

GAO Highlights

Highlights of [GAO-19-24](#), a report to congressional addressees

Why GAO Did This Study

The tactical herbicide Agent Orange was first produced in 1964, and some 12 million gallons were shipped from U.S. ports to Southeast Asia from 1965 to 1970. DOD suspended its use in 1970 and incinerated remaining stockpiles at sea in 1977. Congress has expressed long-standing interest in the effects of Agent Orange exposure.

The House report accompanying a bill for the National Defense Authorization Act for Fiscal Year 2018 included a provision that GAO review the government's handling of Agent Orange on Guam. This report examines (1) information the federal government has about the procurement, distribution, use, and disposition of Agent Orange; (2) DOD and VA efforts to make information about where Agent Orange and its components were tested and stored available; and (3) challenges associated with Agent Orange testing. GAO reviewed agency policies, documents, and available archival records that GAO identified; interviewed DOD, VA, and other agency officials; and met with a non-generalizable sample of 38 veterans and a veterans service organization.

What GAO Recommends

GAO is making six recommendations, including that DOD develop a process for updating its list of Agent Orange testing and storage locations, and that DOD and VA develop a process for coordinating the communication of information on where Agent Orange was known to have been present. DOD concurred with four recommendations. VA concurred with one recommendation and non-concurred with one recommendation.

View [GAO-19-24](#). For more information, contact Brian Lepore at (202) 512-4523 or leporeb@gao.gov

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AGENT ORANGE

Actions Needed to Improve Accuracy and Communication of Information on Testing and Storage Locations

What GAO Found

Available shipment documentation indicates that nearly all of the Agent Orange procured was either used in U.S. military operations in Southeast Asia, used for testing, damaged, or destroyed. However, some records are incomplete, such as shipment documentation and logbooks that identify ports where vessels stopped on the way to Southeast Asia. GAO obtained and reviewed shipment documentation for over 12.1 million of the 13.9 million gallons of Agent Orange procured by the Department of Defense (DOD). GAO reviewed logbooks for 96 percent (152 of 158) of those shipments and identified that vessels stopped at various ports on the way to Southeast Asia, including at least one vessel carrying Agent Orange that stopped at Guam. While the logbooks GAO reviewed identify when vessels left various ports as they traveled to and from Vietnam, they do not show whether and how much cargo was loaded or unloaded at those ports.

DOD's official list of herbicide testing and storage locations outside of Vietnam that is posted on the Department of Veterans Affairs' (VA) website is inaccurate and incomplete. For example, the list lacks clarity in descriptive information and omits both testing and storage locations and additional time periods covered by testing events. Also, the list has not been updated in over a decade, though DOD and VA have obtained reports on its shortcomings since 2006. Both DOD and VA communicate with veterans in response to inquiries about Agent Orange, but some veterans GAO met with expressed confusion regarding how to obtain information on potential exposure. DOD officials acknowledged this confusion and stated that veterans are contacting multiple agencies to obtain such information. However, DOD and VA have not established a formal process for coordinating on how best to communicate information to veterans and the public regarding the presence of Agent Orange outside of Vietnam. Without a reliable list with complete and accurate information and a formal process for DOD and VA to coordinate on communicating this information, veterans and the public do not have quality information about the full extent of locations where Agent Orange was present and where exposure could potentially have occurred.

Challenges exist with testing for Agent Orange today due to degradation of the herbicide's two chemical components and a potential for sources of contamination other than the herbicide. According to scientific research, the half-life (average time for components to decrease by half of the original amount) of Agent Orange's two chemical components—n-butyl 2,4-D and n-butyl 2,4,5-T—in soil can range from several days to many months, depending on conditions. The suggested half-life of the dioxin 2,3,7,8-TCDD—a by-product of the 2,4,5-T manufacturing process—is much longer, but there are multiple sources of dioxins, including the burning of wood and waste. DOD and the U.S. and Guam Environmental Protection Agencies are testing for the acid form of the components of Agent Orange at Andersen Air Force Base on Guam. While acknowledging the low probability of conclusively identifying the components of Agent Orange on Guam, DOD has made a decision to move forward with testing to address veterans' and the public's concerns, and it expects to complete the updates for the sampling and analysis plan, field sampling, analysis, and reporting in early 2019.