

Q: *I thought mercury batteries had been eliminated long ago?*

A: The predecessor to zinc air batteries for use in hearing aids were mercuric oxide batteries. These batteries contained relatively high amounts of mercury (greater than 50% by cell weight). When zinc air batteries came on to the scene in the late 1970's, their superior performance and reliability quickly replaced mercuric oxide as the battery chemistry of choice. Mercuric oxide batteries were banned in 1996.

Q: *Why are hearing aid batteries going mercury free?*

A: Nearly everyone agrees today that mercury in sufficient quantities can be highly toxic and potentially harmful to people and to the environment. Many states now have extensive legislation banning or regulating the use of mercury in a wide variety of products. Several states now have legislation that will soon ban mercury-added button cells, including zinc air hearing aid batteries. In the US, added mercury was banned from alkaline batteries in 1996. At that time, button cells, including watch and hearing aid batteries, were exempt from this ban because the technology to create a robust mercury free design in these cells was not available.

Since then a number of battery manufacturers, including Rayovac, have invested heavily in the R&D and manufacturing capabilities necessary to create formulations and designs that can now eliminate the use of added mercury in zinc air hearing aid batteries.

Rayovac has been at the forefront of eliminating mercury in hearing aid batteries. Our R&D efforts in this area began early last decade and we began offering our first generation of mercury free zinc air batteries in March 2009, over two years before they were required by state law. In December 2010, we began shipping our second generation mercury free design

Q: *Exactly what is legislation you refer to above?*

A: As early as June 30th of this year, several states have enacted bans on certain types of mercury containing button cells, including zinc air hearing aid batteries. These ban the sale, offer to sell or distribution for promotional purposes of these button cell batteries in Maine, Connecticut and Rhode Island.

Q: *Are there other states which are considering the legislation?*

A: Louisiana has enacted a ban which will take effect in 2012. There is little doubt that similar legislation will proliferate now that mercury free button cells are readily available. We understand, for example, that Canada is currently considering legislation that could take effect early 2012, if enacted.

Q: *Are there penalties for non-compliance with the legislation in these states?*

A: You should take the precautions you deem necessary to comply with the upcoming bans as penalties may be sizeable. You will be in violation of the laws above of the above states and potentially subject to penalties if you sell, offer for sale, or distribute for promotional purposes mercury-containing hearing aid batteries in those states after the effective dates of the bans. For example, in Connecticut, under sec 22a-628(b): "Any person who knowingly violates any provision of this chapter, including but not limited to any regulation adopted or order issued pursuant to this chapter, or who makes any false statement, representation, or certification in any application, notification, request for exemption, record, plan, report or other document filed or required to be maintained under this chapter, shall be fined not more than fifty thousand dollars per day for each day of violation or be imprisoned not more than three years, or both."

Additionally under Maine law, 38 MRSA §349 section 1, intentional violators of the law may be subject to criminal penalties of not less than \$2,500 per day (\$5,000 minimum for knowing violations) and not more than \$25,000 per each day of the violation. Under section 2, civil penalties may be assessed from \$100 to not more than \$10,000 for each day of the violation.

Q: *Where can I go with the questions regarding the legislation in these states?*

A: For additional questions regarding legislation, you should contact each individual state directly.

Q: *Are mercury free hearing aid batteries available now?*

A: Yes, mercury free hearing aid batteries are readily available. Rayovac and other manufacturers offer mercury free zinc air hearing aid batteries and have been for some time now.

Rayovac offers a full line of mercury free hearing aid batteries in our various brands and have been working with many other industry partners to provide these in their private label products as well. Rayovac offers mercury free in all cell sizes (sizes 10, 312, 13 and 675).

Q: *Is there a performance difference between Mercury Free hearing aid batteries and “standard” product?*

A: There can be, depending on the manufacturer. Rayovac’s new, improved performance mercury free product is the World’s Longest Lasting Mercury Free hearing aid battery.

Our second generation design, which has been broadly available since December 2010, now provides higher voltage (1.45V) and long life. Our second generation design combines performance in both capacity (life) and voltage that are almost identical to Rayovac’s mercury containing cells that are highly robust in terms of their resistance to leakage, swelling and corrosion.

Q: *I’ve heard that some hearing instrument manufacturers previously have warned against using mercury free zinc air batteries. Should I be concerned?*

A: Rayovac has technology relationships with major hearing instrument manufacturers around the World. We have met extensively with them, provided data and samples for their testing. Their feedback helped us improve our designs to meet the needs of their devices.

This feedback guided the development of our second generation mercury free product that offers higher voltage (1.45v) without significant sacrifice to capacity or the ability to resist leakage or swelling that can be attributable to gassing in some cell designs. We are pleased to say that most of the major global hearing aid manufacturers are either buying or have approved the Rayovac second generation design for use in their hearing instruments.

We are very confident that our mercury free batteries will perform in a fashion very similar to our standard, mercury containing batteries which has been the benchmark in the industry for top performance and quality for many years

Q: *What about batteries for cochlear implants?*

A: All zinc air batteries are affected by legislation in the above states. Rayovac has drawn on our technology resources and our efforts on our mercury free designs to develop a new, mercury free battery for cochlear implants. This new product, which will be available in June, provides significantly more power and even better performance than our mercury-containing cochlear battery.

Q: *Will mercury-containing hearing aid batteries eventually disappear completely?*

A: We believe so. In fact, all Rayovac branded hearing aid batteries now sold in North America are our second generation mercury free technology and we are moving in this direction on a global basis. The elimination of mercury from zinc air batteries and other types of button cells is now within the grasp of the industry. The technology is available and is robust and viable in terms of performance, quality, cost and availability. And the elimination of added mercury in our batteries and the waste stream is simply the right thing to do