



Lead Acid Battery Tier 2 Reporting Guide

There are some exemptions for lead acid batteries

Be sure that your batteries don't fall under the following Tier 2 exemption from 40 CFR Part 370:

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. Present in the same form and concentration as a product packaged for distribution and use by the general public means a substance packaged in a similar manner and present in the same concentration as the substance when packaged for use by the general public, whether or not it is intended for distribution to the general public or used for the same purpose as when it is packaged for use by the general public;

A common exemption is car batteries you could buy from an auto parts store. **Forklift batteries are not exempt under this exemption and thus need to be reported if they are over the reporting threshold.**

How to calculate if your lead acid batteries are over the reporting threshold

Lead acid batteries are treated as a mixture and are reported in the same way any other mixture with an Extremely Hazardous Substance (Sulfuric Acid) would be. To determine if you need to report your batteries (and the sulfuric acid within them), aggregate the maximum total quantity of sulfuric acid you had throughout your facility at any one time (this includes sulfuric acid in other mixtures besides batteries). If you had sulfuric acid in quantities over 500 lbs then you must report it. To calculate the amount of sulfuric acid in a battery multiply the weight of the battery by the weight % of sulfuric acid.

One special note on determining the amount of sulfuric acid in batteries. Often the Safety Data Sheet (SDS) will give a percentage by weight of the battery as electrolyte (which is the component containing the sulfuric acid). If the SDS or manual for the battery specifies what percentage of the electrolyte is sulfuric acid you may use that percentage to calculate the total sulfuric acid in the battery. Otherwise if the SDS says electrolyte and there is no specification of what percent is sulfuric acid, use the electrolyte weight percent to calculate the total sulfuric acid. Below is an example of that situation and the calculation to get sulfuric acid weight out of a battery.

Composition/Information on Ingredients

Ingredients (Chemical/Common Names):	% by Weight
Lead and Lead Compounds	43-70 (average: 65)
Electrolyte (Sulfuric acid and water)	20-44 (average: 25)
Antimony	0-4 (average: <1)

From Battery Manual:

Sulfuric Acid: The electrolyte in a lead-acid storage battery is a diluted solution of the sulfuric acid and water. Although the acid content in the solution is only about 37%, it's still a strong corrosive agent and can burn skin and eyes and eat holes in many types of fabric.

If our forklift battery is 1,000 lbs the calculation to get sulfuric acid with the above scenario would be as follows (in a range of % by weight always use the highest value of the range):

$$1000 \times .44 \times .37 = 162.8$$

162.8 lbs of sulfuric acid would not be above the reporting threshold and thus would not need to be reported.

How to report lead acid batteries

Once you have determined that you are above the reporting threshold, there are two ways you can report lead acid batteries:

- A mixture as a whole, reporting the lead acid batteries and the total weight of them.
- Reporting each individual component of the battery that is a hazardous chemical and above its respective reporting threshold (500 lbs for Sulfuric acid and 10,000 lbs for hazardous chemicals that are not an Extremely Hazardous Substance).