



Homeland Security

Introduction to the Chemical Sector-Specific Agency

Chemical Sector facilities manufacture, store, use, and transport potentially dangerous chemicals. Securing them against growing and evolving threats requires vigilance from both the private and public sector. The U.S. Department of Homeland Security (DHS), as the Chemical Sector-Specific Agency (SSA), works with companies to develop tools and resources for assessing facility security and resilience and collaborates with public and private sector partners to ensure that chemical facility owners and operators receive important information about man-made and natural threats and hazards that pose the greatest risk to the Nation's critical chemical facilities. Whether the company is an upstream or downstream provider engaging in the transport or manufacturing of basic, specialty, agricultural, or pharmaceutical chemicals, the Chemical SSA is a central point of contact for innovative tools and information.

Chemical Sector Collaboration, Resources, and Training

DHS offers many resources to help owners and operators manage risks, improve security, and aid the implementation and execution of protective and response measures across the Chemical Sector. This fact sheet lists a sampling of sector collaboration mechanisms, resources, and training materials. Unless otherwise noted, additional information can be found on the DHS website at www.dhs.gov/chemical-sector.

Collaboration

The Chemical Sector Security

Summit provides an annual forum to exchange security-related information, share best practices, and gain insight into how government partners support chemical security and resilience efforts.

Chemical Security Analysis Center (CSAC) assesses and identifies vulnerabilities and responds to potential chemical threats and hazards to the Homeland.

Critical Infrastructure Cyber Community (C³) Voluntary Program aligns business enterprises with existing resources to support cybersecurity risk management. Learn more at www.dhs.gov/ccubedvp.

Homeland Security Information Network–Critical Infrastructure (HSIN-CI) provides real-time collaboration tools for public and private sector partners to share critical infrastructure information.

Resources

Chemical Sector Publications

include the Sector Awareness Guide, best practices guides, tabletop exercises, cybersecurity guidance, and the industrial control systems security awareness campaign.

Playbook for an Effective All-Hazards Chemical Sector Response outlines private and public sector roles and responsibilities in preparing for, responding to, and recovering from all-hazards emergencies.

Chemical Risk Management Self-Assessment Model (Chem-SAM) is a voluntary risk management tool designed to help small and medium chemical facilities or laboratories strengthen risk governance.

The DHS Hometown Security initiative focuses on four steps—Connect, Plan, Train, Report—and provides tools and resources to help businesses improve proactive safety and security. Learn more at www.dhs.gov/hometown-security.

Training

Critical Infrastructure Training

includes web-based security awareness training opportunities on the topics of workplace security, active shooter, insider threats, surveillance activities, and theft and diversion.

Security Seminars and Exercises for Chemical Industry Stakeholders feature subject matter experts and a variety of topics (e.g., active shooter, vehicle-borne improvise explosive devices, and cybersecurity).

Counter-Improvised Explosive Device (IED) Training and Awareness provides tools to improve national preparedness for bombing threats.

Business Continuity Planning Suite helps businesses create, improve, or update their business continuity plans.

Sector Profile

The Chemical Sector converts various raw materials into more than 70,000 diverse products that are essential to modern life. Several hundred thousand U.S. chemical facilities use, manufacture, store, transport, or deliver chemicals along a complex, global supply chain. Facilities range from petrochemical manufacturers to chemical distributors. The majority of chemical manufacturing, transportation, storage, and warehousing facilities are privately owned and operated.

Because of their potential health and safety hazards, chemicals must be carefully managed from manufacturing to end use in research, pharmaceutical, agricultural, petrochemical, and water treatment applications. The sector has a long history and extensive experience in developing a strong culture of safety and applying security risk management strategies outside of regulatory requirements through the collaborative efforts of professional and industry trade associations, individual chemical companies, and national laboratories.

FUNCTIONAL AREAS

Manufacturing Plants



Convert raw materials into intermediate and end products

Transport Systems



Transport chemicals to/from manufacturing plants, warehouses, and end users

Warehousing/Storage



Provide downsized repackaging and storage

End Users



Typically consume the chemical purchased

CHEMICAL SEGMENTS



Basic

E.g., Sodium chloride, ethanol, & sulfuric acid



Specialty

E.g., Adhesives, sealants, flavors and fragrances, food additives, & explosives



Pharmaceutical

E.g., Medicines, biological products, diagnostic substances, & vitamins



Consumer

E.g., Soaps, detergents, bleaches, toothpaste, cosmetics, perfume, & paints



Agricultural

E.g., Fertilizers, pesticides, fungicides, insecticides, & herbicides

Trends and Emerging Issues

- **Insider Threat:** Cyber and physical security systems in the sector largely prevent damage from outsider threats, but the potential for insiders with access to intentionally or unintentionally cause harm is a significant concern.
- **Cyber Threats:** Cyber systems face a variety of risks, including man-made deliberate attacks, technological failures, human error, and supply chain vulnerabilities. Disruptions to these systems could result in theft of intellectual property; loss of operations capacity; or a chemical theft, diversion, or release.
- **Natural Disasters and Extreme Weather:** Virtually all facilities are susceptible to natural disasters and extreme weather, with many facilities located in hurricane-prone areas. These events cause property damage and may affect access to critical resources, such as water and electricity, which would adversely affect facility operations and may cause supply chain disruptions.
- **Deliberate Attacks and Terrorism:** Facilities may be a target for attack or terrorism because they hold specific chemicals that could cause significant immediate and long-term damage to people and/or surrounding environments. Materials located at facilities may also be a target for theft and diversion.
- **Biohazards and Pandemics:** The likelihood of foreign-borne viruses being introduced into the United States' population is increasing, which may bring pandemics that adversely affect the sector's workforce and operations.

For More Information on the Chemical Sector

- Contact the Chemical Sector-Specific Agency at ChemicalSector@hq.dhs.gov or learn more at www.dhs.gov/chemical-sector
- Chemical Sector-Specific Plan 2015: www.dhs.gov/publication/nipp-ssp-chemical-2015
- National Infrastructure Protection Plan (NIPP) 2013: www.dhs.gov/national-infrastructure-protection-plan
- Presidential Policy Directive 21, Critical Infrastructure Security and Resilience: www.whitehouse.gov/the-press-office/2013/02/12/presidential-policy-directive-critical-infrastructure-security-and-resil
- Presidential Policy Directive 41, United States Cyber Incident Coordination: www.whitehouse.gov/the-press-office/2016/07/26/presidential-policy-directive-united-states-cyber-incident