PUBLIC HEALTH GOAL: CHEMICALS

**Arsenic**
- Public health goal: zero
- Health impacts: Skin damage, problems with circulatory systems, may have increased cancer risk
- Source: Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes; gas and oil well drilling

**Barium**
- Public health goal: 2 mg/L
- Health impacts: Increase in blood pressure
- Source: Discharge of gas and oil drilling wastes; discharge from metal refineries; erosion of natural deposits

**Bromoacetic acids**
- Public health goal: varies from zero to 0.3 mg/L
- Health impacts: Increased risk of cancer
- Source: Byproduct of drinking water disinfection

**Cadmium**
- Public health goal: 0.005 mg/L
- Health impacts: Kidney damage
- Source: Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints; coal mining

**Copper**
- Public health goal: 1.3 mg/L
- Health impacts: Short term exposure: Gastrointestinal distress; Long term exposure: Liver or kidney damage; People with Wilson’s disease should consult their personal doctor if the amount of copper in their water exceeds the action level
- Source: Corrosion of household plumbing systems; erosion of natural deposits

**Fluoride**
- Public health goal: varies by chemical
- Health impacts: Bone disease (pain and tenderness of the bones); Children may get mottled teeth
- Source: Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories

**Lead**
- Public health goal: zero
- Health impacts: Increased risk of cancer
- Source: The EPA identifies four significant radio-nuclides — alpha and beta particles, radium and uranium — for which there is no acceptable level in drinking water. Most of them exist in natural deposits while others could also enter the water supply via the decay of man-made deposits. All of them emit toxic radiation.

**Selenium**
- Public health goal: 0.05 mg/L
- Health impacts: Hair or fingernail loss; numbness in fingers or toes; circulatory problems
- Source: Discharge from petroleum refineries; erosion of natural deposits; discharge from mines

**Sulfate**
- Public health goal: n/a (guideline of 250 mg/L)
- Health impacts: Minimal. Can cause stomach upset, diarrhea.
- Source: Naturally occurring; can cause “rotten egg smell”

**Cyanide**
- Public health goal: 0.2 mg/L
- Health impacts: Nerve damage or thyroid problems
- Source: Discharge from steel/metal factories; discharge from plastic and fertilizer factories

**Sulfur**
- Public health goal: zero
- Health impacts: Increases risk of cancer
- Source: Discharge of galvanized pipes; erosion of natural deposits; discharge from petroleum refineries; erosion of natural deposits

**Sulfur Dioxide**
- Public health goal: zero
- Health impacts: Increases risk of cancer
- Source: Discharge of galvanized pipes; erosion of natural deposits; discharge from petroleum refineries; erosion of natural deposits

**Sulphite**
- Public health goal: zero
- Health impacts: Increases risk of cancer
- Source: Discharge of galvanized pipes; erosion of natural deposits; discharge from petroleum refineries; erosion of natural deposits

**Sulfuric Acid**
- Public health goal: zero
- Health impacts: Increases risk of cancer
- Source: Discharge of galvanized pipes; erosion of natural deposits; discharge from petroleum refineries; erosion of natural deposits

**Sulfur Trioxide**
- Public health goal: zero
- Health impacts: Increases risk of cancer
- Source: Discharge of galvanized pipes; erosion of natural deposits; discharge from petroleum refineries; erosion of natural deposits

**Trichloroethane**
- Public health goal: zero
- Health impacts: Increases risk of cancer
- Source: Discharge of galvanized pipes; erosion of natural deposits; discharge from petroleum refineries; erosion of natural deposits

**Nitrate**
- Public health goal: 10 mg/L
- Health impacts: Infants below the age of 6 months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
- Source: Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits

**Pesticides**
- Public health goal: varies by chemical
- Health impacts: Increases risk of cancer
- Source: Discharge from agricultural and residential neighborhoods.