

11 - ROUTINE CLEANING

Title: Routine Cleaning **Doc. No.** 2015-MMTS-11

Approval Signatures and Date

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NOTE: This document will be reviewed at least annually to ensure its suitability.

Revision History

Rev. No.	Change description	Author
1	Change description Crosswalk Between NDEP CAPP Review Comments (dated 2014-12-09, 2015-01-30 and 2015-02-26) and Mercury Storage and Transfer Program Document Contents March 10, 2015	Burton Packard and Renee Rodriguez

NOTE: Hard copies of this document may not be the current version. Refer to the "IAmTheKey" to verify the current version.

Reference Documents

Document number	Document title
Procedure 2015-MMTS-10	Waste Management
Procedure 2015-MMTS-12	Emergency Response and Spill Cleanup
	HgX ²⁺ MSDS
	http://www.actontech.com/hgx6.htm

11.1 PURPOSE

This procedure addresses the routine cleaning of work surfaces and break areas that could be contaminated with mercury (e.g., mercury work stations) as a result of mercury handling and transfer operations within the Mobile Mercury Transfer System (MMTS).

NOTE: It is imperative to record mercury contamination levels throughout the MMTS, regardless of how low they are, to establish a baseline for contamination before mercury is introduced into the MMTS. Comparable measurements are needed for the personnel trailer.

11.2 SCOPE

This procedure applies to MMTS staff and/or their contractors that work in the Flask Handling and Drum Handling Areas and their supervisors and addresses equipment cleaning steps that are to be completed as a part of routine operations to minimize the spread of mercury contamination. It does not cover steps for cleaning up mercury that has been spilled during drum or flask handling or mercury transfers (see Section 12, Emergency Response and Spill Cleanup).

11.3 INSPECTION AND CLEANING OPERATIONS

11.3.1 Required Equipment and Supplies (PPE as specified on page XI of the Executive Summary under General Safety and Health)

Workers need the following equipment to perform the actions described in this procedure:

- HgX[®] solution in spray bottles (To prepare: add 1.5 pounds of HgX[®] slowly or sift into 5 gallons of water - do not dump. Use cold tap water to make up solutions. If the water, after adding the recommended quantity of HgX[®], does not turn milky (white) within 15 minutes or half hour, add additional HgX[®] until it does. The solution upon standing several hours (overnight) will turn clear but retain its efficacy. The precipitation on the bottom of the container is merely the excess above saturation.)

NOTE: There is no water source in the MMTS nor is there water available in the mercury storage warehouses. Therefore, the HgX[®] solution will be prepared and stored at another HWAD location until it is needed for the cleaning operation.

- Water in spray bottle

11.3.2 Routine Inspection and Cleaning

NOTE: Upon commencement of mercury handling and transfer operations in the MMTS, visual examinations and swipe tests for possible contamination shall be done weekly in the areas noted below, to establish a baseline for the working conditions. When the MMTS supervisor and operators are satisfied that the working surfaces within the fume hoods, and the floors and walls

of the work area, remain within acceptable limits of contamination (perhaps after a month or two of full operations), the monthly wipe down procedure may be implemented. However, visual inspection is still a requirement for operators before, during, and at the end of each workday.

- **Flask Handling Area and Drum Handling Area workers visually examine work surfaces inside the fume hoods and the conveyer table at the end of each workmonth. (Equipment that is affixed inside the fume hood or conveyer table (rollerball assemblies, drill, pump, etc.) are not removed or loosened for this inspection or cleaning.)**
- **Flask Handling and Drum Handling workers wipe down the work surfaces and equipment (pump, drill, flask trays, scales, transfer fitting assembly holder, etc.) monthly using gauze pads with a small amount of HgX[®] solution (or equivalent). Refer to the attached Material Safety Data Sheet for health and safety information.**
- **Periodic mercury vapor analysis, conducted initially on a weekly basis, will be done in all other MMTS and personnel trailer areas to test for the possible spread of mercury to nonwork areas. The areas sampled will include the MMTS dressout area, office area, general access areas, and the personnel trailer break areas and restrooms. In the event of detection of mercury above baseline levels, cleaning staff wipe down the table and desk tops, floors, and human contact surfaces using gauze pads with a small amount of HgX[®] solution (or equivalent). Wiping and mercury vapor analyses continue until mercury is no longer detected. At the discretion of the Facility Manager, the sampling period may be lengthened in the absence of detectable mercury. When mercury is detected, the sampling period returns to weekly until no mercury is detected, and the Facility Manager determines that the sampling period may be extended.**
- **When using HgX[®] solution, workers avoid contact with eyes, skin or clothing and use nitrile gloves. Do not mix HgX[®] with other cleaning agents or any other materials.**
- **Flask Handling and Drum Handling workers clean all HgX[®] treated metal surfaces with clear water and dry thoroughly. HgX[®] solution may cause corrosion to some metals so removal with clear water is needed.**
- **Staff manage used gauze and contaminated personal protective equipment as hazardous waste per Section 12. Waste Management.**
- **Hazardous wastes accumulated during fume hood operations should be packaged in sealed plastic bags and moved back through the fume hoods and the conveyer table and placed in the hazardous waste drum in the Pallet/Drum Handling Area.**
- **The operation with a high probability for spreading mercury contamination is flask shaking to remove residual mercury from the flasks, prior to empty flask disposal. At the end of each workday the flask handling operator in Fume Hood 2 will siphon any accumulated mercury from the shaker tray.**

- **At the end of a week of operations, the flask handling operator in Fume Hood 2 will place a sheet of gauze on the roller balls adjacent to the shaker tray; lift the flask-holder portion of the shaker tray and place it on the gauze; and inspect the tray for accumulated material. The accumulated material is to be removed using a gauze wipe, placed in a sealable bag (also the gauze from under the flask holder portion of the shaker tray should be placed in this sealable bag). The bag containing this material is to be moved through the fume hoods and the conveyor table to the Drum Handling Area where it is to be placed in the hazardous waste drum for wastes that exceed 260 mg/kg mercury concentration and/or do not meet acceptance criteria for disposal per SOC Waste Services and/or DLA Strategic Materials classification.**