormwater discharges, and (3) "N/D" if the facility has no monitoring information relative to the chemical in stormwater discharges.

8. *Specific line for reporting underground injection release.* One commenter raised the issue of how releases to groundwater are reported on the form. The commenter stated that EPA should break out reporting of direct and indirect groundwater discharges as a category distinct from releases to land. By looking at the form only, it is not clear how and where facilities would report releases via underground injection discharges. On the proposed form, these releases were to be reported in the Release To Land section by entering a disposal code for underground injection next to the annual amount. To further clarify releases by underground injection of listed toxic chemicals, EPA has included a separate sub-section in the final reporting form entitled Underground Injection (Part III, Section 5.4).

9. *Basis of estimate.* For each aggregate release, EPA proposed to require an indication of the basis used to account for the estimation of the largest portion of the release quantity.

disposal methods employed, and an estimate of the treatment efficiency typically achieved. . . . EPA proposed that a wastestream be considered as the aggregate wastes treated in a particular manner or the influent stream to a single treatment method. For example, aggregate waste going to secondary wastewater treatment on site would be considered as a wastestream and reporting would not be required for each of the numerous waters from various process points that are combined for treatment. EPA proposed that the wastestream be characterized as gaseous emissions, wastewater, non-aqueous liquid waste, and solid waste (includes sludge and slurries).

In the proposed rule EPA also requested comment on a more detailed wastestream characterization approach. The example used would have required each individual wastestream containing the reported toxic chemical to be identified by an appropriate RCRA waste code. Where a wastestream did not have a RCRA waste code, other source codes would have to be developed.

Commenters representing industry trade groups and individual companies supported EPA's proposed aggregate wastestream approach. Commenters representing environmental or public interest groups disagreed with the proposal and urged EPA to adopt a source-specific wastestream characterization system, such as requiring individual wastestreams to be identified by the RCRA codes. These commenters claimed that an aggregate wastestream approach would severely reduce the utility of the data and that EPA will lose the ability to identify particularly efficient means of treatment.

EPA has determined that it will retain the aggregate wastestream characterization approach as proposed. EPA was not convinced by comments received that a source-specific wastestream characterization would add materially to the data received or to understanding more about relative efficiencies of particular treatment methods applied to those wastestreams. EPA remains concerned that a very specific wastestream approach would add a significant degree of complexity to the form. It would also increase the burden associated with completing the form without a commensurate increase in benefits. For example, in larger facilities several different individually coded wastestreams, containing the same chemical, may be sent to one type of treatment. The form would have to

provide for multiple entries for each of these wastestreams. Yet, the type of treatment and the relative efficiency of removal of the chemical would be the same. There also remains the concern about disclosure of trade secret information if facilities were required to identify source-specific wastestreams. For example, many of the RCRA waste codes are themselves specific toxic chemicals as listed in section 313. If a facility can substantiate that the manufacture, processing, or use of a toxic chemical at their facility is a trade secret and they must then identify a treated wastestream as that same chemical, then trade secret protection is effectively negated. Furthermore, to the degree that process specific wastestream information could reveal sensitive process related trade secret information, companies that might otherwise not claim the chemical identity as a trade secret may have more reason to do so in order to protect the linkage to process detail. This result would adversely affect the public's access to information.

Finally, in many cases where more detailed wastestream information may be of use, such information would be of use only in conjunction with other detailed information, such as the characterization of the wastestream. It is EPA's belief that such detailed information is more appropriately gathered in followup activities after the reports under this rule have been screened to identify particular facilities or classes of facilities of greatest interest. EPA believes that the level of detail in the final form will satisfy the needs for such screening.

EPA proposed a list of treatment codes in the instructions from which facilities could specify the treatment methods used for each wastestream. This list has been revised slightly to be more consistent with treatment methods and codes that will be used for future RCRA annual/biennial reporting. Such consistency will result in less confusion and burden for many facilities who will be reporting waste treatment information under two different EPA rules. Treatment methods are to be reported for all wastestreams containing reportable chemicals whether this treatment actually removes the specific chemical or not.

2. Treatment efficiency. EPA proposed that treatment efficiency, expressed as percent removal, would represent any destruction, biological degradation, chemical reaction or conversion, or physical removal of the listed chemical in the wastestream being treated. A few commenters noted that some of the

treatment methods, such as encapsulation and fuel blending, could be reported as 100 percent efficient from the standpoint of protection of health and the environment. EPA proposed that these treatment methods be reported with a 0 percent efficiency because they do not remove the chemical by any of the previously mentioned mechanisms. For the final rule, EPA does not believe that "removal efficiency" should be stretched to include wastes rendered "safe," "harmless," or "non-toxic" to health and the environment without being removed from the wastestream because such determinations are abstract and subjective, and would result in inconsistent and confused reporting, and would be misleading to the public. Knowledge of the treatment method used should be sufficient to indicate to data users the mechanism of the "treatment" employed and how it works.

Several commenters were confused about how to report the efficiency of neutralization processes because this type of treatment involves a change in pH and they believed that the concept of percent removal would not apply. Neutralization does involve a chemical reaction or conversion, such as an acid reacting with a base to form a salt or vice versa. Therefore, percent removal would apply to the percent of acid (or base) in the wastestream that was reacted during treatment. Neutralization also involves pH adjustment because pH is just a measure of the acid or base concentration in the wastestream. A pH of 7 or above after neutralization would indicate 100 percent treatment efficiency of an acidic influent wastestream while conversely, a post-treatment pH of 7 or below would indicate 100 percent efficiency for a basic influent wastestream.

3. Sequential treatment. In the proposed rule, the reporting form did not allow tracking of sequential treatment processes, and an efficiency was to be reported for each treatment method. Several commenters pointed out that for sequential treatments, an overall efficiency for the process would be more useful data than a separate efficiency for each treatment without an indication that they are part of a sequence. EPA also realizes that, in many cases, facilities may not know the individual treatment step efficiencies for a sequential process, but would have a good estimate of the efficiency of the overall treatment process.

EPA has revised the waste treatment section of the form to allow the option of reporting sequential treatment methods and an overall treatment efficiency if the

wastewater acid

compounds. The distinct metal appears with its CAS registry number in § 372.65 (a) and (b), and the corresponding metal compounds category appears in § 372.65(c) because it is a chemical category.

4. *Dyes and Color Index names.* EPA received comment that some dye chemicals are listed by a common name whereas others are listed by a Color Index (C.I.) name. For example, Auramine (CAS No. 492-80-8) has the Color Index name of C.I. Solvent Yellow 34. It was suggested that the list would be much clearer if all of the dye chemicals were listed by their Color Index names. Furthermore, the chemicals Direct Black 38, Direct Blue 6, and Direct Brown 95 should also be listed with the "C.I." prefix. The Agency agrees with these suggestions. Listing these chemicals using the Color Index name makes the list consistent. In § 372.65(a) of the rule all of these dye chemicals are listed together. EPA has included the common name in brackets in the case of Auramine.

5. *Glycol ethers.* Commenters suggested that the Agency should include specific glycol ethers in the chemical specific listings of § 372.65 (a) and (b) of the rule and remove it as a category from § 372.65(c). EPA considers this an amendment or modification to the list of chemicals and is not changing the list in this rulemaking.

C. Reporting Substances of a Certain Form

Certain of the chemicals listed in the Committee Print have parenthetical qualifiers listed next to them. EPA attempted to clarify these qualifiers in its proposal. A chemical that is listed without a qualifier is subject to reporting in all forms in which it is manufactured, processed, and used.

1. *Fume or dust.* Three of the metals on the list (aluminum, vanadium, and zinc) contain the qualifier "fume or dust." EPA interprets this qualifier to mean that a facility is manufacturing, processing, or using the metal in the form of fume or dust. Fume or dust does not refer to "wet" forms, solutions, or slurries, for example, but only dry or anhydrous forms of these metals. As explained in Unit IV.A. of this preamble, the term manufacture includes the generation of a chemical as a byproduct or impurity. In such cases, a facility should determine if, for example, it generated more than the 1987 threshold of 75,000 pounds per year of aluminum fume or dust as a byproduct of its activities. If so then the facility must report that it manufactures aluminum (fume or dust). Similarly, there may be certain technologies in which one of

these metals is processed in the form of a fume or dust to make other chemicals or other products for distribution in commerce. In reporting releases, the facility would only report releases of the fume or dust.

2. *Manufacturing qualifiers.* Two of the entries contain a qualifier relating to manufacture. For isopropyl alcohol the qualifier read "mfg.—strong acid process." For saccharin, the qualifier simply reads "manufacturing." In the case of isopropyl alcohol, EPA interprets the qualifier to mean that only persons who manufacture isopropyl alcohol by the strong acid process are required to report. In the case of saccharin, only manufacturers of saccharin are required to be reported. A facility that processes or otherwise uses either chemical would not be required to report for those chemicals. In both of these cases, supplier notification does not apply.

3. *Solutions.* Four substances on the list are qualified by the term "solution." These substances are ammonium nitrate, ammonium sulfate, sodium hydroxide, and sodium sulfate. EPA interprets the term "solution" to refer to the physical state of these chemicals. Only facilities that manufacture, process, or use these chemicals in the form of a solution would be required to report these chemicals. See D. of this Unit for a further discussion of solutions. In these cases supplier notification applies only if the chemical is distributed as a solution.

4. *Phosphorus (yellow or white).* The listing for phosphorus is qualified by the term "yellow or white." This refers to a chemical state of phosphorus meaning that only manufacturing, processing, or use of phosphorus in the yellow or white states triggers reporting. Conversely, manufacturing, processing, or use of "black" or "red" phosphorus would not trigger reporting. Supplier notification applies to distribution of yellow or white phosphorus.

5. *Asbestos (friable).* The listing for asbestos is qualified by the term "friable." This term refers to a physical characteristic of asbestos. EPA interprets "friable" as being crumbled, pulverized, or reducible to a powder with hand pressure. Again, only manufacturing, processing, or use of asbestos in the friable form triggers reporting. Similarly, supplier notification applies only to distribution of friable asbestos. EPA received comment to include other forms of asbestos. As noted above, the Agency has chosen not to use this rulemaking as a vehicle for modifying the initial list of chemicals.

D. Reporting Chemical Solutions

1. *De minimis cut-off for chemical solutions.* The list of chemicals in §§ 372.65 (a) and (b) contain the qualifier "solution" for some entries such as sodium sulfate (solution). This qualifier is defined in C.3. of this Unit. Technically, a solution is a mixture or formulation. Certain commenters suggested that a *de minimis* cut-off be applied to the reporting of chemical solutions consistent with the concept of a *de minimis* limitation for mixtures. EPA agrees with this suggestion because reporting on these four substances is consistent with mixture reporting. Chemicals with the qualifier "solution," such as sodium sulfate that are manufactured, processed, or otherwise used in excess of the *de minimis* levels must be factored into threshold and release reporting requirements of this rule.

2. *Neutralizations and pH adjustments.* EPA received comment regarding neutralization of solutions such as dye baths and pH adjustments of wastewater.

Neutralization is interpreted by EPA as a chemical reaction. For example, sodium hydroxide solution is used to neutralize a dye bath and a solution of sodium sulfate is formed. Assuming that other reporting requirements are met, this facility is viewed by EPA as a user of sodium hydroxide (solution), and a manufacturer of sodium sulfate (solution), even if the sodium sulfate is destined for disposal. Releases of sodium hydroxide (solution) and of sodium sulfate (solution) would be reported.

Adjustments of the pH of a solution present a more complex circumstance in establishing reporting with respect to threshold requirements. The input of a chemical such as sodium hydroxide (solution) into wastewater for pH adjustment constitutes a use of that chemical and is reportable. Therefore EPA is requiring facilities that use section 313 chemicals for pH adjustments and neutralizations to report if they meet an applicable threshold, even if these chemicals are consumed and no releases result. However, EPA realizes that there may be many situations where pH adjustments are made to complex mixtures such as wastewater, where it may be very difficult to determine whether a section 313 chemical is being "manufactured" during this neutralization. Furthermore, quantifying these chemicals for the purposes of meeting reporting thresholds may be just as difficult. The facility must report if it

Page missing

the economic impact of the final regulation on the affected industry (manufacturing, SIC codes 20 through 39) and State and Federal governments. The following cost results are presented in the analysis document titled, "Regulatory Impact Analysis in Support of Final Rulemaking Under Section 313 of the Superfund Amendments and Reauthorization Act of 1986."

Three alternatives are considered in the RIA for implementing section 313:
Alternative I—Facilities report by letter.

Alternative II—Facilities report on the proposed version of Form R. Users must contact supplier concerning mixtures and trade name products.

Alternative III—Facilities report on the final version of Form R. Supplier notification.

The population of facilities that would be required to submit reports under section 313 is based on three sources: census data for national totals of facilities engaged in manufacturing, surveys of toxic substances use conducted by 6 States and localities

involving a subset of the substances contained in the list of 329 chemicals covered by section 313, and production of toxic chemicals reported for the Toxic Substances Control Act Inventory.

Section 313 requires annual reports on releases of toxic chemicals from an estimated 31,800 facilities. Overall, the Agency may receive an estimated 318,000 reports annually. This equals an average of 10 reports per facility.

The total costs per average facility, as well as per chemical report costs, are shown in Table I below.

TABLE I.—TOTAL COSTS PER AVERAGE REPORTING FACILITY AND PER CHEMICAL REPORT (\$/YR.)

	Regulatory alternative I		Regulatory alternative II		Regulatory alternative III	
	First year	Subsequent years	First year	Subsequent years	First year	Subsequent years
Compliance determination.....	1,195.20	298.80	1,195.20	298.80	1,195.20	298.80
Recordkeeping.....	101.76	41.92	101.76	41.92	101.76	41.92
Formatting.....	1,223.12					
Report completion (10 chemicals).....	9,036.69	6,144.98	11,295.80	7,680.60	11,595.00	7,984.06
Identification of mixtures.....	2,222.93	200.72	2,222.93	200.72	0.00	96.34-867.76
Report completion (3 mixtures).....	232.66	158.34	291.22	197.78	0.00	0.00
Mailing.....	6.94	6.94	6.94	6.94	6.04	6.04
Total costs per facility.....	14,019.30	6,851.70	15,113.85	8,426.76	12,898.00	8,327.16-9,118.58
Total costs per chemical report.....	1,401.93	685.17	1,511.39	842.68	1,289.80	832.72-911.86

Source—RIA 1987.

The costs represented in Table I are for reporting facilities. The final rule will cause costs to be incurred by more facilities than will actually be subject to reporting. All facilities with 10 or more full time employees in SIC codes 20

through 39 will incur some costs associated with compliance determinations (i.e., becoming familiar with the rule and the form, and determining if they meet the threshold requirements for any of the section 313

chemicals). An estimated 146,450 facilities will incur the compliance determination costs. These costs, which do not vary across the alternatives, are included in the aggregate industry costs shown in Table II below.

TABLE II.—AGGREGATE COSTS FOR INDUSTRY: FIRST AND SUBSEQUENT REPORTING YEARS

(Million dollars per year)

	Regulatory alternative I		Regulatory alternative II		Regulatory alternative III	
	First year	Subsequent years	First year	Subsequent years	First year	Subsequent years
Compliance determination.....	137.3	34.3	137.3	34.3	137.3	34.3
Filing.....	3.2	1.3	3.2	1.3	3.2	1.3
Formatting.....	38.9					
Report completion for chemicals.....	287.6	195.6	359.4	244.4	359.4	250.9-253.9
Users-screening of mixtures.....	27.2	2.0	27.2	2.0	27.2	2.0
Users-contacting suppliers.....	43.5	4.4	43.5	4.4		
Report completion for mixtures.....	7.4	5.1	9.3	8.3		
Suppliers identification of mixtures.....	0.8	0.1	0.8	0.1		0.1-0.8
Suppliers informing users.....	10.3	1.0	10.3	1.0		0.7-6.9
Total.....	556.2	243.8	591.0	293.9	527.1	289.3-299.2

Source—RIA.

Range of costs in subsequent years of Alternative III reflects elements that are phased-in. That is, the high end of the ranges represents year 2, and the low end represents subsequent years.

The other major costs that will be incurred by non-reporting facilities

involve mixtures and trade name products. The proposed rule would have

required that processors and users of mixtures and trade name products

XIV. Rulemaking Record

The following documents constitute the rulemaking record for this rule (docket control number OPTS-400002A). All documents, including the index of this record, are available to the public in the OTS Reading Room from 8 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. The OTS Reading Room is located at EPA Headquarters, Rm. NE-G004, 401 M St., SW., Washington, DC 20460. The record includes the following information considered by the Agency in developing this rule:

1. Documents in docket no. 400002 at the date of publication of the proposed rule.
2. The proposed rule.
3. Transcripts of public meetings held July 24 and 27, and August 4, 1987.
4. Written comments received on the proposed rule.
5. Summaries of meetings held with representatives of industry, public interest groups, and State government officials.
6. The document titled "Regulatory Impact Analysis in Support of the Final Rulemaking Under section 313 of the Superfund Amendments and Reauthorization Act of 1986" (1987).

XV. Regulatory Assessment Requirements

A. Executive Order 12291

Under Executive Order 12291, EPA must judge whether a rule is "major" and therefore requires a RIA. EPA has developed a RIA as described in Unit XI. This RIA shows that the combination of impacts of the statutory provisions of section 313 and the interpretive provisions of this rule may create a first year impact of \$527 million and a second year impact of \$299 million. EPA has determined that this rule is "major" because it may have an effect of \$100 million or more on the economy. EPA does not, however, anticipate that this rule will have a significant effect on competition, costs, or prices.

This rule was submitted to the Office of Management and Budget (OMB) for review as required by Executive Order 12291.

B. Regulatory Flexibility Act

Section 313 and the final rule exempt certain small businesses from reporting, i.e., those facilities in SIC codes 20 through 39 with fewer than 10 full-time employees. The statutory exclusion of facilities with fewer than 10 full-time employees exempts 48 percent of all manufacturing facilities in SIC codes 20 through 39. After also considering the volume thresholds, EPA estimates that section 313 will require reporting from

approximately 3.0 percent (9,400 of 277,100) of all small manufacturing facilities with less than 50 employees.

Analysis to support the proposed rule indicated that for some segments of the manufacturing sector the compliance costs of reporting will have a significant impact. Specifically, reporting costs are estimated to be between 1.0 and 2.0 percent of median sales for facilities with fewer than 50 employees; and between 2.0 and 4.0 percent of median sales for facilities with 10 to 19 employees. Subsequent to proposal, the Agency developed and included a Regulatory Flexibility Analysis in the RIA to examine options that might reduce the burden to small businesses.

The Agency received extensive comments on the impacts of the proposed rule on small businesses from the small Business Administration (SBA). SBA presented several alternatives designed to reduce the burden to small businesses, based on the premise that small facilities (those with fewer than 100 employees) have nothing significant to report. These alternatives are discussed below.

SBA proposed the development of thresholds based on risks posed by various emission sources. SBA maintains that data exists from the Agency's regional studies that would allow the Agency to calculate risks from air and water emissions, from which the Agency could develop thresholds for reporting based on specific risks. From its review of the data, SBA concludes that "small firms collectively contribute only a small fraction, generally less than 10 to 15 percent, of the toxic chemical emissions included in the local area studies." SBA acknowledges that "there may be a lack of information on toxicity which would make [a risk] analysis infeasible for certain chemicals."

SBA's second proposed alternative is to combine section 313 with CERCLA section continuous release reporting, using 10 pounds a day Reportable Quantity (RQ) for any section 313 chemicals not covered under CERCLA. SBA states that this would ensure that "facilities of primary concern (those with significant emissions) are included." SBA believes this approach would also alleviate the significant economic burden on small businesses.

SBA recommends as a third alternative a *de minimis* reporting range of 0 to 1 pound of emissions per day or 0 to 250 pounds per year. SBA's fourth alternative was a total exemption of small facilities (defined by SBA as those with fewer than 100 employees) from reporting; and/or an abbreviated or shortened reporting form.

The Agency received comments both in support of an in opposition to SBA's position. The Agency identified 8 regulatory alternatives as part of the Regulatory Flexibility Analysis for this rule. The alternatives, evaluated on the basis of cost and economic criteria, represent options for reducing the reporting burden for small businesses. Each alternative is described and discussed below.

Alternative 1: Rule as proposed; statutory exclusion of facilities having fewer than 10 employees. This alternative allows complete coverage of reporting on emissions, but provides no reduction in burden to small facilities.

Alternative 2: Exempt all small businesses (defined as facilities with fewer than 50 employees). [The RIA analyzes alternative definitions of small businesses.] This alternative not only reduces the reporting burden for small businesses, but eliminates any burden of compliance determination from small facilities. However, this alternative would result in no reporting of emissions from small facilities, which could lead to substantial gaps in the Emissions Inventory, especially at the community level.

The costs are summarized in Table IV below.

TABLE IV.—REGULATORY FLEXIBILITY STUDY OPTIONS: COSTS PER FACILITY

(Present Value for 10 Years of Reporting)

Cost (¹)	
Option:	
1.....	\$54,320
2.....	0
3.....	² \$54,320
4.....	\$5,100 to \$54,320
5.....	\$5,100
6.....	\$24,680
7.....	\$47,130 to ³ \$52,630
8.....	\$34,410 to ⁴ \$50,990

¹ In present value 1987 dollars at a 10 percent discount rate for years 1988-1997.

² Given the absence of any SIC codes that would meet exemption criteria.

³ Average cost, but this option would offer the benefit of limiting the extent to which individual facilities would exceed the average.

⁴ Assumes all 10 chemicals per facility enjoy 10 to 50 percent cost savings for estimates of air and water releases in ranges.

Alternative 3: Exempt facilities in specific SIC codes if they account for low aggregate emissions. This alternative would exempt small businesses in particular industries that might trigger the need to report based on the volume threshold for use, but have little actual emissions. However, after examining the available data (six State and local data bases that contain emissions data for some of the section

C. Paperwork Reduction Act

OMB has reviewed the information collection requirements contained in this rule under the provisions of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.* and has assigned OMB control number 2070-0093.

List of Subjects in 40 CFR Part 372

Environmental protection, Recordkeeping, reporting, and notification requirements, Toxic chemicals.

Dated: February 2, 1988.

A. James Barnes,
Acting Administrator.

Therefore, Chapter I of 40 CFR is amended by adding a new Part 372 to read as follows:

**PART 372—TOXIC CHEMICAL
RELEASE REPORTING; COMMUNITY
RIGHT-TO-KNOW**

Subpart A—General Provisions

Sec.

- 372.1 Scope and purpose.
- 372.3 Definitions.
- 372.5 Persons subject to this Part.
- 372.10 Recordkeeping.
- 372.18 Compliance and enforcement.

Subpart B—Reporting Requirements

- 372.22 Covered facilities for toxic chemical release reporting.
- 372.25 Thresholds for reporting.
- 372.30 Reporting requirements and schedule for reporting.
- 372.38 Exemptions.

Subpart C—Supplier Notification Requirements

- 372.45 Notification about toxic chemicals.

Subpart D—Specific Toxic Chemical Listings

- 372.65 Chemicals and chemical categories to which this Part applies.

Subpart E—Forms and Instructions

- 372.65 Toxic chemical release reporting form and instructions.

Authority: 42 U.S.C. 11013, 11028.

Subpart A—General Provisions**§ 372.1 Scope and purpose.**

This Part sets forth requirements for the submission of information relating to the release of toxic chemicals under section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The information collected under this Part is intended to inform the general public and the communities surrounding covered facilities about releases of toxic chemicals, to assist research, to aid in the development of regulations, guidelines, and standards, and for other purposes. This Part also sets forth requirements for suppliers to

notify persons to whom they distribute mixtures or trade name products containing toxic chemicals that they contain such chemicals.

§ 372.3 Definitions.

Terms defined in sections 313(b)(1)(c) and 329 of Title III and not explicitly defined herein are used with the meaning given in Title III. For the purpose of this Part:

"Acts" means Title III.

"Article" means a manufactured item: (1) Which is formed to a specific shape or design during manufacture; (2) which has end use functions dependent in whole or in part upon its shape or design during end use; and (3) which does not release a toxic chemical under normal conditions of processing or use of that item at the facility or establishments.

"Customs territory of the United States" means the 50 States, the District of Columbia, and Puerto Rico.

"EPA" means the United States Environmental Protection Agency.

"Establishment" means an economic unit, generally at a single physical location, where business is conducted or where services or industrial operations are performed.

"Facility" means all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person (or by any person which controls, is controlled by, or under common control with such person). A facility may contain more than one establishment.

"Full-time employee" means 2,000 hours per year of full-time equivalent employment. A facility would calculate the number of full-time employees by totaling the hours worked during the calendar year by all employees, including contract employees, and dividing that total by 2,000 hours.

"Import" means to cause a chemical to be imported into the customs territory of the United States. For purposes of this definition, "to cause" means to intend that the chemical be imported and to control the identity of the imported chemical and the amount to be imported.

"Manufacture" means to produce, prepare, import, or compound a toxic chemical. Manufacture also applies to a toxic chemical that is produced coincidentally during the manufacture, processing, use, or disposal of another chemical or mixture of chemicals, including a toxic chemical that is separated from that other chemical or mixture of chemicals as a byproduct, and a toxic chemical that remains in

that other chemical or mixture of chemicals as an impurity.

"Mixture" means any combination of two or more chemicals, if the combination is not, in whole or in part, the result of a chemical reaction. However, if the combination was produced by a chemical reaction but could have been produced without a chemical reaction, it is also treated as a mixture. A mixture also includes any combination which consists of a chemical and associated impurities.

"Otherwise use" or "use" means any use of a toxic chemical that is not covered by the terms "manufacture" or "process" and includes use of a toxic chemical contained in a mixture or trade name product. Relabeling or redistributing a container of a toxic chemical where no repackaging of the toxic chemical occurs does not constitute use or processing of the toxic chemical.

"Process" means the preparation of a toxic chemical, after its manufacture, for distribution in commerce:

(1) In the same form or physical state as, or in a different form or physical state from, that in which it was received by the person so preparing such substance, or

(2) As part of an article containing the toxic chemical. Process also applies to the processing of a toxic chemical contained in a mixture or trade name product.

"Release" means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles) of any toxic chemical.

"Senior management official" means an official with management responsibility for the person or persons completing the report, or the manager of environmental programs for the facility or establishments, or for the corporation owning or operating the facility or establishments responsible for certifying similar reports under other environmental regulatory requirements.

"Title III" means Title III of the Superfund Amendments and Reauthorization Act of 1986, also titled the Emergency Planning and Community Right-To-Know Act of 1986.

"Toxic chemical" means a chemical or chemical category listed in § 372.65.

"Trade name product" means a chemical or mixture of chemicals that is distributed to other persons and that incorporates a toxic chemical component that is not identified by the applicable chemical name or Chemical

page missing

completing the reporting form, the owner or operator is only required to account for the quantity of the chemical so manufactured and releases associated with such manufacturing, but not releases associated with subsequent processing or use of the chemical at that facility. Owners and operators of facilities that solely process or use such a chemical are not required to report for that chemical.

(g) A toxic chemical may be listed in § 372.65 with the notation that it is in a specific form (e.g., fume or dust, solution, or friable) or of a specific color (e.g., yellow or white). In that case, only owners or operators of facilities that manufacture, process, or use that chemical in the form or of the color, specified in § 372.65 in excess of the threshold applicable to such activity in § 372.25 are required to report. In completing the reporting form, the owner or operator is only required to account for the quantity of the chemical manufactured, processed, or used in the form or color specified in § 372.65 and for releases associated with the chemical in that form or color. Owners or operators of facilities that solely manufacture, process, or use such a chemical in a form or color other than those specified by § 372.65 are not required to report for that chemical.

(h) Metal compound categories are listed in § 372.65(c). For purposes of determining whether any of the thresholds specified in § 372.25 are met for metal compound category, the owner or operator of a facility must make the threshold determination based on the total amount of all members of the metal compound category manufactured, processed, or used at the facility. In completing the release portion of the reporting form for releases of the metal compounds, the owner or operator is only required to account for the weight of the parent metal released. Any contribution to the mass of the release attributable to other portions of each compound in the category is excluded.

§ 372.30 Reporting requirements and schedule for reporting.

(a) For each toxic chemical known by the owner or operator to be manufactured (including imported), processed, or otherwise used in excess of an applicable threshold quantity in § 372.25 at its covered facility described in § 372.22 for a calendar year, the owner or operator must submit to EPA and to the State in which the facility is located a completed EPA Form R (EPA Form 9350-1) in accordance with the instructions in Subpart E.

(b)(1) The owner or operator of a covered facility is required to report as

described in paragraph (a) of this section on a toxic chemical that the owner or operator knows is present as a component of a mixture or trade name product which the owner or operator receives from another person, if that chemical is imported, processed, or otherwise used by the owner or operator in excess of an applicable threshold quantity in § 372.25 at the facility as part of that mixture or trade name product.

(2) The owner or operator knows that a toxic chemical is present as a component of a mixture or trade name product (i) if the owner or operator knows or has been told the chemical identity or Chemical Abstracts Service Registry Number of the chemical and the identity or Number corresponds to an identity or Number in § 372.65, or (ii) if the owner or operator has been told by the supplier of the mixture or trade name product that the mixture or trade name product contains a toxic chemical subject to section 313 of the Act or this Part.

(3) To determine whether a toxic chemical which is a component of a mixture or trade name product has been imported, processed, or otherwise used in excess of an applicable threshold in § 372.25 at the facility, the owner or operator shall consider only the portion of the mixture or trade name product that consists of the toxic chemical and that is imported, processed, or otherwise used at the facility, together with any other amounts of the same toxic chemical that the owner or operator manufactures, imports, processes, or otherwise uses at the facility as follows:

(i) If the owner or operator knows the specific chemical identity of the toxic chemical and the specific concentration at which it is present in the mixture or trade name product, the owner or operator shall determine the weight of the chemical imported, processed, or otherwise used as part of the mixture or trade name product at the facility and shall combine that with the weight of the toxic chemical manufactured (including imported) processed, or otherwise used at the facility other than as part of the mixture or trade name product. After combining these amounts, if the owner or operator determines that the toxic chemical was manufactured, processed, or otherwise used in excess of an applicable threshold in § 372.25, the owner or operator shall report the specific chemical identity and all releases of the toxic chemical on EPA Form R in accordance with the instructions in Subpart E.

(ii) If the owner or operator knows the specific chemical identity of the toxic chemical and does not know the specific concentration at which the chemical is

present in the mixture or trade name product, but has been told the upper bound concentration of the chemical in the mixture or trade name product, the owner or operator shall assume that the toxic chemical is present in the mixture or trade name product at the upper bound concentration, shall determine whether the chemical has been manufactured, processed, or otherwise used at the facility in excess of an applicable threshold as provided in paragraph (b)(3)(i) of this section, and shall report as provided in paragraph (b)(3)(i) of this section.

(iii) If the owner or operator knows the specific chemical identity of the toxic chemical, does not know the specific concentration at which the chemical is present in the mixture or trade name product, has not been told the upper bound concentration of the chemical in the mixture or trade name product, and has not otherwise developed information on the composition of the chemical in the mixture or trade name product, then the owner or operator is not required to factor that chemical in that mixture or trade name product into threshold and release calculations for that chemical.

(iv) If the owner or operator has been told that a mixture or trade name product contains a toxic chemical, does not know the specific chemical identity of the chemical and knows the specific concentration at which it is present in the mixture or trade name product, the owner or operator shall determine the weight of the chemical imported, processed, or otherwise used as part of the mixture or trade name product at the facility. Since the owner or operator does not know the specific identity of the toxic chemical, the owner or operator shall make the threshold determination only for the weight of the toxic chemical in the mixture or trade name product. If the owner or operator determines that the toxic chemical was imported, processed, or otherwise used as part of the mixture or trade name product in excess of an applicable threshold in § 372.25, the owner or operator shall report the generic chemical name of the toxic chemical, or a trade name if the generic chemical name is not known, and all releases of the toxic chemical on EPA Form R in accordance with the instructions in Subpart E.

(v) If the owner or operator has been told that a mixture or trade name product contains a toxic chemical, does not know the specific chemical identity of the chemical, and does not know the specific concentration at which the chemical is present in the mixture or

(3) Activities conducted outside the laboratory.

(e) *Certain owners of leased property.* The owner of a covered facility is not subject to reporting under § 372.30 if such owner's only interest in the facility is ownership of the real estate upon which the facility is operated. This exemption applies to owners of facilities such as industrial parks, all or part of which are leased to persons who operate establishments within SIC code 20 through 39 where the owner has no other business interest in the operation of the covered facility.

(f) *Reporting by certain operators of establishments on leased property such as industrial parks.* If two or more persons, who do not have any common corporate or business interest (including common ownership or control), operate separate establishments within a single facility, each such person shall treat the establishments it operates as a facility for purposes of this Part. The determinations in § 372.22 and § 372.25 shall be made for those establishments. If any such operator determines that its establishment is a covered facility under § 372.22 and that a toxic chemical has been manufactured (including imported), processed, or otherwise used at the establishment in excess of an applicable threshold in § 372.25 for a calendar year, the operator shall submit a report in accordance with § 372.30 for the establishment. For purposes of this paragraph (f), a common corporate or business interest includes ownership, partnership, joint ventures, ownership of a controlling interest in one person by the other, or ownership of a controlling interest in both persons by a third person.

Subpart C—Supplier Notification Requirement

§ 372.45 Notification about toxic chemicals.

(a) Except as provided in paragraphs (c), (d), and (e) of this section and § 372.65, a person who owns or operates a facility or establishment which:

(1) Is in Standard Industrial Classification codes 20 through 39 as set forth in paragraph (b) of § 372.22.

(2) Manufactures (including imports) or processes a toxic chemical, and

(3) Sells or otherwise distributes a mixture or trade name product containing the toxic chemical, to (i) a facility described in § 372.22, or (ii) to a person who in turn may sell or otherwise distributes such mixture or trade name product to a facility described in § 372.22(b), must notify each person to whom the mixture or trade name product is sold or otherwise

distributed from the facility or establishment in accordance with paragraph (b) of this section.

(b) The notification required in paragraph (a) of this section shall be in writing and shall include:

(1) A statement that the mixture or trade name product contains a toxic chemical or chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

(2) The name of each toxic chemical, and the associated Chemical Abstracts Service registry number of each chemical if applicable, as set forth in § 372.65.

(3) The percent by weight of each toxic chemical in the mixture or trade name product.

(c) Notification under this section shall be provided as follows:

(1) For a mixture or trade name product containing a toxic chemical listed in § 373.65 with an effective date of January 1, 1987, the person shall provide the written notice described in paragraph (b) of this section to each recipient of the mixture or trade name product with at least the first shipment of each mixture or trade name product to each recipient in each calendar year beginning January 1, 1989.

(2) For a mixture or trade name product containing a toxic chemical listed in § 372.65 with an effective date of January 1, 1989 or later, the person shall provide the written notice described in paragraph (b) of this section to each recipient of the mixture or trade name product with at least the first shipment of the mixture or trade name product to each recipient in each calendar year beginning with the applicable effective date.

(3) If a person changes a mixture or trade name product for which notification was previously provided under paragraph (b) of this section by adding a toxic chemical, removing a toxic chemical, or changing the percent by weight of a toxic chemical in the mixture or trade name product, the person shall provide each recipient of the changed mixture or trade name product a revised notification reflecting the change with the first shipment of the changed mixture or trade name product to the recipient.

(4) If a person discovers (i) that a mixture or trade name product previously sold or otherwise distributed to another person during the calendar year of the discovery contains one or more toxic chemicals and (ii), that any notification provided to such other persons in that calendar year for the

mixture or trade name product either did not properly identify any of the toxic chemicals or did not accurately present the percent by weight of any of the toxic chemicals in the mixture or trade name product, the person shall provide a new notification to the recipient within 30 days of the discovery which contains the information described in paragraph (b) of this section and identifies the prior shipments of the mixture or product in that calendar year to which the new notification applies.

(5) If a Material Safety Data Sheet (MSDS) is required to be prepared and distributed for the mixture or trade name product in accordance with 29 CFR 1910.1200, the notification must be attached to or otherwise incorporated into such MSDS. When the notification is attached to the MSDS, the notice must contain clear instructions that the notifications must not be detached from the MSDS and that any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

(d) Notifications are not required in the following instances:

(1) If a mixture or trade name product contains no toxic chemical in excess of the applicable de minimis concentration as specified in § 372.38(a).

(2) If a mixture or trade name product is one of the following:

(i) An "article" as defined in § 372.3

(ii) Foods, drugs, cosmetics, alcoholic beverages, tobacco, or tobacco products packaged for distribution to the general public.

(iii) Any consumer product as the term is defined in the Consumer Product Safety Act (15 U.S.C. 1251 *et seq.*) packaged for distribution to the general public.

(e) If the person considers the specific identity of a toxic chemical in a mixture or trade name product to be a trade secret under provisions of 29 CFR 1910.1200, the notice shall contain a generic chemical name that is descriptive of that toxic chemical.

(f) If the person considers the specific percent by weight composition of a toxic chemical in the mixture or trade name product to be a trade secret under applicable State law or under the Restatement of Torts section 757, comment b, the notice must contain a statement that the chemical is present at a concentration that does not exceed a specified upper bound concentration value. For example, a mixture contains 12 percent of a toxic chemical. However, the supplier considers the specific concentration of the toxic chemical in

Chemical name	CAS No.	Effective date
C.I. Acid Blue 9, diammonium salt	2650-18-2	01/01/87
C.I. Acid Blue 9, disodium salt	3844-45-9	01/01/87
C.I. Acid Green 3	4680-78-8	01/01/87
C.I. Basic Green 4	569-64-2	01/01/87
C.I. Basic Red 1	989-38-8	01/01/87
C.I. Direct Black 38	1937-37-7	01/01/87
C.I. Direct Blue 6	2602-46-2	01/01/87
C.I. Direct Brown 95	16071-86-6	01/01/87
C.I. Disperse Yellow 3	2832-40-8	01/01/87
C.I. Food Red 5	3761-53-3	01/01/87
C.I. Food Red 15	81-68-9	01/01/87
C.I. Solvent Orange 7	3118-97-6	01/01/87
C.I. Solvent Yellow 3	97-56-3	01/01/87
C.I. Solvent Yellow 14	842-07-9	01/01/87
C.I. Solvent Yellow 34 (Auramine)	492-80-8	01/01/87
C.I. Vat Yellow 4	128-66-5	01/01/87
Cadmium	7440-43-9	01/01/87
Calcium cyanamide	156-62-7	01/01/87
Captaf (1H-isindole-1,3(2H)-dione, 3a,4,7,7a-tetrahydro-2-[(trichloromethyl)thio]-)	133-06-2	01/01/87
Carbaryl [1-Naphthalenol, methylcarbamate]	63-25-2	01/01/87
Carbon disulfide	75-15-0	01/01/87
Carbon tetrachloride	56-23-5	01/01/87
Carbonyl sulfide	463-58-1	01/01/87
Catechol	120-80-9	01/01/87
Chloramben [Benzoic acid, 3-amino-2,5-dichloro-]	133-90-4	01/01/87
Chlordane (4,7-Methanonidan, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-)	57-74-9	01/01/87
Chlorine	7782-50-5	01/01/87
Chlorine dioxide	10049-04-4	01/01/87
Chloroacetic acid	79-11-8	01/01/87
2-Chloroacetophenone	532-27-4	01/01/87
Chlorobenzene	108-90-7	01/01/87
Chlorobenzilate [Benzoic acid, 4-chloro- α -(4-chlorophenyl)- α -hydroxy-, ethyl ester]	510-15-6	01/01/87
Chloroethane (Ethyl chloride)	75-00-3	01/01/87
Chloroform	67-66-3	01/01/87
Chloromethane (Methyl chloride)	74-87-3	01/01/87
Chloromethyl methyl ether	107-30-2	01/01/87
Chloroprene	128-99-8	01/01/87
Chlorothalonil [1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-]	1897-45-6	01/01/87
Chromium	7440-47-3	01/01/87
Cobalt	7440-48-4	01/01/87
Copper	7440-50-8	01/01/87
p-Cresidine	120-71-8	01/01/87
Cresol (mixed isomers)	1319-77-3	01/01/87
m-Cresol	108-39-4	01/01/87
o-Cresol	95-48-7	01/01/87
p-Cresol	106-44-5	01/01/87
Cumene	98-82-6	01/01/87
Cumene hydroperoxide	80-15-9	01/01/87
Cupferron [Benzeneamine, N-hydroxy-N-nitroso, ammonium salt]	135-20-6	01/01/87
Cyclohexane	110-82-7	01/01/87
2,4-D [Acetic acid, (2,4-dichlorophenoxy)-1-]	94-75-7	01/01/87
Decabromodiphenyl oxide	1163-19-5	01/01/87
Diallate [Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester]	2303-16-4	01/01/87
2,4-Diaminoanisole	615-05-4	01/01/87
2,4-Diaminoanisole sulfate	39156-41-7	01/01/87
4,4'-Diaminodiphenyl ether	101-80-4	01/01/87
Diaminotoluene (mixed isomers)	25376-45-8	01/01/87
2,4-Diaminotoluene	95-80-7	01/01/87
Diazomethane	334-88-3	01/01/87
Dibenzofuran	132-64-9	01/01/87
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	01/01/87
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	01/01/87
Dibutyl phthalate	84-74-2	01/01/87
Dichlorobenzene (mixed isomers)	25321-22-6	01/01/87
1,2-Dichlorobenzene	95-50-1	01/01/87
1,3-Dichlorobenzene	541-73-1	01/01/87
1,4-Dichlorobenzene	106-46-7	01/01/87
3,3'-Dichlorobenzidine	91-94-1	01/01/87
Dichlorobromomethane	75-27-4	01/01/87
1,2-Dichloroethane (Ethylene dichloride)	107-06-2	01/01/87
1,2-Dichloroethylene	540-59-0	01/01/87
Dichloromethane (Methylene chloride)	75-09-2	01/01/87
2,4-Dichlorophenol	120-83-2	01/01/87
1,2-Dichloropropane	78-87-5	01/01/87
1,3-Dichloropropylene	542-75-6	01/01/87
Dichlorvos [Phosphoric acid, 2,2-dichloroethenyl dimethyl ester]	62-73-7	01/01/87
Dicofol [Benzenemethanol, 4-chloro- α -(4-chlorophenyl)- α -(trichloromethyl)-]	115-32-2	01/01/87
Dipoxbutane	1484-53-5	01/01/87
Diethanolamine	111-42-2	01/01/87
Di-(2-ethylhexyl)phthalate (DEHP)	177-81-7	01/01/87
Diethyl phthalate	84-65-2	01/01/87

Chemical name	CAS No.	Effective date
Nitrogen mustard [2-Chloro-N-(2-chloroethyl)-N-methylethanamine]	51-75-2	01/01/87
Nitroglycerin	55-63-0	01/01/87
2-Nitrophenol	88-75-5	01/01/87
4-Nitrophenol	100-02-7	01/01/87
2-Nitropropane	79-46-9	01/01/87
p-Nitrosodiphenylamine	156-10-5	01/01/87
N,N-Dimethylaniline	121-69-7	01/01/87
N-Nitrosodi-n-butylamine	924-16-3	01/01/87
N-Nitrosodiethylamine	55-18-5	01/01/87
N-Nitrosodimethylamine	62-75-9	01/01/87
N-Nitrosodiphenylamine	86-30-6	01/01/87
N-Nitrosodi-n-propylamine	621-64-7	01/01/87
N-Nitrosomethylvinylamine	4549-40-0	01/01/87
N-Nitrosomorpholine	59-89-2	01/01/87
N-Nitroso-N-ethylurea	759-73-9	01/01/87
N-Nitroso-N-methylurea	684-93-5	01/01/87
N-Nitrosornicotine	16543-55-8	01/01/87
N-Nitrosopiperidine	100-75-4	01/01/87
Octachloronaphthalene	2234-13-1	01/01/87
Osmium tetroxide	20816-12-0	01/01/87
Parathion [Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester]	56-38-2	01/01/87
Pentachlorophenol (PCP)	87-86-5	01/01/87
Peracetic acid	79-21-0	01/01/87
Phenol	108-95-2	01/01/87
p-Phenylenediamine	106-50-3	01/01/87
2-Phenylphenol	90-43-7	01/01/87
Phosgene	75-44-5	01/01/87
Phosphonic acid	7664-38-2	01/01/87
Phosphorus (yellow or white)	7723-14-0	01/01/87
Phthalic anhydride	85-44-9	01/01/87
Picric acid	88-89-1	01/01/87
Polychlorinated biphenyls (PCBs)	1336-36-3	01/01/87
Propane sulfone	1120-71-4	01/01/87
beta-Propiolactone	57-57-8	01/01/87
Propionaldehyde	123-38-6	01/01/87
Propoxur [Phenol, 2-(1-methylethoxy)-, methylcarbamate]	114-26-1	01/01/87
Propylene (Propene)	115-07-1	01/01/87
Propylenamine	75-55-8	01/01/87
Propylene oxide	75-56-9	01/01/87
Pyridine	110-86-1	01/01/87
Quinoline	91-22-5	01/01/87
Quinone	106-51-4	01/01/87
Quinzoene [Pentachloronitrobenzene]	82-68-8	01/01/87
Saccharin (only persons who manufacture are subject, no supplier notification) [1,2-Benzisothiazol-3(2H)-one,1,1-dioxide]	81-07-2	01/01/87
Safrole	94-59-7	01/01/87
Selenium	7782-49-2	01/01/87
Silver	7440-22-4	01/01/87
Sodium hydroxide (solution)	1310-73-2	01/01/87
Sodium sulfate (solution)	7757-82-6	01/01/87
Styrene	100-42-5	01/01/87
Styrene oxide	96-09-3	01/01/87
Sulfuric acid	7664-93-9	01/01/87
Terephthalic acid	100-21-0	01/01/87
1,1,2,2-Tetrachloroethane	79-34-5	01/01/87
Tetrachloroethylene (Perchloroethylene)	127-18-4	01/01/87
Tetrachlorovinylphos [Phosphoric acid, 2-chloro-1-(2,4,5-trichlorophenyl)ethenyl dimethyl ester]	961-11-5	01/01/87
Thallium	7440-28-0	01/01/87
Thioacetamide	62-55-5	01/01/87
4,4'-Thiodianiline	139-65-1	01/01/87
Thiourea	62-55-6	01/01/87
Thorium dioxide	1314-20-1	01/01/87
Titanium dioxide	13463-67-7	01/01/87
Titanium tetrachloride	7550-45-0	01/01/87
Toluene	108-88-3	01/01/87
Toluene-2,4-diisocyanate	584-84-9	01/01/87
Toluene-2,6-diisocyanate	91-08-7	01/01/87
o-Toluidine	95-53-4	01/01/87
o-Toluidine hydrochloride	636-21-5	01/01/87
Toxaphene	8001-35-2	01/01/87
Triazopone [2,5-Cyclohexadiene-1,4-dione,2,3,5-tris(1-azidodimethyl)-]	68-76-8	01/01/87
Trichlorfon [Phosphonic acid, (2,2,2-trichloro-1-hydroxyethyl)-, dimethyl ester]	52-68-6	01/01/87
1,2,4-Trichlorobenzene	120-82-1	01/01/87
1,1,1-Trichloroethane (Methyl chloroform)	71-55-6	01/01/87
1,1,2-Trichloroethane	79-00-5	01/01/87
Trichloroethylene	79-01-6	01/01/87
2,4,5-Trichlorophenol	95-95-4	01/01/87
2,4,6-Trichlorophenol	88-08-2	01/01/87
Trifluorin [Benzeneazirine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)-1]	1582-08-8	01/01/87
1,2,4-Trimethylbenzene	95-63-6	01/01/87
Tri[2,3-dibromopropyl]phosphate	126-72-7	01/01/87
Urethane (Ethyl carbamate)	51-79-6	01/01/87

CAS No.	Chemical name	Effective date
77-78-1	Dimethyl sulfate	01/01/87
78-84-2	Isobutyraldehyde	01/01/87
78-87-5	1,2-Dichloropropane	01/01/87
78-92-2	sec-Butyl alcohol	01/01/87
78-93-3	Methyl ethyl ketone	01/01/87
79-01-5	1,1,2-Trichloroethane	01/01/87
79-01-6	Trichloroethylene	01/01/87
79-06-1	Acrylamide	01/01/87
79-10-7	Acrylic acid	01/01/87
79-11-8	Chloroacetic acid	01/01/87
79-21-0	Peracetic acid	01/01/87
79-34-5	1,1,2,2-Tetrachloroethane	01/01/87
79-44-7	Dimethylcarbamyl chloride	01/01/87
79-46-9	2-Nitropropane	01/01/87
80-05-7	4,4'-Isopropylidenediphenol	01/01/87
80-15-9	Cumene hydroperoxide	01/01/87
80-62-6	Methyl methacrylate	01/01/87
81-07-2	Saccharin (only persons who manufacture are subject, no supplier notification) [1,2-Benzisothiazol-3(2H)-one,1,1-dioxide]	01/01/87
81-88-9	C.I. Food Red 15	01/01/87
82-25-0	1-Amino-2-methylantracene	01/01/87
82-68-8	Quinazoline (Pentachloronitrobenzene)	C12
84-66-2	Diethyl phthalate	01/01/87
84-74-2	Diethyl phthalate	01/01/87
85-44-9	Phthalic anhydride	01/01/87
85-68-7	Butyl benzyl phthalate	01/01/87
86-30-6	N-Nitrosodiphenylamine	01/01/87
87-62-7	2,6-Xyldine	01/01/87
87-68-3	Hexachloro-1,3-butadiene	01/01/87
87-86-5	Pentachlorophenol (PCP)	01/01/87
88-06-2	2,4,6-Trichlorophenol	01/01/87
88-75-5	2-Nitrophenol	01/01/87
88-89-1	Picric acid	01/01/87
90-34-0	p-Anisidine	01/01/87
90-43-7	2-Phenylphenol	01/01/87
90-94-8	Michler's ketone	01/01/87
91-08-7	Toluene-2,6-diisocyanate	01/01/87
91-20-3	Naphthalene	01/01/87
91-22-5	Quinoline	01/01/87
91-59-8	beta-Naphthylamine	01/01/87
91-94-1	3,3'-Dichlorobenzidine	01/01/87
92-52-4	Biphenyl	01/01/87
92-67-1	4-Aminobiphenyl	01/01/87
92-87-5	Benzidine	01/01/87
92-93-3	4-Nitrophenyl	01/01/87
94-36-0	Benzoyl peroxide	01/01/87
94-59-7	Sakole	01/01/87
94-75-7	2,4-D [Acetic acid, (2,4-dichlorophenoxy)-]	01/01/87
95-47-6	p-Xylene	01/01/87
95-48-7	p-Cresol	01/01/87
95-50-1	1,2-Dichlorobenzene	01/01/87
95-53-4	p-Toluidine	01/01/87
95-63-6	1,2,4-Trimethylbenzene	01/01/87
95-80-7	2,4-Diaminotoluene	01/01/87
95-95-4	2,4,5-Trichlorophenol	01/01/87
96-09-3	Styrene oxide	01/01/87
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	01/01/87
96-33-3	Methyl acrylate	01/01/87
96-45-7	Ethylene thiourea	01/01/87
97-56-3	C.I. Solvent Yellow 3	01/01/87
98-07-7	Benzocinchloride (Benzotrinchloride)	01/01/87
98-82-8	Cumene	01/01/87
98-87-3	Benzal chloride	01/01/87
98-88-4	Benzoyl chloride	01/01/87
98-95-3	Nitrobenzene	01/01/87
99-59-2	5-Nitro-p-anisidine	01/01/87
100-02-7	4-Nitrophenol	01/01/87
100-21-0	Terephthalic acid	01/01/87
100-41-4	Ethylbenzene	01/01/87
100-42-5	Styrene	01/01/87
100-44-7	Benzyl chloride	01/01/87
100-75-4	N-Nitrosopropidine	01/01/87
101-14-4	4,4'-Methylenebis(2-chloroaniline) (MBOCA)	01/01/87
101-61-1	4,4'-Methylenebis(N,N-dimethyl)benzenamine	01/01/87
101-68-8	Methylenebis(phenylisocyanate) (MBI)	01/01/87
101-77-9	4,4'-Methylenedianiline	01/01/87
101-80-4	4,4'-Diaminodiphenyl ether	01/01/87
103-23-1	Bis(2-ethylhexyl) adipate	01/01/87
104-94-9	p-Anisidine	01/01/87
105-67-9	2,4-Dimethylphenol	01/01/87
106-42-3	p-Xylene	01/01/87
106-44-5	p-Cresol	01/01/87

CAS No.	Chemical name	Effective date
542-75-6	1,3-Dichloropropylene	01/01/87
542-88-1	Bis(chloromethyl) ether	01/01/87
569-64-2	C.I. Basic Green 4	01/01/87
606-20-2	2,6-Dinitrotoluene	01/01/87
615-05-4	2,4-Diaminoanisole	01/01/87
621-64-7	N-Nitrosodi-n-propylamine	01/01/87
624-83-9	Methyl isocyanate	01/01/87
636-21-5	o-Toluidine hydrochloride	01/01/87
680-31-9	Hexamethylphosphoramide	01/01/87
684-33-5	N-Nitroso-N-methylurea	01/01/87
759-73-9	N-Nitroso-N-ethylurea	01/01/87
842-07-9	C.I. Solvent Yellow 14	01/01/87
924-16-3	N-Nitrosodi-n-butylamine	01/01/87
961-11-5	Tetrachlorophosphoric acid, 2-chloro-1-(2,4,5-trichlorophenyl)ethenyl dimethyl ester	01/01/87
989-38-8	C.I. Basic Red 1	01/01/87
1120-71-4	Propane sulfone	01/01/87
1163-19-5	Decabromodiphenyl oxide	01/01/87
1310-73-2	Sodium hydroxide (solution)	01/01/87
1313-27-5	Molybdenum trioxide	01/01/87
1314-20-1	Thiourea dioxide	01/01/87
1319-77-3	Cresol (mixed isomers)	01/01/87
1330-20-7	Xylene (mixed isomers)	01/01/87
1332-21-4	Asbestos (friable)	01/01/87
1335-87-1	Hexachloronaphthalene	01/01/87
1336-36-3	Polychlorinated biphenyls (PCBs)	01/01/87
1344-28-1	Aluminum oxide	01/01/87
1464-53-5	Diepoxybutane	01/01/87
1582-09-8	Trifluorin (Benzeneamine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)-)	01/01/87
1634-04-4	Methyl tert-butyl ether	01/01/87
1836-75-5	Nitrofen (Benzene, 2,4-dichloro-1-(4-nitrophenoxy)-)	01/01/87
1897-45-6	Chlorothalonil (1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-)	01/01/87
1937-37-7	C.I. Direct Black 38	01/01/87
2164-17-2	Fluometuron (Urea, N,N-dimethyl-N'-(3-(trifluoromethyl)phenyl)-)	01/01/87
2234-13-1	Octachloronaphthalene	01/01/87
2303-16-4	Diallate (Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl)ester)	01/01/87
2602-46-2	C.I. Direct Blue 6	01/01/87
2650-18-2	C.I. Acid Blue 9, diammonium salt	01/01/87
2832-40-8	C.I. Disperse Yellow 3	01/01/87
3118-97-6	C.I. Solvent Orange 7	01/01/87
3761-53-3	C.I. Food Red 5	01/01/87
3844-45-9	C.I. Acid Blue 9, disodium salt	01/01/87
4549-40-0	N-Nitrosomethylvinylamine	01/01/87
4680-78-8	C.I. Acid Green 3	01/01/87
6484-52-2	Ammonium nitrate (solution)	01/01/87
7429-90-5	Aluminum (fume or dust)	01/01/87
7439-92-1	Lead	01/01/87
7439-96-5	Manganese	01/01/87
7439-97-6	Mercury	01/01/87
7440-02-0	Nickel	01/01/87
7440-22-4	Silver	01/01/87
7440-28-0	Thallium	01/01/87
7440-38-0	Antimony	01/01/87
7440-38-2	Arsenic	01/01/87
7440-39-3	Barium	01/01/87
7440-41-7	Beryllium	01/01/87
7440-43-9	Cadmium	01/01/87
7440-47-3	Chromium	01/01/87
7440-48-4	Cobalt	01/01/87
7440-50-8	Copper	01/01/87
7440-62-2	Vanadium (fume or dust)	01/01/87
7440-66-8	Zinc (fume or dust)	01/01/87
7550-45-0	Titanium tetrachloride	01/01/87
7647-01-0	Hydrochloric acid	01/01/87
7684-38-2	Phosphoric acid	01/01/87
7684-39-3	Hydrogen fluoride	01/01/87
7684-41-7	Ammonia	01/01/87
7684-93-9	Sulfuric acid	01/01/87
7697-37-2	Nitric acid	01/01/87
7723-14-0	Phosphorus (yellow or white)	01/01/87
7757-82-6	Sodium sulfate (solution)	01/01/87
7782-49-2	Selenium	01/01/87
7782-50-5	Chlorine	01/01/87
7783-20-2	Ammonium sulfate (solution)	01/01/87
8001-35-2	Toxaphene	01/01/87
10034-93-2	Hydrazine sulfate	01/01/87
10049-04-4	Chlorine dioxide	01/01/87
12122-67-7	Zincb [Carbamodithioic acid, 1,2-ethanedithiol-, zinc complex]	01/01/87
12427-38-2	Maneb [Carbamodithioic acid, 1,2-ethanedithiol-, manganese complex]	01/01/87
13463-67-7	Titanium dioxide	01/01/87
16071-86-6	C.I. Direct Brown 35	01/01/87
16543-55-8	N-Nitrosomercaptoline	01/01/87

Category name	Effective date
Polybrominated Biphenyls (PBBs)..... 	01/01/87
Where $x = 1$ to 10 Selenium Compounds: Includes any unique chemical substance that contains selenium as part of that chemical's infrastructure Silver Compounds: Includes any unique chemical substance that contains silver as part of that chemical's infrastructure Thallium Compounds: Includes any unique chemical substance that contains thallium as part of that chemical's infrastructure Zinc Compounds: Includes any unique chemical substance that contains zinc as part of that chemical's infrastructure	01/01/87 01/01/87 01/01/87 01/01/87

Subpart E—Forms and Instructions**§ 372.85 Toxic chemical release reporting form and instructions.***(a) Reporting form.*

BILLING CODE 5560-50-M

(Important: Type or print; read instructions before completing form.)

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EPA FORM R
PART II. OFF-SITE LOCATIONS TO WHICH TOXIC
CHEMICALS ARE TRANSFERRED IN WASTES

(THIS SPACE FOR EPA USE ONLY)

1. PUBLICLY OWNED TREATMENT WORKS (POTW)

Facility Name	
Street Address	
City	County
State	Zip

2. OTHER OFF-SITE LOCATIONS - Number these locations sequentially on this and any additional page of this form you use.

☐ Other off-site location

EPA Identification Number (RCRA ID No.)

Facility Name	
Street Address	
City	County
State	Zip

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

☐ Other off-site location

EPA Identification Number (RCRA ID No.)

Facility Name	
Street Address	
City	County
State	Zip

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

☐ Other off-site location

EPA Identification Number (RCRA ID No.)

Facility Name	
Street Address	
City	County
State	Zip

Is location under control of reporting facility or parent company? ☐ Yes ☐ No☐ Check if additional pages of Part II are attached

EPA FORM R, Part III (Continued)

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6. TRANSFERS OF THE CHEMICAL IN WASTE TO OFF-SITE LOCATIONS						
You may report transfers of less than 1,000 lbs. by checking ranges under A.1		A. Total Transfers (lbs./yr)			B. Basis of Estimate (enter code)	C. Type of Treatment/Disposal (enter code)
		A.1 Reporting Ranges 0 1-499 500-999	A.2 Enter Estimate			
6.1	Discharge to POTW				6.1b	☐
6.2	Other off-site location (Enter block number from Part II, Section 2) ☐				6.2b	☐
6.3	Other off-site location (Enter block number from Part II, Section 2) ☐				6.3b	☐
6.4	Other off-site location (Enter block number from Part II, Section 2) ☐				6.4b	☐
☐ (Check if additional information is provided on Part IV-Supplemental Information)						

7. WASTE TREATMENT METHODS AND EFFICIENCY									
A. General Wastestream (enter code)	B. Treatment Method (enter code)	C. Range of Influent Concentration (enter code)	D. Sequential Treatment? (check if applicable)	E. Treatment Efficiency Estimate	F. Based on Operating Data?				
					Yes	No			
7.1a ☐	7.1b ☐	7.1c ☐	7.1d ☐	7.1e %	7.1f ☐	☐			
7.2a ☐	7.2b ☐	7.2c ☐	7.2d ☐	7.2e %	7.2f ☐	☐			
7.3a ☐	7.3b ☐	7.3c ☐	7.3d ☐	7.3e %	7.3f ☐	☐			
7.4a ☐	7.4b ☐	7.4c ☐	7.4d ☐	7.4e %	7.4f ☐	☐			
7.5a ☐	7.5b ☐	7.5c ☐	7.5d ☐	7.5e %	7.5f ☐	☐			
7.6a ☐	7.6b ☐	7.6c ☐	7.6d ☐	7.6e %	7.6f ☐	☐			
7.7a ☐	7.7b ☐	7.7c ☐	7.7d ☐	7.7e %	7.7f ☐	☐			
7.8a ☐	7.8b ☐	7.8c ☐	7.8d ☐	7.8e %	7.8f ☐	☐			
7.9a ☐	7.9b ☐	7.9c ☐	7.9d ☐	7.9e %	7.9f ☐	☐			
7.10a ☐	7.10b ☐	7.10c ☐	7.10d ☐	7.10e %	7.10f ☐	☐			
7.11a ☐	7.11b ☐	7.11c ☐	7.11d ☐	7.11e %	7.11f ☐	☐			
7.12a ☐	7.12b ☐	7.12c ☐	7.12d ☐	7.12e %	7.12f ☐	☐			
7.13a ☐	7.13b ☐	7.13c ☐	7.13d ☐	7.13e %	7.13f ☐	☐			
7.14a ☐	7.14b ☐	7.14c ☐	7.14d ☐	7.14e %	7.14f ☐	☐			
☐ (Check if additional information is provided on Part IV-Supplemental Information.)									

8. OPTIONAL INFORMATION ON WASTE MINIMIZATION			
(Indicate actions taken to reduce the amount of the chemical being released from the facility. See the instructions for coded items and an explanation of what information to include.)			
A. Type of modification (enter code)	B. Quantity of the chemical in the wastestream prior to treatment/disposal	C. Index	D. Reason for action (enter code)
☐	Current reporting year (lbs./yr) _____ Prior year (lbs./yr) _____ Or percent change _____ %	☐	☐

h. Instructions.**INSTRUCTIONS FOR COMPLETING EPA FORM R,
THE TOXIC CHEMICAL RELEASE REPORTING FORM****GENERAL INFORMATION**

A complete report Form R must be submitted for each toxic chemical manufactured, processed, or otherwise used at each covered facility as prescribed in the reporting rule in 40 CFR Part 372. These instructions supplement and elaborate on the requirements in the reporting rule. Together with the reporting rule, they constitute the reporting requirements; you should read both before attempting to complete Form R. All references in these instructions are to sections in the reporting rule unless otherwise indicated.

The Toxic Chemical Release Reporting Form, EPA Form R, consists of four parts:

- Part I, Facility Identification Information;
- Part II, Off-Site Locations to Which Toxic Chemicals are Transferred in Wastes;
- Part III, Chemical Specific Information; and
- Part IV, Supplemental Information

Form R is designed so that a majority of the information required in Part I and all of the information required in Part II should be the same for each chemical reported by your facility. If the information in Parts I and II are identical for two or more chemicals, you may submit photostatic copies of those parts for those chemicals as long as each Part I has an original signature on the certification statement. Part III must be completed separately for each chemical. Part IV provides additional space, if needed, to complete the information required by the preceding sections of the form.

A complete report for any listed toxic chemical that is not claimed trade secret consists of the following completed parts:

- Part I with an original signature on the certification statement (Section 2);
- Part II;
- Part III (Section 8 is optional), and
- If applicable, Part IV.

A complete report for a toxic chemical claimed trade secret includes all of the above items plus the following:

- A completed trade secret substantiation form,
- A "sanitized" version of the report in which the chemical identity items (Part III, Sections 1.2 and 1.3) have been left blank but in which a generic chemical name has been supplied (Part III, Section 1.4), and
- A "sanitized" version of the trade secret substantiation form.

**WHEN THE REPORT MUST BE
SUBMITTED**

The report for any calendar year must be submitted on or before July 1 of the following year (e.g., the report for calendar year 1987, January through December, must be submitted on or before July 1, 1988).

WHERE TO SEND THE REPORT

Submit reports, including reports containing trade secret claims (i.e., sanitized) to:

U.S. Environmental Protection Agency
P.O. Box 70266
Washington, D.C. 20024-0266
Attn: Toxic Chemical Release Inventory

In addition, you must send a copy of the report to the State (State of the U.S., the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the U.S. Virgin Islands, the Northern Mariana Islands, and any other territory or possession over which the U.S. has jurisdiction) in which the facility is located. States will provide addresses where the copies of the reports are to be sent. Copies of the report sent to the State should be the "sanitized," non-trade-secret version of the report, unless the State specifically requests otherwise. For additional information, refer to the discussion of trade secret/confidentiality claims in the instructions for completing Part III, Section 1, of the form.

**HOW TO OBTAIN FORMS AND OTHER
INFORMATION**

Additional copies of EPA Form R and related guidance documents may be obtained from:

Emergency Planning and Community Right-to-Know Hotline
U.S. Environmental Protection Agency
WH-562A
401 M Street, S.W.
Washington, D.C. 20460
(301) 535-0202
(202) 470-2149 (Washington, D.C. and Alaska)

**INSTRUCTIONS FOR COMPLETING
SPECIFIC SECTIONS OF EPA FORM R**

The following are specific instructions for completing each section of EPA Form R. The number designations of the parts and sections of these instructions correspond to those in Form R unless otherwise indicated.

**PART I. FACILITY IDENTIFICATION
INFORMATION****1.1 Does This Report Contain Trade Secret
Information?**

You must answer this question only after you have completed the rest of the report. The specific identity of the toxic chemical being reported in Part III, Sections 1.2 and 1.3 may be designated as trade secret. If you are making a trade secret claim, answer by marking the "yes" box and proceed to Section 1.2. (See Part III, Section 1, of these instructions for specific instructions on trade secrecy claims.) If the answer is no, proceed to Section 1.3.

1.2 Is This a Sanitized Copy?

You must answer this question only after you have completed the rest of the report. Answer yes if this copy of the report is the public "sanitized" version of a report where the chemical identity is claimed trade secret in Part III, Section 1.4 of the report. Otherwise, answer no.

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of the Clean Water Act. If your facility has more than two permits, use the Supplemental Information sheet (Part IV). Use leading place holding zeros. If your facility does not have a permit, enter not applicable [N/A] in box 3.

3.10 Name of Receiving Stream or Water Body

You must enter the name of each surface water body or receiving stream to which chemicals being reported are directly discharged. Report the name of each receiving stream or water body as it appears on the NPDES permit for the facility. Enter not applicable [N/A] to any unneeded spaces. If your facility discharges the toxic chemical to more than three receiving streams or water bodies, use the Supplemental Information sheet (Part IV).

3.11 Underground Injection Well Code (UIC) Identification Number

If your facility has a permit to inject chemical-containing waste which includes any toxic chemical being reported into Class I deep wells, you must enter the Underground Injection Control (UIC) 12-digit identification number assigned by EPA or by the State under the authority of the Safe Drinking Water Act. If your facility does not hold such a permit, enter not applicable [N/A] in this space.

4. Parent Company Information

You must provide information on your parent company. For purposes of this form, parent company is defined as a company which directly owns at least 50 percent of the voting stock of another company.

4.1 Name of Parent Company

You must enter the name of the corporation or other business entity that is your parent company. If you have no parent company, enter not applicable [N/A].

4.2 Parent Company's Dun & Bradstreet Number

If applicable, you must enter the Dun and Bradstreet Number for your parent company. The number may be obtained from the treasurer or financial officer of the company. If your parent company does not have a Dun and Bradstreet number, enter not applicable [N/A]. Use leading place holding zeros.

PART II. OFF-SITE LOCATIONS TO WHICH TOXIC CHEMICALS ARE TRANSFERRED IN WASTES

This section requires a listing of all off-site locations to which you transfer wastes containing the toxic chemical. The information that you enter in this section relates to data to be reported in Part III, Section 6, of the form. List only publicly owned treatment works (POTW) and treatment or disposal facilities. Do not list locations to which products containing the toxic chemical are shipped for sale or distribution in commerce or for further use. Also, do not list locations to which wastes containing the chemical are sold or sent for recovery, recycling, or reuse of the toxic chemical.

1. Publicly Owned Treatment Works (POTW)

You must enter the name and address of the POTW to which your facility discharges wastewater containing any toxic chemical you are reporting. If you do not discharge

wastewater containing reported toxic chemicals to a POTW, enter not applicable [N/A]. If you discharge wastewater containing toxic chemicals to more than one POTW, use additional copies of Part II.

2. Other Off-Site Locations

In the block next to the heading "Other off-site location," enter a number. For the first such off-site location enter "1" in the block. Continue numbering the off-site locations in ascending order. This is the block number required by Part III, Section 6. If your facility transfers the toxic chemical to more than three off-site locations, use additional copies of Part II and continue numbering these locations in ascending order.

In the spaces provided, you must enter the name and address of each location (other than POTWs) to which you ship or transfer wastes containing the toxic chemical. Also enter the RCRA I.D. Number (EPA I.D. Number) for each such location, if known to you. Such information may be found on the Uniform Hazardous Waste Manifest which is required by RCRA regulations.

You must also indicate in the space provided whether the location is owned or controlled by your facility or your parent company.

PART III. CHEMICAL SPECIFIC INFORMATION

1.1 Trade Secret Block

If you are claiming chemical identity as a trade secret, you must mark the trade secret claim box in Section 1.1. In addition, you must attach a completed trade secret substantiation form to the report, as set forth in the trade secret rule in 40 CFR Part 350. When the chemical identity is claimed trade secret, you must also provide a generic name in Section 1.4.

Note: If you complete and submit your Toxic Chemical Release Inventory Reporting Form before the trade secret rule is in effect, you are still required to substantiate your claim that the specific chemical identity is a trade secret. Accordingly, you should follow the provisions of the proposed trade secret rule and use the proposed trade secret substantiation form which appeared in the FEDERAL REGISTER of October 15, 1987 (52FR 38312-38377).

1.2 CAS Registry Number

You must enter the Chemical Abstracts Service (CAS) registry number that appears in section 372.65 of the reporting rule for the chemical being reported. Use leading place holding zeros. If you are reporting one of the chemical categories in section 372.65 of the rule (e.g., copper compounds), enter [N/A] in the CAS number space. CAS numbers are cross-referenced with an alphabetical list of trade names and chemical names in section 372.65 of the rule.

1.3 Chemical or Chemical Category Name

You must enter in the space provided the name of the chemical or chemical category as it is listed in section 372.65 of the reporting rule. Only use names listed in section 372.65.

1.4 Generic Chemical Name

You must complete Section 1.4 if you are claiming the specific chemical identity of the toxic chemical as a trade secret and have marked the trade secret block in

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Range Code	Weight Range in Pounds	
	From...	To...
01	0	99
02	100	999
03	1,000	9,999
04	10,000	99,999
05	100,000	999,999
06	1,000,000	9,999,999
07	10,000,000	49,999,999
08	50,000,000	99,999,999
09	100,000,000	499,999,999
10	500,000,000	999,999,999
11	1 billion	more than 1 billion

If the toxic chemical was present at your facility as part of a mixture or trade name product, to determine the maximum quantity of the chemical present at the facility you must calculate only the weight of the toxic chemical, not the weight of the entire mixture or trade name product. See section 372.30(b) of the reporting rule for further information on how to calculate the weight of the chemical in the mixture or trade name product.

5. Releases of the Chemical to the Environment

In Section 5 you must account for the total aggregate releases of the toxic chemical from your facility to the environment for the calendar year. Releases to the environment include emissions to the air, discharges to surface waters, and releases to land and underground injection wells.

All air releases of the chemical from the facility must be covered. In case of doubt about whether an air release is a point or non-point release, it is important that the release be included as one or the other rather than omitted. Do not enter information on individual emission points or releases. Enter only the total release.

5.1 Fugitive or non-point air emissions.

These are releases to the air that are not released through stacks, vents, ducts, pipes, or any other confined air stream. You must include (1) fugitive equipment leaks from valves, pump seals, flanges, compressors, sampling connections, open-ended lines, etc.; (2) evaporative losses from surface impoundments; (3) releases from building ventilation systems; and (4) any other fugitive or non-point air emissions.

5.2 Stack or point air emissions.

These are releases to the air that are through stacks, vents, ducts, pipes, or other confined air streams. You must include storage tank emissions. Air releases from control equipment would generally fall in this category.

5.3 Discharges to water

You must enter the applicable letter code for the receiving stream or water body from Section 3.10 of Part I of the form. Also, you must enter the total annual amount of the chemical released from all discharge points at the facility to each receiving stream or water body. You must include process outfalls such as pipes and open trenches, releases from on-site wastewater treatment systems, and the contribution from stormwater runoff if applicable (see instructions for column C below). Do not include "indirect" discharges to surface waters such as to a POTW or off-site wastewater treatment facility. These must be reported in Section 6.

5.4 Underground injection

You must enter the total annual amount of the chemical that was injected into wells, including Class I and other types, at the facility.

5.5 Releases to land

You must report quantities of the chemical that were landfilled, impounded, or otherwise disposed of at the facility. Do not report land disposal at off-site locations in this section. You must enter the appropriate disposal code from the following list:

Disposal Codes

- D02 Landfill
- D03 Land Treatment/Application/Farming
- D05 Surface Impoundment (to be closed as a Landfill)
- D99 Other Disposal

Three lines are provided in this section of the form to accommodate various types of land disposal.

For the purpose of this form, a surface impoundment is considered "final disposal." Quantities of the chemical released to surface impoundments that are used merely as part of a wastewater treatment process generally must not be reported in this section of the form. However, if the impoundment accumulates sludges containing the chemical, you must include an estimate in this section unless the sludges are removed and otherwise disposed of (in which case they should be reported under the appropriate section of the form). For the purposes of this reporting, storage tanks are not considered to be a type of disposal and are not to be reported in this section of the form.

A. Total Release

Only releases of the toxic chemical to the environment for the calendar year are to be reported in this section of the form. The total releases from your facility do not include transfers or shipments of the chemical from your facility for sale or distribution in commerce or of wastes to other facilities for treatment or disposal (see Section 6.1). Both routine releases, such as fugitive air emissions, and accidental or non-routine releases, such as chemical spills, must be included in your estimate of the quantity released.

A.1 Reporting Ranges

For reports submitted for calendar years 1987, 1988, and 1989 only, you may take advantage of range reporting for releases that are less than 1,000 pounds for the year to an environmental medium. You may mark one of the three boxes, 0, 1-499, or 500-999, corresponding to releases of the chemical to any environmental medium (i.e., any line item); however, you do not have to use these range check boxes. You have the option of providing a specific figure in column A.2 as described below.

For releases of 1,000 pounds or more for the year to any medium, you must provide an estimate in pounds per year in column A.2. Any estimate provided in column A.2 is required to be accurate to no more than two significant figures. Beginning with reports for calendar year 1990, you may not use ranges to report; you must report in column A.2.

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be calculated using the following formula:

$$(1 \times \text{fractional paved or roofed area}) + (0.2 \times \text{fractional grass area}) + (0.3 \times \text{fractional gravelled area}) = \text{site runoff coefficient}$$

If you have monitored stormwater but did not detect the chemical, enter zero (0) in this space. If your facility has no stormwater monitoring data for the of the chemical, enter no data (N/D) in this space on the form.

6. Transfers of the Chemical in Waste to Off-Site Locations

You must report in this section the total annual quantity of the chemical sent to any of the off-site disposal, treatment, or storage facilities for which you have provided an address in Part II.

Line 6.1 is for transfers to a POTW. Lines 6.2 through 6.4 are provided for transfers to other off-site locations, including privately owned wastewater treatment facilities.

Enter, from Section 2 of Part II, the block number that corresponds to the off-site location to which you transferred waste containing the chemical. If you need additional space (i.e., you ship waste to more than three off-site locations), check the box at the bottom of Section 6 and use the Supplemental Information sheet (Part IV).

A. Total Transferred

You must follow the instructions for providing estimates as presented in the instructions for column A of Section 5 above. You must enter the amount in pounds of only the toxic chemical that is being transferred; do not enter the total poundage of wastes, including mixtures or trade name products containing the chemical. As with Section 5, you may report in ranges only for calendar years 1987, 1988, and 1989.

B. Basis of Estimate

You must identify the basis for your estimate. Follow the instructions and use the same codes as presented in the instructions for column B of Section 5.

C. Type of Treatment/Disposal

You must enter one of the following codes to identify the type of treatment or disposal method used by the off-site location for the chemical being reported. You may have this information in your copy of EPA Form 30, Item 3 of the Annual/Biennial Hazardous Waste Treatment, Storage, and Disposal Report (RCRA). Applicable codes for this section are as follows:

- M10 Storage Only
- M20 Reuse as Fuel/Fuel Blending
- M40 Solidification/Stabilization
- M50 Incineration/Thermal Treatment
- M61 Wastewater Treatment (Excluding POTW)
- M69 Other Treatment
- M71 Underground Injection
- M72 Landfill/Disposal Surface Impoundment
- M73 Land Treatment
- M79 Other Land Disposal
- M90 Other Off-Site Management
- M91 Transfer to Waste Broker
- M99 Unknown

7. Waste Treatment Methods and Efficiency

In Section 7, you must provide the following information

related to the chemical whose releases are being reported: (A) the general wastestream types containing the chemical being reported; (B) the waste treatment methods (if any) used on all wastestreams containing the chemical; (C) the range of concentrations of the chemical in the influent to the treatment method (D) whether sequential treatment is used; (E) the efficiency or effectiveness of each treatment method in removing the chemical; and (F) whether the treatment efficiency figure was based on actual operating data. You must use a separate line in Section 7 for each treatment method used on a wastestream. This section is to be used to report only treatment of wastestreams at your facility, not treatment off-site.

A. General Wastestream

For each waste treatment method report you must indicate the type of wastestream containing the chemical that is treated. Enter the letter code that corresponds to the general wastestream type:

- A = Gaseous (including gases, vapors, airborne particulates)
- W = Wastewater (aqueous waste)
- L = Liquid waste (non-aqueous waste)
- S = Solid waste (including sludges and slurries)

If a waste is a mixture of water and organic liquid, you must report it under wastewater unless the organic content exceeds 50 percent. Slurries and sludges containing water must be reported as solid waste if they contain appreciable amounts of dissolved solids, or solids that may settle, such that the viscosity or density of the waste is considerably different from that of process wastewater.

B. Treatment Method

Codes for treatment methods are included in Table I of these instructions. You must enter the code for each treatment method used on a wastestream containing the toxic chemical, regardless of whether this treatment method actually removes the specific chemical. Treatment methods must be reported by type of waste being treated (i.e., gaseous wastes, aqueous wastes, liquid non-aqueous wastes, and solids).

Wastestreams containing the chemical may have a single source or may be aggregates of many sources. For example, process water from several pieces of equipment at your facility may be combined prior to treatment. Report treatment methods that apply to the aggregate wastestream as well as treatment methods that apply to individual wastestreams. If your facility treats various wastewater streams containing the chemical in different ways, the different treatment methods must each be listed separately.

Your facility may have several pieces of equipment performing a similar service. It is not necessary to enter four lines of data to cover four scrubber units, for example, if all four are treating wastes of similar character (e.g., sulfuric acid mist emissions), have similar influent concentrations, and have similar removal efficiencies. If, however, any of these parameters differ from one unit to the next, each scrubber must be listed separately.

C. Range of Influent Concentration

The form requires an indication of the range of concentration of the toxic chemical in the wastestream (i.e., the influent) as it typically enters the treatment equipment. You must enter in the space provided one of

B. Quantity of the chemical in the wastestream prior to treatment/disposal

Enter the pounds of the toxic chemical in wastes in the reporting year and the pounds in wastes in the year prior to implementing waste minimization (the "base year"). Alternatively, to protect confidential information, you may wish to enter only the percentage by which the weight of the chemical in the wastes has changed. This figure (percentage) may be calculated using the following formula:

$$\frac{\text{toxic chemical in wastes in reporting year} - \text{toxic chemical in wastes in prior year}}{\text{toxic chemical in wastes in prior year}} \times 100$$

The resulting figure may be either negative or positive.

C. Index

Enter the ratio of reporting-year production to production in the base year. This index should be calculated to most closely reflect activities involving the chemical. Examples of acceptable indices include:

- Chemical produced in 1987/chemical produced in 1986.
- Paint produced in 1987/paint produced in 1986.
- Appliances coated in 1987/appliances coated in 1986.
- Square feet of solar collector fabricated in 1987/square feet of solar collector fabricated in 1986.
- Value of sales in 1987/value of sales in 1986.

For example, a company manufactures 200,000 pounds of a chemical in 1986 and 250,000 pounds of the same chemical in 1987. The index figure to report would be 1.3 (1.25 rounded). The index provides a means for users of the data to distinguish the effects of changes in business activity from the effects specifically of waste minimization efforts. It is not necessary to indicate the units on which the index is based.

D. Reason for action

Finally, enter the codes from the following list that best describe the reason for initiating the waste minimization effort:

- R1 - Regulatory requirement for the waste.
- R2 - Reduction of treatment/disposal costs.
- R3 - Other process cost reduction.
- R4 - Self-initiated program.
- R5 - Other (e.g., discontinuation of product, occupational safety, etc.).