**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Parts 300 and 355**

**[FRL-3173-6]**

# Extremely Hazardous Substances List and Threshold Planning Quantities; Emergency Planning and Release Notification Requirements

**AGENCY:** U.S. Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** Section 302 of the Superfund Amendments and Reauthorization Act of 1986 (SARA), signed into law on October 17 1986, required the Administrator of EPA to publish a list of extremely hazardous substances within 30 days. The Administrator was also required to simultaneously publish an interim final regulation establishing a threshold planning quantity for each substance on the list and initiate a rulemaking to finalize these regulations. The list and planning quantities trigger emergency planning in States and local communities under SARA. On November 17 1986, EPA published an interim final rule codifying the statutorily prescribed list of extremely hazardous substances, the corresponding threshold planning quantities for those substances, and the local and State reporting requirements for facilities at which extremely hazardous substances or other "hazardous substances" are present. On November 17 EPA also proposed revisions to the list of extremely hazardous substances. Today's rulemaking revises the list of extremely hazardous substances, the threshold planning quantities, and the emergency planning and release reporting requirements based on public comments received on the interim final rule and proposed revisions.

**EFFECTIVE DATES:** This rule becomes effective on May 17 1987 for purposes of facility planning notification under section 302 and May 22, 1987 for purposes of emergency release notification under section 304. Other dates relevant to this rule include the following:

1. State emergency response commissions are to be established by April 17 1987
2. Facility notifications for emergency planning are required by May 17 1987
3. State commissions are to establish emergency planning districts by July 17 1987
4. State commissions are to establish local emergency planning committees by August 17 1987
5. Facility emergency release notifications to the local emergency planning committee begin on August 17 1987 or on the date on which the committee is formed if prior to that date.
6. Facility notifications to local committees concerning facility representatives are due by September 17 1987
7. Emergency response plans should be completed by the local emergency planning committees by October 17 1988.

**ADDRESS:** The record supporting this rulemaking is contained in the Superfund Docket located in Room Lower Garage at the U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460. The docket is available for inspection by appointment only between the hours of 9:00 a.m. and 4:00 p.m. Monday through Friday, excluding federal holidays. The docket phone number is (202) 382-3046. As provided in 40 CFR Part 2, a reasonable fee may be charged for copying services.

**FOR FURTHER INFORMATION CONTACT:** Richard A. Horner, Chemical Engineer, Preparedness Staff, Office of Solid Waste and Emergency Response, WH-562A, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460. The Chemical Emergency Preparedness Hotline, at 1-800/535-0202, in Washington, DC at 1-202/479-2449 can also be contacted for further information.

**SUPPLEMENTARY INFORMATION:** The contents of today's preamble are listed in the following outline:



## I. Introduction

### *A. Statutory Authority*

This regulation is issued under Title III of the Superfund Amendments and Reauthorization Act of 1986, (Pub. L. 99-499), ("SARA" or "the Act"). Title III of SARA is known as the Emergency Planning and Community Right-to-know Act of 1986.

### *B. Background*

#### 1. Superfund Amendments and Reauthorization Act of 1986 (SARA)

On October 17 1986, the President signed into law the Superfund Amendments and Reauthorization Act of 1986 ("SARA") which revises and extends the authorities established under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA"). Commonly known as "Superfund," CERCLA provides authority for federal cleanup of uncontrolled hazardous waste sites and response to releases of hazardous substances. Title III of SARA establishes new authorities for emergency planning and preparedness, emergency release notification, community right-to-know reporting, and toxic chemical release reporting.

#### 2. Title III

Title III of SARA, also known as the "Emergency Planning and Community Right-to-Know Act of 1986" is intended to encourage and support emergency planning efforts at the State and local levels and provide the public and local governments with information concerning potential chemical hazards present in their communities. The emergency planning requirements of this Act recognize the need to establish and maintain contingency plans for responding to chemical accidents which can inflict health and environmental damage as well as cause significant disruption within a community.

Title III is organized into three subtitles. Subtitle A, which establishes the framework for local emergency planning, will be described in more detail in the following section. Subtitle B provides the mechanism for community awareness with respect to hazardous chemicals present in the locality. This information is critical for effective local contingency planning. Subtitle B includes requirements for the submission of material safety data sheets and emergency and hazardous chemical inventory forms to State and local governments, and the submission

of toxic chemical release forms to the States and the Agency. Subtitle C contains general provisions concerning trade secret protection, enforcement, citizen suits, and public availability of information.

Today's rule revises the interim final rule, published on November 17 1986, (51 FR 41570), which set forth the basic elements for initiation of local emergency planning. The preamble to that rule described the Title III framework in more detail. Following is a summary of the statutory provisions directly related to today's final rule.

3. Emergency Planning and Notification Requirements Under Title III

Subtitle A of Title III is concerned primarily with emergency planning programs at the State and local levels. Section 301 requires each State to establish an emergency response commission by April 17 1987 The State commission is responsible for establishing emergency planning districts and appointing, supervising, and coordinating local emergency planning committees.

Section 303 governs the development of comprehensive emergency response plans by the local emergency planning committees and provision of facility information to the committee. The local emergency planning committee is responsible for completing an emergency plan meeting the requirements of section 303 by October 17 1988 and reviewing the plan at least annually. Under section 303(d), facilities subject to emergency planning must designate a facility representative who will participate in the local emergency planning effort as a facility emergency response coordinator. This designation must be made by September 17 1987 or 30 days after establishment of the local emergency planning committee, whichever is earlier. Section 303(d) also requires facilities to provide the committee with information relevant to development or implementation of the local emergency response plan.

Section 302 required the Administrator of EPA to publish a list of extremely hazardous substances and threshold planning quantities (TPQs) for such substances within 30 days of enactment of SARA. Any facility where an extremely hazardous substance is present in an amount in excess of the threshold planning quantity is required to notify the State commission by May 17 1987 or 60 days after the facility first begins handling an extremely hazardous substance in excess of its TPQ. Such notification should be in writing and specify the name and an accurate and current locational address of the facility. Other facilities may also be designated by the commission or the Governor. In turn, the State emergency response commission must notify EPA of such facilities. The Agency encourages State commissions to provide such notice by August 17 1987 to the EPA Regional Administrator for the standard Federal Region in which the State is located. The Agency requests that the notification provide a list of the covered facilities with their current and accurate locational addresses organized by emergency planning district, if practicable.

The list of extremely hazardous substances is defined in section 302(a)(2) as "the list of substances published in November, 1985 by the Administrator in Appendix A of the Chemical Emergency Preparedness Program Interim Guidance" This list was established by EPA to identify chemical substances which could cause serious irreversible health effects from accidental releases. Section 302(a)(3) further required EPA to initiate a rulemaking to revise the threshold planning quantities.

Section 304 establishes requirements for immediate reporting of certain releases of hazardous substances to the local planning committees and the State emergency response commissions, similar to the release reporting provisions under section 103 of CERCLA. Section 304 also requires follow-up reports on the release, its effects, and response actions taken. An interim final rule, published on November 17 1986 set forth the list of extremely hazardous substances, threshold planning quantities and reporting requirements. A companion rule requested comments on the interim final rule and proposed deletions from and additions to the list of extremely hazardous substances. Today's rule finalizes the list and associated planning requirements based on public comments.

4. Emergency Planning Program

After the enactment of Superfund (1980), it became apparent that emergency response, although vital to the protection of public health and the environment from accidental releases of hazardous substances, was not enough protection against the possibility of releases of extremely hazardous substances. For many chemicals, it is not sufficient merely to plan for cleanup of releases once they have occurred because of the hazard the releases pose to surrounding populations. Rather, it is important to facilitate emergency planning which can help prevent the accident and enable timely and effective emergency response in the event of a hazardus release. To aid in such planning, the Agency initiated the voluntary Chemical Emergency Preparedness Program (CEPP)—a part of the Agency's Air Toxics Strategy for addressing both continuing and accidental releases of toxic substances into the air environment. Under CEPP EPA developed the list of substances referred to in section 302(a) (now known as "extremely hazardous substances") and guidance materials to help local communities focus their planning efforts.

Title III of SARA mandates the type of program advocated by the Agency's CEPP It encourages State and local governments to establish the infrastructure needed to facilitate emergency planning and provides technical support to these programs. It also requires certain facilities to supply the information on substances present at the facility which is necessary for contingency planning.

The extremely hazardous substances list and its threshold planning quantities are intended to help communities focus on the substances and facilities of the most immediate concern for emergency planning and response. EPA strongly emphasizes, however, that while the list finalized today includes many of the chemicals which may pose an immediate hazard to a community upon release, it is not to be considered a list of all substances which are hazardous enough to require community emergency response planning. There are tens of thousands of compounds and mixtures in commerce in the United States, and in specific circumstances, many of them could be considered toxic or otherwise dangerous. The list published today represents only a first step towards development of an effective emergency response planning effort at the community level. Without a preliminary list of this kind, it would be very difficult for most communities to know where to begin identification of potential chemical hazards among the many chemicals present in any community.

Similarly, the threshold planning quantities are *not* absolute levels above which the extremely hazardous substances are dangerous and below which they pose no threat at all. Rather, the threshold planning quantities are intended to provide a "first cut" for community emergency response planners where these extremely hazardous substances are present. After identification of facilities at which extremely hazardous substances are present in quantities greater than the threshold planning quantities, the community will have the basis for

further analysis of the potential danger posed by these facilities. Also, they will be able to identify other facilities posing potential chemical risks to the community and develop contingency plans to protect the public from releases of hazardous chemicals. Sections 311 and 312 of Title III provide a mechanism through which a community will receive material safety data sheets and other information on extremely hazardous substances, as well as many other chemicals, from many facilities which handle them. A community can then assess and initiate planning activities, if desirable, for quantities below the threshold planning quantity and for other substances of concern to them. A proposed rule setting forth the requirements for reporting under sections 311 and 312 was published on January 27 1987 (51 FR 2836).

In addition to the assistance provided by the extremely hazardous substance list and the threshold planning quantities, community emergency response planners will be further aided by the National Response Team's *Hazardous Materials Emergency Planning Guide.* A separate notice of availability of this document was published in the **Federal Register** on March 17 1987 (52 FR 8360,61) as required under section 303(f) of Title III. The planning guide will be supplemented at a later date with Technical Guidance to assist local emergency planning committees in the technical evaluation of potential chemical hazards and the prioritization of sites. This technical document will provide more detailed guidance on identifying and assessing the hazards associated with the accidental release of hazardous substances on a site-specific basis. In addtion to the toxicity of the substance, such an assessment should address site-specific considerations such as the conditions of storage or use of the substance (e.g. whether under temperature or pressure), the physical properties of the substance (e.g. physical state (solid, liquid, gas), volatility, dispersability, reactivity), the location (e.g. distance to affected populations), and the quantity of the substance. The Technical Guidance will address such considerations to assist local planners in hazard indentification and analysis essential to effective emergency response planning.

Following is a summary of comments received by the Agency on the interim final rule, EPA's responses to major comments, and a description of revisions to the rule.

## II. Summary of the Public Comments

A total of 81 letters was received on the interim final rule and proposed rule.

There were several comments on the emergency planning program infrastructure and notification requirements, especially requests for clarification of notification requirements and exemptions. In particular, clarifications were requested on federally permitted releases, continuous releases and the relationship of the Title III reporting requirements to CERCLA reporting requirements.

Other major comments focused on the criteria used to identify chemicals for inclusion in the list of extremely hazardous substances, the need for additional criteria to address chronic or acute non-lethal health effects and physical and chemical properties.

Many commenters suggested changes to the extremely hazardous substance list, primarily deletions of specific chemicals, and expressed support for proposed deletions to the list. Other commenters opposed the deletions on the basis that the criteria for deletion were too narrow. Several recommended deletions of non-reactive, non-powdered solids.

Other commenters questioned the methodology used in setting threshold planning quantities and/or suggested changes to the threshold planning quantities for specific chemicals. Another topic of concern was the percent mixture policy, with some commenters opposing it and others stating that it was not appropriate in all cases.

In addition, a major issue was the inconsistency between reportable quantities (RQs) and threshold planning quantities for a number of chemicals, particularly where the reportable quantities exceed threshold planning quantities.

Other comments included lack of funding for State and local programs, use of the metric system, protection of confidential business information, and the content of an emergency response plan.

## III. Summary of Revisions to the Interim Final Rule

Several changes from the interim final rule should be noted. First, while the interim final rule was placed in Part 300 of Title 40 of the Code of Federal Regulation, the final rule has been placed in Part 355. Part 300 is the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). In the interim final rule, the Agency announced its intention to evaluate the placement of Title III rules. After consideration, the Agency has decided to place all Title III regulations in Subpart 335 et seq. since some of Title III is not specifically germane to the NCP and the Agency believes that all Title III rules should reside in one place in the Code of Federal Regulations. For clarity, today's rule republishes the list of extremely hazardous substances and associated regulations in its entirety.

This section described the significant changes that have been made to the interim final rule, based upon public comments on that rule and on the proposed rule. The following summary is organized according to the sections of the rule.

*Section 355.20 (formerly § 300.92)—Definitions*

The definition of "Commission" was revised to indicate that the Governor of a State will be the State emergency response commission, if no commission is designated, for all commission responsibilities in addition to planning, such as receipt of emergency release notifications and community right-to-know information and processing requests from the public for information under section 324. This change was made to better accord with the statutory language and to clarify, in response to commenters' concern, the entity to be notified after April 17 1987 of a release under section 304 if no State commission has been established.

A definition of transportation-related release has been added in response to comments requesting clarification of the term.

*Section 355.30 (formerly § 300.93)—Emergency Planning*

In response to commenters who asked how the TPQ is to be calculated, EPA has added a definition of the phrase "amount of any extremely hazardous substance" to paragraph (a). Thus, to determine whether the facility has present an amount of an extremely hazardous substance which equals or exceeds the TPQ, the owner or operator must determine the total amount of an extremely hazardous substance present at any one time at a facility, regardless of location, number of containers or method of storage. Additionally, the amount of an extremely hazardous substance present in mixtures or solutions in excess of one (1) percent must be included in the determination.

*Section 355.40 (formerly § 300.94)—Emergency Release Notification*

In response to several comments with respect to the exemption for on-site releases, EPA has revised the

applicability of this section to parallel the statutory exemption. The phrase "results in exposure to persons solely within the boundaries of the facility" was substituted for "results in exposure to persons outside the boundaries of the facility" Thus, releases need not result in *actual* exposure to persons off-site in order to be subject to release reporting requirements.

Several commenters requested that "continuous" releases be added to the exemptions listed under applicability to the extent that such releases are exempt from reporting under CERCLA. EPA agrees, based on the language in section 304(a) which requires that releases reportable under that Section occur in a manner which would require notification under section 103(a) of CERCLA. EPA has added this exemption to paragraph (a) along with other similar exemptions from section 103(a) notification under CERCLA (e.g., pesticide product releases under section 103(e)). However, because "statistically significant increases" from a continuous release must be reported as an episodic release under section 103(a) of CERCLA, such releases must also be reported under section 304(a). This has also been clarified in today's rule.

EPA has also clarified the effective date for emergency release notifications. EPA agrees with commenters who argued that the reporting provisions should not come into effect on November 17 1986 as stated in the interim final rule, but rather when the entity to which reports must be made is established. Accordingly, section 304 notifications must be made to the Commission beginning May 22, 1987 since the State emergency response commission is to be already established by that date. After April 17 1987 the Governor becomes the Commission until a Commission is established and notifications should be made to him/her. Beginning August 17 1987 notifications should also be made to the local committees. If no local emergency planning committee is established by August 17 1987 local notifications must be made to the appropriate local emergency response personnel. In many cases, facilities will already be alerting relevant local officials, such as fire departments, to those releases.

As noted by a commenter, notification is to be made to the "community" emergency coordinator as stated in the statute rather than the "local" emergency coordinator as stated in the interim final rule.

In response to comments, the alternative reporting for CERCLA hazardous substances which are not extremely hazardous substances is clarified to note its expiration after April 30, 1988 and that the exception concerns the immediate notice, not the follow-up report. These changes better accord the exception with the statutory language. In addition, EPA responded to requests from commenters by clarifying the exception for transportation-related releases in § 355.40(b)(4)(ii) (formerly § 300.94(b)(4)(ii)) by specifying the contents of the notice and further defining "transportation-related release" in accordance with the legislative history of this provision.

*Appendix A and B (formerly Appendix D and Appendix E)—List of Extremely Hazardous Substances and Threshold Planning Quantities*

The appendices republish the list set out in the interim final rule with the addition of four new chemicals and the revised final threshold planning quantities.

The Agency is adding to the list of extremely hazardous substances four of the five chemicals proposed for addition in the proposed rule published on November 17 1986. The other chemical, urea,3-(3,4-dichlorophenyl)1-methoxy-1-methyl-, CAS number 330–55–2, will not be added to the list because of new data that indicates that this chemical does not meet the acute toxicity criteria. The Agency has determined that this chemical does not meet the present criteria.

In the interim rule, 40 chemicals were proposed for deletion from the list of extremely hazardous substances. Based upon public comment and upon reconsideration of the statutory criteria for revisions of the list, EPA has decided not to delete these substances from the list in this rulemaking. EPA agrees with commenters who indicated that under section 302(a)(4), chemicals should not be deleted from the list if they can be shown to have other health effects resulting from a short-term exposure at specified levels. The Agency does not currently have available criteria for determining such levels.

The Agency has also changed the way in which threshold planning quantities are applied to solids based on commenters' concerns. Under today's rule, the threshold planning quantity listed for each solid-form substance applies only if certain criteria are met. Otherwise the threshold planning quantity is 10,000 pounds. Since solids generally do not present an airborne release hazard unless they are handled in certain forms or are highly reactive, only those forms or levels of reactivity which can potentially result in an airborne release apply to the threshold planning quantity listed. Therefore, the listed threshold planning quantity will apply only to that fraction of the total quantity of a solid with a particle size less than 100 microns, that fraction of a solid in solution, or that fraction of a solid in molten form at any time. An adjustment factor of 0.3 to account for maximum potential volatility is also applied to solids in molten form. The total quantity in molten form must be multiplied by 0.3 and then compared to the listed threshold planning quantity to determine if reporting is required for that chemical. With respect to reactivity, only solids with a National Fire Protection Association (NFPA) rating, or those that meet the criteria for a rating of 2, 3, or 4 for reactivity, do not default to a threshold planning quantity of 10,000 pounds. Solids on the list of extremely hazardous substances in Appendices A and B have two TPQ values. The first applies to solids that meet the form (i.e., <100 microns) or reactivity criteria described above; the second TPQ (10,000 pounds) are for solids that don't meet the form or reactivity criteria.

In addition, the Agency has made two changes in threshold planning quantity categories. The "any amount" category has been eliminated and a new one-pound category added for substances considered to be of the highest potential hazard. The two-pound category has also been eliminated with two chemicals reassigned to the one-pound category and the others in this category reassigned to a new ten-pound category. These changes were made in response to commenters' concerns over the inconsistency between TPQ levels and CERCLA RQ levels.

A number of chemicals have been moved to different threshold planning quantity categories in this rule based on revised categories discussed above or on new or reevaluated toxicity data. Those chemicals whose threshold planning quantities were reassigned are noted in the list in Appendix A and B; the reasons for the reassignments are indicated in footnotes. Approximately 36 chemicals were moved to lower categories while 12 were assigned higher TPQ values. More details on these reassignments can be found in the technical support documents which are available in the public docket.

## IV Responses to Major Public Comments

A document summarizing the comments and responses to all the public comments is available in the public docket to this final rule. The major issues raised by the commenters and the Agency's response to them are described below.

*A. Emergency Planning*

1. Emergency Planning Under section 302

A number of comments focused on the emergency planning requirements of Title III. One commenter requested that the rule be amended to allow existing State and local laws the provide substantially similar protection to supercede the specific provisions of the federal rule.

Section 321 of SARA discusses the relationship of Title III to other federal, State, and local laws. This section generally provides that nothing in Title III shall preempt any State or local law, or affect any State of local law. However, material safety data sheets, if required under a law passed after August 1, 1985, must be identical in content and form to that required under section 311. Accordingly, while Title III does not supercede State or local laws, EPA has no authority to waive the requirements imposed under Title III. These requirements, including the threshold planning quantities, are intended to be minimum standards. However, EPA will work with States which have developed reporting forms and planning structures to determine the most efficient approaches to coordinate Title III requirements with existing State or local structures, forms and requirements where appropriate to avoid duplication of effort.

Several commenters feel that EPA should require States to notify the Agency when the State emergency response commissions/local emergency planning committees are established. EPA should then publish this information in the **Federal Register** or disseminate it in some way so that all affected parties could have access to it. One commenter noted that covered facilities must know to whom to report in order to comply with the notification requirements to Title III.

States are not required to provide information on the establishment of the State emergency response commissions and local emergency planning committees to EPA. However, the Agency strongly encourages States to notify the public, especially potentially affected facilities, and EPA as soon as the State emergency response commissions and local emergency planning committees are established. The Agency suggests that the facility contact the Governor's office if it does not have information on the commission. EPA Regional Administrators are writing to the Governors of each State and Territory to inform them of Title III requirements, to offer information and technical assistance in the development of the State and local planning structure and to request that they notify EPA of the establishment of the State emergency response commission.

One commenter believes that EPA should explain fully its expectations as to the responsibilities of the State emergency response commissions and local emergency planning committees. In response to this comment, EPA notes that Title III implementation is primarily a State and local responsibility. EPA does not intend to oversee the operation of individual commissions and committees. With respect to State responsibilities under Title III, EPA recommends that States review the appropriate sections of Title III when establishing their State emergency response commissions and local emergency planning committees and laying out the commission and committee responsibilities regarding planning and public availability. The Agency recommends that the State emergency response commission be as broad-based as possible, including key State agencies such as environmental protection, emergency management, health, occupational safety and health, labor and transportation, as well as other public and private sector representation as the State deems appropriate. EPA's Regional Offices are available to assist States in establishing and implementing the planning structure described in Section 301.

One commenter believes that the local planning committees could impose significant requirements on small businesses. The commenter feels EPA should clarify the information requirements in the emergency planning guidance and in the final rule.

With respect to the emergency planning guidance, the National Response Team's *Hazardous Materials Emergency Planning Guide* (notice of availability published on March 17 1987 52 FR 8360) describes the information requirements established under Title III and how this information will be useful in developing a local emergency plan.

The Agency is also clarifying the Title III emergency planning and notification requirements based upon public comment. With respect to the issue of burden on small businesses, the Agency's small business analysis does not show that these emergency planning requirements will cause a significant burden to small facilities. Because small facilities are likely to use or store fewer extremely hazardous substances and handle smaller amounts, the level of planning required will be commensurately smaller. In addition, unreasonable burdens on small facilities can be prevented because owners/operators of subject facilities will be represented on local emergency planning committees.

Facilities subject to section 302 will designate a facility emergency coordinator to participate in the planning process. Participation by the facility in the planning process provides an opportunity for the facility to present concerns regarding the burden of planning to the committee and to ensure that committee requests for information are necessary for planning. In particular, small businesses may wish to encourage special small business representation on the local emergency planning committee and also make their concerns known through their emergency coordinators.

One commenter stated that an extremely hazardous substance that was not stored on site but produced in a process such as an incinerator should be exempt from both threshold planning quantity calculation and exempt from release reporting if the release is covered by a Clean Air Act permit. EPA agrees that if none of the material is present on site and less than a TPQ is present at any one time during the year, then the extremely hazardous substance need not be reported to the local emergency planning committee. Further, if the release is federally permitted under section 101(10) of CERCLA, then the release need not be reported under section 304 of SARA.

Another commenter believes that there should be an exemption for plants over 5000 meters or some other distance from a community. EPA disagrees. No long distance exemption exists under section 302. For further discussion on plant distance from a community, see section F.1.a. below.

*B. Emergency Release Notifications*

1. Recipients and Providers of Section 304 Notification

Two commenters questioned the requirements under § 309.94(b)(1) of the interim final rule (now § 355.40(b)(1)) that directs facilities to notify relevant local and State emergency response personnel following an emergency release if there is no State commission or local committee. One commenter believed that this sentence should be deleted as it exceeds EPA's authority.

Along the same lines, one commenter expressed the concern that State commissions and local committees must be notified after a release, but in many States these commissions and local committees are not yet established. States are required to establish their commissions by April 17 1987 and those commissions must establish local

committees not later than 30 days after the designation of emergency planning districts or by August 17 1987, whichever is earlier.

In order to alleviate confusion over whom to notify prior to the dates upon which the commission and committee are to be established, EPA has revised the effective date of the notification requirements. As previously discussed, under today's rule the release notification requirements to the State commission become effective on May 22, 1987 and to local committees beginning August 17 1987 If a committee is in existence prior to that date, notification should be made to it as of the date of its establishment.

Section 301 of SARA provides that if the State commission is not set up by April 17 1987 the Governor must operate as the State commission, and thus notification must be made under today's rule even if no commission is established. Where no commission is established, the notifications would be made to the State Governor. Local committees are required to be established not later than 30 days after the designation of emergency planning districts or by August 17 1987 whichever is earlier. If local committees are not set up by August 17 notifications must still be made, but should be provided to local emergency personnel such as local emergency management offices or fire departments. As indicated by the legislative history of this provision, Congress intended that emergency release notification requirements become effective as of the dates when the commissions and committees are to be established. EPA, however, has delayed the effective date of release notification to the State since the list of extremely hazardous substances and reporting requirements have been under revision. Local and State governments may make any arrangements necessary for the receipt of the release information when commissions and committees are not yet established. Further discussion of effective dates can be found under section VI of this preamble.

One commenter believes that for transportation-related releases, the emergency release notification requirements should apply to the operator, rather than the owner of the facility. No changes were made to the rule in this regard because section 304 allows either the owner or operator to give notice after a release. Owners and operators may make private arrangements concerning which party is to provide release notification; however, under section 304 both owner and operator are responsible if no notification is provided.

The same commenter requested the Agency to define the term "transportation-related release." The Agency has defined this term for purposes of the release notification requirements in the revised final regulation.

2. Scope of Section 304 Reporting

One commenter recommended that EPA adopt under SARA the same policy formulated under section 102 of CERCLA to determine whether an RQ has been reached. The method used by CERCLA does not require aggregation of either releases from separate facilities or releases of different hazardous substances at the same facility. EPA agrees that this policy should be equally applicable to releases under section 304 due to similarity to section 103 of CERCLA.

One commenter believes that the section 304 emergency release notification requirements should apply to all releases that meet the notification thresholds and that have the potential for affecting anyone outside the facility boundaries. As discussed in section III above, EPA agrees that its codification of the statutory exemption for on-site releases, by requiring the release to result in exposure to persons off-site, could be interpreted to be broader than the actual statutory language. In today's rule, EPA has revised the regulations to better accord with the statutory language.

One commenter stated that releases into water or soil should also be covered under the SARA section 304 requirements rather than just air releases which the commenter believed was indicated in the November 17, 1986 regulations. However, the interim final rule did not indicate that the release notification requirements were only applicable to air releases. Although the original CEPP program was concerned primarily with the dangers of air releases (and the TPQs developed under section 304), section 304 of Title III, like section 103 of CERLCA, covers releases into all media.

3. Types of Releases That Are Exempt From Section 304 Reporting

*i. Main Categories of Exemption.* Several commenters asked for clarification of the various exemptions from section 304 reporting requirements. The statute provides several exemptions from notification. These are: (a) "Federally permitted releases" as determined under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 section 101(10); (b) releases which only result in exposure to persons within the facility boundaries; (c) releases from a facility which produces, uses, or stores no hazardous chemicals; (d) "continuous releases" as defined under CERCLA section 103 (f); and (e) releases of a FIFRA-registered pesticide, as defined under CERCLA section 103(e).

It should be noted, however, that some releases occurring at a facility which are not reportable under section 304 may still constitute reportable releases under CERCLA section 103 and must, if so, be reported to the National Response Center. Release reporting under section 304 is in addition to release notifiction under CERCLA section 103. Thus, notice to the National Response Center may be required even if no local of State reporting is required. CERCLA section 103, for instance, does not contain an on-site release exemption.

*ii. Federally Permitted Releases.* Seven commenters stated that "federally permitted releases" should be exempted from SARA section 304 release reporting. EPA agrees, but had already included this exemption in § 300.94 (now § 355.40), the emergency release notification section of the regulation. The exemption for "federally permitted releases" is identical to that under section 103 of CERCLA. Section 101(10) of CERCLA defines "federally permitted releases" for purposes of section 103 of CERCLA and release notification under Title III and includes 11 types of specific releases permitted under certain State and federal programs. As EPA issues clarifications of "federally permitted release" under section 103 of CERCLA, these clarifications will apply equally to releases notifications under section 304 of SARA. The issuance of rules clarifying the definition of "federally permitted release." will be the subject of a later rulemaking.

One commenter asked whether the "federally permitted release" exemption applies fully to State permitted releases. State permitted releases are exempted only to the extent that the releases are considered "federally permitted" under section 101(10) of CERCLA.

*iii. Continuous Releases.* Seven commenters requested that a clarification be made of the regulation establishing an exemption from reporting under section 304 for any "continuous release" of an extremely hazardous substance or CERCLA hazardous substance. Several commenters cited the Conference report on the Superfund Amendments and Reauthorization Act which states "releases which are continuous or

frequently recurring and do not require reporting under CERCLA are not required to be reported" under section 304. (H.R. Rep. No. 963, 99th Cong. 2d Sess, at 285 (1986))

Section 103(f) of CERCLA provides relief from the reporting requirements of section 103(a) for a release of a hazardous substance that is continuous and stable in quantity and and rate. (Instead, continuous releases are subject to annual reporting under section 103(f)).

As discussed in section III above, EPA agrees that this exemption from immediate release notification should apply to SARA section 304 to the same extent that such releases are not subject to reporting under CERCLA section 103(a) and clarifies the regulation today to that effect. Thus, "continuous releases" which require annual reporting under section 103(f) of CERCLA rather than immediate reporting under section 103(a) are not subject to reporting under section 304 of SARA. Unlike CERCLA section 103, however, there is no provision for alternative annual reporting under section 304. (Some continuous releases will be subject to annual reporting under section 313 of SARA.) In addition, because "statistically significant increases" from a "continuous release" must be reported as an episodic release under CERCLA section 103(a), such releases must also be reported under SARA section 304. Any clarifications or regulations interpretating "continuous" or "statistically significant increases" releases under CERCLA section 103(f) will also apply to SARA section 304.

One commenter noted that some power plants without federal permits may daily exceed RQ levels for some extremely hazardous substances such as $SO_2$ or $SO_3$. The commenter desired a clarification of the intent of EPA on this matter. Since such substances are non-CERCLA hazardous substances, reporting is not necessary as pursuant to CERCLA. In addition, such releases need not be reported if they qualify as "continuous" or "federally permitted releases" under CERCLA as discussed above. "Statistically significant increases" would be subject to section 304 reporting.

One commenter stated that a variance procedure is needed in the section 304 requirement to exclude or otherwise exempt upset conditions and baseline conditions under normal operations. EPA disagrees because upset releases are episodic and precisely the type of release intended to be reported under Title III. "Baseline conditions" are exempt only if "continuous" or "federally permitted." The fact that a release can be predicted from an upset situation or periodically from normal operations would exempt virtually all releases from all facilities from ever reporting, since most releases occur from either normal operations or upset conditions.

*iv. Exclusion of Certain Types of Waste and Facilities Under Section 304.* One commenter asked for an interpretation of "release" that would not include any disposal of hazardous waste or solid waste, if disposal is performed according to the permitting and other relevant requirements of the Resource Conservation and Recovery Act (RCRA) or the Toxic Substances Control Act (TSCA), or other applicable federal or State law.

Disposal of hazardous substances at a disposal facility in accordance with EPA regulations is not subject to CERCLA notification.

Regardless of the outcome of that decision, it is important to note that spills and accidents occurring during disposal *and outside of the approved operation,* that result in reportable releases of extremely hazardous substances or CERCLA hazardous substances, must be reported to the State emergency response commission and local emergency planning committee as well as to the National Response Center. In addition, PCB releases of an RQ or more from a TSCA-approved facility (as opposed to disposal into such a facility), must be reported under section 304 (and to the National Response Center).

The RCRA disposal issue is similar to PCB disposal under TSCA. In a final rule issued in April 1985, EPA determined that where the disposal of wastes into permitted or interim status facilities is properly documented through the RCRA manifest system and RCRA regulations are followed, notification under CERCLA does not provide a significant additional benefit as long as the facility is in substantial compliance with all applicable regulations and permit conditions. However, spills and accidents occurring during disposal that result in releases of reportable quantities of hazardous substances must be reported to the National Response Center under CERCLA § 103. 50 FR 13461 (April 4, 1985). EPA believes that the same rationale applies to section 304. Thus, no notification of proper disposal into such RCRA facilities is required under today's rule.

Another commenter wanted to know if mining and mineral extraction wastes were exempt under section 304. There is no such exclusion under section 304 and the release notification requirements apply if the wastes are CERCLA hazardous substances or extremely hazardous substances.

*v. Releases from Facilities Not Handling "Hazardous Chemicals"* Several commenters requested that since certain chemicals at research laboratories are exempt from the definition of "hazardous chemicals" and thus exempt from release notification requirements under section 304, that this exclusion be extended to section 302 planning requirements.

SARA defines "hazardous chemical" under section 311. Under section 311(e) "any substance to the extent it is used in a research laboratory or a hospital or other medical facility under the direct supervision of a technically qualified individual" is excluded from the definition of "hazardous chemical." Section 304 of SARA also states that releases of extremely hazardous substances and CERCLA substances are reportable under section 304 only when from a facility where hazardous chemicals are produced, used, or stored. However, because the planning requirements are not tied in any way to "hazardous chemicals," the "hazardous chemical" exclusion of section 304 does not extend to section 302.

In addition, for emergency notification purposes under section 304, if a release of an extremely hazardous substance or CERCLA substance exceeds the reportable quantity and occurs on a facility that produces, uses, or stores a "hazardous chemical," the facility owner or operator must notify the required parties. Accordingly, the research laboratory is exempt from section 304 emergency notification only if *no* hazardous chemicals are present at the facility, other than those used at the laboratory under the direct supervision of a technically qualified individual.

*vi. Other Exemptions from Section 304 Reporting.* Section 304(a) applies to releases which require notification under section 103(a) of CERCLA or, for substances which are not "hazardous substances" under CERCLA, releases which "occur in a manner which would require notification under section 103(a)" of CERCLA. As indicated above, "continuous" releases as defined under section 103(f) do not require immediate release reporting under section 103(a) except for "statistically significant increases." Because such releases do not "occur in a manner" which requires immediate release reporting under section 103(a) of CERCLA, they are also not reportable under section 304 of SARA.

In addition, there are other types of releases which are not reportable under section 103(a) of CERCLA. For instance,

EPA has been asked whether the application of pesticide products by an agricultural producer constitutes a reportable release under section 304. The application of a registered pesticide generally in accordance with its purpose is exempt from section 103(a) notification under section 103(e) of CERCLA. Because such releases are not reportable under section 103(a) of CERCLA, they are also exempt from release reporting under section 304(a) of SARA, and EPA has clarified the release reporting regulations to include this exemption. Similarly, section 101(22) of CERCLA excludes several types of releases from the definition of "release" and thus from release reporting under CERCLA section 103(a). These releases, which include emissions from engine exhaust, certain nuclear material releases, and the normal application of fertilizer, are also excluded from release notification under section 304 of SARA.

With respect to other exemptions, one commenter requested that section 304 be clarified to indicate whether the CERCLA "petroleum exclusion" applies to release reporting under Title III. The commenter felt that since "petroleum, including crude oil or any fraction thereof" is exempt from reporting under section 103 of CERCLA, it should also be exempt from reporting under section 304 of SARA.

However, "petroleum" is exempted generally from CERCLA responsibilities since it is excluded from the definition of a "hazardous substance" under section 101(14) and "pollutant or contaminant" under section 101(33) of CERCLA. Because no such exclusion exists under Title III, if extremely hazardous substances are present in petroleum, those substances are subject to applicable emergency planning and release notification requirements under Title III.

One commenter felt that particulates and other substances emitted from power plants should be exempt from § 300.94 (now § 355.40) emergency release notification requirements.

Such a release is exempt from § 355.40 if it is "federally permitted" as defined under Section 101(10) of CERCLA, "continuous" as defined under section 103(f) of CERCLA, or confined within the site. As mentioned before, the Agency is currently developing regulations defining "federally permitted" and "continuous releases." Such rules and interpretations will also apply to release notification under Title III.

*vii. Mixtures.* With regard to facilities which produce, use, or store mixtures, one commenter stated that this kind of facility should be exempt from section 302 notification requirements if the extremely hazardous substance component information is not available on the MSDS provided by the manufacturer. EPA disagrees. If the facility which produces, uses, or stores mixtures knows or reasonably should know the components of the mixture, the facility owner or operator must notify under section 302 if the extremely hazardous substance component is more than one percent and more than the TPQ. The facility owner or operator is not under an obligation, however, to inquire of the manufacturer the components of the mixture. Section IV F.3 below discusses the one percent de minimis limit of extremely hazardous substances in mixtures for purposes of determining quantities applicable to the threshold planning quantities.

The same commenter believes that the de minimis concept should also be applied in the determination of emergency release notification. EPA disagrees, since the de minimis quantity was set in place for threshold quantities simply to make the calculation of the total amount of extremely hazardous substances on a facility more straightforward for planning purposes. The more dilute an extremely hazardous substance is, the more difficult it is to identify the substance in a mixture and the less likely to be released in a large quantity. For release reporting, however, the "de minimis" is the RQ because the extremely hazardous substance is already in the environment potentially doing harm. But whether or not the RQ is exceeded depends on the amount of the substance in the mixture, if known. This is the CERCLA "mixture" rule. See April 4, 1985 RQ rule (50 FR 13463).

4. Section 304 Transportation Issues

One commenter asked how an important carrier will know if he/she is carrying an extremely hazardous substance. First, EPA notes that the definition of facility in Title III does not cover transportation facilities with respect to facility planning notification and participation under section 302. However, local communities should take into account the local routes on which extremely hazardous substances will be transported in developing their emergency response plans.

Second, the definition of facility does cover some transportation facilities for purposes of release notification under section 304. However, because section 329 defines "facility" to include only "motor vehicles, rolling stock, and aircraft," vessels are not subject to section 304. Third, with respect to the degree of knowledge required, section 304 does not specify the degree of knowledge required for release reporting, or even that any knowledge is required. However, because of the close relationship between section 304 of SARA and section 103 of CERCLA, EPA interprets section 304 to require the same degree of knowledge as required under CERCLA section 103. Neither section 103 of CERCLA or section 304 of SARA impose separate monitoring or testing requirements on facility owners and operators.

One commenter asked if the release regulations apply differently to foreign flag carriers as opposed to domestic carriers. As noted above, ships are not covered under section 304.

One commenter requested clarification of the responsibility of transportation operators in the event of a spill or release of extremely hazardous substances or CERCLA substances. Although owners/operators of transportation facilities are not required to notify State and local authorities with regard to section 302 contingency planning, they are required to report releases under section 304.

With regard to stationary facilities, Section 304 requires owners and operators to report releases to the local emergency planning committee and to the State emergency response commission. Owners and operators of transportation facilities under section 304 are allowed to call the 911 emergency number in lieu of calling the State commission and local committee, or in the absence of a 911 number, the operator. The rationale for this separate reporting is that transportation operators on the road may very well not know the telephone numbers of the relevant State and local entities. If the transportation operator is in a community which has a generic emergency number rather than 911, the generic number should be used instead of 911. Note that if the release is of a CERCLA hazardous substance, a call to the National Response Center is also required. Local committees should consider training all personnel responsible for receiving telephone notice of such a release, so that proper notification procedures will be maintained.

One commenter asked if section 304 release notification requirements apply to pipelines, barges, and other vessels as well as to other transportation facilities. Section 327 of SARA states that Title III does not apply to the transportation of any substance or chemical, including transportation by pipeline, except as provided in section 304. Section 304 requires notification from facilities of releases of extremely hazardous

substances and CERCLA hazardous substances. The word "facility" is defined in section 329 to mean stationary items, which would include pipelines. The definition also includes, for purposes of section 304, motor vehicles, rolling stock, and aircraft. Because barges and other vessels are not included in the definition of "facility," they are not subject to section 304 reporting requirements.

Another commenter asked when and where an air carrier should report a release. For instance, should he/she report the release to the State where the release occurred or wait until the airport of destination to report? EPA believes that since aircraft should always have radio communication capabilities, the report should be given to the State(s) likely to be affected by the release as soon as possible after release. Reporting the release on arrival at the destination will not necessarily enable the provision of timely emergency response to the affected areas.

5. The Mechanics of Section 304 Reporting

One commenter stated that section 304 notification should go to the local emergency planning committee only, rather than to the local emergency planning committee *and* the State emergency response commission. Section 304 requires notification to both entities.

One commenter stated that section 304 release notification requirements should apply to reporting to the National Response Center under CERCLA section 103 as well as to State and local authorities. Although many releases subject to section 304 reporting requirements are also subject to reporting requirements under CERCLA section 103, no reporting to the National Response Center is currently required for the 256 extremely hazardous substances which are not "hazardous substances" under CERCLA. EPA intends to designate these 256 extremely hazardous substances as "hazardous substances" under CERCLA section 102. At that time, releases of such substances will also become reportable to the National Response Center under CERCLA section 103.

One commenter believes that the telephone notification to the National Response Center under CERCLA section 103 should suffice for the new requirements under SARA section 304. The commenter feels that the requirement to call the State and local authorities is too much of a burden when added to the existing CERCLA-required call to the National Response Center. EPA disagrees. The basic purpose behind the emergency planning and notification requirements of Title III is to protect the public in the event of dangerous chemical releases through the establishment of local and State emergency response capability. Because State and local participation for effective and timely emergency response is central to Title III, these entities must be alerted to potentially dangerous chemical releases. Thus, telephone notification to the federal government alone, through the National Response Center, does not meet the intent of the statute.

Three commenters requested a simplification in words or chart of the various requirements for release notification under section 103 of CERCLA and section 304 of SARA. CERCLA section 103 concerns reporting requirements for releases of "hazardous substances" as defined under section 101(14) of CERCLA. Under section 103 of CERCLA, a release of a hazardous substance in an amount equal to or in excess of its RQ which is not otherwise exempted under CERCLA, must be reported to the National Response Center. SARA section 304 provides a similar reporting requirement for releases of hazardous substances as defined under section 304 as well as releases which require notification under CERCLA section 103. However, reporting under section 304 must be given by the owner or operator of a facility to the community emergency coordinator for the local emergency planning committee and to the State emergency planning commission rather than the National Response Center under CERCLA section 103.

With respect to transportation of a substance subject to the requirements of section 304 or storage incident to such transportation, owners and operators may call the 911 emergency number in lieu of calling the State commission and local committee, or in the absence of a 911 number, may call the operator. The rationale for this separate reporting is that transportation operators on the road may very well not know the telephone numbers of the relevant State and local entities. If the transportation operator is in a community which has a generic emergency number rather than 911, the generic number should be used instead of 911. Note that if the release is of a CERCLA hazardous substance, a call to the National Response Center is also required.

Further, EPA intends to designate under section 102 of CERCLA all extremely hazardous substances which are not already defined as "hazardous substances" under section 101(14) of CERCLA. The designation will include all 256 extremely hazardous substances that are not presently "hazardous substances" under CERCLA. At that time, any substance requiring local and State release reporting under section 304 of SARA will also require reporting to the National Response Center under section 103. In addition, the extremely hazardous substances will continue to trigger contingency planning requirements in addition to release reporting.

With regard to the contents of the required notification under SARA section 304 and CERCLA section 103, the required contents of section 304 emergency notification is set out in § 355.40 (formerly § 300.94). Although section 103(a) of CERCLA does not specify the contents of release notification, the information necessary under section 103(a) for potential federal response, e.g., type of substance and nature, location, and effects of the release, should not differ for any practical purpose from the content of the notice specified under section 304.

Section 304 also requires follow-up written emergency notice to the State emergency response commission and the local emergency planning committee. The content of this notice is set out in § 355.40 (formerly § 300.94).

6. The Contents of Section 304 Notices

Two commenters believe that the CERCLA and Title III telephone notification should include the same basic information, such as whether the incident is still ongoing, abatement actions by whatever entities, cause and injuries in the incident if known, amount spilled, etc. The required contents of the emergency notification was set out in the interim final rule, and is republished in today's rule. The Agency does not believe that the notification specified in Section 304 and today's rule should vary from the CERCLA notification in any significant way.

One commenter believes that the final rule should include guidance on how to report information on "known or anticipated health risks" under SARA section 304(b)(2)(F) (immediate report) and 304(c)(2) (follow-up report). At the same time, the commenter stated that since general health information is already given on a "material safety data sheet" (MSDS) for the chemical, then an indication that "severe adverse health effects may be expected" should suffice. EPA disagrees. The health information contained in an MSDS is general and will not be specific enough to be of use to health professionals, especially if the chemical name is confidential on the MSDS.

One commenter stated that the requirement regarding the inclusion of any known or anticipated health effects associated with the release is a mistake since anticipating health effects is speculative at best and the release report should stick to fact, not speculation.

EPA disagrees. The inclusion of this requirement in the interim final rule, and today's rule, is based on the contents of the notice specified in section 304(b)(2) of SARA.

Several commenters wrote to the Agency regarding the written follow-up emergency notice.

One commenter stated that the written report should include where the incident took place and the cause of the accident, to be consistent with CERCLA and RCRA. EPA believes that the location of the release is always essential for emergency response purposes and should be identified in any release notification under section 304.

One commenter believes that the written notification requirements should also include results of a facility's inspection. The inspection specifies the preventive measures to be applied to prevent future releases. EPA agrees that this may be an effective preventive tool but has not made this information a requirement for release reporting. State and local governments may wish to require such information. In addition, a release prevention program under CERCLA will require a releaser who has more than a specified number of releases of a certain hazardous substance, or releases in certain quantities above the RQ, to report in writing to EPA and to the State the specific steps that are being taken to prevent reoccurrence of the release.

The same commenter felt that written follow-up information should go not only to the local planning committee but also to the State commission and to the State environmental agency. Section 304(c) of SARA mandates that follow-up notification go to the same entities that received the initial oral notification, i.e., the State commission and the local committee. State environmental agencies may request the information. In addition, in most cases, environmental agencies will be represented on the commission and therefore the information will be available to them.

### *C. Criteria Used to Identify Extremely Hazardous Substances*

#### 1. Toxicity Criteria

a. *Narrowness of Criteria.* Several commenters suggested the need to broaden the selection criteria to include other health effects that may result from short-term exposures. The commenters contend that Congress intended the Agency to take these other toxic effects into account in developing a comprehensive approach to emergency planning.

The Agency agrees with the commenters that the intent of Congress is to include substances that cause both short-term and long-term health effects following short-term exposure. Under the Chemical Emergency Preparedness Program, it was the Agency's intent to take into account all toxic effects to humans that may be associated with short-term exposure to chemicals. However, a review of available data indicated limited information on other effects resulting from short-term exposures to airborne substances. In addition, generally accepted methods of extrapolating data on health effects resulting from multiple or long-term exposure to indicate effects that may result from short-term exposure are not available. Comments were requested in the proposed rule on how chronic and other health effects from short-term exposures could be incorporated into criteria for the list. The commenters had no specific suggestions for such criteria. In the future, the Agency intends to consider the development of additional toxicity criteria for acute non-lethal and chronic effects due to short-term exposure. In the meantime, EPA agrees that substances cannot be deleted from the extremely hazardous substances list until the Agency can evaluate non-acute toxic effects from short-term exposure to these substances.

b. *Oral and Dermal Toxicity Data.* Comments were received concerning the Agency's inclusion of oral and dermal lethality values in addition to inhalation toxicity data to identify air toxicants as opposed to relying only on inhalation toxicity data. Some commenters expressed support for the Agency's position, while others suggested that the use of such data is inappropriate or should be modified. The Agency is using acute lethality data from the oral, dermal, and inhalation routes in order to identify chemicals with high inherent toxicity. Consideration of inhalation data only would lead to the omission of many chemicals for which there may be no inhalation studies; if these chemicals are highly toxic by oral or dermal administration, the Agency believes they may be potentially hazardous via the inhalation route and should be so identified. Other organizations such as the European Economic Community and the World Bank agree that these data should be used in identifying acutely toxic chemicals. Based on these reasons, the Agency is retaining the use of oral and dermal lethality values.

c. *Use of $LC_{LO}$ and $LD_{LO}$ Data.* In the absence of median lethal concentration or doses ($LC_{50}$ or $LD_{50}$) data, lowest lethal concentration or dose ($LC_{LO}$ or $LD_{LO}$) data were used to identify extremely hazardous substances. Several commenters questioned the use of such data. Other commenters suggested that when such data are used, they should be evaluated more stringently than $LD_{50}$ or $LC_{50}$ data and lower criteria values should be specified. Even with the amount of animal acute lethality data that is available, there are chemicals for which there are no standard acute lethality test data. $LC_{LO}$ and $LD_{LO}$ values may be more variable than those provided from median lethality tests, but for the purposes of screening large numbers of chemicals, it is deemed necessary to provide a second level screening tool in preference to missing potentially toxic chemicals because chemicals are not adequately tested. Because there is no quantitative basis for comparison of $LC_{LO}$ and $LD_{LO}$ values with $LC_{50}$ or $LD_{50}$ values, it is not possible to develop additional criteria levels for these values. At present, for the purposes of identifying highly toxic chemicals, the Agency will continue to treat $LC_{LO}$ and $LD_{LO}$ data in the same manner as the $LC_{50}$ and $LD_{50}$ data in the absence of the latter. Currently, approximately ten percent of the total number of chemicals on the list have been identified based on $LC_{LO}$ or $LD_{LO}$ data.

d. *Exposure Time.* Several commenters questioned the use of inhalation toxicity data based on any reported exposure times of up to eight hours or with no reported exposure time. Acute inhalation toxicity test results depend upon the concentration of the chemical in air and the duration of the exposure periods. Because of this, $LC_{50}$ and $LC_{LO}$ values for a chemical may vary depending upon how long the animals were exposed to the substance. The Agency chose to make maximum use of available acute toxicity data to screen for acutely toxic chemicals and, therefore, chose to use $LC_{50}$ and $LC_{LO}$ values with exposure periods up to eight hours or with no reported exposure period. The Agency believes that this conservative approach, which might identify more chemicals than would be found using a specified period such as four hours as a cut-off time, is in accordance with the intent of Congress to protect public health and safety. In the absence of other data, and considering the general relationship of $LC_{50}$ and $LC_{LO}$ values, it is believed that

such substances represent potential hazards as acutely toxic chemicals. Additionally, there is no available scientifically accepted method to adjust data from varying exposure times to obtain a normalized value. The Agency is therefore not making such an adjustment.

e. *Use of Animal Data.* Several commenters were concerned with the use of animal data to identify extremely hazardous substances potentially harmful to humans. They believed that human data should be used in preference to animal data when available and that animal data should be further evaluated to determine its applicability to humans. The Agency has chosen to use data from the most sensitive mammalian species because present state-of-the-science does not allow prediction of the species that is the appropriate surrogate for humans for a given chemical. The human population is very heterogeneous and, in fact, comprises many subpopulations with varying degrees of sensitivity to the toxicity of a chemical. One of the main principles supporting all animal toxicity testing is that the biological activity of chemicals as reflected in toxic effects in animals can also lead to toxic effects in humans. Ideally, all toxicity tests should be conducted with an animal species/strain which most accurately reflects the toxic response in humans. There are no data available, however, to indicate which species most accurately reflects the human response for every chemical. To obtain such data, extensive laboratory work on a variety of species would need to be conducted. Further, only data on toxicity to humans could verify which is the appropriate species for a given chemical. The Agency wil retain the use of data from the most sensitive species tested to screen chemicals. If data on humans are available for specific chemicals, they will be evaluated on a case-by-case basis.

2. Physical/Chemical Properties

Several commenters suggested using vapor pressure and ability to disperse as criteria to limit the number of high-boiling point liquids and solids on the list. Consequently, the chemicals remaining on the list would be those with higher dispersion potential. One commenter suggested the publishing of more than one list of extremely hazardous substances based on different release and dispersion scenarios. Several commenters suggested the evaluation of other physical and chemical properties of substances, such as flammability, reactivity, and combustibility, as criteria for listing chemicals.

The list of extremely hazardous substances, mandated by Congress, is presently based on inherent acute toxicity. Physical and chemical properties of substances on the list are considered in establishing the threshold planning quantities (see below), but these factors are not used as criteria for listing because each chemical could be handled at non-ambient conditions. Because of very variable conditions, the Agency believes it is appropriate to deal with factors such as ability to disperse and physical/chemical properties on a site-specific basis. Local emergency planning committees will consider these factors at the community level when assessing potential exposure of vulnerable populations. EPA urges communities to take all these factors into account to identify other hazardous substances with which they may be concerned and to prioritize all such substances in the community for emergency planning.

The Agency does intend to evaluate hazards other than toxicity as identified in section 302(a)(4) and to develop appropriate criteria based on these physical/chemical properties, e.g., flammability, for revising the list of extremely hazardous substances in the future. However, EPA has not considered these additional properties in the context of this rulemaking.

3. Use of RTECS

Several commenters were concerned with the Agency's use of the National Institute of Safety and Health's (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS) Database. The overall comments were that RTECS is neither intended for, nor is it capable of, being used as a primary source of health data and that the database is not peer-reviewed. The present screening criteria can be applied to any experimental toxicity data on chemical substances. The RTECS data base was used as the principal source of toxicity data for identifying acutely toxic chemicals because it represents the most comprehensive respository of acute toxicity information available with basic toxicity information and other data on approximately 87,000 chemicals. It is widely accepted and used as a toxicity data source by industry and regulatory agencies alike. Although RTECS itself is not formally peer-reviewed, the data presented are from scientific literature which has been edited and in most cases peer reviewed by the scientific community before publication. The Agency recognizes some limitations associated with using this data base, but for the purpose of screening acute toxicity data, RTECS represents the single best source of information since it is the most comprehensive data source available.

*D. List of Extremely Hazardous Substances*

1. Changes to the List in this Rule

a. *Deletions.* In the companion proposal to the interim final rule published on November 17 1986, the Agency proposed the deletion of 40 chemicals which do not now meet the acute lethality listing criteria. They no longer meet the existing criteria because new data have recently become available, existing data have been reevaluated, or errors occurred in the RTECS data base. Several commenters supported some or all of the proposed changes; however, other commenters challenged the deletion of these chemicals before the Agency has determined that they pose no other health hazards as a result of a short-term exposure.

The Agency has decided not to delete any of the 40 chemicals proposed for deletion at this time. When the list of extremely hazardous substances was developed in 1985 (as the list of acutely toxic chemicals for the voluntary Chemical Emergency Preparedness Program) it was intended as an example list. When the list became part of Title III of SARA, the Administrator of EPA was given the authority to revise the list, but only after various criteria were considered. These criteria include the toxicity, reactivity, volatility, dispersibility, combustibility or flammability of a substance. The section 302 definition of the term "toxicity" includes any short- or long-term health effect which may result from short-term exposure. Based on this statutory provision, the Agency believes that substances cannot be deleted from the list until EPA has taken into account the other (i.e., long-term) health effects resulting from a short-term exposure to the substances at specified levels. The criteria for determining such levels are not available. In the future, the Agency intends to address the development of additional toxicity criteria for acute non-lethal and chronic effects due to short-term exposure. Until these criteria are available and the forty chemicals in question can be reassessed, these chemicals have been assigned the TPQ level of lowest concern, namely 10,000 pounds.

b. *Additions.* In the interim final rule, the Agency proposed the addition of five chemicals to the list and requested

public comments on the proposed additions. One comment was received concerning urea, 3-(3,4-dichlorophenyl)-1-methoxy-1-methyl- The commenter believed that the toxicity of this chemical did not meet the criteria and submitted unpublished toxicity data to support its claim. The Agency has reviewed the submitted data and finds that the chemical does not meet the present criteria. Therefore, the chemical will not be added to the list. The remaining four of these five chemicals are added to the list in this rule.

c. *Additional Suggested Changes.* A number of commenters recommended the deletion of specific chemicals from the list in addition to those in the interim final rule. As discussed above, the Agency has decided not to delete any chemical until other health effects resulting from short-term exposure have been assessed. Further, such deletions will be accomplished through rulemaking. One commenter suggested additions to the list. The Agency will take this request under consideration and any additions will be proposed in later rulemaking.

d. *Radioactive Materials, Food, Drugs, and Cosmetics.* The Agency requested comments on whether radioactive materials and chemicals used as food additives, drugs, and cosmetics should be added to the list. Such chemicals were not considered for the list if they were not listed in the 1977 Toxic Substances Control Act Inventory. Commenters expressed conflicting opinions as to whether radioactive materials and the chemicals used in foods, drugs, and cosmetics should be listed. After review of the comments, the Agency has decided to maintain its original policy with respect to these chemicals and thus will not consider these substances for addition to the list at this time.

E. *Determination of Levels of Concern*

1. Use of IDLH Values

Two commenters supported the use of the Immediately Dangerous Life and Health Level (IDLH) as developed by NIOSH as the level of concern. A third commenter supported the use of IDLH only as an interim measure. Two commenters suggested that if the IDLH is used, then appropriate uncertainty factors should be employed. Another commenter suggested that the Agency continue to identify more appropriate alternatives.

The Agency recognizes that the IDLH has some limitations as a measure for protecting general populations. First, as commenters pointed out, the IDLH is based upon the response of a healthy, male worker-population and does not take into account exposure of more sensitive individuals such as the elderly, pregnant women, children, or people with various health problems. Second, the IDLH is based upon a maximum 30 minute exposure period which may not be realistic for accidental airborne releases. Based on these considerations, the Agency has identified the development of more appropriate chemical emergency exposure levels for the general public as a priority. However, at present, the IDLH value, or an estimation of level of concern based on acute toxicity data for substances that do not have a published IDLH, appears to be a suitable measure of relative toxicity for use in the methodology for establishing threshold planning quantities (see discussion under F).

2. Use of Acute Lethality Data

Two commenters addressed the use of acute lethality data to determine levels of concern. It is the Agency's policy to make maximum use of available acute toxicity data not only to identify chemicals for the list but also to serve as the basis for determining the levels of concern. This approach enables the Agency to develop levels of concern for all the chemicals on the list and to utilize this value as the toxicity ranking factor in establishing the TPQs.

One commenter was concerned that interchangeable use of LC and LD data would result in similar threshold planning quantities for substances with differing potential for harm. As the threshold planning quantities are not a measure of absolute risk, but rather a trigger for facility reporting, the Agency will continue to use both LC and LD data. Further, these data are not used interchangeably, as factors are applied in estimating level of concern to take into account differences between LC and LD data.

Three commenters expressed concern over the use of $LC_{LO}$ and $LD_{LO}$ data when IDLH and $LC_{50}$ and $LD_{50}$ values are not available to estimate levels of concern. Specific comments addressed the length of $LC_{LO}$ exposure time, the need to adjust the threshold planning quantities downward when $LC_{LO}$ and $LD_{LO}$ are used, and the perceived inappropriateness of using such data. The Agency recognizes that these values are often derived from studies that vary in quality. However, the Agency has chosen to continue using the $LC_{LO}$ and $LD_{LO}$ values in order to calculate a level of concern even when the data are limited. Factors are applied in the calculation to take into account the fact that these values may be lower than $LC_{50}$ and $LD_{50}$ values.

F *Threshold Planning Quantities*

1. Methods Used to Establish Threshold Planning Quantities

Under section 302, if the Agency did not develop threshold planning quantities for each of the 402 substances on the list of extremely hazardous substances within 30 days after the date of enactment of Title III, then the threshold planning quantity would become two pounds. Interim final threshold planning quantities were published simultaneously with the publication of the list on November 17 1986. Any facility that has one or more of the chemicals on the list of extremely hazardous substances in quantities in excess of the threshold planning quantity must provide notification to the State emergency response commission by May 17 1987 Because of this, the Agency believes that the two-pound threshold planning quantity for all 402 substances would overwhelm local emergency planning efforts and would not take into account differences in potential hazards posed by individual substances.

The Agency considered four possible approaches for development of threshold planning quantities and invited public comments on each of them.

Approach 1. *Specific Quantity Prediction.* Under this approach, the Agency would have determined the specific quantity of each chemical that, if accidentally released in a specified situation, would result in significant acute health effects at a fixed distance from the release site.

Approach 2. *Dispersion/Toxicity Ranking Method.* Under this approach, the Agency assigned chemicals to threshold planning quantity categories based on an index that accounts for the toxicity and the potential to become airborne of each chemical in an accidental release. This approach is based on relative ranking and the assignment of each chemical to one of a series of threshold planning quantity categories, but does not give a measure of absolute risk.

Approach 3. *Toxicity Ranking Method.*

Under this approach, the Agency would have assigned categories of threshold planning quantities based solely on a relative ranking of each chemical's toxicity.

Approach 4. *Two Pound Quantity for All Chemicals.* Under this option, the default quantity mandated by Congress

of two (2) pounds would have been used.

a. *Approach 2.* After considerable analysis, the Agency chose to develop threshold planning quantities using Approach 2 with modifications as described below. Several commenters supported the use of Approach 2, although some did have a reservation concerning exclusion of hazards other than acute lethality. Some commenters criticized the assumptions made, for example that liquids should be assessed at their boiling points. Some commenters suggested that the threshold planning quantities should reflect the ability of the substance to be dispersed in air. Several commenters felt that distance and storage conditions should be incorporated into the threshold planning quantity calculation.

Approach 2 provides a basis for relative measures of concern rather than absolute values, and the Agency continues to believe that such measures are appropriate for facility reporting for emergency response planning. Under Approach 2, the level of concern for each chemical is used as an index of toxicity, and physical state and volatility are used to assess its ability to become airborne. The two indices are combined to produce a ranking factor. Chemicals with a low-ranking factor (highest concern), based on the Agency's technical review, are assigned a quantity of one pound (see discussion in 2.b. below). It is believed that the one-pound quantity represents a reasonable lower limit for the most extremely hazardous substances on the list. Chemicals with the highest ranking factors, indicating lower concern, were assigned a threshold planning quantity of 10,000 pounds. This ensures that any facility handling bulk quantities of any extremely hazardous substances would be required to notify the State commission. Between the limits of one pound and 10,000 pounds, chemicals were assigned to intermediate categories of 10, 100, 500 or 1,000 pounds based on order of magnitude ranges in the ranking factors. The selection of the intermediate categories was based on standard industrial container sizes between one and 10,000 pounds.

The Agency believes that limited State and local resources should be focused on those substances that potentially will cause the greatest harm should an accidental release occur. The TPQs developed in Approach 2 meet the objective such that substances that are most likely to cause serious problems (extremely toxic gases, solids likely to be readily dispersed, or highly volatile liquids) have lower TPQs than those that might be toxic but are not likely to be released to the air (non-reactive, non-powdered solids).

With respect to commenters who believe that other hazards should be considered, criteria presently are not established to assess hazards other than acute lethality. However, EPA intends to develop such criteria in the future for listing additional chemicals as extremely hazardous substances. When such criteria are available, the Agency will assess their appropriateness for consideration in calculating threshold planning quantities of chemicals which meet this criteria.

In response to comments concerning the assumptions made in calculating threshold planning quantities, many of these assumptions were designed to be conservative. Liquids, for example, were examined for the degree of volatilization expected from a spill at both 25 °C and at the chemical's boiling point. Since many of the extremely hazardous substances may be handled at temperatures greater than ambient, an assessment of the degree of volatilization at an elevated temperature is appropriate. Therefore, the Agency chose to evaluate the degree of volatilization expected at the liquid's boiling point for ranking against gases and powdered solids. Actual site conditions associated with the liquid that influence the degree of volatilization (such as spill area and temperature) should be addressed during community planning efforts.

With respect to comments on the volatilization model used by the Agency, this model was compared to other available models to calculate the vapor generation rate from a liquid spill. Some of these models include factors that account for wind and cooling associated with evaporation. Results from the model used by the Agency were of the same order of magnitude and within the range predicted by the other models tested. An order of magnitude change in the ranking factor of a chemical is required to change its threshold planning quantity. Therefore, even though the simple model used by the Agency to estimate volatilization does not account for wind or cooling effects of evaporation, it is appropriate for purposes of ranking the chemicals. The Agency believes that Approach 2 does account for the ability of an extremely hazardous substance to disperse by considering a substance's physical properties. However, as discussed below, Approach 2 has been modified to better reflect the dispersibility of solids by including particle size and whether the solid might be handled in solution or molten form for calculating the threshold planning quantities. No modification has been made to account for the actual behavior of vapor or airborne particles because of the wide degree of variation of site-specific conditions that could affect airborne dispersion. The source strength, meteorology and terrain must also be considered with distance to accurately account for the degree of dispersion.

Finally, EPA disagrees with commenters who felt that distance to vulnerable populations and storage conditions should be incorporated into TPQ calculation. The inclusion of distance to potential vulnerable populations in the threshold planning quantity calculation is inappropriate as site conditions vary greatly. It is therefore better to consider distance at the planning stage at the community level. A forthcoming technical guidance document which will supplement the NRT *Hazardous Materials Planning Guide*, will provide information on how this may be accomplished.

The Agency has decided that the total amount of a chemical present at a facility must be used for judging whether a threshold planning quantity has been exceeded, regardless of distance between containers or the size of containers. Storage conditions are more appropriately addressed at the planning stage and will also be described in the aforementioned technical guidance document.

b. *Solids.* Threshold planning quantities for solids were originally calculated under the assumption that they could be completely dispersed if in powdered form. Several commenters noted that the threshold planning quantities are not appropriate for non-powdered, non-reactive solids since they are not likely to become airborne. They argued that even powdered materials which may be dispersed as aerosols will rapidly fall out unless the particle size is very small and, thus, the threshold planning quantity should be set higher than 10,000 pounds for non-powdered, non-reactive solids.

The Agency agrees that additional factors should be considered in establishing the threshold planning quantities for solids since solids can take many forms. Accordingly, EPA has modified Approach 2, so that the threshold planning quantity for each solid now applies only if it is a powder with a particle size less than 100 microns, or it is handled in solution or molten form, or it has a National Fire Protection Association rating of 2, 3 or 4 for reactivity. If the solid does not meet these specific criteria, the threshold

planning quantity will default to 10,000 pounds, the highest TPQ level. The Agency has not raised the highest TPQ level above 10,000 pounds because it believes that any chemical present in this quantity or greater, which meets the Agency's criteria for an extremely hazardous substance, should be brought to the attention of the State commission and the local planning committee, irrespective of the physical form of the solid substance. This will enable planning officials to evaluate such solids and the facilities that handle them on a case-by-case basis.

Accordingly, the TPQ calculation for a solid applies only to the fraction of the total quantity of solid with a particle size less than 100 microns, or in molten form, or in solution. In addition, for solids in molten form, the amount molten at any time is multiplied by an adjustment factor of 0.3 to conservatively account for the maximum volatilization of the spilled molten substance that is likely to take place.

Thus the quantity applicable to the threshold planning quantity calculation is the molten portion times 0.3.

c. *Other Approaches.* Two commenters discussed Approach 1. One commenter considered that Approach 1 was more appropriate than Approach 2 for calculating chemical-specific threshold planning quantities. The assumptions used in Approach 1 were numerous and could lead to highly variable results. It would be difficult to choose the appropriate release scenario for setting the threshold planning quantity from among the many release scenarios possible under Approach 1. For these reasons the Agency still considers Approach 2 to be the most appropriate for calculating threshold planning quantities.

No comments were received on Approach 3. Commenters expressed support for not allowing the threshold planning quantity to default to two pounds as proposed in Approach 4.

2. Suggested Reassignments to Different Threshold Planning Quantities

a. *Threshold Planning Quantity Adjustments.* Eleven commenters suggested that a total of eight specific chemicals should have higher threshold planning quantities, and four suggested that twelve should have lower threshold planning quantities. In addition one commenter suggested that substances used in foods, food additives, color additives, drugs, cosmetics or any substance used in personal, family or household products should be raised to 5,000 pounds, and another suggested that two pounds for pesticides is too low.

Two of the chemicals suggested for reassignment to higher threshold planning quantities are solids and would be subject to the conditions for solids as discussed above. The data used for calculating threshold planning quantities has been reviewed, and threshold planning quantities were recalculated as appropriate. Threshold planning quantities were reassigned based upon new data received by EPA showing different physical properties or toxicity levels. The threshold planning quantity was reduced for 36 substances based on updated acute toxicity data. For the same reason, 12 chemicals have higher threshold planning quantities. These reassignments are noted in the list and are discussed in the technical support documents available in the public docket.

Some factors mentioned by commenters for consideration in lowering the assigned threshold planning quantities included vapor pressure and toxicity, both of which are included in the present calculation. In addition, commenters suggested reassignment based on reactivity. The Agency has considered reactivity on an individual basis. Several reactive chemicals were assigned threshold planning quantities lower than their calculated values following individual review. Reactivity is also considered in determining whether the threshold planning quantity for solids which are not powdered, dissolved or liquefied should become 10,000 pounds. For certain reactive solids, the threshold planning quantity does not increase to 10,000 pounds even if the solid is not in powdered form.

b. *Change in TPQ for Nickel Carbonyl.* Several commenters suggested that the "any quantity" threshold planning quantity for nickel carbonyl should not be used because of the level of detectability and compliance questions that may arise. Further, the "any quantity" level gives a misleading impression of the actual hazard of the substance as compared to other extremely hazardous substances.

After review of the comments and evaluation of additional information on nickel carbonyl, the Agency has decided to assign nickel carbonyl to a newly established one-pound TPQ category along with two other chemicals with similar ranking. The Agency continues to recognize the higher toxicity of nickel carbonyl and the two other chemicals as compared to all other substances on the list by placing them in the lowest TPQ category established by this rule. Further, the assignment of nickel carbonyl to the one-pound category is further supported by taking into consideration its relative instability in air. The reassignment will also eliminate any possible confusion with respect to compliance.

c. *Relationship Between EPA's Threshold Planning Quantities and Other Similar Standards.* One commenter took issue with the TPQ values assigned to the chemicals, suggesting that communities would implicitly rank the chemical for hazard potential solely on the basis of the TPQ value and without regard to handling or transport considerations. EPA intends the TPQ values assigned to materials in the rule to apply to potential nonambient conditions as may occur at fixed facilities. It should be noted that during transportation, the assumption of non-ambient conditions would not frequently apply and that many transported substances may meet existing hazard class definitions of DOT and therefore be currently subject to existing regulations contained in Title 49 of the Code of Federal Regulations (49 CFR). All SARA section 302 substances will be covered when listed under section 103 of CERCLA. Further elaboration of special considerations for chemicals in transit is covered by technical guidance documents published by DOT.

Another commenter said that their State system differed in the threshold planning quantities set and suggested EPA adopt their system. This State has adopted storage thresholds of 55 gallons of any liquid, 200 cubic feet of any gas, and 500 pounds of any solid. These State-adopted storage thresholds provide virtually no distinction among chemicals for differences in either toxicity or ability to become airborne. Additionally, no facility would be required to notify the State commission or the local planning committee unless the facility contained a minimum of approximately 500 pounds of any extremely hazardous substance. The Agency believes that these threshold quantities would not be sufficiently conservative for many chemicals and overly conservative for other chemicals. Therefore, the Agency believes that the threshold planning quantities published today are more appropriate since they take into account the relative toxicities of the extremely hazardous substances and their ability to become airborne. As a result, the TPQs range from one pound to 10,000 pounds and trigger reporting in a manner that is more consistent with the potential hazards these chemicals are likely to pose.

d. *Relationship Between RQ Values and TPQ Values.* Several commenters expressed concern that a number of

substances on the extremely hazardous substances list had RQ levels under CERCLA that exceeded the TPQ values and therefore emergency planning would be required for quantities of chemicals that would not require notification under the RQ reporting rules. In the interim final rule, the Agency acknowledged these inconsistencies and agrees with commenters who argued that the TPQ should not be lower than the RQ for the same substance.

In response to these concerns, the Agency has taken several actions. First, in a separate rulemaking under CERCLA section 102, the Agency has already proposed lowering the RQ values of seven of these chemicals. Second, as discussed elsewhere in this rule, changes in the TPQ quantitative categories and the reassignment of TPQ values based on reevaluation of the toxicity data has resulted in elimination of inconsistencies for seven other chemicals. Third, seven of the substances are solids which have been assigned TPQ values of 10,000 pounds unless they meet special conditions regarding physical form or chemical properties. Solids in solution, in molten form, of a particle size of 100 microns or less, or of a highly reactive nature revert to the lower TPQ values. Fourth, the Agency is currently reviewing additional information on five other chemicals and plans to propose revisions of their RQ values based on this new information. Finally, EPA intends to resolve the two remaining inconsistencies by adjusting the RQs of the substances as part of a proposed rule later this year. In that rulemaking, EPA will designate the remaining extremely hazardous substances as CERCLA hazardous substances under CERCLA Section 102 and revise the one pound statutory RQs for the extremely hazardous substances.

3. Threshold Planning Quantities for Mixtures, Solutions, or Formulations.

The interim final rule included a one percent de minimis limit of the extremely hazardous substances in mixtures, solutions, or formulations for purposes of determining quantities applicable to the threshold planning quantities.

A number of commenters supported the idea of a percentage limit for calculating threshold planning quantities, and most of these supported the one percent mixture decision. Certain commenters thought that the one percent minimum level should be raised or that specific test results should be used or that the DOT methodology for the applicable concentration for reportable quantities be used. (50 FR 13464, April 4, 1985). One commenter suggested that the one percent level employed by Occupational Safety and Health Administration (OSHA) for carcinogens should be included.

The concentration of a chemical in a mixture that is associated with a potential hazard depends upon the type of toxicity concern. The commenters, for example, refer to OSHA's use of a level of 0.1 percent as a concern cut-off level for a carcinogen in a mixture. Regarding the acute toxicity concerns of the extremely hazardous substances listed in this rule, however, EPA believes that the release of an amount equal to the threshold planning quantity of the substance at concentrations of less than one percent is not likely to give rise to a concentration equal to the level of concern off-site. Therefore, the Agency believes that the one percent de minimis rule is appropriate for purposes of emergency planning.

Alloys, amalgams, or polymers are not considered mixtures for the purpose of this rule because unlike simple mixtures, their properties are demonstrably different from those of their components; the reporting of alloys and amalgams is not required unless they are specifically listed. In evaluating whether to notify for mixtures, facility owners or operators should compare the appropriate threshold planning quantity with the actual amount of the extremely hazardous substance present in the mixture. For example, if the TPQ threshold for a given chemical on the list is 100 pounds and that chemical is 20 percent by weight of a mixture, notification would be necessary if 500 pounds or more of that mixture is present at a facility.

When considering potential hazards specifically from airborne releases it is unlikely, even assuming large releases of a mixture, that concentrations of less than one percent will generate severe airborne exposure levels of the toxic component off-site. Conversely, it is not deemed to be a precedent to raise the TPQ determination limit of any extremely hazardous substance in a mixture to a level greater than one percent. Therefore, the Agency has decided to retain the one percent minimum for the evaluation of all mixtures, solutions, or formulations containing extremely hazardous substances for section 302 planning purposes.

For emergency release notification, there is no de minimis quantity under either CERCLA section 103 or SARA section 304. When determining if notification is required for a release of mixtures and solutions containing extremely hazardous substances or hazardous substances, the Agency applies the weight percent calculations as is illustrated above for SARA section 302 calculations. (The "mixture rule" for CERCLA section 103 is further explained in 50 FR 13463 (April 14, 1985), where the regulation for mixtures and solutions is outlined in CERCLA rulemaking pertaining to RQ release reporting.)

*G. Reportable Quantities*

Several commenters questioned the reportable quantities set either under the one pound level established under section 304 of SARA or levels set under section 102 of CERCLA. The one pound statutory RQs under SARA section 304 are for those substances not already listed as CERCLA "hazardous substances" under section 101(14) and subject to notification requirements under section 103. The extremely hazardous substances which are not CERCLA hazardous substances will be designated under CERCLA section 102 as part of a rulemaking later this year at which time the statutory RQs will also be adjusted. Comments concerning RQs for CERCLA notification under section 103 will be considered and addressed in the ongoing CERCLA rulemakings to adjust RQs.

*H. Miscellaneous*

1. Trade Secret/Confidentiality Issues

Several commenters raised questions and concerns regarding trade secret information. With regard to section 304 notification and chemical identity of an extremely hazardous substance, one commenter wants to provide the same information that he/she has provided on the MSDS. However, EPA believes that the actual chemical name must be given along with the trade name in the section 304 release notification. This specific chemical name will be of use to the health professional while the trade name may not be of such use. In any case, section 304 emergency notification is not subject to Title III trade secret protection.

One commenter indicated that EPA should define a trade secret more clearly and provide for the protection of such secrets when they are necessary in the contingency plan. EPA agrees. Trade secret regulations regarding trade secret claims and other confidentiality issues will be issued by EPA in the future. These regulations will provide that specific chemical identity may be claimed confidential at the time of the contingency planning. The chemical identity must be submitted to EPA along with a substantiation explaining why

the chemical identity is trade secret. These procedures will be more fully explained in the future trade secret regulations.

One commenter stated that regulations are necessary for the determination of the validity of the local planning committee request for information which a facility believes is confidential before EPA issues a compliance order. EPA believes that questions concerning the validity of local requests are largely to be handled at the State and local level, except for claims of trade secrets concerning specific chemical identity. Trade secrets regulations will be issued later this year. The Agency does not believe further regulation is necessary in this area.

One commenter believes that the guidance documents should discourage the collection by localities of confidential information and should specify when confidential information is justified. Another commenter believes that EPA should more carefully define "emergency response plan" to exclude confidential information given to the local committee as background material. Section 322 is quite specific about what information collected under Title III can be withheld as confidential. Under Title III, only the specific chemical identity can be withheld, in accordance with the procedures set forth under section 322. Because no confidentiality issues other than those to be addressed in the forthcoming section 322 regulations are relevant under Title III, EPA does not believe further guidance is necessary at this time.

ii. Enforcement

One commenter believes that EPA should issue procedures for the issuance of compliance orders. EPA agrees that such procedures should be developed in the future. The Agency will develop such procedures either by regulation or guidance and may adopt procedures for the issuance of such orders that have been developed under other environmental laws.

One commenter stated that although he believes that notification to emergency personnel of releases that endanger the health of community residents is necessary, EPA is not authorized to penalize the failure to notify with civil and criminal penalties. He also wrote that this requirement to notify is currently accomplished on a voluntary basis, as recommended by the Chemical Manufacturer's Association. With respect to EPA's authority to assess penalties or seek criminal and civil penalties for owners' or operators' failure to notify under section 304, EPA disagrees. Section 325(b) provides for civil, administrative and criminal penalties for enforcement of emergency notification requirements under section 304.

Another commenter felt that since section 304 imposes penalties for failure to "immediately" notify State and local authorities of a release of an extremely hazardous substance, it is implicit that this assumes "immediately after the releaser becomes aware" of the existence of a release. EPA agrees that a knowledge requirement is implicit under section 304. However, if the facility owner/operator should have known of the release, then the fact that he or she was unaware of the release will not relieve the owner/operator from the duty to provide release notification. EPA believes no change is needed in the regulatory language.

## V. Relationship to CERCLA

### *A. Relationship of Title III to The National Contingency Plan*

Although Title III is a free-standing Title within SARA, it is closely related to preparation and response activities under CERCLA.

For that reason, the interim final rule was placed in a new Subpart I within the existing National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR 300). However, due to differences in authority, trade secret protection and key definitions, and because of the need for simplicity and accessibility for a wide range of users, EPA has recodified the November 17 1986 provisions. Today's final rule republishes the emergency planning and notification requirements, as part of 40 CFR 355. All of the Title III provisions will now be located apart from the NCP in Parts 355 et seq. of Title 40 of the Code of Federal Regulations.

### *B. Relationship of This Rule to CERCLA Section 103 Reporting Requirements*

Under section 103 of CERCLA, any person in charge of a facility at which there is a release of a hazardous substance, as defined in CERCLA section 101(14), equal to or in excess of its reportable quantity must report immediately to the National Response Center. The National Response Center will then alert the appropriate federal emergency response personnel of the release. This notification includes transportation incidents and releases from vessels as well as fixed-facility emergencies.

The notification to the State emergency response commission under section 302 is not triggered by a release incident, but rather by the presence of certain quantities of an extremely hazardous substance at a facility. No release or event of any kind is required for a section 302 report. This notification is an initial action in a process that culminates in the development of community emergency response plans. Section 304 in contrast, establishes reporting requirements similar to CERCLA section 103 release reporting. However, instead of requiring notification only to the National Response Center for CERCLA substances when certain quantities of these chemicals are released, facilities must under section 304 also notify State and local emergency response officials of these releases, and of releases of extremely hazardous substances which have not been designated as CERCLA hazardous substances. Note that the reporting requirements under section 304 are *in addition to*, not in replacement of, notification to the National Response Center under CERCLA section 103.

## VI. Effective Dates

As indicated in the opening section of this preamble, this rule is effective on May 17 1987 for purposes of facility planning notification and 30 days after publication for release notification requirements. (Local release notifications, however, do not need to be made until August 17 1987 or when the local committees are established, if earlier.)

EPA established a May 17 1987 effective date for the facility planning notifications under § 355.30, rather than providing 30 days between publication and effective data as required under section 553(d) of the Administrative Procedure Act (APA) because section 302 of SARA requires notification to be made by May 17 The primary purpose of the revised final rule is to finalize the list of substances and TPQs that trigger the May 17 notification. In order for all facilities affected by these requirements to be certain of whether or not they must provide the statutory notification by the date on which such notification must be made, EPA has made the effective date of the rule coincident with the statutory date, even if this rule is published less than 30 days in advance of that date, as would otherwise be required by section 553(d). EPA believes that the confusion generated by a later effective date constitutes "good cause" for suspension of the 30 day requirement, as provided under section 553(d)(3) of the APA.

## VII. Regulatory Analyses

### *A. Regulatory Impact Analysis*

Executive Order 12291 requires each federal agency to determine if a

regulation is a "major" rule as defined by the order and to prepare and consider a Regulatory Impact Analysis (RIA) in connection with every major rule. Under E.O. 12291, a "major" rule is one that is likely to result in (1) an annual adverse (cost) effect in the economy of $100 million, (2) a major increase in costs or prices for consumers, individual industries, federal, State, or local government, or geographical regions, or (3) significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of United States based enterprises in domestic or export markets. The Agency has decided that, although the changes represented in this revised final rule are minor relative to the interim final rule, these two rules should be considered together as a "major" rule for the purposes of E.O. 12291. This decision is based on the fact that the interim final and revised final are essentially a single rulemaking effort under section 302(a)(3) of SARA and that EPA was unable to prepare a regulatory impact analysis for the interim final rule, as explained in more detail below.

Today's rule is a revision of the interim final rule published November 17 1986. Because of the short time frame for development of that rule (30 days from enactment of SARA), EPA was unable to conduct a regulatory analysis prior to publication of that final rule. However, in the interim final rule, EPA stated that such analysis would be completed as part of the revised final rule published today. Accordingly, EPA has prepared an RIA to assess the economic impact of the statutory and regulatory requirements codified in the interim final rule on the regulated community (i.e., facilities manufacturing, processing, using or storing one or more extremely hazardous substances in excess of the threshold planning quantity), as well as State and local government entities. The costs summarized here are presented in detail in the *Regulatory Impact Analysis in Support of Rulemaking Under Sections 302, 303, and 304 of the Superfund Amendments and Reauthorization Act of 1986.* This document is available in the public docket for this rulemaking. The revised final rule published today has just minor revisions resulting in small incremental costs from the interim final rule and thus the RIA is applicable to both rules.

The costs associated with the interim final regulation result directly from the requirements spelled out by Congress in sections 302, 303, and 304 of SARA. Congress explicitly mandated, among other things, the setting up of State emergency response commissions and local emergency planning committees, the development of emergency response plans, the naming of facility coordinators, and the reporting of certain releases of extremely hazardous substances. The regulatory option chosen by EPA reduced to some extent the statutory reporting burden on the regulated community and the administrative burden on State and local governments by adopting many threshold planning quantities above the statutory default level of two pounds and by clarifying the statutory requirements.

For the chosen regulatory approach, total regulated community costs attributable to sections 302 and 303 are expected to be primarily one-time costs, because they deal with statute and rule familiarization, and compliance determination. Section 302 costs consist of an initial notification to the State emergency response commission, and the development of tracking systems for extremely hazardous substances. Most of these types of costs are reasonably expected to occur in the first year (1987) that the statute requirements are in effect. Under section 303, facilities must designate an emergency response coordinator and engage in ongoing activities related to emergency planning and response. Under section 304, facilities must report certain releases of extremely hazardous substances to various government entities.

A total of 5.6 million facilities will need to become familiar with the statutory and regulatory requirements and make a compliance determination because they may use or store chemicals that are on the extremely hazardous substances list. Of these, 1.5 million are expected to have at least one extremely hazardous substance in excess of the statutory two pound threshold planning quantity.

Costs for statute and rule familiarization to facilities for sections 302 and 304 are expected to total $353 million in 1987 Section 302 baseline costs (in the absence of EPA's revised threshold planning quantities) are estimated to be $375 million for facilities, for a total cost of $728 million in 1987 (1986 dollars).

Costs for emergency planning activities (Section 303) by facilities are expected to be incurred primarily in 1988 at a total of $416 million, assuming that no planning of this type has occurred. Therefore this is an upper bound estimate for the particular activities costed. Emergency release notification costs (Section 304) are estimated to be $81 million for facilities in the first two years.

The Agency currently estimates that by increasing the TPQs on most of the extremely hazardous substances from the statutory level of two pounds, facilities will realize a reduction in burden of $70 million from the statutory requirements to the interim final rule because those facilities with small quantities of substances will not have to notify authorities and participate in emergency planning. The methodology used for this analysis did not allow for a detailed comparison to be made between the interim final and revised final rules. However, the minor revisions made by today's final rule should result in only small incremental costs from the interim final rule.

EPA believes that the approach adopted in the interim final rule and revised final rule will benefit the regulated community, State and local governments, and the general public. By raising the threshold planning quantities over the two-pound statutory level for each substance, the Agency has reduced the reporting burden for the regulated community and government entities without significantly increasing the risk to the general public. The adopted approach will facilitate the setting of priorities of potential chemical hazards on the part of facilities and local emergency planning committees. Such prioritization is an essential component of emergency response planning.

Government costs imposed by the statutory requirements under the emergency planning provisions of Title III include costs borne by State emergency response commissions and local emergency planning committees. This analysis does not attempt to analyze the Section 301 cost of establishing State emergency response commissions and local emergency planning committees. Instead, those costs associated with the statutory requirements for receipt of information and planning are estimated even though they do not appear in the final rule. For local emergency planning committees, the major costs, like those for facilities, will occur in 1987 and 1988. The costs for local planning committees include statute and rule familiarization under section 302 and the preparation of a local emergency plan under section 303. These costs for local emergency planning committees total $80 million. Major costs for State emergency response commissions include the receipt and distribution of facility notifications, and the review of local emergency plans. These costs estimated for State commissions total $1.8 million

in 1987 and 1988. Both the State and local authorities will design data systems for the storage of release information under section 304. The initial startup and ongoing costs for receiving and storing data related to emergency release notifications are expected to be $27 million in 1987 and 1988 for both the State and local authorities. Continuing costs for both State and local governments include: reviewing and storing information under sections 302 and 304, and the updating and review of emergency plans under section 303. However, the Agency does not have enough data or judgment to estimate these ongoing costs for sections 302 and 303.

*B. Regulatory Flexibility Analysis*

The Regulatory Flexibility Act of 1980 requires that an analysis be performed for all rules that are likely to have a "significant impact on a substantial number of small entities" EPA has performed a preliminary small business analysis. The small business definition used for the analysis is any facility with ten or less employees. Based on this analysis, I hereby certify that this regulation will not have a significant impact on a substantial number of small entities.

*C. Paperwork Reduction Act*

The reporting and notification requirements contained in this rule have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980. 44 U.S.C. 35501, et seq. and have been assigned OMB control number 2050-0046.

**VIII. Supporting Information**

**List of Subjects 40 CFR Parts 300 and 355**

Chemicals, hazardous substances, extremely hazardous substances, intergovernmental relations, community right-to-know, Superfund Amendments and Reauthorization Act, air pollution control, chemical accident prevention, chemical emergency preparedness, threshold planning quantity, reportable quantity, community emergency response plan, contingency planning, reporting and recordkeeping requirements.

Dated: April 17, 1987.

**Lee M. Thomas,**

*Administrator.*

For the reasons set out in the Preamble, Title 40 of the Code of Federal Regulations is amended as follows:

1. The title of Subchapter J of Title 40 is revised to read as follows:

**SUBCHAPTER J—SUPERFUND, EMERGENCY PLANNING, AND COMMUNITY RIGHT-TO-KNOW PROGRAMS**

## PART 300—NATIONAL OIL AND HAZARDOUS SUBSTANCES POLLUTION CONTINGENCY PLAN

2. The authority citation for Part 300 is revised to read as follows:

**Authority:** Sec. 105, Pub. L. 98-510, 94 Stat. 2764, 42 U.S.C. 9505 and Sec. 311(c)(2), Pub. L. 92-500, as amended, 86 Stat. 865, 33 U.S.C. 1321(c)(2); E.O. 12316, 46 FR 42237 (August 20, 1981); E.O. 11735, 38 FR 21243 (August 1973).

**§§ 300.91-300.95 (Subpart I) [Removed]**

3. Part 300 is amended by removing Subpart I consisting of §§ 300.91 through 300.95.

**Appendices D and E [Removed]**

4. Part 300 Appendices D and E are removed.

5. Subchapter J of Title 40 of the Code of Federal Regulations is amended by adding a new Part 355 to read as follows:

## PART 355—EMERGENCY PLANNING AND NOTIFICATION

Sec.



**Authority:** Sections 302, 303, 304, 325, 328 and 329 of the Emergency Planning and Community Right-to-Know Act of 1986, Pub. L. 99-499, 100 Stat. 1613, 42 U.S.C. § 11002, 11003, 11004, 11025, 11028, and 11029 (1986).

**§ 355.10 Purpose.**

This regulation establishes the list of extremely hazardous substances, threshold planning quantities, and facility notification responsibilities necessary for the development and implementation of State and local emergency response plans.

**§ 355.20 Definitions.**

*Act* means the Superfund Amendments and Reauthorization Act of 1986.

*CERCLA* means the Comprehensive Emergency Response, Compensation and Liability Act of 1980, as amended.

*CERCLA Hazardous Substance* means a substance on the list defined in Section 101(14) of CERCLA.

**Note.**—Listed CERCLA hazardous substances appear in Table 302.4 of 40 CFR Part 302.

*Commission* means the emergency response commission, or the Governor if there is no commission, for the State in which the facility is located.

*Environment* includes water, air, and land and the interrelationship which exists among and between water, air, and land and all living things.

*Extremely Hazardous Substance* means a substance listed in Appendices A and B of this Part.

*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). For purposes of emergency release notification, the term includes motor vehicles, rolling stock, and aircraft.

*Hazardous Chemical* means any hazardous chemical as defined under § 1910.1200(c) of Title 29 of the Code of Federal Regulations, except that such term does not include the following substances:

(1) Any food, food additive, color additive, drug, or cosmetic regulated by the Food and Drug Administration.

(2) Any substance present as a solid in any manufactured item to the extent exposure to the substance does not occur under normal conditions of use.

(3) Any substance to the extent it is used for personal, family, or household purposes, or is present in the same form and concentration as a product packaged for distribution and use by the general public.

(4) Any substance to the extent it is used in a research laboratory or a hospital or other medical facility under the direct supervision of a technically qualified individual.

(5) Any substance to the extent it is used in routine agricultural operations or is a fertilizer held for sale by a retailer to the ultimate customer.

*Mixture* means a heterogenous association of substances where the various individual substances retain their identities and can usually be separated by mechanical means. Includes solutions or compounds but does not include alloys or amalgams.

*Person* means any individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, or interstate body.

*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 hazardous chemical, extremely hazardous substance, or CERCLA hazardous substance.

*Reportable Quantity* means, for any CERCLA hazardous substance, the reportable quantity established in Table 302.4 of 40 CFR Part 302, for such substance, for any other substance, the reportable quantity is one pound.

*Threshold Planning Quantity* means, for a substance listed in Appendices A and B, the quantity listed in the column "threshold planning quantity" for that substance.

**§ 355.30 Emergency planning.**

(a) *Applicability.* The requirements of this section apply to any facility at which there is present an amount of any extremely hazardous substance equal to or in excess of its threshold planning quantity, or designated, after public notice and opportunity for comment, by the Commission or the Governor for the State in which the facility is located. For purposes of this section, an "amount of any extremely hazardous substance" means the total amount of an extremely hazardous substance present at any one time at a facility at concentrations greater than one percent by weight, regardless of location, number of containers, or method of storage.

(b) *Emergency planning notification.* The owner or operator of a facility subject to this section shall provide notification to the Commission that it is a facility subject to the emergency planning requirements of this Part. Such notification shall be provided: on or before May 17 1987 or within sixty days after a facility first becomes subject to the requirements of this section, whichever is later.

(c) *Facility emergency coordinator.* The owner or operator of a facility subject to this section shall designate a facility representative who will participate in the local emergency planning process as a facility emergency response coordinator. The owner or operator shall notify the local emergency planning committee (or the Governor if there is no committee) of the facility representative on or before September 17 1987 or 30 days after establishment of a local emergency planning committee, whichever is earlier.

(d) *Provision of information.* (1) The owner or operator of a facility subject to this section shall inform the local emergency planning committee of any changes occurring at the facility which may be relevant to emergency planning.

(2) Upon request of the local emergency planning committee, the owner or operator of a facility subject to this section shall promptly provide to the committee any information necessary for development or implementation of the local emergency plan.

(e) *Calculation of TPQs for solids and mixtures.* (1) If a container or storage vessel holds a mixture or solution of an extremely hazardous substance, then the concentration of extremely hazardous substance, in weight percent (greater than 1%), shall be multiplied by the mass (in pounds) in the vessel to determine the actual quantity of extremely hazardous substance therein.

(2)(i) Extremely hazardous substances that are solids are subject to either of two threshold planning quantities as shown on Appendices A and B (i.e., 500/10,000 pounds). The lower quantity applies only if the solid exists in powdered form and has a particle size less than 100 microns; or is handled in solution or in molten form; or meets the criteria for a National Fire Protection Association (NFPA) rating of 2, 3 or 4 for reactivity. If the solid does not meet any of these criteria, it is subject to the upper (10,000 pound) threshold planning quantity as shown in Appendices A and B.

(ii) The 100 micron level may be determined by multiplying the weight percent of solid with a particle size less than 100 microns in a particular container by the quantity of solid in the container.

(iii) The amount of solid in solution may be determined by multiplying the weight percent of solid in the solution in a particular container by the quantity of solution in the container.

(iv) The amount of solid in molten form must be multipled by 0.3 to determine whether the lower threshold planning quantity is met.

(Approved by the Office of Management and Budget under the control number 2050-0046)

**§ 355.40 Emergency release notification.**

(a) *Applicability.* (1) The requirements of this section apply to any facility: (i) at which a hazardous chemical is produced, used or stored and (ii) at which there is release of a reportable quantity of any extremely hazardous substance or CERCLA hazardous substance.

(2) This section does not apply to: (i) Any release which results in exposure to persons solely within the boundaries of the facility. (ii) Any release which is a "federally permitted release" as defined in section 101 (10) of CERCLA, (iii) any release which is "continuous," as defined under section 103 (f) of CERCLA (except for "statistically significant increases" as defined under section 103(e) of CERCLA and (v) any release exempt from CERCLA section 103(a) reporting under section 101(22) of CERCLA.

**Note to paragraph (a).**—Releases of CERCLA hazardous substances are subject to the release reporting requirements of CERCLA section 103, codified at 40 CFR Part 302, in addition to the requirements of this Part.

(b) *Notice requirements.* (1) The owner or operator of a facility subject to this section shall immediately notify the community emergency coordinator for the local emergency planning committee of any area likely to be affected by the release and the State emergency response commission of any State likely to be affected by the release. If there is no local emergency planning committee, notification shall be provided under this section to relevant local emergency response personnel.

(2) The notice required under this section shall include the following to the extent known at the time of notice and so long as no delay in notice or emergency response results:

(i) The chemical name or identity of any substance involved in the release.

(ii) An indication of whether the substance is an extremely hazardous substance.

(iii) An estimate of the quantity of any such substance that was released into the environment.

(iv) The time and duration of the release.

(v) The medium or media into which the release occurred.

(vi) Any known or anticipated acute or chronic health risks associated with the emergency and, where appropriate, advice regarding medical attention necessary for exposed individuals.

(vii) Proper precautions to take as a result of the release, including evacuation (unless such information is readily available to the community emergency coordination pursuant to the emergency plan).

(viii) The names and telephone number of the person or persons to be contacted for further information.

(3) As soon as practicable after a release which requires notice under (b)(1) of this section, such owner or operator shall provide a written follow-up emergency notice (or notices, as more information becomes available) setting forth and updating the information required under paragraph (b)(2) of this section, and including additional information with respect to:

(i) Actions taken to respond to and contain the release,

(ii) Any known or anticipated acute or chronic health risks associated with the release, and,

(iii) Where appropriate, advice regarding medical attention necessary for exposed individuals.

(4) Exceptions. (i) Until April 30, 1988, in lieu of the notice specified in paragraph (b)(2) of this section, any owner or operator of a facility subject to this section from which there is a release of a CERCLA hazardous substance which is not an extremely hazardous substance and has a statutory reportable quantity may provide the same notice required under CERCLA section 103(a) to the local emergency planning committee.

(ii) An owner or operator of a facility from which there is a transportation-related release may meet the requirements of this section by providing the information indicated in paragraph (b)(2) to the 911 operator, or in the absence of a 911 emergency telephone number, to the operator. For purposes of this paragraph, a "transportation-related release" means a release during transportation, or storage incident to transportation if the stored substance is moving under active shipping papers and has not reached the ultimate consignee.

(Approved by the Office of Management and Budget under the control number 2050-0046)

**§ 355.50 Penalties.**

(a) *Civil penalties.* Any person who fails to comply with the requirements of § 355.40 shall be subject to civil penalties of up to $25,000 for each violation in accordance with section 325(b)(1) of the Act.

(b) *Civil penalties for continuing violations.* Any person who fails to comply with the requirements of § 355.40 shall be subject to civil penalties of up to $25,000 for each day during which the violation continues, in accordance with section 325(b)(2) of the Act. In the case of a second or subsequent violation, any such person may be subject to civil penalties of up to $75,000 for each day the violation continues, in accordance with section 325(b)(2) of the Act.

(c) *Criminal penalties.* Any person who knowingly and willfully fails to provide notice in accordance with § 355.40 shall, upon conviction, be fined not more than $25,000 or imprisoned for not more than two (2) years, or both (or, in the case of a second or subsequent conviction, shall be fined not more than $50,000 or imprisoned for not more than five (5) years, or both) in accordance with section 325(b)(4) of the Act.

APPENDIX A.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES

[Alphabetical Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 75-86-5 | Acetone Cyanohydrin | | 10 | 1,000 |
| 1752-30-3 | Acetone Thiosemicarbazide | e | 1 | 1,000/10,000 |
| 107-02-8 | Acrolein | | 1 | 500 |
| 79-06-1 | Acrylamide | d, l | 5,000 | 1,000/10,000 |
| 107-13-1 | Acrylonitrile | d, l | 100 | 10,000 |
| 814-68-6 | Acrylyl Chloride | e, h | 1 | 100 |
| 111-69-3 | Adiponitrile | e, l | 1 | 1,000 |
| 116-06-3 | Aldicarb | c | 1 | 100/10,000 |
| 309-00-2 | Aldrin | d | 1 | 500/10,000 |
| 107-18-6 | Allyl Alcohol | | 100 | 1,000 |
| 107-11-9 | Allylamine | e | 1 | 500 |
| 20859-73-8 | Aluminum Phosphide | b | 100 | 500 |
| 54-62-6 | Aminopterin | e | 1 | 500/10,000 |
| 78-53-5 | Amiton | e | 1 | 500 |
| 3734-97-2 | Amiton Oxalate | e | 1 | 100/10,000 |
| 7664-41-7 | Ammonia | l | 100 | 500 |
| 16919-58-7 | Ammonium Chloroplatinate | a, e | 1 | 10,000 |
| 300-62-9 | Amphetamine | e | 1 | 1,000 |
| 62-53-3 | Aniline | d, l | 5,000 | 1,000 |
| 88-05-1 | Aniline, 2,4,6-Trimethyl- | e | 1 | 500 |
| 7783-70-2 | Antimony Pentafluoride | e | 1 | 500 |
| 1397-94-0 | Antimycin A | c, e | 1 | 1,000/10,000 |
| 86-88-4 | ANTU | | 100 | 500/10,000 |
| 1303-28-2 | Arsenic Pentoxide | d | 5,000 | 100/10,000 |
| 1327-53-3 | Arsenous Oxide | d, h | 5,000 | 100/10,000 |
| 7784-34-1 | Arsenous Trichloride | d | 5,000 | 500 |
| 7784-42-1 | Arsine | e | 1 | 100 |
| 2642-71-9 | Azinphos-Ethyl | e | 1 | 100/10,000 |
| 86-50-0 | Azinphos-Methyl | | 1 | 10/10,000 |
| 1405-87-4 | Bacitracin | a, e | 1 | 10,000 |
| 98-87-3 | Benzal Chloride | d | 5,000 | 500 |
| 98-16-8 | Benzenamine, 3-(Trifluoromethyl)- | e | 1 | 500 |
| 100-14-1 | Benzene, 1-(Chloromethyl)-4-Nitro- | e | 1 | 500/10,000 |
| 98-05-5 | Benzenearsonic Acid | e | 1 | 10/10,000 |
| 98-09-9 | Benzenesulfonyl Chloride | a | 100 | 10,000 |
| 3615-21-2 | Benzimidazole, 4,5-Dichloro-2-(Trifluoromethyl)- | e, g | 1 | 500/10,000 |
| 98-07-7 | Benzotrichloride | d | 1 | 100 |
| 100-44-7 | Benzyl Chloride | d | 100 | 500 |
| 140-29-4 | Benzyl Cyanide | e, h | 1 | 500 |

APPENDIX A.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES—Continued

[Alphabetical Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 15271-41-7 | Bicyclo[2.2.1]Heptane-2-Carbonitrile, 5-Chloro-6-((((Methylamino)Carbonyl)Oxy)Imino)-(1s-(1-alpha, 2-beta, 4-alpha, 5-alpha, 6E))- | e | 1 | 500/10,000 |
| 534-07-6 | Bis(Chloromethyl) Ketone | e | 1 | 10/10,000 |
| 4044-65-9 | Bitoscanate | e | 1 | 500/10,000 |
| 10294-34-5 | Boron Trichloride | e | 1 | 500 |
| 7637-07-2 | Boron Trifluoride | e | 1 | 500 |
| 353-42-4 | Boron Trifluoride Compound With Methyl Ether (1:1) | e | 1 | 1,000 |
| 28772-56-7 | Bromadiolone | e | 1 | 100/10,000 |
| 7726-95-6 | Bromine | e, l | 1 | 500 |
| 106-99-0 | Butadiene | a, e | 1 | 10,000 |
| 109-19-3 | Butyl Isovalerate | a, e | 1 | 10,000 |
| 111-34-2 | Butyl Vinyl Ether | a, e | 1 | 10,000 |
| 1306-19-0 | Cadmium Oxide | e | 1 | 100/10,000 |
| 2223-93-0 | Cadmium Stearate | c, e | 1 | 1,000/10,000 |
| 7778-44-1 | Calcium Arsenate | d | 1,000 | 500/10,000 |
| 8001-35-2 | Camphechlor | d | 1 | 500/10,000 |
| 56-25-7 | Canthandin | e | 1 | 100/10,000 |
| 51-83-2 | Carbachol Chloride | e | 1 | 500/10,000 |
| 26419-73-8 | Carbamic Acid, Methyl- 0-(((2,4-Dimethyl-1, 3-Dithiolan-2-yl)Methylene)Amino)- | e | 1 | 100/10,000 |
| 1563-66-2 | Carbofuran | | 10 | 10/10,000 |
| 75-15-0 | Carbon Disulfide | l | 100 | 10,000 |
| 786-19-6 | Carbophenothion | e | 1 | 500 |
| 2244-16-8 | Carvone | a, e | 1 | 10,000 |
| 57-74-9 | Chlordane | d | 1 | 1,000 |
| 470-90-6 | Chlorfenvinfos | e | 1 | 500 |
| 7782-50-5 | Chlorine | | 10 | 100 |
| 24934-91-6 | Chlormephos | e | 1 | 500 |
| 999-81-5 | Chlormequat Chloride | e, h | 1 | 100/10,000 |
| 107-20-0 | Chloroacetaldehyde | a | 1,000 | 10,000 |
| 79-11-8 | Chloroacetic Acid | e | 1 | 100/10,000 |
| 107-07-3 | Chloroethanol | e | 1 | 500 |
| 627-11-2 | Chloroethyl Chloroformate | e | 1 | 1,000 |
| 67-66-3 | Chloroform | d, l | 5,000 | 10,000 |
| 542-88-1 | Chloromethyl Ether | d, h | 1 | 100 |
| 107-30-2 | Chloromethyl Methyl Ether | c, d | 1 | 100 |
| 3691-35-8 | Chlorophacinone | e | 1 | 100/10,000 |
| 1982-47-4 | Chloroxuron | e | 1 | 500/10,000 |
| 21923-23-9 | Chlorthiophos | e, h | 1 | 500 |
| 10025-73-7 | Chromic Chloride | e | 1 | 1/10,000 |
| 7440-48-4 | Cobalt | a, e | 1 | 10,000 |
| 62207-76-5 | Cobalt, ((2,2'-(1,2-Ethanediylbis (Nitrilomethylidyne))Bis(6-Fluorophenolato))(2-)-N,N',O,O')-,. | e | 1 | 100/10,000 |
| 10210-68-1 | Cobalt Carbonyl | e, h | 1 | 10/10,000 |
| 64-86-8 | Colchicine | e, h | 1 | 10/10,000 |
| 117-52-2 | Coumafuryl | a, e | 1 | 10,000 |
| 56-72-4 | Coumaphos | | 10 | 100/10,000 |
| 5836-29-3 | Coumatetralyl | e | 1 | 500/10,000 |
| 95-48-7 | Cresol, o- | d | 1,000 | 1,000/10,000 |
| 535-89-7 | Crimidine | e | 1 | 100/10,000 |
| 4170-30-3 | Crotonaldehyde | | 100 | 1,000 |
| 123-73-9 | Crotonaldehyde, (E)- | | 100 | 1,000 |
| 506-68-3 | Cyanogen Bromide | | 1,000 | 500/10,000 |
| 506-78-5 | Cyanogen Iodide | e | 1 | 1,000/10,000 |
| 2636-26-2 | Cyanophos | e | 1 | 1,000 |
| 675-14-9 | Cyanuric Fluoride | e | 1 | 100 |
| 66-81-9 | Cycloheximide | e | 1 | 100/10,000 |
| 108-91-8 | Cyclohexylamine | e, l | 1 | 10,000 |
| 287-92-3 | Cyclopentane | a, e | 1 | 10,000 |
| 633-03-4 | C. I. Basic Green 1 | a, e | 1 | 10,000 |
| 17702-41-9 | Decaborane(14) | e | 1 | 500/10,000 |
| 8065-48-3 | Demeton | e | 1 | 500 |
| 919-86-8 | Demeton-S-Methyl | e | 1 | 500 |
| 10311-84-9 | Dialifor | e | 1 | 100/10,000 |
| 19287-45-7 | Diborane | e | 1 | 100 |
| 84-74-2 | Dibutyl Phthalate | a | 10 | 10,000 |
| 8023-53-8 | Dichlorobenzalkonium Chloride | a, e | 1 | 10,000 |
| 111-44-4 | Dichloroethyl Ether | d | 1 | 10,000 |

APPENDIX A.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES—Continued

[Alphabetical Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 149-74-6 | Dichloromethylphenylsilane | e | 1 | 1,000 |
| 62-73-7 | Dichlorvos | | 10 | 1,000 |
| 141-66-2 | Dicrotophos | e | 1 | 100 |
| 1464-53-5 | Diepoxybutane | d | 1 | 500 |
| 814-49-3 | Diethyl Chlorophospate | e, h | 1 | 500 |
| 1642-54-2 | Diethylcarbamazine Citrate | e | 1 | 100/10,000 |
| 93-05-0 | Diethyl-p-Phenylenediamine | a,e | 1 | 10,000 |
| 71-63-6 | Digitoxin | c, e | 1 | 100/10,000 |
| 2238-07-5 | Diglycidyl Ether | e | 1 | 1,000 |
| 20830-75-5 | Digoxin | e, h | 1 | 10/10,000 |
| 115-26-4 | Dimefox | e | 1 | 500 |
| 60-51-5 | Dimethoate | | 10 | 500/10,000 |
| 2524-03-0 | Dimethyl Phosphorochlordothioate | e | 1 | 500 |
| 131-11-3 | Dimethyl Phthalate | a | 5,000 | 10,000 |
| 77-78-1 | Dimethyl Sulfate | d | 1 | 500 |
| 75-18-3 | Dimethyl Sulfide | e | 1 | 100 |
| 75-78-5 | Dimethyldichlorosilane | e, h | 1 | 500 |
| 57-14-7 | Dimethylhydrazine | d | 1 | 1,000 |
| 99-98-9 | Dimethyl-p-Phenylenediamine | e | 1 | 10/10,000 |
| 644-64-4 | Dimetilan | e | 1 | 500/10,000 |
| 534-52-1 | Dinitrocresol | | 10 | 10/10,000 |
| 88-85-7 | Dinoseb | | 1,000 | 100/10,000 |
| 1420-07-1 | Dinoterb | e | 1 | 500/10,000 |
| 117-84-0 | Dioctyl Phthalate | a | 5,000 | 10,000 |
| 78-34-2 | Dioxathion | e | 1 | 500 |
| 646-06-0 | Dioxolane | a, e | 1 | 10,000 |
| 82-66-6 | Diphacinone | e | 1 | 10/10,000 |
| 152-16-9 | Diphosphoramide, Octamethyl- | | 100 | 100 |
| 298-04-4 | Disulfoton | | 1 | 500 |
| 514-73-8 | Dithiazanine Iodide | e | 1 | 500/10,000 |
| 541-53-7 | Dithiobiuret | | 100 | 100/10,000 |
| 316-42-7 | Emetine, Dihydrochloride | e, h | 1 | 1/10,000 |
| 115-29-7 | Endosulfan | | 1 | 10/10,000 |
| 2778-04-3 | Endothion | e | 1 | 500/10,000 |
| 72-20-8 | Endrin | | 1 | 500/10,000 |
| 106-89-8 | Epichlorohydrin | d, l | 1,000 | 1,000 |
| 2104-64-5 | EPN | e | 1 | 100/10,000 |
| 50-14-6 | Ergocalciferol | c, e | 1 | 1,000/10,000 |
| 379-79-3 | Ergotamine Tartrate | e | 1 | 500/10,000 |
| 1622-32-8 | Ethanesulfonyl Chloride, 2-Chloro- | e | 1 | 500 |
| 10140-87-1 | Ethanol, 1,2-Dichloro- Acetate | e | 1 | 1,000 |
| 563-12-2 | Ethion | | 10 | 1,000 |
| 13194-48-4 | Ethoprophos | e | 1 | 1,000 |
| 538-07-8 | Ethylbis(2-Chloroethyl)Amine | e, h | 1 | 500 |
| 371-62-0 | Ethylene Fluorohydrin | c, e, h | 1 | 10 |
| 75-21-8 | Ethylene Oxide | d, l | 1 | 1,000 |
| 107-15-3 | Ethylenediamine | | 5,000 | 10,000 |
| 151-56-4 | Ethyleneimine | d | 1 | 500 |
| 2235-25-8 | Ethylmercuric Phosphate | a, e | 1 | 10,000 |
| 542-90-5 | Ethylthiocyanate | e | 1 | 10,000 |
| 22224-92-6 | Fenamiphos | e | 1 | 10/10,000 |
| 122-14-5 | Fenitrothion | e | 1 | 500 |
| 115-90-2 | Fensulfothion | e, h | 1 | 500 |
| 4301-50-2 | Fluenetil | e | 1 | 100/10,000 |
| 7782-41-4 | Fluorine | k | 10 | 500 |
| 640-19-7 | Fluoroacetamide | l | 100 | 100/10,000 |
| 144-49-0 | Fluoroacetic Acid | e | 1 | 10/10,000 |
| 359-06-8 | Fluoroacetyl Chloride | c, e | 1 | 10 |
| 51-21-8 | Fluorouracil | e | 1 | 500/10,000 |
| 944-22-9 | Fonofos | e | 1 | 500 |
| 50-00-0 | Formaldehyde | d,l | 1,000 | 500 |
| 107-16-4 | Formaldehyde Cyanohydrin | e, h | 1 | 1,000 |
| 23422-53-9 | Formetanate Hydrochloride | e,h | 1 | 500/10,000 |
| 2540-82-1 | Formothion | e | 1 | 100 |
| 17702-57-7 | Formparanate | e | 1 | 100/10,000 |
| 21548-32-3 | Fosthietan | e | 1 | 500 |

APPENDIX A.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES—Continued

[Alphabetical Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 3878-19-1 | Fuberidazole | e | 1 | 100/10,000 |
| 110-00-9 | Furan | | 100 | 500 |
| 13450-90-3 | Gallium Trichloride | e | 1 | 500/10,000 |
| 77-47-4 | Hexachlorocyclopentadiene | d, h | 1 | 100 |
| 1335-87-1 | Hexachloronaphthalene | a, e | 1 | 10,000 |
| 4835-11-4 | Hexamethylenediamine, N,N'-Dibutyl- | e | 1 | 500 |
| 302-01-2 | Hydrazine | d | 1 | 1,000 |
| 74-90-8 | Hydrocyanic Acid | | 10 | 100 |
| 7647-01-0 | Hydrogen Chloride (Gas Only) | e, l | 1 | 500 |
| 7664-39-3 | Hydrogen Fluoride | | 100 | 100 |
| 7722-84-1 | Hydrogen Peroxide (Conc >52%) | e, l | 1 | 1,000 |
| 7783-07-5 | Hydrogen Selenide | e | 1 | 10 |
| 7783-06-4 | Hydrogen Sulfide | l | 100 | 500 |
| 123-31-9 | Hydroquinone | l | 1 | 500/10,000 |
| 53-86-1 | Indomethacin | a, e | 1 | 10,000 |
| 10025-97-5 | Indium Tetrachloride | a, e | 1 | 10,000 |
| 13463-40-6 | Iron, Pentacarbonyl- | e | 1 | 100 |
| 297-78-9 | Isobenzan | e | 1 | 100/10,000 |
| 78-82-0 | Isobutyronitrile | e, h | 1 | 1,000 |
| 102-36-3 | Isocyanic Acid, 3,4-Dichlorophenyl Ester | e | 1 | 500/10,000 |
| 465-73-6 | Isodrin | | 1 | 100/10,000 |
| 55-91-4 | Isofluorphate | c | 100 | 100 |
| 4098-71-9 | Isophorone Diisocyanate | b, e | 1 | 100 |
| 108-23-6 | Isopropyl Chloroformate | e | 1 | 1,000 |
| 625-55-8 | Isopropyl Formate | e | 1 | 500 |
| 119-38-0 | Isoproplymethylpyrazolyl Dimethylcarbamate | e | 1 | 500 |
| 78-97-7 | Lactonitrile | e | 1 | 1,000 |
| 21609-90-5 | Leptophos | e | 1 | 500/10,000 |
| 541-25-3 | Lewisite | c, e, h | 1 | 10 |
| 58-89-9 | Lindane | d | 1 | 1,000/10,000 |
| 7580-67-8 | Lithium Hydride | b, e | 1 | 100 |
| 109-77-3 | Malononitrile | | 1,000 | 500/10,000 |
| 12108-13-3 | Manganese, Tricarbonyl Methylcyclopentadienyl | e, h | 1 | 100 |
| 51-75-2 | Mechlorethamine | c, e | 1 | 10 |
| 950-10-7 | Mephosfolan | e | 1 | 500 |
| 1600-27-7 | Mercuric Acetate | e | 1 | 500/10,000 |
| 7487-94-7 | Mercuric Chloride | e | 1 | 500/10,000 |
| 21908-53-2 | Mercuric Oxide | e | 1 | 500/10,000 |
| 108-67-8 | Mesitylene | a, e | 1 | 10,000 |
| 10476-95-6 | Methacrolein Diacetate | e | 1 | 1,000 |
| 760-93-0 | Methacrylic Anhydride | e | 1 | 500 |
| 126-98-7 | Methacrylonitrile | h | 1 | 500 |
| 920-46-7 | Methacryloyl Chloride | e | 1 | 100 |
| 30674-80-7 | Methacryloyloxyethyl Isocyanate | e, h | 1 | 100 |
| 10265-92-6 | Methamidophos | e | 1 | 100/10,000 |
| 558-25-8 | Methanesulfonyl Fluoride | e | 1 | 1,000 |
| 950-37-8 | Methidathion | e | 1 | 500/10,000 |
| 2032-65-7 | Methiocarb | | 10 | 500/10,000 |
| 16752-77-5 | Methomyl | h | 100 | 500/10,000 |
| 151-38-2 | Methoxyethylmercuric Acetate | e | 1 | 500/10,000 |
| 80-63-7 | Methyl 2-Chloroacrylate | e | 1 | 500 |
| 74-83-9 | Methyl Bromide | l | 1,000 | 1,000 |
| 79-22-1 | Methyl Chloroformate | d, h | 1,000 | 500 |
| 624-92-0 | Methyl Disulfide | e | 1 | 100 |
| 60-34-4 | Methyl Hydrazine | | 10 | 500 |
| 624-83-9 | Methyl Isocyanate | f | 1 | 500 |
| 556-61-6 | Methyl Isothiocyanate | b, e | 1 | 500 |
| 74-93-1 | Methyl Mercaptan | | 100 | 500 |
| 3735-23-7 | Methyl Phenkapton | e | 1 | 500 |
| 676-97-1 | Methyl Phosphonic Dichloride | b, e | 1 | 100 |
| 556-64-9 | Methyl Thiocyanate | e | 1 | 10,000 |
| 78-94-4 | Methyl Vinyl Ketone | e | 1 | 10 |
| 502-39-6 | Methylmercuric Dicyanamide | e | 1 | 500/10,000 |
| 75-79-6 | Methyltrichlorosilane | e, h | 1 | 500 |
| 1129-41-5 | Metolcarb | e | 1 | 100/10,000 |
| 7786-34-7 | Mevinphos | | 10 | 500 |

APPENDIX A.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES—Continued

[Alphabetical Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 315-18-4 | Mexacarbate | | 1,000 | 500/10,000 |
| 50-07-7 | Mitomycin C | d | 1 | 500/10,000 |
| 6923-22-4 | Monocrotophos | e | 1 | 10/10,000 |
| 2763-96-4 | Muscimol | a, h | 1,000 | 10,000 |
| 505-60-2 | Mustard Gas | e, h | 1 | 500 |
| 7440-02-0 | Nickel | a, d | 1 | 10,000 |
| 13463-39-3 | Nickel Carbonyl | d | 1 | 1 |
| 54-11-5 | Nicotine | c | 100 | 100 |
| 65-30-5 | Nicotine Sulfate | e | 1 | 100/10,000 |
| 7697-37-2 | Nitric Acid | | 1,000 | 1,000 |
| 10102-43-9 | Nitric Oxide | c | 10 | 100 |
| 98-95-3 | Nitrobenzene | l | 1,000 | 10,000 |
| 1122-60-7 | Nitrocyclohexane | e | 1 | 500 |
| 10102-44-0 | Nitrogen Dioxide | | 10 | 100 |
| 62-75-9 | Nitrosodimethylamine | d, h | 1 | 1,000 |
| 991-42-4 | Norbormide | e | 1 | 100/10,000 |
| 0 | Organorhodium Complex (PMN-82-147) | e | 1 | 10/10,000 |
| 65-86-1 | Orotic Acid | a, e | 1 | 10,000 |
| 20816-12-0 | Osmium Tetroxide | a | 1,000 | 10,000 |
| 630-60-4 | Ouabain | c, e | 1 | 100/10,000 |
| 23135-22-0 | Oxamyl | e | 1 | 100/10,000 |
| 78-71-7 | Oxetane, 3,3-Bis(Chloromethyl)- | 1 | e | 500 |
| 2497-07-6 | Oxydisulfoton | e, h | 1 | 500 |
| 10028-15-6 | Ozone | e | 1 | 100 |
| 1910-42-5 | Paraquat | e | 1 | 10/10,000 |
| 2074-50-2 | Paraquat Methosulfate | e | 1 | 10/10,000 |
| 56-38-2 | Parathion | c, d | 1 | 100 |
| 298-00-0 | Parathion-Methyl | c | 100 | 100/10,000 |
| 12002-03-8 | Paris Green | d | 100 | 500/10,000 |
| 19624-22-7 | Pentaborane | e | 1 | 500 |
| 76-01-7 | Pentachloroethane | a, d | 1 | 10,000 |
| 87-86-5 | Pentachlorophenol | a, d | 10 | 10,000 |
| 2570-26-5 | Pentadecylamine | e | 1 | 100/10,000 |
| 79-21-0 | Peracetic Acid | e | 1 | 500 |
| 594-42-3 | Perchloromethylmercaptan | | 100 | 500 |
| 108-95-2 | Phenol | | 1,000 | 500/10,000 |
| 97-18-7 | Phenol, 2,2'-Thiobis(4,6-Dichloro- | e | 1 | 100/10,000 |
| 4418-66-0 | Phenol, 2,2'-Thiobis(4-Chloro-6-Methyl-Phenol, 2,2'-Thiobis (4-Chloro-6-Methyl)- | e | 1 | 100/10,000 |
| 64-00-6 | Phenol, 3-(1-Methylethyl)- Methylcarbamate | e | 1 | 500/10,000 |
| 58-36-6 | Phenoxarsine, 10,10'-Oxydi- | e | 1 | 500/10,000 |
| 696-28-6 | Phenyl Dichloroarsine | d, h | 1 | 500 |
| 59-88-1 | Phenylhydrazine Hydrochloride | e | 1 | 1,000/10,000 |
| 62-38-4 | Phenylmercury Acetate | | 100 | 500/10,000 |
| 2097-19-0 | Phenylsilatrane | e, h | 1 | 100/10,000 |
| 103-85-5 | Phenylthiourea | | 100 | 100/10,000 |
| 298-02-2 | Phorate | | 10 | 10 |
| 4104-14-7 | Phosacetim | e | 1 | 100/10,000 |
| 947-02-4 | Phosfolan | e | 1 | 100/10,000 |
| 75-44-5 | Phosgene | l | 10 | 10 |
| 732-11-6 | Phosmet | e | 1 | 10/10,000 |
| 13171-21-6 | Phosphamidon | e | 1 | 100 |
| 7803-51-2 | Phosphine | | 100 | 500 |
| 2703-13-1 | Phosphonothioic Acid, Methyl-, O-Ethyl O-(4-(Methylthio)Phenyl) Ester | e | 1 | 500 |
| 50782-69-9 | Phosphonothioic Acid, Methyl-, S-(2-(Bis(1-Methylethyl)Amino)Ethyl O-Ethyl Ester | e | 1 | 100 |
| 2665-30-7 | Phosphonothioic Acid, Methyl-, O-(4-Nitrophenyl) O-Phenyl Ester | e | 1 | 500 |
| 3254-63-5 | Phosphoric Acid, Dimethyl 4-(Methylthio) Phenyl Ester | e | 1 | 500 |
| 2587-90-8 | Phosphorothioic Acid, O,O-Dimethyl-S-(2-Methylthio) Ethyl Ester | c, e, g | 1 | 500 |
| 7723-14-0 | Phosphorus | b, h | 1 | 100 |
| 10025-87-3 | Phosphorus Oxychloride | d | 1,000 | 500 |
| 10026-13-8 | Phosphorus Pentachloride | b, e | 1 | 500 |
| 1314-56-3 | Phosphorus Pentoxide | b, e | 1 | 10 |
| 7719-12-2 | Phosphorus Trichloride | | 1,000 | 1,000 |
| 84-80-0 | Phylloquinone | a, e | 1 | 10,000 |
| 57-47-6 | Physostigmine | e | 1 | 100/10,000 |
| 57-64-7 | Physostigmine, Salicylate (1:1) | e | 1 | 100/10,000 |
| 124-87-8 | Picrotoxin | e | 1 | 500/10,000 |

APPENDIX A.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES—Continued

[Alphabetical Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 110-89-4 | Piperidine | e | 1 | 1,000 |
| 5281-13-0 | Piprotal | e | 1 | 100/10,000 |
| 23505-41-1 | Pirimifos-Ethyl | e | 1 | 1,000 |
| 10025-65-7 | Platinous Chloride | a, e | 1 | 10,000 |
| 13454-96-1 | Platinum Tetrachloride | a, e | 1 | 10,000 |
| 10124-50-2 | Potassium Arsenite | d | 1,000 | 500/10,000 |
| 151-50-8 | Potassium Cyanide | b | 10 | 100 |
| 506-61-6 | Potassium Silver Cyanide | b | 1 | 500 |
| 2631-37-0 | Promecarb | e, h | 1 | 500/10,000 |
| 106-96-7 | Propargyl Bromide | e | 1 | 10 |
| 57-57-8 | Propiolactone, Beta- | e | 1 | 500 |
| 107-12-0 | Propionitrile | | 10 | 500 |
| 542-76-7 | Propionitrile, 3-Chloro- | | 1,000 | 1,000 |
| 70-69-9 | Propiophenone, 4-Amino- | e, g | 1 | 100/10,000 |
| 109-61-5 | Propyl Chloroformate | e | 1 | 500 |
| 1331-17-5 | Propylene Glycol, Allyl Ether | a, e | 1 | 10,000 |
| 75-56-9 | Propylene Oxide | I | 100 | 10,000 |
| 75-55-8 | Propyleneimine | d | 1 | 10,000 |
| 2275-18-5 | Prothoate | e | 1 | 100/10,000 |
| 95-63-6 | Pseudocumene | a, e | 1 | 10,000 |
| 129-00-0 | Pyrene | c | 5,000 | 1,000/10,000 |
| 140-76-1 | Pyridine, 2-Methyl-5-Vinyl- | e | 1 | 500 |
| 504-24-5 | Pyridine, 4-Amino- | h | 1,000 | 500/10,000 |
| 1124-33-0 | Pyridine, 4-Nitro-, 1-Oxide | e | 1 | 500/10,000 |
| 53558-25-1 | Pyriminil | e, h | 1 | 100/10,000 |
| 10049-07-7 | Rhodium Trichloride | a, e | 1 | 10,000 |
| 14167-18-1 | Salcomine | e | 1 | 500/10,000 |
| 107-44-8 | Sarin | e, h | 1 | 10 |
| 7783-00-8 | Selenious Acid | | 10 | 1,000/10,000 |
| 7791-23-3 | Selenium Oxychloride | e | 1 | 500 |
| 563-41-7 | Semicarbazide Hydrochloride | e | 1 | 1,000/10,000 |
| 3037-72-7 | Silane, (4-Aminobutyl)Diethoxymethyl- | e | 1 | 1,000 |
| 128-56-3 | Sodium Anthraquinone-1-Sulfonate | a, e | 1 | 10,000 |
| 7631-89-2 | Sodium Arsenate | d | 1,000 | 1,000/10,000 |
| 7784-46-5 | Sodium Arsenite | d | 1,000 | 500/10,000 |
| 26628-22-8 | Sodium Azide (Na(N3)) | b | 1,000 | 500 |
| 124-65-2 | Sodium Cacodylate | e | 1 | 100/10,000 |
| 143-33-9 | Sodium Cyanide (Na(CN)) | b | 10 | 100 |
| 62-74-8 | Sodium Fluoroacetate | | 10 | 10/10,000 |
| 131-52-2 | Sodium Pentachlorophenate | e | 1 | 100/10,000 |
| 13410-01-0 | Sodium Selenate | e | 1 | 100/10,000 |
| 10102-18-8 | Sodium Selenite | h | 100 | 100/10,000 |
| 10102-20-2 | Sodium Tellurite | e | 1 | 500/10,000 |
| 900-95-8 | Stannane, Acetoxytriphenyl- | e, g | 1 | 500/10,000 |
| 57-24-9 | Strychnine | c | 10 | 100/10,000 |
| 60-41-3 | Strychnine, Sulfate | e | 1 | 100/10,000 |
| 3689-24-5 | Sulfotep | | 100 | 500 |
| 3569-57-1 | Sulfoxide, 3-Chloropropyl Octyl | e | 1 | 500 |
| 7446-09-5 | Sulfur Dioxide | e, I | 1 | 500 |
| 7783-60-0 | Sulfur Tetrafluoride | e | 1 | 100 |
| 7446-11-9 | Sulfur Trioxide | b, e | 1 | 100 |
| 7664-93-9 | Sulfur Acid | | 1,000 | 1,000 |
| 77-81-6 | Tabun | c, e, h | 1 | 10 |
| 13494-80-9 | Tellurium | e | 1 | 500/10,000 |
| 7783-80-4 | Tellurium Hexafluoride | e, k | 1 | 100 |
| 107-49-3 | TEPP | | 10 | 100 |
| 13071-79-9 | Terbufos | e, h | 1 | 100 |
| 78-00-2 | Tetraethyllead | c, d | 10 | 100 |
| 597-64-8 | Tetraethyltin | c, e | 1 | 100 |
| 75-74-1 | Tetramethyllead | c, e, I | 1 | 100 |
| 509-14-8 | Tetranitromethane | | 10 | 500 |
| 1314-32-5 | Thallic Oxide | a | 100 | 10,000 |
| 10031-59-1 | Thallium Sulfate | h | 100 | 100/10,000 |
| 6533-73-9 | Thallous Carbonate | c, h | 100 | 100/10,000 |
| 7791-12-0 | Thallous Chloride | c, h | 100 | 100/10,000 |

APPENDIX A.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES—Continued

[Alphabetical Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 2757-18-8 | Thallous Malonate | c, e, h | 1 | 100/10,000 |
| 7446-18-6 | Thallous Sulfate | | 100 | 100/10,000 |
| 2231-57-4 | Thiocarbazide | e | 1 | 1,000/10,000 |
| 21564-17-0 | Thiocyanic Acid, 2-(Benzothiazolylthio)Methyl Ester | a, e | 1 | 10,000 |
| 39196-18-4 | Thiofanox | | 100 | 100/10,000 |
| 640-15-3 | Thiometon | a, e | 1 | 10,000 |
| 297-97-2 | Thionazin | | 100 | 500 |
| 108-98-5 | Thiophenol | | 100 | 500 |
| 79-19-6 | Thiosemicarbazide | | 100 | 100/10,000 |
| 5344-82-1 | Thiourea, (2-Chlorophenyl)- | | 100 | 100/10,000 |
| 614-78-8 | Thiourea, (2-Methylphenyl)- | e | 1 | 500/10,000 |
| 7550-45-0 | Titanium Tetrachloride | e | 1 | 100 |
| 584-84-9 | Toluene 2,4-Diisocyanate | | 100 | 500 |
| 91-08-7 | Toluene 2,6-Diisocyanate | | 100 | 100 |
| 110-57-6 | Trans-1,4-Dichlorobutene | e | 1 | 500 |
| 1031-47-6 | Triamiphos | e | 1 | 500/10,000 |
| 24017-47-8 | Triazofos | e | 1 | 500 |
| 76-02-8 | Trichloroacety Chloride | e | 1 | 500 |
| 115-21-9 | Trichloroethylsilane | e, h | 1 | 500 |
| 327-98-0 | Trichloronate | e, k | 1 | 500 |
| 98-13-5 | Trichlorophenylsilane | e, h | 1 | 500 |
| 52-68-6 | Trichlorophon | a | 100 | 10,000 |
| 1558-25-4 | Trichloro(Chloromethyl)Silane | e | 1 | 100 |
| 27137-85-5 | Trichloro(Dichlorophenyl)Silane | e | 1 | 500 |
| 998-30-1 | Triethoxysilane | e | 1 | 500 |
| 75-77-4 | Trimethylchlorosilane | e | 1 | 1,000 |
| 824-11-3 | Trimethylolpropane Phosphite | e, h | 1 | 100/10,000 |
| 1066-45-1 | Trimethyltin Chloride | e | 1 | 500/10,000 |
| 639-58-7 | Triphenyltin Chloride | e | 1 | 500/10,000 |
| 555-77-1 | Tris(2-Chloroethyl)Amine | e, h | 1 | 100 |
| 2001-95-8 | Valinomycin | c, e | 1 | 1,000/10,000 |
| 1314-62-1 | Vanadium Pentoxide | | 1,000 | 100/10,000 |
| 108-05-4 | Vinyl Acetate Monomer | d, l | 5,000 | 1,000 |
| 3048-64-4 | Vinylnorbornene | a, e | 1 | 10,000 |
| 81-81-2 | Warfarin | | 100 | 500/10,000 |
| 129-06-6 | Warfarin Sodium | e, h | 1 | 100/10,000 |
| 28347-13-9 | Xylylene Dichloride | e | 1 | 100/10,000 |
| 58270-08-9 | Zinc, Dichloro(4,4-Dimethyl-5((((Methylamino) Carbonyl)Oxy)Imino)Pentanenitrile)-,(T-4)- | e | 1 | 100/10,000 |
| 1314-84-7 | Zinc Phosphide | b | 100 | 500 |

*Only the statutory or final RQ is shown. For more information, see 40 CFR Table 302.4

Notes:

a This chemical does not meet acute toxicity criteria. Its TPQ is set at 10,000 pounds.

b This material is a reactive solid. The TPQ does not default to 10,000 pounds for non-powder, non-molten, non-solution form.

c The calculated TPQ changed after technical review as described in the technical support document.

d Indicates that the RQ is subject to change when the assessment of potential carcinogenicity and/or other toxicity is completed.

e Statutory reportable quantity for purposes of notification under SARA sect 304(a)(2).

f The statutory 1 pound reportable quantity for methyl isocyanate may be adjusted in a future rulemaking action.

g New chemicals added that were not part of the original list of 402 substances.

h Revised TPQ based on new or re-evaluated toxicity data.

I TPQ is revised to its calculated value and does not change due to technical review as in proposed rule.

k The TPQ was revised after proposal due to calculation error.

l Chemicals on the onginal list that do not meet toxicity criteria but because of their high production volume and recognized toxicity are considered chemicals of concern ("Other chemicals").

APPENDIX B.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES

[CAS Number Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 0 | Organorhodium Complex (PMN-82-147) | e | 1 | 10/10,000 |
| 50-00-0 | Formaldehyde | d, l | 1,000 | 500 |
| 50-07-7 | Mitomycin C | d | 1 | 500/10,000 |
| 50-14-6 | Ergocalciferol | c, e | 1 | 1,000/10,000 |

APPENDIX B.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES—Continued

[CAS Number Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 51-21-8 | Fluorouracil | e | 1 | 500/10,000 |
| 51-75-2 | Mechlorethamine | c, e | 1 | 10 |
| 51-83-2 | Carbachol Chloride | e | 1 | 500/10,000 |
| 52-68-6 | Trichlorophon | a | 100 | 10,000 |
| 53-86-1 | Indomethacin | a, e | 1 | 10,000 |
| 54-11-5 | Nicotine | c | 100 | 100 |
| 54-62-6 | Aminopterin | e | 1 | 500/10,000 |
| 55-91-4 | Isofluorphate | c | 100 | 100 |
| 56-25-7 | Canthandin | e | 1 | 100/10,000 |
| 56-38-2 | Parathion | c, d | 1 | 100 |
| 56-72-4 | Coumaphos | | 10 | 100/10,000 |
| 57-14-7 | Dimethylhydrazine | d | 1 | 1,000 |
| 57-24-9 | Strychnine | c | 10 | 100/10,000 |
| 57-47-6 | Physostigmine | e | 1 | 100/10,000 |
| 57-57-8 | Propiolactone, Beta- | e | 1 | 500 |
| 57-64-7 | Physostigmine, Salicylate (1:1) | e | 1 | 100/10,000 |
| 57-74-9 | Chlordane | d | 1 | 1,000 |
| 58-36-6 | Phenoxarsine, 10,10'-Oxydi- | e | 1 | 500/10,000 |
| 58-89-9 | Lindane | d | 1 | 1,000/10,000 |
| 59-88-1 | Phenylhydrazine Hydrochloride | e | 1 | 1,000/10,000 |
| 60-34-4 | Methyl Hydrazine | | 10 | 500 |
| 60-41-3 | Strychnine, Sulfate | e | 1 | 100/10,000 |
| 60-51-5 | Dimethoate | | 10 | 500/10,000 |
| 62-38-4 | Phenylmercury Acetate | | 100 | 500/10,000 |
| 62-53-3 | Aniline | d, l | 5,000 | 1,000 |
| 62-73-7 | Dichlorvos | | 10 | 1,000 |
| 62-74-8 | Sodium Fluoroacetate | | 10 | 10/10,000 |
| 62-75-9 | Nitrosodimethylamine | d, h | 1 | 1,000 |
| 64-00-6 | Phenol, 3-(1-Methylethyl)- Methylcarbamate | e | 1 | 500/10,000 |
| 64-86-8 | Colchicine | e, h | 1 | 10/10,000 |
| 65-30-5 | Nicotine Sulfate | e | 1 | 100/10,000 |
| 65-86-1 | Orotic Acid | a, e | 1 | 10,000 |
| 66-81-9 | Cycloheximide | e | 1 | 100/10,000 |
| 67-66-3 | Chloroform | d, l | 5,000 | 10,000 |
| 70-69-9 | Propiophenone, 4-Amino- | e, g | 1 | 100/10,000 |
| 71-63-6 | Digitoxin | c, e | 1 | 100/10,000 |
| 72-20-8 | Endrin | | 1 | 500/10,000 |
| 74-83-9 | Methyl bromide | l | 1,000 | 1,000 |
| 74-90-8 | Hydrocyanic Acid | | 10 | 100 |
| 74-93-1 | Methyl Mercaptan | | 100 | 500 |
| 75-15-0 | Carbon Disulfide | l | 100 | 10,000 |
| 75-18-3 | Dimethyl Sulfide | e | 1 | 100 |
| 75-21-8 | Ethylene Oxide | d, l | 1 | 1,000 |
| 75-44-5 | Phosgene | l | 10 | 10 |
| 75-55-8 | Propyleneimine | d | 1 | 10,000 |
| 75-56-9 | Propylene Oxide | l | 100 | 10,000 |
| 75-74-1 | Tetramethyllead | c, e, l | 1 | 100 |
| 75-77-4 | Trimethylchlorosilane | e | 1 | 1,000 |
| 75-78-5 | Dimethyldichlorosilane | e, h | 1 | 500 |
| 75-79-6 | Methyltrichlorosilane | e, h | 1 | 500 |
| 75-86-5 | Acetone Cyanohydrin | | 10 | 1,000 |
| 76-01-7 | Pentachloroethane | a, d | 1 | 10,000 |
| 76-02-8 | Trichloroacetyl Chloride | e | 1 | 500 |
| 77-47-4 | Hexachlorocyclopentadiene | d, h | 1 | 100 |
| 77-78-1 | Dimethyl Sulfate | d | 1 | 500 |
| 77-81-6 | Tabun | c, e, h | 1 | 10 |
| 78-00-2 | Tetraethyllead | c, d | 10 | 100 |
| 78-34-2 | Dioxathion | e | 1 | 500 |
| 78-53-5 | Amiton | e | 1 | 500 |
| 78-71-7 | Oxetane, 3,3-Bis(Chloromethyl)- | e | 1 | 500 |
| 78-82-0 | Isobutyronitrile | e, h | 1 | 1,000 |
| 78-94-4 | Methyl Vinyl Ketone | e | 1 | 10 |
| 78-97-7 | Lactonitrile | e | 1 | 1,000 |
| 79-06-1 | Acrylamide | d, l | 5,000 | 1,000/10,000 |
| 79-11-8 | Chloroacetic Acid | e | 1 | 100/10,000 |
| 79-19-6 | Thiosemicarbazide | | 100 | 100/10,000 |

APPENDIX B.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES—Continued

[CAS Number Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 79-21-0 | Peracetic Acid | e | 1 | 500 |
| 79-22-1 | Methyl Chloroformate | d, h | 1,000 | 500 |
| 80-63-7 | Methyl 2-Chloroacrylate | e | 1 | 500 |
| 81-81-2 | Warfarin | | 100 | 500/10,000 |
| 82-66-6 | Diphacinone | e | 1 | 10/10,000 |
| 84-74-2 | Dibutyl Phthalate | a | 10 | 10,000 |
| 84-80-0 | Phylloquinone | a, e | 1 | 10,000 |
| 86-50-0 | Azinphos-Methyl | | 1 | 10/10,000 |
| 86-88-4 | ANTU | | 100 | 500/10,000 |
| 87-86-5 | Pentachlorophenol | a, d | 10 | 10,000 |
| 88-05-1 | Aniline, 2,4,6-Trimethyl- | e | 1 | 500 |
| 88-85-7 | Dinoseb | | 1,000 | 100/10,000 |
| 91-08-7 | Toluene 2,6-Diisocyanate | | 100 | 100 |
| 93-05-0 | Diethyl-p-Phenylenediamine | a, e | 1 | 10,000 |
| 95-48-7 | Cresol, o- | d | 1,000 | 1,000/10,000 |
| 95-63-6 | Pseudocumene | a, e | 1 | 10,000 |
| 97-18-7 | Phenol, 2,2'-Thiobis(4,6-Dichloro-(4,6-dichloro)- | e | 1 | 100/10,000 |
| 98-05-5 | Benzenearsonic Acid | e | 1 | 10/10,000 |
| 98-07-7 | Benzotrichloride | d | 1 | 100 |
| 98-09-9 | Benzenesulfonyl Chloride | a | 100 | 10,000 |
| 98-13-5 | Trichlorophenylsilane | e, h | 1 | 500 |
| 98-16-8 | Benzenamine, 3-(Trifluoromethyl)- | e | 1 | 500 |
| 98-87-3 | Benzal Chloride | d | 5,000 | 500 |
| 98-95-3 | Nitrobenzene | l | 1,000 | 10,000 |
| 99-98-9 | Dimethyl-p-Phenylenediamine | e | 1 | 10/10,000 |
| 100-14-1 | Benzene, 1-(Chloromethyl)-4-Nitro- | e | 1 | 500/10,000 |
| 100-44-7 | Benzyl Chloride | d | 100 | 500 |
| 102-36-3 | Isocyanic Acid, 3,4-Dichlorophenyl Ester | e | 1 | 500/10,000 |
| 103-85-5 | Phenylthiourea | | 100 | 100/10,000 |
| 106-89-8 | Epichlorohydrin | d, l | 1,000 | 1,000 |
| 106-96-7 | Propargyl Bromide | e | 1 | 10 |
| 106-99-0 | Butadiene | a, e | 1 | 10,000 |
| 107-02-8 | Acrolein | | 1 | 500 |
| 107-07-3 | Chloroethanol | e | 1 | 500 |
| 107-11-9 | Allylamine | e | 1 | 500 |
| 107-12-0 | Propionitrile | | 10 | 500 |
| 107-13-1 | Acrylonitrile | d, l | 100 | 10,000 |
| 107-15-3 | Ethylenediamine | | 5,000 | 10,000 |
| 107-16-4 | Formaldehyde Cyanohydrin | e, h | 1 | 1,000 |
| 107-18-6 | Allyl Alcohol | | 100 | 1,000 |
| 107-20-0 | Chloroacetaldehyde | a | 1,000 | 10,000 |
| 107-30-2 | Chloromethyl Methyl Ether | c, d | 1 | 100 |
| 107-44-8 | Sarin | e, h | 1 | 10 |
| 107-49-3 | TEPP | | 10 | 100 |
| 108-05-4 | Vinyl Acetate Monomer | d, l | 5,000 | 1,000 |
| 108-23-6 | Isopropyl Chloroformate | e | 1 | 1,000 |
| 108-67-8 | Mesitylene | a, e | 1 | 10,000 |
| 108-91-8 | Cyclohexylamine | e, l | 1 | 10,000 |
| 108-95-2 | Phenol | | 1,000 | 500/10,000 |
| 108-98-5 | Thiophenol | | 100 | 500 |
| 109-19-3 | Butyl Isovalerate | a, e | 1 | 10,000 |
| 109-61-5 | Propyl Chloroformate | e | 1 | 500 |
| 109-77-3 | Malononitrile | | 1,000 | 500/10,000 |
| 110-00-9 | Furan | | 100 | 500 |
| 110-57-6 | Trans-1,4-Dichlorobutene | e | 1 | 500 |
| 110-89-4 | Piperidine | e | 1 | 1,000 |
| 111-34-2 | Butyl Vinyl Ether | a, e | 1 | 10,000 |
| 111-44-4 | Dichloroethyl Ether | d | 1 | 10,000 |
| 111-69-3 | Adiponitrile | e, l | 1 | 1,000 |
| 115-21-9 | Trichloroethylsilane | e, h | 1 | 500 |
| 115-26-4 | Dimefox | e | 1 | 500 |
| 115-29-7 | Endosulfan | | 1 | 10/10,000 |
| 115-90-2 | Fensulfothion | e, h | 1 | 500 |
| 116-06-3 | Aldicarb | c | 1 | 100/10,000 |
| 117-52-2 | Coumafuryl | a, e | 1 | 10,000 |
| 117-84-0 | Dioctyl Phthalate | a | 5,000 | 10,000 |
| 119-38-0 | Isopropylmethylpyrazolyl Dimethylcarbamate | e | 1 | 500 |

APPENDIX B.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES—Continued

[CAS Number Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 122-14-5 | Fenitrothion | e | 1 | 500 |
| 123-31-9 | Hydroquinone | l | 1 | 500/10,000 |
| 123-73-9 | Crotonaldehyde, (E)- | | 100 | 1,000 |
| 124-65-2 | Sodium Cacodylate | e | 1 | 100/10,000 |
| 124-87-8 | Picrotoxin | e | 1 | 500/10,000 |
| 126-98-7 | Methacrylonitrile | h | 1 | 500 |
| 128-56-3 | Sodium Anthraquinone-1-Sulfonate | a, e | 1 | 10,000 |
| 129-00-0 | Pyrene | c | 5,000 | 1,000/10,000 |
| 129-06-6 | Warfarin Sodium | e, h | 1 | 100/10,000 |
| 131-11-3 | Dimethyl Phthalate | a | 5,000 | 10,000 |
| 131-52-2 | Sodium Pentachlorophenate | e | 1 | 100/10,000 |
| 140-29-4 | Benzyl Cyanide | e, h | 1 | 500 |
| 140-76-1 | Pyridine, 2-Methyl-5-Vinyl- | e | 1 | 500 |
| 141-66-2 | Dicrotophos | e | 1 | 100 |
| 143-33-9 | Sodium Cyanide (Na(CN)) | b | 10 | 100 |
| 144-49-0 | Fluoroacetic Acid | e | 1 | 10/10,000 |
| 149-74-6 | Dichloromethylphenylsilane | e | 1 | 1,000 |
| 151-38-2 | Methoxyethylmercuric Acetate | e | 1 | 500/10,000 |
| 151-50-8 | Potassium Cyanide | b | 10 | 100 |
| 151-56-4 | Ethyleneimine | d | 1 | 500 |
| 152-16-9 | Diphosphoramide, Octamethyl- | | 100 | 100 |
| 287-92-3 | Cyclopentane | a, e | 1 | 10,000 |
| 297-78-9 | Isobenzan | e | 1 | 100/10,000 |
| 297-97-2 | Thionazin | | 100 | 500 |
| 298-00-0 | Parathion-Methyl | c | 100 | 100/10,000 |
| 298-02-2 | Phorate | | 10 | 10 |
| 298-04-4 | Disulfoton | | 1 | 500 |
| 300-62-9 | Amphetamine | e | 1 | 1,000 |
| 302-01-2 | Hydrazine | d | 1 | 1,000 |
| 309-00-2 | Aldrin | d | 1 | 500/10,000 |
| 315-18-4 | Mexacarbate | | 1,000 | 500/10,000 |
| 316-42-7 | Emetine, Dihydrochloride | e, h | 1 | 1/10,000 |
| 327-98-0 | Trichloronate | e, k | 1 | 500 |
| 353-42-4 | Boron Trifluoride Compound With Methyl Ether (1:1) | e | 1 | 1,000 |
| 359-06-8 | Fluoroacetyl Chloride | c, e | 1 | 10 |
| 371-62-0 | Ethylene Fluorohydrin | c, e, h | 1 | 10 |
| 379-79-3 | Ergotamine Tartrate | e | 1 | 500/10,000 |
| 465-73-6 | Isodrin | | 1 | 100/10,000 |
| 470-90-6 | Chlorfenvinfos | e | 1 | 500 |
| 502-39-6 | Methylmercuric Dicyanamide | e | 1 | 500/10,000 |
| 504-24-5 | Pyridine, 4-Amino- | h | 1,000 | 500/10,000 |
| 505-60-2 | Mustard Gas | e, h | 1 | 500 |
| 506-61-6 | Potassium Silver Cyanide | b | 1 | 500 |
| 506-68-3 | Cyanogen Bromide | | 1,000 | 500/10,000 |
| 506-78-5 | Cyanogen Iodide | e | 1 | 1,000/10,000 |
| 509-14-8 | Tetranitromethane | | 10 | 500 |
| 514-73-8 | Dithiazanine Iodide | e | 1 | 500/10,000 |
| 534-07-6 | Bis(Chloromethyl) Ketone | e | 1 | 10/10,000 |
| 534-52-1 | Dinitrocresol | | 10 | 10/10,000 |
| 535-89-7 | Crimidine | e | 1 | 100/10,000 |
| 538-07-8 | Ethylbis(2-Chloroethyl)Amine | e, h | 1 | 500 |
| 541-25-3 | Lewisite | c, e, h | 1 | 10 |
| 541-53-7 | Dithiobiuret | | 100 | 100/10,000 |
| 542-76-7 | Propionitrile, 3-Chloro- | | 1,000 | 1,000 |
| 542-88-1 | Chloromethyl Ether | d, h | 1 | 100 |
| 542-90-5 | Ethylthiocyanate | e | 1 | 10,000 |
| 555-77-1 | Tris(2-Chloroethyl)Amine | e, h | 1 | 100 |
| 556-61-6 | Methyl Isothiocyanate | b, e | 1 | 500 |
| 556-64-9 | Methyl Thiocyanate | e | 1 | 10,000 |
| 558-25-8 | Methanesulfonyl Fluoride | e | 1 | 1,000 |
| 563-12-2 | Ethion | | 10 | 1,000 |
| 563-41-7 | Semicarbazide Hydrochloride | e | 1 | 1,000/10,000 |
| 584-84-9 | Toluene 2,4-Diisocyanate | | 100 | 500 |
| 594-42-3 | Perchloromethylmercaptan | | 100 | 500 |
| 597-64-8 | Tetraethyltin | c, e | 1 | 100 |

APPENDIX B.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES—Continued

[CAS Number Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 614-78-8 | Thiourea, (2-Methylphenyl)- | e | 1 | 500/10,000 |
| 624-83-9 | Methyl Isocyanate | f | 1 | 500 |
| 624-92-0 | Methyl Disulfide | e | 1 | 100 |
| 625-55-8 | Isopropyl Formate | e | 1 | 500 |
| 627-11-2 | Chloroethyl Chloroformate | e | 1 | 1,000 |
| 630-60-4 | Quabain | c, e | 1 | 100/10,000 |
| 633-03-4 | C. I. Basic Green 1 | a, e | 1 | 10,000 |
| 639-58-7 | Triphenyltin Chloride | e | 1 | 500/10,000 |
| 640-15-3 | Thiometon | a, e | 1 | 10,000 |
| 640-19-7 | Fluoroacetamide | j | 100 | 100/10,000 |
| 644-64-4 | Dimetilan | e | 1 | 500/10,000 |
| 646-06-0 | Dioxolane | a, e | 1 | 10,000 |
| 675-14-9 | Cyanuric Fluoride | e | 1 | 100 |
| 676-97-1 | Methyl Phosphonic Dichloride | b, e | 1 | 100 |
| 696-28-6 | Phenyl Dichloroarsine | d, h | 1 | 500 |
| 732-11-6 | Phosmet | e | 1 | 10/10,000 |
| 760-93-0 | Methacrylic Anhydride | e | 1 | 500 |
| 786-19-6 | Carbophenothion | e | 1 | 500 |
| 814-49-3 | Diethyl Chlorophosphate | e, h | 1 | 500 |
| 814-68-6 | Acrylyl Chloride | e, h | 1 | 100 |
| 824-11-3 | Trimethylolpropane Phosphite | e, h | 1 | 100/10,000 |
| 900-95-8 | Stannane, Acetoxytriphenyl- | e, g | 1 | 500/10,000 |
| 919-86-8 | Demeton-S-Methyl | e | 1 | 500 |
| 920-46-7 | Methacryloyl Chloride | e | 1 | 100 |
| 944-22-9 | Fonofos | e | 1 | 500 |
| 947-02-4 | Phosfolan | e | 1 | 100/10,000 |
| 950-10-7 | Mephosfolan | e | 1 | 500 |
| 950-37-8 | Methidathion | e | 1 | 500/10,000 |
| 991-42-4 | Norbormide | e | 1 | 100/10,000 |
| 998-30-1 | Triethoxysilane | e | 1 | 500 |
| 999-81-5 | Chlormequat Chloride | e, h | 1 | 100/10,000 |
| 1031-47-6 | Triamiphos | e | 1 | 500/10,000 |
| 1066-45-1 | Trimethyltin Chloride | e | 1 | 500/10,000 |
| 1122-60-7 | Nitrocyclohexane | e | 1 | 500 |
| 1124-33-0 | Pyridine, 4-Nitro- 1-Oxide | e | 1 | 500/10,000 |
| 1129-41-5 | Metolcarb | e | 1 | 100/10,000 |
| 1303-28-2 | Arsenic Pentoxide | d | 5,000 | 100/10,000 |
| 1306-19-0 | Cadmium Oxide | e | 1 | 100/10,000 |
| 1314-32-5 | Thallic Oxide | a | 100 | 10,000 |
| 1314-56-3 | Phosphorus Pentoxide | b, e | 1 | 10 |
| 1314-62-1 | Vanadium Pentoxide | | 1,000 | 100/10,000 |
| 1314-84-7 | Zinc Phosphide | b | 100 | 500 |
| 1327-53-3 | Arsenous Oxide | d, h | 5,000 | 100/10,000 |
| 1331-17-5 | Propylene Glycol, Allyl Ether | a, e | 1 | 10,000 |
| 1335-87-1 | Hexachloronaphthalene | a, e | 1 | 10,000 |
| 1397-94-0 | Antimycin A | c, e | 1 | 1,000/10,000 |
| 1405-87-4 | Bacitracin | a, e | 1 | 10,000 |
| 1420-07-1 | Dinoterb | e | 1 | 500/10,000 |
| 1464-53-5 | Diepoxybutane | d | 1 | 500 |
| 1558-25-4 | Trichloro(Chloromethyl)Silane | e | 1 | 100 |
| 1563-66-2 | Carbofuran | | 10 | 10/10,000 |
| 1600-27-7 | Mercuric Acetate | e | 1 | 500/10,000 |
| 1622-32-8 | Ethanesulfonyl Chloride, 2-Chloro- | e | 1 | 500 |
| 1642-54-2 | Diethylcarbamazine Citrate | e | 1 | 100/10,000 |
| 1752-30-3 | Acetone Thiosemicarbazide | e | 1 | 1,000/10,000 |
| 1910-42-5 | Paraquat | e | 1 | 10/10,000 |
| 1982-47-4 | Chloroxuron | e | 1 | 500/10,000 |
| 2001-95-8 | Valinomycin | c, e | 1 | 1,000/10,000 |
| 2032-65-7 | Methiocarb | | 10 | 500/10,000 |
| 2074-50-2 | Paraquat Methosulfate | e | 1 | 10/10,000 |
| 2097-19-0 | Phenylsilatrane | e, h | 1 | 100/10,000 |
| 2104-64-5 | EPN | e | 1 | 100/10,000 |
| 2223-93-0 | Cadmium Stearate | c, e | 1 | 1,000/10,000 |
| 2231-57-4 | Thiocarbazide | e | 1 | 1,000/10,000 |
| 2235-25-8 | Ethylmercuric Phosphate | a, e | 1 | 10,000 |
| 2238-07-5 | Diglycidyl Ether | e | 1 | 1,000 |
| 2244-16-8 | Carvone | a, e | 1 | 10,000 |

APPENDIX B.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES—Continued

[CAS Number Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 2275-18-5 | Prothoate | e | 1 | 100/10,000 |
| 2497-07-6 | Oxydisulfoton | e, h | 1 | 500 |
| 2524-03-0 | Dimethyl Phosphorochloridothioate | e | 1 | 500 |
| 2540-82-1 | Formothion | e | 1 | 100 |
| 2570-26-5 | Pentadecylamine | e | 1 | 100/10,000 |
| 2587-90-8 | Phosphorothioic Acid, O,O-Dimethyl-S-(2-Methylthio) Ethyl Ester | c, e, g | 1 | 500 |
| 2631-37-0 | Promecarb | e, h | 1 | 500/10,000 |
| 2636-26-2 | Cyanophos | e | 1 | 1,000 |
| 2642-71-9 | Azinphos-Ethyl | e | 1 | 100/10,000 |
| 2665-30-7 | Phosphonothioic Acid, Methyl-,O-(4-Nitrophenyl) O-Phenyl Ester | e | 1 | 500 |
| 2703-13-1 | Phosphonothioic Acid, Methyl-,O-Ethyl O-(4-(Methylthio)Phenyl) Ester | e | 1 | 500 |
| 2757-18-8 | Thallous Malonate | c, e, h | 1 | 100/10,000 |
| 2763-96-4 | Muscimol | a, h | 1,000 | 10,000 |
| 2778-04-3 | Endothion | e | 1 | 500/10,000 |
| 3037-72-7 | Silane, (4-Aminobutyl)Diethoxymethyl- | e | 1 | 1,000 |
| 3048-64-4 | Vinylnorbornene | a, e | 1 | 10,000 |
| 3254-63-5 | Phosphoric Acid, Dimethyl 4-(Methylthio) Phenyl Ester | e | 1 | 500 |
| 3569-57-1 | Sulfoxide, 3-Chloropropyl Octyl | e | 1 | 500 |
| 3615-21-2 | Benzimidazole, 4,5-Dichloro-2-(Trifluoromethyl)- | e, g | 1 | 500/10,000 |
| 3689-24-5 | Sulfotep | | 100 | 500 |
| 3691-35-8 | Chlorophacinone | e | 1 | 100/10,000 |
| 3734-97-2 | Amiton Oxalate | e | 1 | 100/10,000 |
| 3735-23-7 | Methyl Phenkapton | e | 1 | 500 |
| 3878-19-1 | Fuberidazole | e | 1 | 100/10,000 |
| 4044-65-9 | Bitoscanate | e | 1 | 500/10,000 |
| 4098-71-9 | Isophorone Diisocyanate | b, e | 1 | 100 |
| 4104-14-7 | Phosacetim | e | 1 | 100/10,000 |
| 4170-30-3 | Crotonaldehyde | | 100 | 1,000 |
| 4301-50-2 | Fluenetil | e | 1 | 100/10,000 |
| 4418-66-0 | Phenol, 2,2'-Thiobis(4-Chloro-6-Methyl)- | e | 1 | 100/10,000 |
| 4835-11-4 | Hexamethylenediamine, N,N'-Dibutyl- | e | 1 | 500 |
| 5281-13-0 | Piprotal | e | 1 | 100/10,000 |
| 5344-82-1 | Thiourea, (2-Chlorophenyl)- | | 100 | 100/10,000 |
| 5836-29-3 | Coumatetralyl | e | 1 | 500/10,000 |
| 6533-73-9 | Thallous Carbonate | c, h | 100 | 100/10,000 |
| 6923-22-4 | Monocrotophos | e | 1 | 10/10,000 |
| 7440-02-0 | Nickel | a, d | 1 | 10,000 |
| 7440-48-4 | Cobalt | a, e | 1 | 10,000 |
| 7446-09-5 | Sulfur Dioxide | e, l | 1 | 500 |
| 7446-11-9 | Sulfur Trioxide | b, e | 1 | 100 |
| 7446-18-6 | Thallous Sulfate | | 100 | 100/10,000 |
| 7487-94-7 | Mercuric Chloride | e | 1 | 500/10,000 |
| 7550-45-0 | Titanium Tetrachloride | e | 1 | 100 |
| 7580-67-8 | Lithium Hydride | b, e | 1 | 100 |
| 7631-89-2 | Sodium Arsenate | d | 1,000 | 1,000/10,000 |
| 7637-07-2 | Boron Trifluoride | e | 1 | 500 |
| 7647-01-0 | Hydrogen Chloride (Gas Only) | e, l | 1 | 500 |
| 7664-39-3 | Hydrogen Fluoride | | 100 | 100 |
| 7664-41-7 | Ammonia | l | 100 | 500 |
| 7664-93-9 | Sulfuric Acid | | 1,000 | 1,000 |
| 7697-37-2 | Nitric Acid | | 1,000 | 1,000 |
| 7719-12-2 | Phosphorus Trichloride | | 1,000 | 1,000 |
| 7722-84-1 | Hydrogen Peroxide (Conc >52%) | e, l | 1 | 1,000 |
| 7723-14-0 | Phosphorus | b, h | 1 | 100 |
| 7726-95-6 | Bromine | e, l | 1 | 500 |
| 7778-44-1 | Calcium Arsenate | d | 1,000 | 500/10,000 |
| 7782-41-4 | Fluorine | k | 10 | 500 |
| 7782-50-5 | Chlorine | | 10 | 100 |
| 7783-00-8 | Selenious Acid | | 10 | 1,000/10,000 |
| 7783-06-4 | Hydrogen Sulfide | l | 100 | 500 |
| 7783-07-5 | Hydrogen Selenide | e | 1 | 10 |
| 7783-60-0 | Sulfur Tetrafluoride | e | 1 | 100 |
| 7783-70-2 | Antimony Pentafluoride | e | 1 | 500 |
| 7783-80-4 | Tellurium Hexafluoride | e, k | 1 | 100 |
| 7784-34-1 | Arsenous Trichloride | d | 5,000 | 500 |

APPENDIX B.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES—Continued

[CAS Number Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 7784-42-1 | Arsine | e | 1 | 100 |
| 7784-46-5 | Sodium Arsenite | d | 1,000 | 500/10,000 |
| 7786-34-7 | Mevinphos | | 10 | 500 |
| 7791-12-0 | Thallous Chlonde | c, h | 100 | 100/10,000 |
| 7791-23-3 | Selenium Oxychlonde | e | 1 | 500 |
| 7803-51-2 | Phosphine | | 100 | 500 |
| 8001-35-2 | Camphechlor | d | 1 | 500/10,000 |
| 8023-53-8 | Dichlorobenzalkonium Chloride | a, e | 1 | 10,000 |
| 8065-48-3 | Demeton | e | 1 | 500 |
| 10025-65-7 | Plantinous Chlonde | a, e | 1 | 10,000 |
| 10025-73-7 | Chromic Chloride | e | 1 | 1/10,000 |
| 10025-87-3 | Phosphorus Oxychlonde | d | 1,000 | 500 |
| 10025-97-5 | Indium Tetrachloride | a,e | 1 | 10,000 |
| 10026-13-8 | Phosphorus Pentachlonde | b, e | 1 | 500 |
| 10028-15-6 | Ozone | e | 1 | 100 |
| 10031-59-1 | Thallium Sulfate | h | 100 | 100/10,000 |
| 10049-07-7 | Rhodium Trichlonde | a, e | 1 | 10,000 |
| 10102-18-8 | Sodium Selenite | h | 100 | 100/10,000 |
| 10102-20-2 | Sodium Tellurite | e | 1 | 500/10,000 |
| 10102-43-9 | Nitnc Oxide | c | 10 | 100 |
| 10102-44-0 | Nitrogen Dioxide | | 10 | 100 |
| 10124-50-2 | Potassium Arsenite | d | 1,000 | 500/10,000 |
| 10140-87-1 | Ethanol, 1,2-Dichloro- Acetate | e | 1 | 1,000 |
| 10210-68-1 | Cobalt Carbonyl | e, h | 1 | 10/10,000 |
| 10265-92-6 | Methamidophos | e | 1 | 100/10,000 |
| 10294-34-5 | Boron Trichlonde | e | 1 | 500 |
| 10311-84-9 | Dialifor | e | 1 | 100/10,000 |
| 10476-95-6 | Methacrolein Diacetate | e | 1 | 1,000 |
| 12002-03-8 | Paris Green | d | 100 | 500/10,000 |
| 12108-13-3 | Manganese, Tricarbonyl Methylcyclopentadienyl | e, h | 1 | 100 |
| 13071-79-9 | Terbufos | e, h | 1 | 100 |
| 13171-21-6 | Phosphamidon | e | 1 | 100 |
| 13194-48-4 | Ethoprophos | e | 1 | 1,000 |
| 13410-01-0 | Sodium Selenate | e | 1 | 100/10,000 |
| 13450-90-3 | Gallium Trichloride | e | 1 | 500/10,000 |
| 13454-96-1 | Platinum Tetrachloride | a, e | 1 | 10,000 |
| 13463-39-3 | Nickel Carbonyl | d | 1 | 1 |
| 13463-40-6 | Iron, Pentacarbonyl | e | 1 | 100 |
| 13494-80-9 | Tellurium | e | 1 | 500/10,000 |
| 14167-18-1 | Salcomine | e | 1 | 500/10,000 |
| 15271-41-7 | Bicyclo[2.2.1]Heptane-2-Carbonitrile, 5-Chloro-6-(((Methylamino)Carbonyl)Oxy)Imino)-(1s-(1-alpha, 2-beta, 4-alpha, 5-alpha, 6E))- | e | 1 | 500/10,000 |
| 16752-77-5 | Methomyl | h | 100 | 500/10,000 |
| 16919-58-7 | Ammonium Chloroplatinate | a, e | 1 | 10,000 |
| 17702-41-9 | Decaborane(14) | e | 1 | 500/10,000 |
| 17702-57-7 | Formparanate | e | 1 | 100/10,000 |
| 19287-45-7 | Diborane | e | 1 | 100 |
| 19624-22-7 | Pentaborane | e | 1 | 500 |
| 20816-12-0 | Osmium Tetroxide | a | 1,000 | 10,000 |
| 20830-75-5 | Digoxin | e, h | 1 | 10/10,000 |
| 20859-73-8 | Aluminum Phosphide | b | 100 | 500 |
| 21548-32-3 | Fosthietan | e | 1 | 500 |
| 21564-17-0 | Thiocyanic Acid, 2-(Benzothiazolylthio)Methyl Ester | a, e | 1 | 10,000 |
| 21609-90-5 | Leptophos | e | 1 | 500/10,000 |
| 21908-53-2 | Mercuric Oxide | e | 1 | 500/10,000 |
| 21923-23-9 | Chlorthiophos | e, h | 1 | 500 |
| 22224-92-6 | Fenamiphos | e | 1 | 10/10,000 |
| 23135-22-0 | Oxamyl | e | 1 | 100/10,000 |
| 23422-53-9 | Formetanate Hydrochloride | e,h | 1 | 500/10,000 |
| 23505-41-1 | Pirimifos-Ethyl | e | 1 | 1,000 |
| 24017-47-8 | Triazofos | e | 1 | 500 |
| 24934-91-6 | Chlormephos | e | 1 | 500 |
| 26419-73-8 | Carbamic Acid, Methyl- O-(((2,4-Dimethyl-1, 3-Dithiolan-2-yl)Methylene)Amino)- | e | 1 | 100/10,000 |
| 26628-22-8 | Sodium Azide ($Na(N_3)$) | b | 1,000 | 500 |
| 27137-85-5 | Trichloro(Dichlorophenyl)Silane | e | 1 | 500 |
| 28347-13-9 | Xylylene Dichloride | e | 1 | 100/10,000 |
| 28772-56-7 | Bromadiolone | e | 1 | 100/10,000 |

APPENDIX B.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES—Continued

[CAS Number Order]

| CAS No. | Chemical name | Notes | Reportable quantity* (pounds) | Threshold planning quantity (pounds) |
|---|---|---|---|---|
| 30674-80-7 | Methacryloyloxyethyl Isocyanate | e, h | 1 | 100 |
| 39196-18-4 | Thiofanox | | 100 | 100/10,000 |
| 50782-69-9 | Phosphonothioic Acid, Methyl- S-(2-(Bis(1-Methylethyl)Amino)Ethyl) O-Ethyl Ester | e | 1 | 100 |
| 53558-25-1 | Pyriminil | e, h | 1 | 100/10,000 |
| 58270-08-9 | Zinc, Dichloro(4,4-Dimethyl-5((((Methylamino)Carbonyl)Oxy)Imino)Pentanenitrile)- (T-4)- | e | 1 | 100/10,000 |
| 62207-76-5 | Cobalt, ((2,2'-(1,2-Ethanediylbis(Nitrilomethylidyne))Bis(6-Fluorophenolato))(2-)-N,N',O,O')- | e | 1 | 100/10,000 |

*Only the statutory or final RQ is shown. For more information, see 40 CFR Table 302.4.

Notes:

a This chemical does not meet acute toxicity criteria. Its TPQ is set at 10,000 pounds.
b This material is a reactive solid. The TPQ does not default to 10,000 pounds for non-powder, non-molten, non-solution form.
c The calculated TPQ changed after technical review as described in the technical support document.
d Indicates that the RQ is subject to change when the assessment of potential carcinogenicity and/or other toxicity is completed.
e Statutory reportable quantity for purposes of notification under SARA sect 304(a)(2).
f The statutory 1 pound reportable quantity for methyl isocyanate may be adjusted in a future rulemaking action.
g New chemicals added that were not part of the original list of 402 substances.
h Revised TPQ based on new or re-evaluated toxicity data.
j TPQ is revised to its calculated value and does not change due to technical review as in proposed rule.
k The TPQ was revised after proposal due to calculation error.
l Chemicals on the original list that do not meet the toxicity criteria but because of their high production volume and recognized toxicity are considered chemicals of concern ("Other chemicals").

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