

SAFETY IN THE CHEMISTRY ENTERPRISE

The study and implementation of chemistry leads to many valuable social and economic benefits, including better living conditions, improved public health, and enhanced quality of life. The chemistry enterprise creates high-skill, high-wage jobs. The practice of chemistry from concept through research, development, manufacture, use, and disposal must be done safely so as to minimize adverse impacts on human health and/or the environment. The American Chemical Society (ACS) believes recognition of the obligations to the safety and health of both individuals and the environment is essential for those working with chemicals.

Chemists understand that working with chemicals and developing new materials and chemical processes involve some degree of risk. A thoughtful and educated approach to chemical safety must assess the overall life-cycle and risk/benefit analysis for each area of the chemistry enterprise. The process of minimizing risk while optimizing benefits should continue throughout the investigation, development, implementation, use, and appropriate recycling or ultimate disposal of products and byproducts.

Safety and ethics issues should be considered by all stakeholders when planning or evaluating the funding of science, education of chemists, scientific research and technology development, chemical manufacturing and recognition of scientific achievement. Practices to address these issues include:

- Compliance with applicable regulations in chemical research and development as well as the incorporation of best safety practices regarding the storage, handling, use, and disposal of materials;
- Ongoing reviews of experimental procedures and scientific literature, as well as developing processes to minimize risks; and
- Alerting end-users of chemical products to foreseeable consequences of misuse or failure to follow product use recommendations from the Globally Harmonized System (GHS), Consumer Product Safety Commission (CPSC), and others.

The ACS supports policies and processes that:

- Assure the use of both sound science and risk-based criteria in the promulgation of chemical safety regulations and public policy.
 - Authors of regulations, guidance documents, and operating procedures should regularly review current, generally accepted scientific and engineering input to address risk to people and/or the environment.
 - Subject matter experts should be consulted to identify potential unintended consequences of regulation or public policy.
- Develop information regarding best practices, risks, use, and disposal throughout public policy and regulatory processes.
- Support research to identify and characterize chemical hazards and create better protective measures for workers and end-users.
- Support education and training of chemical scientists and engineers to include hazard recognition, risk assessment and management, toxicity, and emergency response associated with chemicals.

The American Chemical Society (ACS) Board of Directors Committee on Public Affairs and Public Relations adopted this statement on behalf of the Society at the recommendation of the Committee on Chemical Safety, and the Division of Chemical Health and Safety. ACS is a non-profit scientific and educational organization, chartered by Congress, with nearly 157,000 chemical scientists and engineers as members. The world's largest scientific society, ACS advances the chemical enterprise, increases public awareness of chemistry, and brings its expertise to state and national matters.

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- Chemical management and regulatory policy should foster technological innovation and a globally competitive US chemical industry. Advancing research and applying appropriate green and sustainable principles will lead to economically viable technical innovations. To this end, ACS supports the government implementation of:
 - An expedited, rigorous treatment of regulatory applications for inherently safer chemical products and processes. The government should work with industry, academia, scientific organizations, public interest groups, and other stakeholders to develop guidelines for use in such a regulatory process.
 - Continued support for research and development by universities, industry, government laboratories, and other stakeholders to create safer alternatives and encourage their adoption.
 - Mechanisms to resolve inconsistencies among various federal, state, and local regulatory procedures that cause implementation and compliance conflicts.