Long-Term Management and Storage of Elemental Mercury Environmental Impact Statement (Mercury Storage EIS)

DOE's goal is to provide safe, secure, long-term mercury storage.

Mercury

What Is Mercury?

Mercury is a naturally-occurring element. It is a heavy, silver-white metal that is liquid at room temperature. Mercury is a very good conductor of electricity, and it combines easily with many other metals. Most mercury is derived from the naturally-occurring mineral cinnabar (mercury sulfide).

There are three forms of mercury: elemental mercury, inorganic mercury compounds (primarily mercuric chloride), and organic mercury compounds (primarily methyl mercury). All forms of mercury are toxic and each form produces different health effects in humans. The mercury that DOE intends to store is elemental mercury, the least toxic of the three forms.

Why Did Congress Direct DOE to Store Elemental Mercury?

Mercury was once needed for many purposes, including manufacturing, mining, and defense applications. However, mercury is highly toxic to humans, ecosystems, and wildlife worldwide, and the free trade of ready supplies of elemental mercury on the world market encourages its continued use outside the United States.

Therefore, Congress passed the Mercury Export Ban Act of 2008 banning the export of elemental mercury from the United States by 2013 and directed DOE to have a facility ready by 2013 to accept and store excess mercury sent to it from commercial mercury recyclers, gold mines that generate mercury as a by-product, and chlor-alkali plants that use mercury as a catalyst in producing chlorine and caustic soda.

The DOE storage facility will accept excess elemental mercury for long-term (40 years) storage. DOE will charge a fee to cover the storage costs.

How Is Mercury Used Today?

Although, many products once made with mercury (such as batteries, paints, and pesticides) are increasingly made with alternative substances, mercury is still used in some consumer products such as fluorescent lights, electrical switches, measuring devices, and as a component in dental fillings. Medical uses include blood pressure monitors, thermometers, and medications. It is also used in certain manufacturing processes; e.g., the chlor-alkali industry uses it to produce chlorine.

How Does Mercury Enter The Environment?

Mercury is released into the air, water, and soil by a variety of natural processes and human activities. Mercury vapor is released from rocks, soils, and surface water and through human activities such as manufacturing and burning coal to produce electricity.

What Are the Potential Health Effects From Mercury?

The major health effect from elemental mercury results from inhalation of mercury vapor. Acute (short-term) inhalation exposure to high levels of elemental mercury in humans results in central nervous system effects such as hallucinations and delirium. Gastrointestinal and respiratory effects have also been noted. Studies are inconclusive regarding elemental mercury and cancer. The central nervous system is the major organ affected by chronic (long-term) exposure to elemental mercury. Effects noted include increased excitability, irritability, insomnia, severe salivation, loss of teeth, and tremors. Chronic exposure to elemental mercury also affects the kidneys.

For more information on mercury, please refer to the following web sites:

www.atsdr.cdc.gov/tfacts46.html
www.epa.gov/mercury/

To Submit Comments or Request More Information

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