

Protecting America's Health



FEDERAL CHEMICAL SAFETY SYSTEM →

In the United States, multiple federal departments and agencies play a part in protecting the public's health from harmful chemical exposures. This complex system includes more than a dozen agencies or programs with regulatory oversight, research, surveillance, investigation, and educational responsibilities. Each plays a role in protecting against exposures from many sources, including the food we eat, the products we use, the water we drink, and the air we breathe. Potentially harmful chemical exposures can occur in workplaces, homes, and communities. Federal entities work in various ways to address the hazards present in each of these settings. Some have the authority to regulate and enforce standards. Others focus on science and research projects that inform policy decisions. The summaries and diagram included here provide a brief overview of how federal programs interact to protect the nation from chemical exposures on a daily basis. A quick look reveals the complexity involved in monitoring, managing, regulating, and investigating chemicals and chemical exposures. It also underscores the challenges posed by a system that requires extensive coordination to protect Americans.

Protecting Americans from Harmful Chemical Exposures

ATSDR | Agency for Toxic Substances and Disease Registry (HHS)

ATSDR investigates and seeks to minimize the health effects of exposures to hazardous substances at sites around the nation. Initially authorized to respond to health threats at Superfund sites, it also responds to requests from communities and other federal agencies. ATSDR works closely with EPA and state and tribal health agencies to collect data and conducts exposure investigations. It undertakes health studies and performs limited site sampling activities as needed, publishing the results of its investigations as Public Health Assessments or Public Health Consultations. In addition to site work, ATSDR publishes ToxProfiles™ which summarize health impact information about specific chemicals and establish minimum risk levels for human exposures. The agency also offers educational materials for health care providers and supports Pediatric Environmental Health Specialty Units as a resource to the medical community. Finally, ATSDR monitors hazardous exposures from emergency events and maintains exposure and disease registries. ■ **CONTACT** www.atsdr.cdc.gov

CPSC | Consumer Product Safety Commission

CPSC protects the public from hazardous products by creating voluntary and enforceable standards for manufacturers and retailers. It also bans products as necessary, based on current science. Recently, CPSC developed rules limiting lead in toys and other items used by children. Other CPSC chemical standards include those related to phthalates, nanomaterials, and carbon dioxide. CPSC's purview does not include all consumer products—vehicles, tires, boats, alcohol, tobacco, firearms, food, drugs, cosmetics, pesticides, and medical devices are the responsibility of other federal agencies. In addition to testing suspect products via the CPSC laboratory, the commission collects injury, death, and morbidity data related to consumer products and conducts surveillance on imported products. The Consumer Product Safety Improvement Act of 2008 provides authority for mandatory recalls as needed. CPSC creates educational materials and engages in public outreach efforts focusing on product safety. ■ **CONTACT** www.cpsc.gov

CSB | Chemical Safety and Hazard Investigation Board

CSB investigates chemical accidents and releases at facilities that result in "death, serious injury, substantial property damage, or evacuations of the public." It specifically looks at the underlying conditions that lead to chemical incidents and hazards. CSB primarily investigates chemical, manufacturing, and refinery industries and develops recommendations for government agencies, industry associations, labor organizations, and other groups to prevent future hazardous events. It also provides training and technical assistance and conducts research on the potential for chemical releases.

■ **CONTACT** www.chemsafety.gov

DHS | Department of Homeland Security

DHS provides regulatory guidance—the Chemical Facilities Anti-Terrorism Standards—for any facility that creates, uses, or stores certain types and quantities of chemicals. The department also regulates the distribution of sensitive information and provides assessment tools and planning support to protect chemical facilities and data. The Chemical Sector-Specific Agency within DHS works with the entire chemical industry, including both regulated and unregulated facilities, to promote chemical security through voluntary programs that raise awareness about chemical management security issues. DHS coordinates with the Department of Defense and EPA to develop new terrorism investigation tools and methods. These include detection tools, laboratory technologies, and decontamination processes. DHS's Chemical Security Analysis Center compiles hazard data on chemicals to support the department's larger efforts. Also, DHS's Science and Technology Directorate conducts research on toxicology, plume modeling, chemical release consequence simulation, and hazmat transportation security.

■ **CONTACT** www.dhs.gov

EPA | Environmental Protection Agency

EPA leads environmental assessment, research, and educational efforts in the United States through numerous programs and offices. Its mission is to protect human health and the environment. EPA regulates and monitors chemicals released into the air, waterways, and soil, setting standards for air quality, drinking water, and pesticide residues on food. EPA's chemicals programs address pollution prevention, risk assessment, exposure assessment, and management of chemicals in commercial use. The agency also regulates all pesticides, including antimicrobials. In addition, it ensures that communities have access to information about local chemical hazards and funds cleanup efforts at abandoned sites. EPA coordinates with other federal agencies in responding to hazardous chemical spills. EPA actively works to clean up spills and provide support and assistance to communities and partner agencies working alongside them. Although primarily a regulatory agency, EPA also oversees key voluntary programs related to chemical safety. Some of these programs promote testing of heavily used chemicals for health effects, especially concerning product safety and threats to children. Others, such as the Schools Chemical Cleanout Program, work to improve community health through site redevelopment programs or to reduce exposures. EPA also oversees research initiatives to minimize national security risks associated with chemical use and to prioritize chemical toxicity testing through its ToxCast™ program. ■ **CONTACT** www.epa.gov

FDA | Food And Drug Administration (HHS)

FDA is responsible for ensuring that food is safe to eat and drugs and consumer products are safe to use. It covers tobacco and all food products except meat, poultry, shell eggs, and alcohol. FDA regulates food additives through testing completed prior to consumer use and monitors other items, such as baby formula, after they are on the market to ensure their safety. It also regulates products that expose consumers to radiation (e.g., X-rays and cell phones). FDA monitors ingredients in cosmetic products but does not test or approve them. It can request recalls for food, drugs, and cosmetics and issues fish safety advisories for consumers. ■ **CONTACT** www.fda.gov

NCTR | National Center for Toxicological Research

NCTR conducts research for FDA, including development of new risk assessment and toxicological models, improved laboratory techniques, and biotechnology to study the effects of food additives and drugs on human genes. It coordinates toxicology informatics work and develops methods for using genomics databases. In addition, NCTR provides access to data on endocrine-disrupting chemicals. Its research informs FDA's regulation of chemical substances.

CFSAN | Center for Food Safety and Applied Nutrition

Within FDA, CFSAN has primary responsibility for regulation of food and cosmetic products. It conducts research on chemical and biological contaminants in food, establishes labeling requirements, conducts surveillance and outreach, and manages cooperative agreements with state and local agencies.

FEMA | Federal Emergency Management Agency (DHS)

FEMA's Chemical Stockpile Emergency Preparedness Program (CSEPP), in partnership with the Department of Army, helps communities located near U.S. Army chemical stockpile sites enhance their ability to protect workers, the public, and the environment in the event of a chemical emergency. CSEPP provides funding and technical assistance to support 12 performance areas, including public warning systems, emergency operation centers, training, response studies, hospital preparedness, and public education efforts.

■ **CONTACT** www.cseppportal.net

NCEH | CDC, National Center For Environmental Health (HHS)

NCEH has primary responsibility within CDC for environmental health programs and activities. NCEH's environmental health laboratory and biomonitoring program monitor and report on human exposures to chemicals. The center also manages the Lead Poisoning Prevention Program, striving to reduce blood lead levels in children. Specific programs addressing radiation and carbon monoxide exposures and elimination of chemical weapons are part of NCEH as well. In addition, it conducts health studies and provides technical assistance during emergency events and releases. Other programs and initiatives include environmental public health tracking, climate change effects on public health, and healthy community design. ■ **CONTACT** www.cdc.gov/nceh

NIEHS | National Institute of Environmental Health Sciences (HHS)

NIEHS, one of 27 research institutes within the National Institutes of Health, conducts and funds internal and external research to increase understanding of how the environment affects health. Research areas include mechanisms of environmental toxicants, modeling, gene-environment interactions, populations with unique exposures (e.g., children and workers), and identification of exposure and effect biomarkers. NIEHS provides training and educational materials to workers and environmental public health professionals and publishes the free, peer-reviewed journal *Environmental Health Perspectives*. In addition, it supports and staffs a free online library to assist researchers in their work.

■ **CONTACT** www.niehs.nih.gov

SRP | Superfund Research Program

SRP coordinates with EPA to fund research related to health and environmental issues at hazardous waste sites through universities across the nation.

WETP | Superfund Worker Education and Training Program

WETP funds organizations to provide worker training and education on handling hazardous chemicals and responding to emergency releases.

NIOSH | CDC, National Institute for Occupational Safety And Health (HHS)

NIOSH conducts research in the field of occupational health and safety, including epidemiological, toxicological, and intervention effectiveness studies. It develops summary documents on individual chemicals and recommended exposure levels. These recommendations inform OSHA standards for chemicals in the workplace and, ultimately, public safety and health. NIOSH also responds to requests for assistance in the workplace by conducting Health Hazard Evaluations. Along with stakeholders and partners, NIOSH established the National Occupational Research Agenda to guide new occupational health research efforts. ■ **CONTACT** www.cdc.gov/niosh

NTP | National Toxicology Program (HHS)

NTP coordinates toxicological research efforts across HHS agencies. It develops new testing methods and conducts research to inform health practice and policy. NTP also collaborates with many federal agencies outside HHS to increase data sharing and further research goals. ■ **CONTACT** <http://ntp.niehs.nih.gov/>

OSHA | Occupational Safety and Health Administration (DOL)

OSHA's role is to protect individuals from work-related injury and disease by issuing and enforcing health and safety standards for employers. OSHA regulations include mandatory exposure limits for nearly 500 substances, along with comprehensive health standards for about 20 toxic materials such as asbestos, lead, and hexavalent chromium. OSHA requires employers to provide workplace hazard, exposure, and health risk information to employees. ■ **CONTACT** www.osha.gov

PHMSA | Pipeline And Hazardous Materials Safety Administration (DOT)

PHMSA oversees programs that ensure the safe transport of hazardous materials via air, rail, highway, water, and pipeline. It establishes regulations, investigates incidents, educates transporters, conducts research, and provides grant support for emergency response at the state and local levels. ■ **CONTACT** <http://phmsa.dot.gov>

U.S. COAST GUARD (DHS)

The U.S. Coast Guard staffs the National Response Center 24 hours a day, collecting data on chemical releases or spills, including type of event, cause, and injuries and fatalities. All incidence reports are included in the publicly available Emergency Response Notification System. ■ **CONTACT** www.uscg.mil

USDA | U.S. Department of Agriculture

USDA oversees agricultural safety and, along with FDA, the safety of the food system. Specific services within USDA address the chemical safety of the nation's food supply.

■ **CONTACT** www.usda.gov

AMS | Agricultural Marketing Service

AMS maintains an electronic database of test results regarding pesticide residues in foods. Data are available for more than 85 different foods along with drinking water.

ARS | Agricultural Research Service

ARS researches contamination of the food supply caused by naturally occurring and introduced chemicals.

FSIS | Food Safety and Inspection Service

FSIS conducts testing and surveillance on meat, poultry, and egg products to assess microbial, chemical, and radiological contamination. In addition to monitoring health and product safety, it coordinates activities with state and local agencies, including educational and outreach efforts.

NASS | National Agricultural Statistics Service

NASS surveys the use of chemicals and pesticides on fruit and vegetable crops.

NIFA | National Institute of Food and Agriculture

NIFA oversees external research supported by USDA, including research on pesticides, food quality, and water quality.

USGS | U.S. Geological Survey (DOI)

USGS conducts environmental sampling and research on the health impact of environmental chemicals. It maintains data on soil chemistry and contaminants in waterways along with developing models and maps. USGS recently completed a survey of chemical contaminants in U.S. well water, and it collaborates with other federal, state, and local agencies in their work. ■ **CONTACT** www.usgs.gov

Key Roles in Protecting Americans from Chemical Exposures

This diagram uses everyday examples to illustrate how the various federal entities work to protect the public and workers from harmful chemical exposures. The **At a Glance** table on the back panel provides a more complete list of roles and responsibilities.

Monitoring Health and Product Safety



CPSC regulates and monitors contaminants in household products and toys

FDA oversees ingredients in personal care products and monitors adverse drug reactions

NCEH performs biomonitoring and manages blood lead poisoning prevention programs

Protecting Food and Water



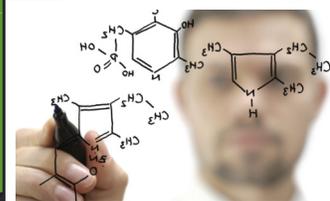
EPA regulates water quality and pesticides in fruits and vegetables

FDA regulates chemicals in most foods, including infant formula and prescription drugs

USDA enforces meat and poultry contaminant standards

USGS monitors chemicals in well water and soil

Researching Chemicals



NCEH studies the health effects of toxic exposures and exposure limits

NIHES researches chemical exposures and health effects

NIOSH recommends worker exposure standards

NTP develops testing methods and performs testing of chemicals

Monitoring and Responding to Emergencies



ATSDR provides health-based cleanup guidance and monitors health effects from chemical releases

CSB investigates accidental releases from facilities

U.S. Coast Guard takes action during chemical releases or spills

Investigating Chemical Exposures



ATSDR evaluates community exposures and related health effects

CPSC responds to consumer complaints of product-related exposures

EPA assesses and cleans contaminated sites

MANUFACTURING PLANT

Protecting Workers



CSB makes recommendations and provides training to prevent chemical accidents

NIHS trains and educates workers who use or encounter hazardous chemicals

NIOSH researches workplace hazards and recommends worker protections

OSHA establishes workplace health and safety standards

Preventing Chemical Releases

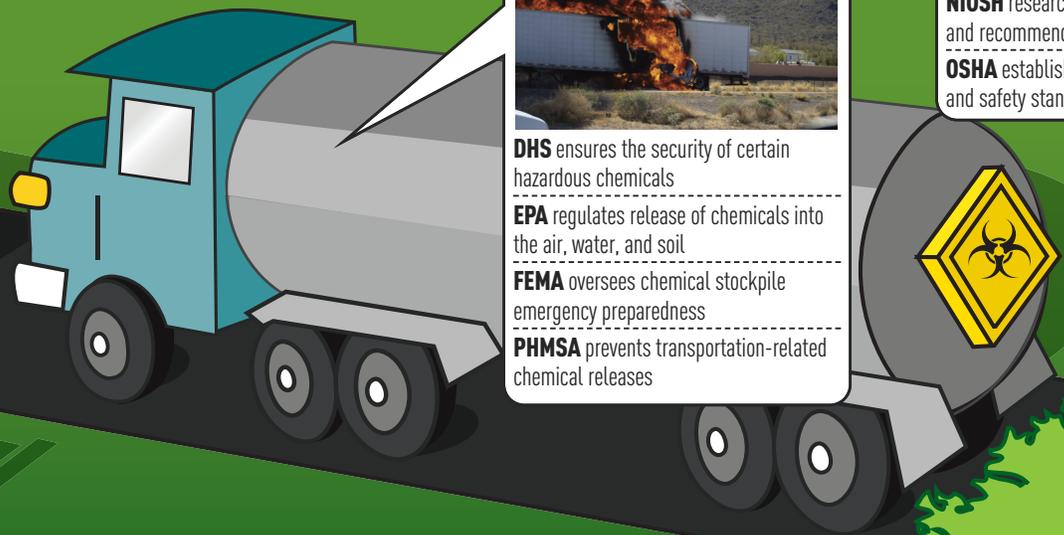


DHS ensures the security of certain hazardous chemicals

EPA regulates release of chemicals into the air, water, and soil

FEMA oversees chemical stockpile emergency preparedness

PHMSA prevents transportation-related chemical releases



At a Glance:

Federal Chemical Safety System

	Investigating Chemical Exposures	Monitoring Health and Product Safety	Monitoring and Responding to Emergencies	Preventing Chemical Releases	Protecting Food and Water	Protecting Workers	Researching Chemicals
ATSDR	*	*	*				*
CPSC	*	*					
CSB	*				*		*
DHS			*	*			*
EPA	*	*	*	*	*		*
FDA (NCTR, CFSAN)	*	*			*		*
FEMA			*	*		*	
NCEH	*	*	*	*			*
NIEHS (SRP, WETP)					*		*
NIOSH	*	*			*		*
NTP					*		*
OSHA	*		*		*		
PHMSA			*	*			*
U.S. Coast Guard	*		*				
USDA (AMS, ARS, FSIS, NASS, NIFA)	*	*	*		*		*
USGS					*		*

➔ This matrix provides a more complete overview of the chemical safety responsibilities of each federal department, agency, or program.



American
Public Health
Association

Protect, Prevent, Live Well

800 I Street NW, Washington, DC 20001 :: (202) 777-APHA (2742) :: www.apha.org/eph

About APHA

The American Public Health Association is the oldest and most diverse organization of public health professionals in the world and has been working to improve public health since 1872. The Association aims to protect all Americans and their communities from preventable, serious health threats and strives to assure community-based health promotion and disease prevention activities and preventive health services are universally accessible in the United States. APHA is committed to health equity and a healthy global society. The Association's broad array of public health professionals are champions of and advocate for healthy people and communities.