

In-water constituents that affect its optical properties are traditionally lumped into the following:

1. Sea water (water + inorganic dissolved materials)
2. Phytoplankton.
3. Colored (or chromophoric) dissolved organic material (CDOM)
3. Non-phytoplankton organic particles (sometimes referred to as detritus or tripton).
4. Inorganic particles.
5. Bubbles.

The constituents are identified operationally based upon how we measure their optical properties and often are grouped by like optical properties. For example, the distinction between particulate and dissolved is operationally defined by the filter type/pore size. It is essential to remember (1) that the strict chemical definition is quite different and (2) filter pore size varies from author to author and (3) keep track of pore sizes to ensure closure (i.e. don't define dissolved organic matter by the filtrate of a 0.2 micron pore sized filter and then measure particulates on a 0.7 micron pore size GF/F filter). Similarly, often all the non-phytoplankton particles are lumped into a single compartment as their optical properties are quite similar. Sometime all the particulate material is lumped together into suspended particulate material (SPM) or part of it into the particulate organic material (POM). This is often done when studying a specific bio-geochemical property using optics.

The differentiation of dissolved and particulate materials (using a filter) does not imply that the dissolved material is organic, though this is most often the assumption. For example, inorganic dissolved substances such as iron oxides (rust) could contribute in certain cases.