INTRODUCTION TO REPORTS FOR

2019 AIR SAMPLING FOR TOTAL CHROMIUM

Studies have shown that low levels of chromium can be found as a contaminant in varying levels on sampling media, especially on mixed cellulose ester (MCE) filters. The results from numerous air samples taken earlier in 2019 were found to have this inherent background chromium contamination, which invalidated the results for total chromium. Subsequent air sampling for total chromium only was performed using a different sampling media, polyvinyl chloride (PVC) filters, that has been found to have little or no background contamination.

The following reports are from sampling events in September and October 2019 where air samples were collected at representative occupied interior locations throughout the Goodfellow Federal Center. A total of 175 air samples, including blanks, were collected from within 17 buildings. Samples were analyzed for total chromium only. The testing was performed to complete the bi-annual assessment of airborne levels of heavy metals.

All but ten (10) samples resulted in levels of total chromium less than the limits of detection of the analytical method. The levels measured in the ten samples ranged from 1.3 to 1.5 microgram per cubic meter of air (ug/m^3) of total chromium. Although there are regulatory limits for occupational exposure to chromium and chromium compounds, there are not many health-based screening levels for indoor air exposures. The U.S. Environmental Protection Agency has not established a reference concentration of continuous inhalation of chromium particulate, but has reported the Lowest Observable Adverse Effect Level for inhalation of chromium, as chromic acid, to be 2 ug/m^3. GSA has adopted the principle of as “low as reasonably achievable” for exposure to chromium and now takes action when there is any detectable chromium in the air sample.

Additional cleaning was performed in the ten areas where samples resulted in detectable levels of chromium. Additional air samples were collected in these areas. All ten samples results in levels of total chromium less than the limits of detection of the analytical method.

If you have any questions concerning this data, please email r6environmental@gsa.gov and GSA will provide responses from the appropriate experts.