

1. Is California Air Resources Board (CARB) Method 425 a suitable alternative to Method 306?

Method 306 is really only applicable to chrome electroplating and anodizing sources. CARB Method 425 may be used in lieu of Method 306 to test affected chrome electroplating and anodizing sources under Subpart N (40 CFR Part 63) as long as the caveats in 63.344(c)(2) are met. If one is testing a source other than a chrome electroplating and anodizing tank and is trying to determine total chromium, then we typically recommend Method 29. If one needs to determine hexavalent chromium from any source other than a chrome electroplating or anodizing tank, then we recommend SW-846 Method 0061. In research done in the 1980's, we found that impinger methods like Method 306 (CARB Method 425 is also essentially an impinger method) did not give proper results for hexavalent chromium; our conclusion was that a significant portion of hexavalent chromium was converted to trivalent chromium during the sampling process. Method 0061 uses recirculating alkaline reagent to keep the hexavalent chromium in the hexavalent state during sampling.