Guns and Ordnance » Pyrotechnics

Characterization of Phosphine Production During Extended Storage of the KM03 Red Phosphorus Floating Smoke Pot

Authors: Robert L Kristovich; Kathy L Crouse; David A McCaskey; Charles L Crouse; ARMY EDGEWOOD CHEMICAL BIOLOGICAL CENTER APG MD RESEARCH AND TECHNOLOGY DIR

Abstract: The U.S. Marine Corps (USMC) Floating Smoke Pot (FSP) MK 7 MOD 0 Program was established to redesign the previously fielded M4A2 Hexachloroethane (HC) FSP. Although the HC pots were extremely effective as an obscurant, there were safety concerns from manufacturing and operational perspectives. Red phosphorous (RP) has been widely used in screening applications and was chosen as a replacement for the smoke payload. The smoke payload (approximately 8 kg) contained within the FSP MK 7 (KM03 pot) is a specific formulation developed by Diehl BGT Defence (Uberlingen, Germany). One compound of particular concern with RP is the potential generation of phosphine gas during long-term storage. The phosphine concentration inside the storage hobbock was evaluated following 3 years of storage under ambient conditions. The smoke pots were then functioned to determine reliability following long-term storage.

Limitations: APPROVED FOR PUBLIC RELEASE

Description: Final rept. Dec 2008

Pages: 13

Report Date: Aug 2011

Report Number: A684055

Keywords relating to this report:

- LONG RANGE(TIME)
- PHOSPHINE
- RED PHOSPHORUS
- SMOKE GENERATORS
- STORAGE

« Back to search