



National Center for Environmental Health

CDC Environmental Health Nexus Newsletter

Healthy Environment, Healthy You

August 2023 | Volume 22



EH Nexus newsletters provide information about environmental health issues and promotes actions to help save lives. The newsletters explain how to reduce harm from many threats, such as climate change, contaminated food and water, toxic environments, and inadequate systems and practices.

This issue covers the following topics:

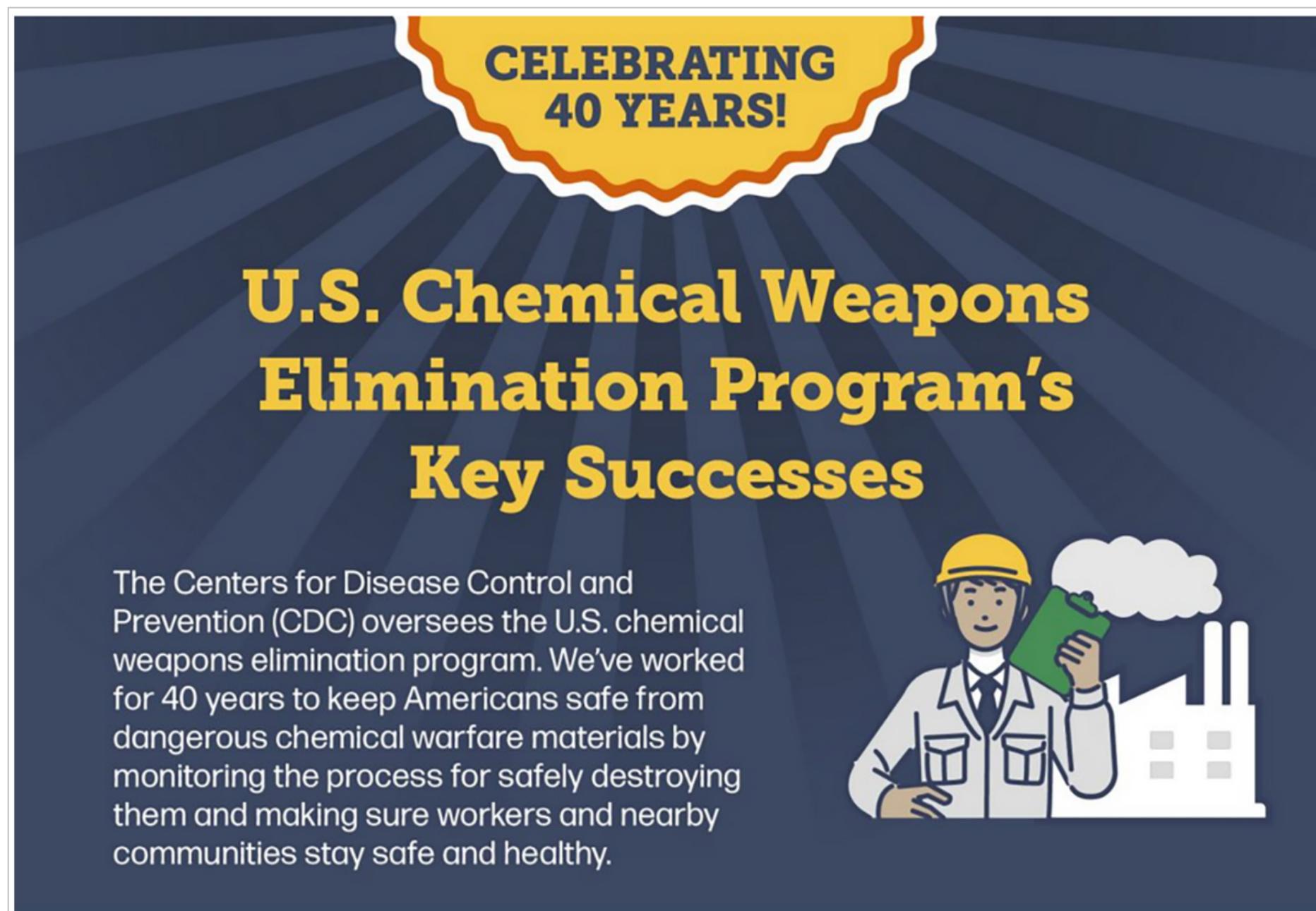
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CDC's Chemical Demilitarization Program Celebrates 40th Anniversary

The Division of Environmental Health Science and Practice's Chemical Demilitarization Program is celebrating its 40th Anniversary this August!



**CELEBRATING
40 YEARS!**

U.S. Chemical Weapons Elimination Program's Key Successes

The Centers for Disease Control and Prevention (CDC) oversees the U.S. chemical weapons elimination program. We've worked for 40 years to keep Americans safe from dangerous chemical warfare materials by monitoring the process for safely destroying them and making sure workers and nearby communities stay safe and healthy.

Since 1983, the Chemical Demilitarization Program has provided independent oversight to the U.S. Chemical Weapons Elimination Program, which involves the destruction of stockpiled and recovered or buried chemical weapons in the United States. [The U.S. chemical weapons stockpile was destroyed on July 7, 2023](#), eliminating a major public health risk for communities, the United States, and the world.

CDC's oversight during the destruction phase has improved safety and health for workers and communities, overseeing 22 million work hours with no lost time to accidents. Throughout this summer, the Chemical Demilitarization Program will continue highlighting the successful contributions that CDC has made over the years. Check the Chemical Demilitarization Program [website](#) and stay tuned for more details.

What Are Chemical Weapons?



From World War I to 1968, the United States produced chemical weapons as a deterrent against use of similar weapons by other countries. Though never used in battle, these U.S. weapons are now obsolete and deteriorating with age. The U.S. national stockpile of lethal chemical warfare agents primarily involves six chemicals: three nerve agents and three blister agents.

Nerve Agents

- GA – Tabun or ethyl N,N-dimethyl phosphoramidocyanidate, CAS 77-81-6
- GB – Sarin or isopropyl methylphosphonofluoridate, CAS 107-44-8
- VX – O-ethyl-S-(2-diisopropylaminoethyl)-methyl phosphonothiolate, CAS 50782-69-9

Vesicant. or Blister Agents

- H, HD – Sulfur mustard, bis-(2-chloroethyl)sulfide, or di-2-chloroethyl sulfide (HD), CAS 505-60-2
- HT – bis(2-chloroethylthioethyl) ether (HT), CAS 63918-89-8
- L – Lewisite or dichloro 2-chlorovinylarsine, CAS 541-25-3

U.S. Chemical Weapons Elimination Timeline

The amount of stockpiled chemical warfare agents in the United States is thought to have reached nearly 40,000 tons by 1968. These chemical warfare agents were stored in bulk containers or as assembled weapons and ammunition at nine sites in the United States.

During Operation Cut Holes and Sink 'Em (CHASE) from **1967 to 1970**, thousands of tons of unwanted chemical warfare agents and ammunition were disposed of by loading them onto old ships that then were intentionally sunk at sea.

In **1970**, Congress passed PL 91-121/441 (50 USC 1521). This law directed what is now the Department of Health and Human Services (HHS) and the Office of the Surgeon General (OSG) to review plans made by the Department of Defense (DoD) to transport, test or dispose of lethal chemical agents, and to recommend actions to protect the public's health and safety during such activities.

Congress passed Public Law (PL) 92-532 (33 USC 1401) in **1972** because of environmental concern about dumping chemical weapons in the sea. Known as the Marine Protection, Research, and Sanctuaries Act of 1972, this law prohibits the kind of dumping done during Operation CHASE.

HHS and OSG assigned responsibility for reviewing DoD plans to transport, test, or dispose of lethal chemical agents to the National Center for Environmental Health (NCEH) at CDC. Since **1983**, NCEH's Environmental Public Health Readiness Branch has reviewed plans of DoD's chemical weapons demilitarization program. After these reviews, NCEH recommends actions to ensure protection of public health and safety when chemical warfare agents are destroyed.

40 Years of Successful Action

Over 30,000 tons
of America's
chemical weapons
have been eliminated



100%
of stored
chemical
weapons
successfully
destroyed

In 1986 as part of PL 99-145 (50 USC 1521), Congress required that all stockpiles of U.S. chemical warfare agents be destroyed. U.S. stockpiles totaled approximately 30,500 tons, according to the 1997 Organization for the Prohibition of Chemical Weapons (OPCW) inventory. Nonstockpile chemical warfare items, such as recovered chemical weapons and chemical agent identification sets, were estimated to exist at more than 200 sites in the United States and its territories.

Environmental Health Updates and Resources

Successful foodborne illness outbreak investigations identify the food item(s), germ(s), and contributing factors of the outbreak.

Identifying these data collected through environmental health assessment, epidemiologic investigation, and laboratory testing can help stop outbreak and prevent more in the future. Successful investigations more often occur when investigators conduct a thorough environmental assessment of the outbreak environment; use robust epidemiology investigation techniques, such as a cohort study, to identify the food associated with the outbreak and people who got sick; and collect and test clinical samples from people who got sick to identify what made people sick. [Learn more](#) in our newest plain language summary of findings from the National Environmental Assessment Reporting System.

Recent norovirus outbreak investigation underscores the need for cruise lines, passengers, and crew to help prevent and control the spread of illness across voyages.

CDC investigators used surveillance and spatial analyses to rapidly identify sources of acute gastroenteritis exposure in a [2023 cruise ship outbreak](#). Using new visual models helped investigators and ship crew visualize the spread of illness and focus cleanup and prevention efforts on areas such as contaminated surfaces in cabins and high-touch surfaces in common areas. Cruise lines can encourage passengers and crew to wash their hands often with soap and water—especially after going to the bathroom and before eating or drinking—and to call the ship's medical center right away if they get sick while on board.



The Importance of Childhood Blood Lead Testing

CDC posted “The Importance of Childhood Blood Lead Testing” video:

https://www.youtube.com/watch?v=MPePSbzV_kg

This video provides a brief overview of why it is important to protect young children from lead exposure and the importance of blood lead testing.

The Agency for Toxic Substances and Disease Registry’s (ATSDR) Emergency Management Unit (EMU) is pleased to announce the course Chemical Agents of Opportunity for Terrorism: Toxic Industrial Chemicals (TICs), Toxic Industrial Material (TIMs). This course is free and will be offered virtually on August 30, 2023.

The American College of Medical Toxicology (ACMT) in partnership with the Region 4 Southern Regional Disaster Response System (SRDRS) will present this course on emergency medical response to exposures from toxic chemicals.

EMU supported the development of this course to familiarize health care providers and responders with toxic exposures. The course will review the medical and psychological consequences of exposures to a variety of chemical materials.

Course modules will be available on the ACMT website for all registered participants after the virtual live sessions. Please note that Continuing Education (CE) credits will be available at no cost for participants who complete post-tests and course evaluations.

Register for this free course here:

https://education.acmt.net/p/CAOT_ChemCourse_August2023 

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Last Reviewed: August 22, 2023