Environmental Guidance Regulatory Bulletin

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Persistent Bioaccumulative Toxic (PBT) Chemicals; Lowering of Reporting Thresholds for Certain PBT Chemicals; Addition of Certain PBT Chemicals; Community Right-to-Know Toxic Chemical Reporting;

Final Rule Issued

Effective Date: January 1, 2000

Background

The Toxic Release Inventory (TRI) reporting requirements are found in section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 and section 6607 of the Pollution Prevention Act (PPA) of 1990. EPCRA is also referred to as Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). [Public Law 99-499] The TRI reporting requirements are codified in 40 CFR Part 372. The purpose of these reporting requirements is to provide the public with information on releases, transfers, and waste management activities of listed toxic chemicals in their communities and to provide EPA with this information to assist the agency in determining the need for future regulations. Section 313 requires certain facilities that manufacture, process, or otherwise use any listed toxic chemical or chemical category listed at 40 CFR 372.65 in excess of threshold quantities, to report certain facility specific information about such chemicals. These threshold quantities (set forth in 40 CFR 372.25) are manufacturing or processing greater than 25,000 pounds or otherwise using greater than 10,000 pounds of a listed toxic chemical per calendar year.

Under EPCRA section 313, Congress gave EPA the authority to modify certain aspects of TRI reporting requirements. For example, EPA has the authority to change the toxic chemicals subject to reporting, the facilities required to report, and the threshold quantities for reporting. In 1994, EPA expanded the number of reportable toxic chemicals by adding 286 toxic chemicals and chemical categories to the EPCRA section 313 toxic chemical list (62 FR 61432). In 1997, EPA added seven industry groups to the list of facilities required to report under EPCRA section 313 (62 FR 23834).

On January 5, 1999 (64 FR 688), EPA proposed several new changes including the lowering of the TRI reporting thresholds for certain persistent bioaccumulative toxic (PBT) chemicals, the addition of certain other PBT chemicals to the section 313 list of chemicals subject to TRI reporting, and the modification of certain reporting exemptions and requirements. Under the proposed rule to lower PBT chemical reporting thresholds, EPA stated that they believed that a significant amount of PBT chemical releases and other waste management activities was not currently being reported. Therefore, EPA felt that it was necessary to lower the reporting thresholds for these chemicals because even small releases to the environment of PBT chemicals have the potential to accumulate over time to higher levels and cause significant adverse impacts on human health and the environment.

Proposed Rule Comments And EPA's Response

On March 22, 1999, DOE provided formal written comments on the proposed PBT rule.

Use a Methodology Based on Releases Rather than Reports

DOE commented that it supported the use and development of a methodology for setting PBT thresholds based on releases to the environment rather than the expected number of reports to be filed, and that the focus should be on the amount of additional emissions reported and consequent reductions to be achieved. DOE stated that the public is more concerned with the amount of toxic chemical releases than the number of reports that are made. DOE also stated that a methodology based on releases would provide a more accurate way to assess the burden and benefits of lower reporting thresholds.

EPA's cost of the proposed PBT rule was made by estimating the industry cost to understand, complete, and file the required reports. DOE indicated that the true cost to industry also includes the costs that result from responses to the public pressure that arise with respect to reported releases. The public pressure is to not emit or not release the substance even if it poses no harm to human health and/or the "release" of the substance happens to be to a permitted landfill.

EPA stated that they believed that information was not available to establish "even reasonably accurate estimates of potential releases." EPA stated that 1) sufficient information is not currently available for these chemicals and that 2) there is insufficient information on the numerous processes employed by all the sectors involved to calculate a comprehensive release estimate for each sector.

Lowering Thresholds for Mercury was Premature

DOE expressed its belief that EPA's inclusion of mercury on this list of proposed PBTs was premature. DOE stated that the National Academy of Science and the National Health and Nutrition Examination Survey as well as EPA's Office of Air Quality Planning and Standards were still exploring whether or not mercury constitutes a health problem in the United States at current levels, particularly from utility emissions. Further, if the studies conclude that mercury emissions from utilities are not linked to increased human health risk, or that only a few specific facilities are so linked, then the value of including mercury was debatable. DOE also stated that EPA had commenced an Information Collection Request (ICR) to collect information on mercury in coal and flue gas. DOE suggested that EPA wait on setting thresholds for mercury until the data collected under the utility ICR are evaluated.

EPA did not address this specific comment in the preamble, although they did acknowledge that the ICR was in progress. Mercury and mercury compounds were designated as highly PBT chemicals with a reporting threshold of 10 lbs/year.

Delay the Addition of Dioxin to the Section 313 List

DOE commented that EPA should postpone their decision to add dioxin to the Section 313 list until they receive results of ongoing testing to determine if dioxins are generated by certain combustion systems at levels of concern. DOE expressed its concern about how EPA will require reporting of emission measurements

below minimum detection limits (particularly the use of Method 23).

EPA did not address the comment on delaying listing dioxins. Dioxins and dioxin-like compounds were added to the EPCRA section 313 list as highly PBT chemicals with a reporting threshold of 0.1 grams/year. However, EPA agreed to develop reporting guidance for the dioxin and dioxin-like compounds category, which will be consistent with EPA methods for determining the presence of dioxins, including Method 23. (64 FR 58704)

Lowering the Thresholds for Cobalt and Vanadium is not Warranted

EPA requested comments on whether cobalt and vanadium should be considered PBT chemicals. The Department questioned EPA's claim that cobalt and vanadium are "highly PBT" chemicals that should be subject to reduced reporting thresholds of 10 lbs/year.[1] DOE agreed to the 25,000 lbs/year. threshold for cobalt and vanadium reporting and the elimination of the fume or dust qualifier for vanadium. However, DOE indicated that they did not feel that the evidence EPA provided to support the designation of cobalt and vanadium as "bioaccumulative" was sufficient to justify designating them as PBT chemicals. In addition, EPA's references did not provide evidence to indicate that bioconcentration of cobalt and vanadium causes any toxic effects in organisms.

EPA stated that they have not addressed whether vanadium and vanadium compounds can properly be classified as PBT chemicals in the rulemaking. (64 FR 58709) EPA also stated that they deferred a decision on cobalt and cobalt compounds because they need to further investigate the bioaccumulative potential of these chemicals. (64 FR 58672)

The 40 CFR 372.38 Exemptions Should be Retained

EPA requested comments on whether the Agency should modify the 40 CFR 372.38(c) exemptions such that they will not apply to PBT chemicals. The exemptions include the laboratory exemption, and the otherwise use exemptions, including the structural component exemption, the routine janitorial or facility grounds maintenance exemption, the personal use exemption, the motor vehicle maintenance exemption, and the intake air and water exemptions. DOE stated that before EPA modified any exemptions found at 40 CFR 372.38, EPA should first establish that the uses of the PBT chemicals covered by these exemptions would result in chemicals of concern being released or otherwise managed as waste in a manner or quantity which warranted additional record keeping and reporting burden.

Although EPA received several comments on the 40 CFR 372.38(c) exemptions, EPA did not modify any of these exemptions in the final rule. If changes are made to these exemptions, EPA will address them in a separate rulemaking.

In addition, EPA requested comment on its proposed elimination of the *de minimis* exemption found at 40 CFR 372.38(a). DOE was particularly concerned about the proposal to eliminate the *de minimis* exemption because the current method of using Material Safety Data Sheets (MSDS) to identify chemical constituents below the *de minimis* level is limited. DOE cited the example of a large DOE site where chemical information is entered into a computer system to track the thousands of chemical products being used. The chemical constituents in those products are identified from MSDS. The site's computer system does not track PBT chemicals that are in products below *de minimis* levels and the site does not have the manpower

[1] Office of Environmental Policy and Assistance Memorandum dated 3/23/99, Subject: "Proposed EPA Persistent Bioaccumulative Toxic (PBT) Chemicals Rulemaking on the Toxic Release Inventory (TRI)."

to track products on an individual basis looking for PBT chemicals at trace concentrations. This limited ability to screen products for PBT chemicals below *de minimis* levels increases the likelihood that products containing PBT chemicals will go undetected and, thus, unreported.

EPA stated that "if a covered facility has no information, including no reasonable estimates or other reasonably known information, on the concentration of the toxic chemical in the mixture, they need not consider the chemical in that mixture for threshold determination and release and other waste management calculations. Therefore if the only source of information on a toxic chemical in a mixture is from a MSDS, and the MSDS also does not indicate if the chemical is contained in the mixture, the facility is not required to consider the toxic chemical towards threshold determinations or release and other waste management calculations." (64 FR 58730)

A Chemical Should Meet all Three Criteria

In the proposed rule, EPA requested comments on whether it should consider lowering reporting thresholds for EPCRA section 313 chemicals that are either persistent or bioaccumulative. DOE commented that a chemical should have to meet all three criteria (persistence, bioaccumulation, and toxicity) to be listed as a PBT chemical. DOE stated that lowering thresholds without consideration of all three criteria took the focus off the priority PBT chemicals that presented the most significant risk.

In the final rule, EPA decided to focus on chemicals that are toxic and persistent and bioaccumulative. However, EPA stated that persistence and bioaccumulation are separate chemical and/or biological processes that are not by definition dependent upon the other. In the future, they stated that they may choose to focus on toxic chemicals that are either persistent or bioaccumulative. (64 FR 58679)

Evaluate Lead Carefully Before Proposing it as a PBT Chemical

DOE stated its belief that lead, or any other potentially toxic metal, should not be added to the list of PBT chemicals unless EPA can provide data that shows 1) the metal bioaccumulates in a variety of plant and/or animal species, 2) the metal bioaccumulates progressively within the higher orders of a food chain; and 3) in species with evidence of bioaccumulation, the metal causes toxic or adverse effects.

In a separate subsequent rulemaking (64 FR 42222, August 3, 1999), EPA proposed that lead and lead compounds should be considered highly PBT chemicals and that the reporting threshold should be 10 lbs/year. Although DOE did not provide comment on alkyl lead compounds; tetraethyl lead and tetramethyl lead, EPA proposed that separate reports be filed for these compounds (64 FR 716).

Modulated Reporting

Although DOE did not comment on modulated reporting, EPA had requested comments on the suggestion that EPA modulate the thresholds for reporting, requiring facilities to report at the lower thresholds every other year and report at the current thresholds for the alternate years. Many commenters felt that this would create confusion among the regulated community and data users. EPA agreed with the commenters and added that modulating the TRI reporting thresholds would limit the usefulness of TRI data as a result of poor data consistency and quality.

The Final Rule

On October 29, 1999, EPA issued a final rule titled "Persistent Bioaccumulative Toxic (PBT) Chemicals; Lowering of Reporting Thresholds for Certain PBT Chemicals; Addition of Certain PBT Chemicals; Community Right-to-Know Toxic Chemical Reporting." (64

FR 58666) EPA clarified that the new reporting thresholds for PBT chemicals are effective with the 2000 reporting year, with the first reports due by July 1, 2001. EPA cited authority under section 313(d) and 313(f) of EPCRA to add or delete chemicals from the section 313 list and to revise reporting thresholds. The final rule can be separated into two general areas: 1) addition of certain PBT chemicals to the section 313 chemical list and lowering reporting thresholds and 2) modifications to certain reporting exemptions and requirements, including the *de minimis* exemption.

Addition of Toxic Chemicals to the Section 313 List and Lowering Reporting Thresholds for Certain PBT Chemicals

EPA added seven chemicals and two chemical categories to the EPCRA section 313 list of toxic chemicals. These chemicals include:

1) benzo(g,h,i)perylene,
2) benzo(j,k)fluorene (fluorathene) *[under the polycyclic aromatic compounds (PACs) category]*,
3) 3-methylcholanthrene *(under the PACs category)*,
4) octachlorostyrene,
5) pentachlorobenzene,
6) tetrabromobisphenol A (TBBPA),
7) vanadium* *(except when contained in alloys)*
8) vanadium compounds, and
9) dioxin and dioxin-like compounds *(manufacturing; and the processing or other wise use of dioxin and dioxin-like compounds if the dioxin and dioxin-like compounds are present as contaminants in a chemical and if they were created during the manufacturing of that chemical)*

**Previously, vanadium had been on the TRI list with the qualifier "fume or dust."*

EPA also lowered the reporting thresholds for 18 chemicals and chemical categories that meet the EPCRA section 313 criteria for persistence and bioaccumulation. The thresholds were lowered to 100 pounds for PBT chemicals and 10 pounds for highly PBT chemicals (see table below). The one exception was for dioxin and dioxin-like compounds. These chemicals

Chemical Name	**Thresholds in pounds/Year (unless otherwise noted)**
Aldrin	100
Benzo (g,h,i) perylene	10
Chlordane	10
Dioxin and dioxin-like compounds category *(manufacture; and the processing or otherwise use of dioxin and dioxin-like compounds if the dioxin and dioxin-like compounds are present as contaminants in a chemical and if they were created during the manufacturing of that chemical)*	0.1 grams
Heptachlor	10
Hexachlorobenzene	10
Isodrin	10
Methoxychlor	100
Octachlorostyrene	10
Pendimethalin	100
Pentachlorobenzene	10
Polycyclic aromatic compounds category*	100
Polychlorinated biphenyl (PCBs)	10
Tetrabromobisphenol A	100
Toxaphene	10
Trifluralin	100
Mercury	10
Mercury compounds	10

*The proposed threshold for polycyclic aromatic compounds category was 10 pounds/year.

are manufactured in extremely small amounts compared to other section 313 chemicals. Therefore, in order to capture release and other waste management data, EPA set the threshold for dioxin and dioxin-like compounds at 0.1 gram. The agency also changed the originally proposed qualifier for dioxin and dioxin-like compounds to include "manufacturing; and the processing or otherwise use of dioxin and dioxin-like compounds if the dioxin and dioxin-like compounds are present as contaminants in a chemical and if they were created during the manufacturing of that chemical."

In addition, EPA deferred its decision to include dicofol (until the agency finishes reviewing the available persistence data) and cobalt and cobalt compounds (until further investigation of bioaccumulative data).

With this final ruling, EPA removed the qualifier "fume or dust" for the vanadium listing and instead included the qualifier "except when contained in an alloy" to the vanadium listing. In addition, EPA added a new vanadium compounds category. Therefore, all elemental vanadium, except when contained in an alloy, is now reportable under the section 313 listing and all chemical compounds that contain vanadium are also reportable. The reporting thresholds for vanadium and vanadium compounds were not lowered.

Modification to Certain Reporting Exemptions and Requirements

De Minimis Exemption:

In this rulemaking, EPA eliminated the *de minimis* exemption for all PBT chemicals. However, the ruling did not affect the applicability of the *de minimis* exemption to supplier notification requirements found at 40 CFR 372.45(d)(1). EPA disagreed with commenters that eliminating the *de minimis* exemption for PBTs will be a burden on covered facilities to track trace concentrations of PBT chemicals. EPA stated that if a covered facility does not have the concentration information or the information is not readily available, then the facility is not required to report on toxic chemicals in mixtures and trade name products. As in the past, facilities have been instructed to use their best readily available data in determining their EPCRA section 313 compliance. EPA also stated that after ten years of experience with the TRI program, facilities have several sources of information, in addition to MSDSs, to use in making EPCRA section 313 determinations. Some of these sources include, EPA guidance documents, such as, "EPCRA Section 313 Industry Guidance: Electricity Generating Facilities" (EPA 745-B-99-003). These documents were done for several covered industries and are available on EPAs TRI website at http://www.epa.gov/oppintr/tri/guidance.htm.

EPA also requested comments on the suggestion that EPA consider constructing an exemption for facilities in SIC code 5171, i.e., Petroleum Bulk Plants and Terminals regarding the processing of PBTs in petroleum products. EPA sought comments and information on this suggestion, and is expected to provide a response in spring of 2000.

Alternate Threshold (Form A)

EPA also excluded the use of the alternate reporting threshold of 1 million pounds, and the use of Form A reporting for all PBT chemicals.

Range Reporting

EPA eliminated the use of range reporting for all PBT chemicals for on-site releases (Form R section 5) and transfers off-site for further waste management (Form R section 6). However, this does not apply to range reporting of the maximum amount on-site (Form R section 4.1). EPA felt that facilities would be able to accurately estimate their releases and off-site transfers for further waste management of PBTs without using range codes.

EPA recognized that some facilities may be better able to make those estimates than others. Each facility should use the codes from the TRI instructions to indicate the principal method used to determine the amount of release reported on the Form R. Users of TRI data can use those codes to gain a better understanding of the degree of accuracy or uncertainty in what the facility has reported.

Precision of PBT Chemical Reporting

In the final rule, EPA described the level of precision facilities should use when reporting releases and other waste management activities for PBT chemicals. For chemicals designated as PBT, facilities will no longer be allowed to report whole numbers or to round releases of 0.5 pounds or less to zero. Except for dioxins, EPA felt that facilities should be able to calculate their estimated releases and other waste management quantities to the nearest 0.1 pound level for PBT chemicals. However, facilities whose release or other waste management estimates are more precise than this level should report the more precise amount.

For dioxin and dioxin-like compounds, EPA will add a new section to the Form R that will require facilities to report each individual dioxin and dioxin-like compound (i.e. congener) as well as the total quantity. Provided the facility has information on the quantity of each congener, the facility should report the best distribution from either the distribution of the total quantity of dioxin and dioxin-like compounds to all media or the distribution to one specific media. The information is required if it can be obtained from data used to calculate thresholds, releases, and other waste management quantities, without additional analysis. If the facility has information that can be used to make a reasonable estimate of the distribution from available data, then the facility is required to report this information. EPA also decided the best way to report dioxin and dioxin-like compounds is to report in terms of absolute grams for the entire category.

Additional Information on PBTs

Both the January 5, 1999 proposed PBT rule and the October 29, 1999 final PBT rule can be found on EPA's Office of Pollution Prevention and Toxics web page *(http://www.epa.gov/opptintr/tri)*. EPA's proposed lead and lead compounds PBT rule and the EPCRA section 313 Industry Guidance Documents can also be located at this website. Other EPA PBT links, such as the Great Lakes Binational Strategy, are also provided.

Questions of policy or questions requiring policy decisions will not be dealt with in EH-413 Regulatory Bulletins unless that policy has already been established through appropriate documentation. Please refer any questions concerning the subject material covered in this Regulatory Bulletin to:

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