

## Environmental Chemistry

Topics related to environmental chemistry, such as:

Organic Chemistry

Air Pollution

Water Pollution

Industrial Pollution

Soil Pollution

Green Chemistry

When ozone is deflected, free radicals are produced which are bad for us. Water pollution can come from human activities or from pathogens. Nitrogen oxide is harmful because it is fast and can be produced by auto, by opening a container when it is produced, or by  $\text{O}_3$ .

The Troposphere is the lowest layer of the Earth's atmosphere, extending from Earth's surface to an altitude of about 10 kilometers. The Stratosphere is the layer of the atmosphere above the Troposphere, extending from an altitude of about 10 kilometers to 50 kilometers above the Earth's surface. Pollution in the Troposphere is caused primarily by the gaseous air pollutants  $\text{SO}_2$  and  $\text{NO}_2$ , while pollution in the Stratosphere is caused primarily by the particulate air pollutants  $\text{PM}_{2.5}$  and  $\text{PM}_{10}$ .

Particulate matter is a particular type of pollution, composed of very small solid or liquid particles. Smoke is a type of particulate matter created when smoke and fog mix together. Classical smoke is created in cold, humid climates, while photochemical smoke is created in warm, dry and sunny climates. Photochemical smoke is created when  $\text{NO}_2$  is mixed with fog.

Measures to control water pollution include using a treatment plant to clean sewage, neutralizing industrial waste with acid or alkali, and using ion exchanges and photocatalysis to treat industrial waste. Solid soil pollution is caused by adding or removing substances from the soil, and factors that decrease its productivity or quality.

Green chemistry is a way of thinking which emphasizes using starting materials that can be turned into an end product with a 100% yield, and avoiding chemicals that are harmful to the environment. In day-to-day life, these principles can be used to bleach paper, reduce the toxicity of chlorine gas, and synthesize chemicals like ethanol.