

DOCUMENT MANAGEMENT SYSTEM

Page 1 of 1

Doc# NSCS-M-P-7093-02-32
 Title: Hexavalent Chrome Test Using Hach DR
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 Auth:
 Desc: Hexavalent Chrome Test Using Hach DR
 Loc: Midwest - Utilities-Midwest - Plant Maintenance-Midwest-Gary Works

STEPS

Process Overview

Sample Testing

Test Results/Recording

Corrective Actions

PROCEDURES

The chrome treatment plant changes hexavalent chrome into trivalent chrome which is then precipitated into sludge at Final Treat. The purpose of this test is to determine if the treated wastewater leaving the chrome treatment plant has converted all of the hexavalent chrome into trivalent chrome. The test procedure includes steps which change the trivalent chrome into sludge. The test is performed using the clean water from the top of the sample which would simulate the clean water leaving Final Treatment Plant.

1. Secure a ■ ml sample of treated chromium wastewater from the operating chrome treatment plant train effluent in a sample cell.
2. Add the contents of one ■ Chromium Reagent Powder Pillow to the sample cell. This is the **test sample**. If the sample turns purple, hexavalent chrome is present.
8. Press Shift timer 5 buttons. This starts a five minute timer.
9. Fill the second ■ ml sample cell with test sample, do not add a powder pill, this is the **test blank**.
10. When the timer beeps, place the **sample blank** in the meter, close the lid and push the zero button. The meter is now zeroing. Be sure the lid is closed, if it is open, the meter will try to read the daylight.
11. The meter should now display 0.00 mg/l Cr⁺⁶.
12. Remove the sample blank and install the test sample.
13. Press read. The meter will display a numerical value.
14. Record the value.
15. Dump the samples and clean the sample cells. Be sure to dry the inside of the sample cells with a paper towel. Do not scratch the glass as it affects accuracy.

The test results should be compared against the Chrome Plant SOPs NSCS-M-P-7093-01-03 and 7093-02-03. Test results should be logged on the PT Log Sheet, form number 7093-03.

A value higher than ■ mg/l shows a problem is occurring in the Chrome Treatment Plant and that the chemical feed needs increased or the test and sample preparation was done wrong. If a high value is displayed, place the out-of-range train into recycle mode and retest. Notify the Manager.

If the meter is broken, or there are no reagents available, then ask Instrument Repair for replacement(s).