

# APHA – Pt-Co = Hazen Color



Bottles of APHA/Pt-Co/Hazen 500 color standard.

“APHA” stands for American Public Health Association Color Scale, the organization responsible for the original definition and implementation of this visual color scale as a standard method for rating water quality.

It is also called “Pt-Co” for Platinum-Cobalt Color as this visual color scale is based on stable liquid color standards made from chloroplatinate solutions. The scale ranges from distilled water at 0 (“water-white”) to a stock solution of 500 (parts per million of platinum cobalt to water). Intermediate Pt-Co color standards are made by dilution of the Pt-Co stock solution as described in ASTM D1209.

Another name used for this same color scale is “Hazen”, named after [Allen Hazen](#), the chemist who first defined the color scale for the American Public Health Association. When referenced as “Hazen Color”, the range is often above the typical 500 units associated with the APHA/Pt-Co, as in “1500 Hazen Color”.

“APHA”, “Pt-Co” and “Hazen” are three names for the same color scale.

The name preferred in [ASTM D1209](#) and [ISO 6271](#) is the “Platinum-Cobalt Color” or Pt-Co, but “APHA” is name in most common use in industry. When used, the term “Hazen Units” (HU) may be found in product specifications..

The APHA/Pt-Co/Hazen Scale was originally developed in the 1890s as a visual indicator of the purity of public water supplies, where a slight yellow color is due to the leachates of naturally occurring organic materials such as leaves, bark, roots, humus and peat. It was also used to verify the degree of contamination of waste water from manufacturing and public sewage sites in the early development of American cities.

Today, APHA/Pt-Co/Hazen Color is used as a metric for purity in the water, chemical, oil, plastics, and pharmaceutical industries. This scale serves to quantify the appearance of trace amounts of yellowness, a visual indicator of product degradation due to exposure to light or heat; the presence of impurities and negative effects of processing.