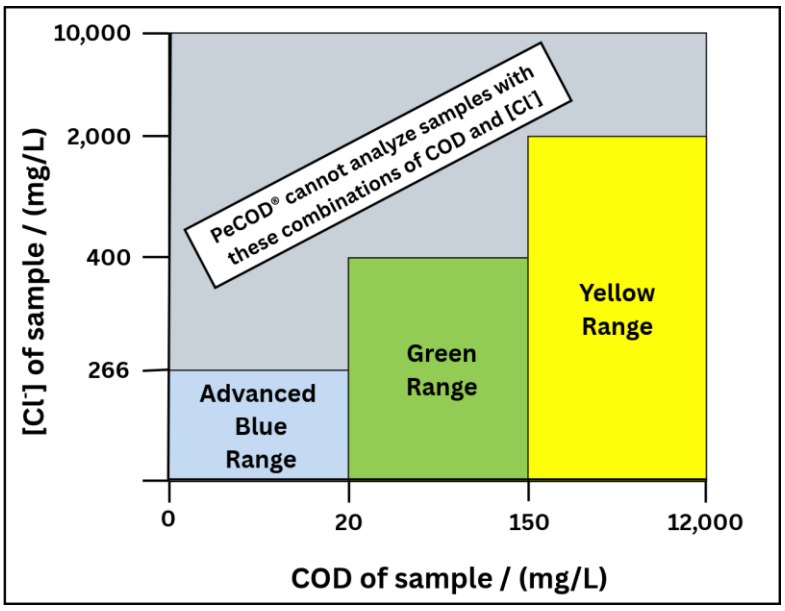
TECHNICAL BULLETIN

NUMBER 2017 - 018

Date: **October 2017**
Author: **Robert Menegotto**
Subject: **Allowable COD/Chloride Concentration Combinations for PeCOD® Analysis**

High chloride can interfere with both the dichromate and PeCOD® techniques. While the dichromate method makes use of the hazardous compound mercuric sulfate to bind chloride, the PeCOD® employs a special "doping" effect in the sensor to reduce its sensitivity to the ion. There are still limitations however, therefore to reduce its effect on PeCOD® analysis, ensure that after dilution with electrolyte the chloride concentration will be <200mg/L. This means that the allowable chloride concentration of the original sample varies depending on the COD range (outlined in the chart below). If necessary, do a pre-dilution of sample with deionized water before mixing with electrolyte.

Note that the central sensor element of a chloride-tolerant sensor appears black in color. A white sensor element indicates that the sensor has lost some/all chloride tolerance, even if the sensor is passing calibrations. To test whether a sensor has lost its chloride tolerance, one may wish to spike a known COD standard with a chloride solution to check recovery.



Recommended COD/[Cl-] Combinations for PeCOD® Analysis. The coloured regions indicate the allowed combinations of COD & [Cl-] for the different measurement ranges. The grey region indicates those combinations of COD & [Cl-] that are not suitable for analysis by PeCOD® without prior pre-dilution.