

Toxics Release Inventory New Lead Rule: What it Means for You

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Key Words: lead, TRI, SARA 313

Abstract: This paper will present material regarding new lead reporting requirements under SARA 313, how they came into being, and how to approach compliance problems.

Until this year, companies manufacturing or processing lead had a 25,000 pound thresholds (otherwise use was 10,000 pounds) before having to report SARA 313 emissions. Now, at a 100-pound threshold, many companies that were never before required to file TRI must file. Data collection for this begins immediately since the first reports will be based upon 2001 data. These reports will be due in 2002.

Data gathering will be difficult because there is no accompanying requirement for companies to change their MSDSs. There is no de minimus level at which lead can be ignored for the purposes of calculating the 100 pounds, meaning that even a mixture that contains lead in under 1% could contain significant levels under TRI of lead when being ordered in 100,000 pound amounts. Many common materials, such as zinc compounds, contain lead in small quantities.

EPA has developed guidance materials for compliance with this change in regulations. There is also a hotline available for questions. EPA has estimated that 38.3% of filers for lead will be new. Several commenting industries believe that this figure will be higher.

In conclusion, facilities with lead or lead compounds, even in materials where trace amounts are found, should evaluate their need to report under the current guidelines.

Introduction

The new Toxic Release Inventory (TRI) Rule for Lead is now in effect. After being published in the Federal Register on January 17, 2001, it had been put on hold by the incoming Bush administration with other rulemaking done near the end of the Clinton administration. Reporting on calendar year 2001 values will be due to EPA on July 1, 2002 for facilities which manufacture, process, or otherwise use 100 pounds or more of lead or lead compounds.¹ The only exceptions are lead in stainless steel, brass, and bronze alloys. This is consistent with the existing exemption for "articles". The threshold for previous lead reporting was the same as other TRI compounds, 25,000 pounds for manufacturing or processing, and 10,000 pounds for otherwise use. Because of lead's status as a Persistent Bioaccumulative Toxic (PBT) chemical, EPA has authority to create a different threshold than the default reporting threshold.²

EPA determined that lead is a PBT chemical based upon guidelines set in 1999.³ Persistence is the length of time a chemical can exist in the environment before being destroyed by natural processes.⁴ Persistence is not the length of time that the chemical is present in the organism.⁵ The other part of the definition is "bioaccumulative" and "toxic". For example, many metals are persistent, but not bioaccumulative and toxic to the degree of lead. For this reason, many metals, although persistent, will not be named PBT. EPA intends for the public to be informed of even small releases of PBT chemicals due to their long-term environmental persistence. In other words, EPA is convinced that previous reporting requirements do not keep the public fully informed of possible persistent chemical contamination.

There were public outreach comment periods before the new rule was finalized, including public meetings. In Chicago, concerns from many in industries such as zinc producers and electronics were well represented. These comments possibly kept the final number at 100 pounds rather than the 10 pound threshold that EPA originally suggested. However, it will be very difficult and burdensome to meet this very low requirement, particularly for small businesses that have never needed to file in the past. Many are probably not aware of the requirement. EPA estimates that in the plastics SIC, there will be 84 new reports⁶ due to the lowered threshold. I will have one small site for which to report that has never met

¹ 66 FR 4500.

² 66 FR 4501.

³ Ibid.

⁴ 64 FR 698 and 64 FR 42227.

⁵ FR Vol.66, No.11, January 17,2001.

⁶ 66 FR 4534.

a threshold for any other material. I would expect the number of first time filers to be much higher than 84 in my industry.

One peculiarity of the new rule is that although the *de minimus* requirement has been removed for manufacturing, processing, or otherwise use of material, there is not a similar requirement for the material supplier to notify at the *de minimus* level. This means that there is no level below which lead is not of concern (such as 1% of total raw material), however, the supplier does not have to notify at this lower level. Every material, no matter how small the amount of lead, must be counted as contributing toward that 100 pound threshold. The reasoning behind this is that EPA believes that there is enough available information on PBTs that a company should know that it is in their material. I think that it will be difficult to ascertain in less obvious materials (such as plastics additives or pigments) and will create opportunities for inaccuracy and noncompliance that didn't exist before. It also has big potential business impacts for companies following the rules properly. If Company A sells a zinc pigment and lists lead at 50 ppm on the MSDS and Company B sells the same thing and lists nothing about lead on the MSDS, which pigment will a customer buy? This has the potential to make listing information a real competitive issue.

Lead is present as an impurity in several mined metals, such as zinc. Common industry knowledge of existence of this lead is enough to require calculation of the amount of lead used based upon percentage of total raw material manufactured, processed, or otherwise used. In any case, using 10,000 pounds of any substance containing lead can mean reporting at a 1% lead presence level or .1% of a substance at 100,000 pounds.

For those who have never reported under TRI, here is a brief synopsis. Section 313 of EPCRA (Emergency Planning and Community Right-To-Know Act) and the Pollution Prevention Act, require that a publicly accessible toxic inventory database be maintained by EPA. This database, Toxic Release Inventory (TRI), shows chemical releases to the air, water, and land from certain designated businesses using the chemicals. This chemical list was determined by EPA and includes items that they consider toxic. When a business exceeds a threshold of use for any of these chemicals in a calendar year, they must make estimates of releases to the environment using their best available information. This estimate is submitted to EPA on a form by July 1 of the following year. For this current list or any other information on this subject, look at www.epa.gov/tri. The data must first be gathered to determine if the threshold was met. Then the company must do calculations to determine how much material was potentially released to the environment through air, water, or land. Some examples of how lead or any other TRI substance is released:

- Baghouse with 99.999% efficiency has .001% of total dust collected released to the environment. The percentage of that percentage that is lead must be determined and the total calculated as potentially released to the air.
- Discharge water that is used to wash equipment has some small percentage of lead.
- Pigment bags that are emptied are sent to a landfill. Residual lead in the bag is potentially released to the landfill.

The first step in reporting is determining if you meet the threshold for reporting for lead, in this case 100 pounds of "manufacturing", 100 pounds of "processing", or 100 pounds of "otherwise use". Each of these is tallied separately as shown below

- "Manufacturing" is the generation of a SARA 313 chemical,
- "Processing" is the mixing of a SARA 313 chemical with other materials with the intention of keeping the SARA 313 chemical as part of the product distributed into commerce.
- "Otherwise use" is if the SARA 313 material is mixed with other materials and is not part of the final product.

By looking at MSDSs and from common industry knowledge, the presence of the SARA 313 chemical is determined. A chemical and chemical category list can then be developed. If any of the materials contain lead or any other SARA 313 chemical then usage needs to be categorized as above. These categorizations are sometimes complicated and it is important to consult the instructions to make determinations. I report for a custom compounding operation and so all my use in that area is considered "processing". However, compounding is manufacturing when generating a new SARA 313 chemical, not when mixing one with other items to form a new product.⁷ Determining the categories can help you in

⁷ EPA 745-B-00-017, May 2000.

some cases. If you have 90 pounds of use in "manufacturing" and 20 pounds of "processing", you are not over the threshold, each is considered separately.

If the threshold for reporting is met, the next step is to estimate potential release to the environment of the SARA 313 chemical. Release estimates are to be based upon existing data. EPA does not require additional testing or monitoring for release estimates. However, additional testing is often required in order to create meaningful data. There are two types of Section 313 reports, Form R and Form A. Form A is an alternative filing for facilities that do not exceed certain activity thresholds and total annual reportable amounts. However, Form A is not allowed for PBTs like lead. Form R is filed by the majority of businesses. Filing can be accomplished using electronic or paper submission. The data development for estimated chemicals is time intensive and relies upon several resources, such as sampling, permits, and purchasing records. The first year of reporting is difficult and it is advisable for anyone in that situation to go to the free TRI workshops that are offered in major cities by EPA.

Initially, a flow chart should be drawn for the plant showing all the possible routes of release. Sources of potential discharge can be found in:

- Air emissions permits include all possible point sources.
- industrial discharge permits show water discharge points.
- solid and hazardous waste manifests with materials listed show releases to air or land.
- Stormwater discharge permit shows possible source discharge to waterways.

For example, one waste stream that could be calculated is industrial discharge water. If you have sampling results for lead in mg/L, you would take your total discharge of water for the year and multiply that (doing units conversions as needed) to get a total number of pounds of lead that were discharged. Use similar sampling and estimates for all other possible sources, such as hazardous waste or dust from your baghouses. The most useful thing is to set up a workbook with interconnecting spreadsheets that help bring all the data together. Once this is set up, it may be used with some minor adjustments each year. The first year is the most time-intensive for this reason.

In summary, for calendar year 2001, lead has a reporting threshold of 100 pounds under TRI for either manufacturing, processing, or otherwise use. Facilities that determine this threshold is exceeded must prepare estimates of potential discharge as part of community right to know. This data gathering and estimation is time consuming. Lead is found in many naturally mined materials and it is important to ensure that even if it is not listed on the MSDS that it is not an inherent part of the material. Consult the EPA TRI web page at www.epa.gov/tri for more information on filing.