



# PERCHLORATE REPLACEMENT PROGRAM

## REPLACING PERCHLORATE IN SIMULATORS



The U.S. Army Environmental Command (USAEC) leads and executes environmental programs and provides environmental expertise that enables Army training, operations, acquisition and sustainable military communities. USAEC supports the Army's mission of readiness and training by consistently integrating environmental compliance into all aspects of base operations; and promoting the well-being of Soldiers and Family members, civilian employees, and citizens of neighboring communities. Although USAEC's programs vary in subject matter and scope, each program is dedicated to furthering the Army's mission through environmental sustainability.



The U.S. Army Environmental Command (USAEC), in coordination with Edgewood Biological Chemical Center (ECBC) and the U.S. Army Research, Development and Engineering Command (RDECOM) are supporting Army readiness through the substantial reduction or elimination of munitions containing perchlorates in the production of pyrotechnic devices. Collectively, they have developed a program to replace the perchlorate in two commonly used training simulator items, the M115A2 Artillery Simulator and the M116A1 Hand Grenade Simulator. Studies conducted by USAEC have shown that approximately two-thirds of the Army's use of perchlorate on ranges comes from the use of these two items. It is in the best interest of the Army and the DoD to demonstrate and implement a material substitution for the perchlorate found in these items. This effort will encourage the elimination of perchlorate in other devices and will reduce a potential risk to the environment, the soldier and to residents of surrounding communities.

As part of this program, the photoflash powder – the explosive charge inside the pyrotechnic device that contains perchlorates – will be replaced with a perchlorate-free alternative.

It has been determined that a mixture of black powder and aluminum is a good candidate to replace the perchlorate in the M115A2 Artillery Simulator and the M116A1 Hand Grenade Simulator. If the black powder formulation meets all requirements (as anticipated) it will then be submitted as a Product

### For more information

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Improvement Program (PIP) change to the current configuration of simulators. Once the Engineering Change Plan (ECP) is approved, a Material Change Approval (MCA) will be issued. Upon formulation change, a phased-in production will occur, to ensure they can be produced and will function as intended. After this final testing, the material will be released for full-scale production and use.

Full manufacturing is anticipated to begin in 2008.

