

Layman's Guide to Technical Terms

<p>Temp – Temperature – is important to many chemical factors. For instance, temperature can influence the rates of chemical reactions, the rates of plant growth such as algae, the amount of oxygen dissolved in the water, and whether or not compounds remain bound to the sediments or become dissolved or suspended in the water column.</p>
<p>Secchi – secchi depth is a measure of the clarity of the water. Clarity is affected by several factors such as turbidity, suspended or dissolved solids, organic materials such as tannins and other compounds containing color.</p>
<p>Cond – Conductivity – a measure of how well the waterbody conducts electrical current between two electrodes put in the water. Conductivity is a useful measure of the minerals in water.</p>
<p>DO – dissolved oxygen is a measure of the amount of oxygen available in the water for plants and wildlife. Plants do produce oxygen, but only during daytime hours when the sun is shining. At this time, the aquatic plants can use photosynthesis to convert carbon dioxide into oxygen. At nighttime, the aquatic plants reverse the process converting oxygen to carbon dioxide therefore removing oxygen from the water. With excessive nutrients from sources such as fertilizers and wastewaters, the plants will flourish. Then when nighttime comes, the excess of aquatic plants may remove a significant amount of oxygen from the water causing a fish kill.</p>
<p>BOD5 – Biochemical Oxygen Demand – a measurement of the oxygen used for the degradation of organic materials and some inorganic materials.</p>
<p>COD – Chemical Oxygen Demand – an alternative method of measuring the oxygen used for the degradation of organic materials and some inorganic materials.</p>
<p>pH – The pH scale runs from 0 to 14 and is a measure of the acidity or alkalinity of a solution. High or low pH can be an indication of chemical influence in the waterbody.</p>
<p>Alk - Closely related to pH, but the two must not be confused. Total alkalinity is a measure of the amount of alkaline materials in the water. The alkaline materials act as “buffers” to changes in the pH. If the alkalinity is too low (below 80ppm) there can be rapid fluctuations in pH - i.e. there is insufficient “buffer” to the pH. High alkalinity (above 200ppm) results in the water being too buffered.</p>
<p>o-phos – ortho-Phosphorus is an inorganic type of phosphorus typically found in fertilizers.</p>
<p>TP – Total Phosphorus – Includes inorganic and organic types of phosphorus. An essential chemical element that can contribute to the eutrophication of lakes and other water bodies. Increased phosphorus levels result from discharge of phosphorus-containing materials into surface waters.</p>
<p>NO3 – Nitrate – a plant nutrient and inorganic fertilizer, nitrate is found in septic systems, animal feed lots, agricultural fertilizers, manure, industrial waste waters, sanitary landfills, and garbage dumps.</p>
<p>NO2 – Nitrite – an intermediate form in the oxidation of nitrogen. Found in wastewater treatment plants and water distribution systems.</p>

NO _x – Nitrate/Nitrite – a combination of all the intermediate forms of nitrogen in the oxidation process.
NH ₃ – Ammonia – produced by decomposition of organic nitrogen-containing compounds.
org-N – Organic Nitrogen is the naturally occurring fraction of the nitrogen in our lakes and streams.
TKN – Total Kjeldahl Nitrogen – the organically bound nitrogen. Organic nitrogen comes from plant and animal matter.
Cl – Chloride – found mainly in water and wastewater treatment, in areas with saltwater intrusion, and in industrial wastes.
SO ₄ – Sulfate – found naturally in nature in minerals such as gypsum, anhydrite, and pyrite. Also a by-product of power plants. Bacterial reduction of sulfate can produce hydrogen sulfide gas. Excessive sulfate in water can be an indication of acid rain problems.
Turb – Turbidity – indicates the clarity of a waterbody. Turbidity is caused by suspended matter such as clay, silt, organic or inorganic matter, plankton and other organic compounds.
TS – Total Solids – the total residue in water. Solids may indicate inorganic inferior water quality from pollution.
TSS – Total Suspended Solids – the portion of the total residue in water that is suspended. Solids may indicate inorganic inferior water quality from pollution.
Hard – Hardness – the amount of calcium and magnesium in the water. Water is considered “hard” if its calcium hardness is over 250ppm and its alkalinity is over 150ppm. Water is considered “soft” if has a hardness of less than 50ppm and an alkalinity of less than 30ppm.
Color – typically a result of the presence of metallic ions or organic matter, such as peat, humus, or weeds, in the water. Color can also indicate the presence of certain runoff or discharges into the water.
TDS – Total Dissolved Solids – the dissolved portion of the total residue. Solids may indicate inorganic inferior water quality from pollution.
TC – Total Coliform – the principal indicator of the suitability of water. Coliforms are found in human and animal feces, and are a good indication of bacterial contamination.
FC – Fecal Coliform – the major portion of fecal coliform is E. coli, a species indicative of fecal pollution. Found in wastewater treatment systems and bathing waters.
FS – Fecal Strep – typically found in the intestinal tract of warm-blooded animals. Found in wastewater treatment systems and bathing waters.
Chla – Chlorophyll a – found strictly in plant materials. An indication of the amount of plant growth in water.
Na – Sodium – used in manufacturing glasses, detergents, paper, textiles, sodium lamps, photoelectric cells, and in water treatment. Sodium occurs naturally in seawater.
Ca – Calcium – Used in metallurgy, gypsum, and cement. Calcium can be found naturally in water, but may also be found in sewage and industrial waste.
Mg – Magnesium – found in minerals such as magnetite and dolomite as well as

seawater. Used in flash photography, alloys, and pyrotechnique. Magnesium is one of two major constituents of hardness in water (calcium is the other).
K – Potassium – used as fertilizers and in glass manufacture.
Fe – Iron – used in pigments, magnetic materials, catalysts, disinfectants, tanning, and fuel additives. Iron typically enters the environment through corrosion of pipes, leachates, and industrial wastes.
Cu – Copper – used as conductor material in electrical equipment. Also used in alloys, plumbing, pesticides, algicides, fungicides, insecticides, ceramics, and paints.
Pb – Lead – used in batteries, inorganic pigments, soldering, and piping. Industrial mining may also create lead pollution.
Zn – Zinc – used in galvanizing iron, steel, brass, dry cells, construction materials, and printing processes.
Cd – Cadmium – Found in mining and industrial operations, leachate from landfills, and a corrosion product of galvanized pipes.
Al – Aluminum – the presence of aluminum typically indicates pollution from industrial sources and runoff from roadways.
Ni – Nickel – used in costume jewelry, alloys, and plating.
Mn – Manganese – found in minerals such as oxides, silicates, and carbonates. Used in iron alloys and dry cells.
Cr – Chromium – found in nature. Used in tanning, pigments, electroplating, corrosion inhibitors, catalysts, and wood preservatives.
Hg – Mercury – found in thermometers, sphygmomanometers, and other types of instruments. By-product in the manufacture of vinyl chloride. Found in waste streams of chemical industry, incinerators, power plants, laboratories, and hospitals. Used in paper mills to bleach paper and as a fungicide.
Se – Selenium – used in electronics, glass, ceramics, pigments, some alloy metals, insecticides, and rubber production.
As – Arsenic – used in bronzing, pyrotechnique, dye manufacturing, industrial wastes, smelting, insecticides, and poison.
Ag – Silver – used in jewelry, alloys, photography, batteries, mirrors, electroplating, electrical contacts, conductors, and disinfectants.
B – Boron – can be found in seawater in high concentrations. Used in the preparation of glass, ceramics, soaps and cleansers, food preservatives, and herbicides.
Ba – Barium – typically found in limestone, sandstone. Most Barium is found in mining activities such as coal, oil, and drilling as well as in aviation and diesel fuel. Used in the manufacture of paint, paper, ceramics, glass, rubber, and linoleum.
Be – Beryllium – used in certain purposes because of its high thermal conductivity and high melting point.
Co – Cobalt – used in alloys, glass, porcelain, and electroplating.
Mo – Molybdenum – used to increase the value of stainless steel and used in nuclear energy, electrical products, glass, and ceramics.
Sb – Antimony – used in textile manufacturing, ceramics, and glassware.
Sn – Tin – used in plating, alloys, pigments, dyes, and heat stabilizers in PVC

products. Previously used in boat paints to prevent growth of marine organisms. Tin is not found naturally in nature, therefore, its presence is due to industrial pollution.

Tl – Thallium – found in clays, soils, granites, and some sulfide minerals. Used mostly in electronic applications. Previously used in rodenticides, cosmetics, fungicides.

V – Vanadium – used to produce steels and titanium-aluminum alloys.

References

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