

## Why GAO Did This Study

In April 2013, about 30 tons of ammonium nitrate fertilizer detonated during a fire at a facility in West, Texas, killing at least 14 people and damaging nearby schools, homes, and a nursing home. This incident raised concerns about the risks posed by similar facilities across the country. OSHA and EPA play a central role in protecting workers and communities from chemical accidents, and DHS administers a chemical facility security program. GAO was asked to examine oversight of ammonium nitrate facilities in the United States and other countries. This report addresses (1) how many facilities have ammonium nitrate in the United States, (2) how OSHA and EPA regulate and oversee facilities that have ammonium nitrate, and (3) what approaches selected other countries have adopted for regulating and overseeing facilities with ammonium nitrate. GAO analyzed available federal data and data from selected states with high use of ammonium nitrate; reviewed federal laws and regulations; and interviewed government officials, chemical safety experts, and industry representatives in the United States and selected countries.

## What GAO Recommends

GAO is recommending that federal agencies improve data sharing, OSHA and EPA consider revising their related regulations to cover ammonium nitrate, and OSHA conduct outreach to the fertilizer industry and target high risk facilities for inspection. DHS, EPA, and OSHA agreed with GAO's recommendations and suggested technical changes, which GAO incorporated as appropriate.

View [GAO-14-274](#). For more information, contact Revae Moran at (202) 512-7215 or [moranr@gao.gov](mailto:moranr@gao.gov).

## CHEMICAL SAFETY

### Actions Needed to Improve Federal Oversight of Facilities with Ammonium Nitrate

## What GAO Found

Federal data provide insight into the number of facilities in the United States with ammonium nitrate but do not provide a complete picture because of reporting exemptions and other data limitations. The Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) do not require facilities to report their ammonium nitrate holdings. The Department of Homeland Security (DHS) requires facilities with certain quantities of ammonium nitrate to report their holdings for security purposes. While the total number of facilities in the United States with ammonium nitrate is unknown, as of August 2013, at least 1,300 facilities in 47 states reported to DHS that they had reportable quantities of ammonium nitrate. Federal law also requires certain facilities to report their ammonium nitrate holdings to state and local authorities for emergency planning purposes, but these data are not routinely shared with federal agencies. According to EPA, states are not required to report these data to federal agencies, and each state determines how to share its data. As part of an Executive Order on Improving Chemical Facility Safety and Security issued in August 2013, federal agencies are exploring options for improving data sharing, but this work is not yet complete.

OSHA and EPA provide limited oversight of facilities that have ammonium nitrate. OSHA's regulations include provisions for the storage of ammonium nitrate, but the agency has done little outreach to increase awareness of these regulations within the fertilizer industry, a primary user. In addition, the regulations have not been significantly revised since 1971 and allow storage of ammonium nitrate in wooden buildings, which could increase the risk of fire and explosion. Other OSHA and EPA chemical safety regulations—which require facilities to complete hazard assessments, use procedures to prevent and respond to accidents, and conduct routine compliance audits—do not apply to ammonium nitrate. Furthermore, although OSHA targets worksites in certain industries for inspection, its inspection programs do not target facilities with ammonium nitrate and, according to OSHA officials, information on these facilities is not available to them to use for targeting the facilities. International chemical safety guidance suggests authorities should provide facilities information on how regulatory requirements can be met and periodically inspect them.

GAO reviewed approaches to overseeing facilities with ammonium nitrate in Canada, France, Germany, and the United Kingdom, selected in part based on recommendations from chemical safety experts. According to foreign officials and government documents, these countries require facilities with specified quantities of ammonium nitrate to assess its risk and develop plans or policies to prevent chemical accidents. For example, Canadian officials said facilities with 22 tons or more of ammonium nitrate are required to complete a risk assessment and an emergency plan. Some countries' storage requirements also restrict the use of wood to store ammonium nitrate. For example, officials told GAO that France restricted the use of wood for storing ammonium nitrate fertilizer after several incidents involving ammonium nitrate fertilizer, and German officials told GAO that certain ammonium nitrate and ammonium nitrate-based preparations must be separated from combustible materials by brick or concrete walls.