



CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
QUALITY ASSURANCE
SURVEILLANCE REPORT

38/68

PROJECT NO.: 20.01402.159

REPORT NO.: 2000-09

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SURVEILLANCE SCOPE: To determine if chemicals in the CNWRA Labs had passed beyond their "shelf life" and if so, is there adequate and appropriate justification to retain the chemicals in the Lab.

REFERENCE DOCUMENTS: QAP-004, Surveillance Control Procedure; Good Laboratory Practices.

STARTING DATE: April 28, 2000

ENDING DATE: May 4, 2000

QA REPRESENTATIVE: Bruce Mabrito

PERSONS CONDUCTING TEST/EXAM/ACTIVITY: Melissa Hill, Darrell Dunn, Sean Brossin, James Prikryl, Melissa Nugent.

SATISFACTORY FINDINGS: This surveillance was conducted in various Laboratories in Buildings 57 and 51, dedicated labs of the CNWRA. Purpose is to determine whether out-of-date or expired chemical supplies were on the shelves of CNWRA Labs and if so, was there appropriate justification associated with the expired chemicals to explain why they are being retained.

Building 51, Hydraulic Characterization Lab. Only three bottles of chemicals were in this lab, including magnesium chloride, sodium chloride and potassium chloride. All had readable labels and there were no expiration dates on the chemicals. The Rock Mechanics Lab in Building 51 had only rock samples, no chemicals. Each of the rock samples was identified with a unique ID number and tags on the shelves provided additional ID for the sample. Bagged samples with unique identifiers were also present on the shelves. However, there were no chemicals or chemical bottles in the Rock Mechanics Lab.

Building 57, Corrosion Lab, Room L111. In general, the approximately 160 chemical containers in the Corrosion Lab were well labeled and stored in cabinets made for that specific storage purpose. The chemicals in the Corrosion Lab were varied, from ammonium persulfate, calcium sulfate, potassium sulfate, titanium chloride, molybdenum chloride, nickel hydroxide, copper hydroxide, to chromic chloride, cupric chloride, ferric chloride, ferrous chloride, sodium chloride, magnesium chloride, lithium chloride, nickel chloride to sodium citrate, sodium meta-silicate, oxalic acid, and zirconium chloride. All chemicals checked had lot/batch numbers well marked on the labels and only three chemical containers were past their shelf life (with expiration dates in April 2000) and the lab scientists were already aware of them and were in the process of removing them from the cabinets. However, the trend in the chemical supply business today is to not put expiration dates on the containers and most of the chemicals had no expiration date listed.

Building 57, Materials Lab, Room L113. No chemicals were in the room during this surveillance.

Building 57, Biohazard Lab, Room. There was a box of expired chemicals and syringes that were well-labeled in the room and were in the process of being disposed of (arrangements were being made to take them to the SwRI designated building to have them properly disposed in accordance with federal, state and local laws, plus SwRI policy). Additionally, in the cabinet labeled "Media" there chemicals with proper labels, all with lot/batch numbers, such as marine broth, agar, granulated solidifying agent. There were approximately 85 bottles of chemicals and some did have expiration dates, but none had been exceeded.

Building 57, Geochemistry Lab, Room L106. This lab had containers of chemicals and stock solutions that were well labeled (with lot/batch numbers) with name and date of mixture, however there were few with expiration dates. The gray storage code cabinet held 53 chemical containers and there were no expired chemicals. The white storage code cabinet held 33 bottled containers, all with lot/batch numbers, but one, a silica standard, had the date expired at the time of the surveillance and it was removed immediately from the cabinet. The yellow storage code cabinet held 25 chemical containers, primarily nitrates, but none with expiration dates. The blue storage code cabinet had 61 containers, primarily chlorides, and all had labels with well defined lot/batch numbers, but there were no expiration dates on the containers.

UNSATISFACTORY FINDINGS: None. Those expired chemical containers identified as past their expiration dates had previously been identified and were in the process of being removed during this surveillance.

NONCONFORMANCE REPORT NO.: None.

ATTACHMENTS: Storage Codes definition sheet.

RECOMMENDATIONS/ACTIONS: Recommendation from this surveillance is to write on the chemical container label the date the chemical is received. This would provide some history on the age of each chemical container.

APPROVED: Bruce Mabrito
CENTER DIRECTOR OF QUALITY ASSURANCE

DATE: 5/15/2000

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Storage Codes

| | |
|---|---|
| R | Red. Flammable. Store in area segregated for flammable reagents. |
| Y | Yellow. Reactive and oxidizing reagents. May react violently with air, water or other substances. Store away from flammable and combustible materials. |
| B | Blue. Health hazard. Toxic if inhaled, ingested, or absorbed through skin. Store in secure area. |
| W | White. Corrosive. May harm skin, eyes, mucous membranes. Store away from red-, yellow-, and blue-coded reagents. |
| | Gray. Presents no more than moderate hazard in any category. For general chemical storage. |
|  STORAGE CODE | Exception. When this symbol appears within the storage code bar, the reagent is incompatible with other reagents of same color bar. Store separately. |

Now, MSDS Information Is On The Label, Too.

The ChemAlert Safety Guide is an instant reference tool that should always be supplemented by reading the rest of the label specifically the safety and first aid information located to the immediate right of the Guide. We've expanded this portion of the label so that it now includes pertinent background information from each chemical's Material Safety Data Sheet. The information on all Fisher MSDS's has been compiled from OSHA, EPA and the National Library of Medicine databases as well as information from many of the leading toxicology and hazardous chemical substances publications. The condensed MSDS section of each Fisher chemical label lists special warnings relevant to the specific chemical, as well as potential injuries and or hazards and the proper first aid procedures in case an accident should occur. When applicable, DOT and ANSI data are also located on the label.

Fisher Scientific recommends that users always refer to the chemicals complete Material Safety Data Sheet for additional handling and safety information.

Every Fisher label complies with OSHA's Hazard Communication Standard (29 CFR 1910.1200) on proper labeling.

