



Andria Kurbondski
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Re: Request for Currently Unavoidable Use – Portable and Rechargeable Batteries

Dear Ms. Kurbondski,

The PFAS (Per and polyfluoroalkyl substances) restrictions under Minn. Stat. § 116.943 will have a major impact on the battery industry and to Minnesota consumers if exemptions are not granted. Primary (non-rechargeable) and rechargeable batteries power numerous medical devices including glucose monitors, hearing aids, heart monitors, and more. These batteries can also provide long-lasting sustainability benefits, but without current PFAS alternatives available, it would be detrimental if removed from sale in the state. For considerations of currently unavoidable use “CUU”, specific battery categories detailed below should be granted as PFAS-alternatives are currently non-existent, and the products are essential to the health and function of society.

Zinc Air Batteries (Hearing Aid Batteries)- HTS Code 8506.60.0010

Zinc air batteries are solely used to power hearing-aid devices and are commonly known as hearing-aid batteries. Zinc air hearing aid batteries have the highest energy density of any practical battery system and operate by allowing oxygen to access the battery and react with the zinc. The oxygen reacts on a catalytic surface inside the cell. Air permeable PTFE membranes are **necessary** to allow air to enter the battery whilst also preventing the release of the alkaline electrolyte from the battery. Without PTFE, there would be no prevention of alkaline electrolyte leakage in hearing aid batteries. PTFE has unique hydrophobic properties and air permeability properties to achieve this critical function. **There is currently no alternative to this technology in zinc-air batteries.**

In 2023, Minnesota became one of a few states to expand insurance coverage for hearing aid devices by amending [Minnesota Statute, section \[62Q.675\]](#). The Minnesota Department of Human Services cited that 1 in 5 Minnesotans experience hearing loss¹ and additionally over 37.5 million Americans experience trouble hearing nationally.² If zinc air batteries were to be prohibited due to their chemical properties, it would be a detriment to the hearing-impaired community in Minnesota. For this reason, zinc air batteries should be granted a CUU designation as it is essential for the health of society.

¹ Minnesota Department of Human Services, Deaf and Hard of Hearing Division
<https://mn.gov/deaf-hard-of-hearing/about-us/>

² National Institute on Aging, Hearing Loss: A Common Problem for Older Adults,
<https://www.nia.nih.gov/health/hearing-loss-common-problem-older-adults>

Nickel Metal Hydride (Ni-MH) Batteries- HTS Code 8507.50.0000

Nickel Metal Hydride batteries are rechargeable batteries with widespread application in high-end portable electronic products where battery performance parameters, notably run time, are a major consideration in the purchase decision. Nickel-metal hydride batteries are essentially an extension of the proven sealed nickel-cadmium battery technology with the substitution of a hydrogen-absorbing negative electrode for the cadmium-based electrode. To allow the nickel metal hydride battery to function, PTFE dispersion is mixed with electrode components and carbon black. This wet mix is then processed and heated below the degradation temperature of the PTFE. The dried mix is then further used for cell manufacturing. Ni-MH batteries utilize PTFE as the binder material for the positive and negative electrodes. This is a critical function for a Ni-MH battery, **with currently no chemical alternative to PTFE** for this function.

The true advantage of Ni-MH batteries can be found in the cycle life (reuse after charging). Ni-MH batteries can be recharged hundreds of times, potentially allowing them to be equivalent to hundreds of alkaline batteries in total service over their lifetime. This can make rechargeable NiMH batteries a cost-effective power source for many frequently used battery-operated devices found in the home or office. Rechargeable batteries help reduce and eliminate waste given their lifecycle properties. **These batteries are essential to a functioning society by mitigating land waste and climate change.** The climate benefits of rechargeable batteries go further than just waste reduction. These batteries also drive the elimination of the constraints on battery manufacture, usage, and disposal imposed because of concerns over cadmium toxicity.

Lithium Batteries- HTS Codes 8506.50.0010; 8506.50.0010

Energizer primary lithium batteries cover an array of uses and applications. Energizer coin lithium batteries deliver power to specialty devices such as heart-rate monitors, remotes, keyless entry, glucose monitors, games, and more. Given their usage in medical devices and their long-lasting performance, these batteries benefit Minnesotan consumers' health as well as contribute to a functioning society for sustainability benefits and waste mitigation.

Lithium batteries can also be found in other formats including 9V, CR2, 123, and 2L76.

These lithium battery formats can be used in a variety of applications including smoke detectors, watches, glucose monitors, games and toys, film and digital cameras, and portable flashlights. By using longer lasting and reliable batteries, **consumers use fewer batteries, create less waste, and have less impact on the planet.** There are no alternatives to the use of PTFE and FEP used in binders in the positive electrode, in gaskets and washers used in chemically aggressive environments, or in electrolytes in lithium batteries. PFAS electrolytes are used in advanced batteries to provide higher stability, increased performance, and higher safety levels. This stability is provided by the high strength of the carbon-fluorine bond in the PFAS which is not present in the older electrolytes. As a result, the PFAS electrolytes provide 20% more battery life compared to outdated technologies. **This increased battery life provides sustainability benefits by extending the lifetime of the product, and currently there are no alternatives that provide the same sustainability benefits.**



Silver Oxide- HTS Code 8506.40.1010

Silver oxide batteries are used in a wide array of applications including medical devices such as glucose monitors, watches, calculators, photoelectric exposure devices, and electronic instruments. There are no alternatives to the use of PTFE as a binder in the positive electrode. These batteries are essential to the health of Minnesota consumers given they are utilized to power medical devices.

In conclusion, we appreciate the steps MPCA is taking to protect the health and welfare of Minnesotans. We urge the Agency to continue this work by ensuring portable batteries are designated as exempt from the prohibitions on products containing PFAS under the merits of current unavoidable use. Furthermore, no PFAS emissions are foreseen during battery use and no unintended and uncontrolled PFAS emissions are foreseen during battery recycling. PFAS chemistries are critical to keeping battery products safe for consumer usage, and without available alternatives, need to remain available for sale in the state of Minnesota.

Thank you for your consideration. If you have any questions, please contact Allyson Azar at Allyson.azar@energizer.com

Sincerely,

A handwritten signature in black ink, appearing to read "Allyson Azar", written in a cursive style.

Allyson Azar
Head of State Government Affairs