



## ACS Green Chemistry Institute®



[What Is Green Chemistry?](#)



[Green Chemistry & Engineering Design Principles](#)



### Research & Innovation

Tools, metrics, research grants, and current research topics



### Students & Educators

Resources, grants, awards, workshops, summer school, and more



### Industry & Business

Industry partnerships to accelerate industrial adoption of green chemistry

The concept of greening chemistry is a relatively new idea which developed in the business and regulatory communities as a natural evolution of pollution prevention initiatives. In our efforts to improve crop protection, commercial products, and medicines, we also caused unintended harm to our planet and humans.

By the mid-20th century, some of the long-term negative effects of these advancements could not be ignored. Pollution choked many of the world's waterways and acid rain deteriorated forest health. There were measurable holes in the earth's ozone. Some chemicals in common use were suspected of causing or directly linked to human cancer and other adverse human and environmental health outcomes. Many governments began to regulate the generation and disposal of industrial wastes and emissions. The United States formed the Environmental Protection Agency (EPA) in 1970, which was charged with protecting human and environmental health through setting and enforcing environmental regulations.

Green chemistry takes the EPA's mandate a step further and creates a new reality for chemistry and engineering by asking chemists and engineers to design chemicals, chemical processes and commercial products in a way that, at the very least, avoids the creation of toxics and waste.

Green Chemistry is not politics.

Green Chemistry is not a public relations ploy.

Green chemistry is not a pipe dream.

We are able to develop chemical processes and earth-friendly products that will prevent pollution in the first place. Through the practice of green chemistry, we can create alternatives to hazardous substances we use as our source materials. We can design chemical processes that reduce waste and reduce demand on diminishing resources. We can employ processes that use smaller amounts of energy. We can do all of this and still maintain economic growth and opportunities while providing affordable products and services to a growing world population.

This is a field open for innovation, new ideas, and revolutionary progress. This is the future of chemistry. This is green chemistry.