

SULFATES (SO₂) FACT SHEET

Definition: Widely found in natural waters, it is an element used for synthesizing amino acids.

Background:

- Naturally occurs in some soils with gypsum and some shales and can enter a stream from erosion and weathering.
- Often the 2nd or 3rd most abundant dissolved solid in waters.
- Under normal conditions, 3-30 mg/L of sulfate are found in waterways.
- Normal rain water contains 1-3 mg/L.

Environmental Impacts:

- Acid mine drainage is a form of pollution that contributes large amounts of sulfate into natural waters.
- Acid mine drainage involves the oxidation of iron pyrite (FeS₂) which yields sulfate.



- Sulfate is also added by pulp mills, steel mills, food processing operations, municipal wastes, fertilizers and volcanic activity.
- Sulfur is naturally attached to many natural resources such as coal. When the coal is combusted for fuel, the sulfur is released into the atmosphere, combining with water to form acid rain.
- Sulfates are a major contributor of acid rain (accounts for 2/3rds of the acid deposition in the United States).

Water Quality:

- The limit for sulfate concentration in drinking water is 250 mg/mL.