NIH Policy Manual

3033 - Procurement, Use and Disposal of Mercury and Its Compounds

Issuing Office: OD/OM/ORFDO/DEP **Phone:** (301) 496-3537

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Transmittal Notice

1. **Explanation of Material Transmitted:** This chapter establishes the National Institutes of Health's (NIH) policy and internal controls regarding the procurement, use and disposal of items and materials containing elemental mercury and mercury compounds. This revision reflects changes in laws, regulations and executive orders enacted since the previous issuance. In addition, this issuance provides current information for waste management procedures.
2. **Filing Instructions:**

    - **Remove:** NIH Manual Chapter 3033, dated 05/16/2014
    - **Insert:** NIH Manual Chapter 3033, dated 04/15/2021

1. **PLEASE NOTE:** For information on:

    - Content of this chapter - contact the issuing offices listed above.
    - NIH Policy Manual - contact the Division of Compliance Management, OMA on 301-496- 4606, or enter this URL: https://oma.od.nih.gov/DMS/pages/manual-chapters.aspx

A. Purpose

This chapter establishes the policy and internal controls regarding the procurement, use and disposal of items and materials containing elemental mercury and mercury compounds. This policy; (1) restricts the procurement of mercury-added products with NIH appropriated funds; (2) prohibits the use of mercury, and its compounds, on all facilities owned, operated or leased by NIH, when an acceptable substitute is available; (3) requires the elimination of existing devices containing mercury in use on all NIH facilities; and (4) provides exceptions, and procedures, for obtaining exceptions for necessary scientific and medical uses of mercury.

B. Scope

This Manual Chapter is applicable to all NIH owned, operated, and leased facilities.

C. Background

Mercury and its compounds are neurotoxic, bio-accumulative and persistent in the environment and subject to increasingly stringent regulations governing their use and disposal. Studies suggest exposure to mercury contaminants may alter the immune response to pathogens, contribute to the development of cardiovascular disease and prorogate the growth of populations of multiple antibiotic resistant bacteria.

Due to the use of mercury in original building construction, mercury and its compounds are common contaminants in older biomedical facilities. Mercury is also present in low concentrations in a wide variety of cleaning chemicals and other commercial products that may be discharged in wastewater. Disturbance of contaminated areas and plumbing fixtures during construction and/or demolition increases potential human exposure.

Since the early 1970s, NIH has instituted specific requirements governing the disposal of mercury and its compounds. These requirements were detailed in a previous version of this chapter and subsequently rescinded on February 6, 1986 when mercury and its compounds were included in policies for hazardous chemical waste management. In 2001, NIH initiated an agency-wide campaign to encourage the voluntary elimination of mercury usage in those facilities when there were acceptable, mercury-free or low-mercury alternatives. This initiative resulted in a significant reduction/elimination of mercury at NIH facilities.

D. Policy

It is the policy of NIH to prohibit the acquisition of mercury, products embedded with mercury and the use of mercury and its compounds at NIH facilities when mercury-free alternatives are available. Any mercury or equipment containing mercury or its compounds must be disposed of safely and in adherence with the rigors of all applicable federal, state and local regulations.

The use of mercury exposes NIH to unacceptable and avoidable risks, as well as costly and intrusive clean-up procedures. The vast availability of mercury-free alternatives for equipment that formerly required the use of mercury and its compounds now dictates the need for mandatory restrictions on the procurement, use and disposal of mercury and its compounds, as established by this policy.

E. Responsibilities

1. **Office of Research Facilities Development and Operations (ORFDO)** has overall responsibility for the design, construction, operation, renovation and decommissioning of NIH facilities.
2. **Division of Environmental Protection (DEP), ORFDO**

a. directs the NIH mercury abatement program and maintains a website, NIH Mercury-Free Campaign, to promote awareness of mercury hazards, mercury-added products and non-mercury, or reduced mercury, alternatives;
b. reviews and approves applications submitted for special exceptions for the procurement and use of mercury, if non-mercury alternatives are not available;
c. conducts, or assists, in the assessment and remediation of mercury contamination at NIH facilities;
d. collects, stores, transports, treats, disposes and recycles mercury contaminated waste; and
e. collaborates with the Environmental Protection Agency (EPA), and other agencies and organizations in the development and promotion of strategies, procedures and technologies for reducing mercury use and assessing and abating mercury contamination at NIH facilities.

3. **Division of Occupational Health and Safety (DOHS), Office of Scientific Resources (SR), Office of Research Services (ORS)** is responsible for providing technical assistance and support regarding health and safety risks, and appropriate occupational health precautions. The DOHS conducts safety surveys of laboratories and other work areas and notifies the responsible party and DEP of potential mercury, or mercury contaminated materials, requiring remediation.
4. **Institutes, Centers and Offices' (ICOs)** employees are responsible for:

a. avoiding the procurement of mercury-added products, except as allowed by this policy;
b. minimizing the procurement and use of excepted mercury-added products and mercury contaminated products and procuring such products with the lowest mercury content available, when other technical factors are equivalent; and
c. identifying existing mercury-added products in their work areas and ensuring such products are removed and disposed of following NIH requirements for surplus property and waste management.

F. Procedures

1. **Special Exceptions:** Exceptions to the prohibition of the procurement and use of any products containing mercury or mercury-added products may be requested. Approval may be granted for limited scientific and medical uses of mercury, mercury compounds and/or mercury-added products, when there are no acceptable mercury-free or mercury-reduced alternatives. Examples of such uses may include, but are not limited to, calibration of measurement instruments; fixatives used in histology; components of existing equipment that cannot be replaced; research on mercury toxicology and property containing mercury as a necessary component for use, unless a standing exception has been granted. See Section F.2 for items already approved for a Standing Exception.

a. **Application:** Persons seeking to use products containing mercury or mercury-added products with a total mercury concentration equal to or greater than 100 parts per billion shall submit a completed NIH 2936 Application for Special Exception for Procurement and Use of Mercury to the Division of Environmental Protection, ORFDO. The application must contain the following information:

    1. Name of applicant;
    2. Name of Institute, Center or Office;
    3. Chemical name, quantity and size;
    4. Name of equipment containing mercury, if applicable;
    5. Location of use;
    6. Intended use;
    7. Justification;
    8. Handling and storage precautions; and
    9. Acknowledgement of responsibility for remediation clean-up costs.

Applicants must submit the completed Form NIH 2936 for review and approval to their ICO Scientific Director prior to submission to DEP.

b. **Review and Approval:** The DEP Director, or designee, will notify the applicant and the ICO Scientific Director, in writing, within three (3) business days of a decision. If an Application for Special Exception is denied, the DEP Director, or designee, shall return it to the applicant within ten (10) business days, explaining the reason for denial. If appropriate, recommendation(s) may be made regarding necessary adjustments to the application so it may move forward. An approved application is valid for five (5) years. If there are any changes to this policy, an approved application is grandfathered in, based on the policy in effect at the time of approval.
c. **Prior to Procurement of Special Exceptions:** Before procuring a mercury or mercury-added product, the requester must complete Form NIH 2936.
d. **For Information on the Procurement of Mercury Products:** See FAR 52.223-3-Hazardous Material Identification and Material Safety Data.
e. **For Information on Acquisitions:** Contact NIH "Green" Procurement Manager, Division of Acquisition Policy and Evaluation.

2. **Standing Exceptions:** The items and materials listed below may be procured, and used, at NIH facilities without applying for a Special Exception, however, the requirements for the disposition of excepted equipment and waste containing excepted materials remain applicable:

    a. biological products containing thimerosal and other mercury-based additives regulated by the United States Department of Health and Human Services;

b. dental amalgams;
c. fluorescent lamps;
d. ultraviolet lamps;
e. mercury contaminated products with a total mercury concentration of less than 100 parts per billion;
f. micromanipulation and microinjection apparatus;
g. prescription drugs and other substances regulated pursuant to the Food, Drug and Cosmetics Act; and
h. other equipment containing mercury lamps.

3. **Termination of Exceptions:** The Director, DEP, may terminate any Standing Exceptions and/or Special Exceptions as required by regulatory mandates or when suitable mercury- free or lower-mercury products become available.
4. **Disposition of Mercury Containing Equipment and Waste:**

    a. **Unserviceable Personal Property:** Elemental mercury in unserviceable medical and scientific equipment, or other accountable property designated for disposal, must be removed and disposed of according to NIH waste management requirements before transferring the property to the Office of Logistics and Acquisition Operations (OLAO). DEP will assist and provide the safe removal and disposal of the mercury upon request. Contact DEP at 301-496-7990. After the mercury is removed, the Property Custodial Officer shall attach an NIH 2683 Certification that Property is Free from Hazards form to each medical/scientific device, equipment or item indicating that mercury has been removed according to protocol. The OLAO, Division of Logistics Services (DLS) will arrange for pick-up of the items. DLS personnel will not pick up items that are not tagged with a completed NIH 2683 form.
    b. **Mercury Contaminated Waste:** All liquid and solid waste generated at NIH facilities containing a total mercury concentration above 50 parts per billion shall be managed and disposed of as chemical waste per NIH Manual 3032 – Waste Minimization and Management at NIH.

G. References

This policy was developed in accordance with the following statutes, regulations, Executive Orders, policies, plans, and their amendments:

1. Form NIH 2936 Application for Special Exception for Procurement and Use of Mercury
2. Form NIH 2683 Certification that Property is Free from Hazards
3. Affirmative Procurement Plan for Purchasing Environmentally Preferable Productsand Services at the U.S. Department of Health and Human Services
4. Annotated Code of Maryland, Environmental Article, Title 6, Subtitle 9 and other state and local laws and regulations restricting the sale and use of mercury devices, as applicable.

5. Clean Water Act, 33 U.S.C. § 1251 et seq.
6. Comprehensive Environmental Response Compensation and Liability Act, 42 U.S.C §9601 et seq.
7. FAR Subpart 23.3 – "Hazardous Material Identification and Material Safety Data"
8. FAR 52.223-3-Hazardous Material Identification and Material Safety Data
9. Goals and targets for reduction of toxic chemical use and pollution prevention established by NIH Environmental Management System (NEMS) in compliance with: Executive Order 13834, Efficient Federal Operations
10. Hazardous Materials Transportation Act
11. Interstate Mercury Education & Reduction Clearinghouse (IMERC) Mercury-Added Products Database, Northeast Waste Management Officials' Association.
12. NIH Manual Chapter 1743, Managing Federal Records
13. NIH Environmental Policy
14. NIH Manual Chapter 3032-Environmental Management and Waste Minimization at NIH
15. NIH Waste Disposal Guide.
16. NIH Manual Chapter 26101-25-2 Personal Property Management Guide
17. Resource Conservation and Recovery Act, 42 U.S.C. §6901 et seq.
18. Federal Food, Drug and Cosmetic Act 21 U.S.C. §301 et seq.
19. Why a Mercury-Free NIH?

H. Definitions

1. **Accountable Property:** Government owned, personal property meeting NIH accountable property criteria for which controls must be maintained; said criteria includes property that is valued over $5,000 or considered sensitive.
2. **Mercury-Added Product:** A product containing mercury, which is intentionally added to provide a specific characteristic, appearance or quality, or to perform a specific function.
3. **Mercury Contaminated Product:** A product containing mercury at total concentration equal to, or above 100 parts per billion as an unintended contaminant caused during the manufacturing process.
4. **Mercury Contaminated Waste:** All liquid and solid waste generated at NIH facilities containing a total mercury concentration above 50 parts per billion and is managed and disposed of as chemical waste.
5. **NIH Facility:** A facility owned, operated or leased by the NIH.
6. **Special Exception:** Authorization to procure or use mercury-added products, and/or mercury contaminated products, with a total mercury concentration greater than 100 parts per billion, as designated in this policy.
7. **Standing Exception:** Mercury-added products, and/or mercury contaminated products, with a total mercury concentration greater than 100 parts per billion, that may be procured or used in NIH facilities, without prior approval, as prescribed in Section F.2.
8. **Thimerosal:** Ethyl (2-mercaptobenzoato-(2-)O,S) mercurate (1-) sodium, a preservative and antimicrobial used in multi-dose vaccines and some biological reagents.

Appendix 1: Application for Special Exception for Procurement and Use of Mercury

Form NIH 2936 Application for Special Exception for Procurement and Use of Mercury

Privacy Statement that goes on Form NIH 2936

This statement is provided pursuant to the Privacy Act of 1974 (5 U.S.C. § 552a): The information requested on this form is authorized to be collected pursuant to 5 U.S.C. § 301; 5 U.S.C § 1302; 5 U.S.C. §7902; 15 U.S.C. §2601 et seq., Toxic Substances Control Act Substances Control Act; 33 U.S.C. §1251 et seq., Clean Water Act; 42 U.S.C. §§ 241;7401 Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313 and Executive Order 13834, Efficient Federal Operations Completing this form is voluntary; however, failure to provide the requested information may result in the denial of the application. The form is used for procurement of, and/or the use of, mercury. This information is to identify the location and the quantity of the element. Mercury and most of its compounds pose a significant health threat. If a mercury spill occurs, distinct remediation procedures and equipment are required for the safe and efficient recollection of spilled mercury. All information provided will be included in a Privacy Act system of records and will be used, and may be disclosed, for the purposes and routine uses as described and published in the System of Records Notice (SORN).

Appendix 2: Certification that Property is Free from Hazards

Form NIH 2683 Certification that Property is Free from Hazards