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## Chem-Bio News

- 1. HILL AIR FORCE BASE AIRMEN PREPARE FOR CHEMICAL ATTACK:** *"This week, more than 900 active duty and reserve airmen at Hill Air Force Base have mobilized in what's known as an operational readiness exercise."*
- 2. CADETS, FACULTY RESEARCH USE OF 'IONIC LIQUIDS' TO NEUTRALIZE CHEMICAL WARFARE AGENTS:** *"The Air Force Academy's Chemistry Research Center is crafting a fast, environmentally friendly method of neutralizing chemical warfare agents using "ionic liquids" -- salts that take liquid form between 20 and 100 degrees Celsius."*
- 3. ACTIVISTS SAY 500,000 TONNES OF CHEMICAL WEAPONS IN BALTIC:** *"The director of the Clean Baltic Fund, Arnold Pork, claims that half a million tonnes of chemical weapons were dumped into the sea after World War II. The chemical weapons are allegedly located east of the Helsinki-Tallinn line, in waters that belonged to the former Soviet Union."*
- 4. CHEMICAL FINGERPRINTS COULD FINGER WEAPONS MAKERS:** *"So far, the Lawrence Livermore team has determined these various chemical signatures for a handful of compounds, including Sarin gas and the toxic nerve agent VX. The team is also documenting how these chemicals evolve over time, so scientists can tell if something has been sitting around for five minutes, 20 minutes or a week."*

## Chem-Demil News

- 1. ANNISTON TESTS NEW EQUIPMENT FOR PUEBLO PROJECT:** *"Monday, Anniston Chemical Activity (ANCA) employees started delivering mustard-filled 4.2-inch mortars to a building on Anniston Army Depot laid out to resemble an area of the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) under construction at Pueblo Chemical Depot, Pueblo, Colo."*
- 2. U.S. CHEMICAL WEAPONS STOCKPILE SITES:** *A graphic depicting the US chemical weapons stockpile sites, their status, and the amount of the stockpile that they originally held.*

# CB Daily Report

## Chem-Bio News

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### HILL AIR FORCE BASE AIRMEN PREPARE FOR CHEMICAL ATTACK

By Joseph M. Dougherty

Deseret News

March 25, 2010

"This week, more than 900 active duty and reserve airmen at Hill Air Force Base have mobilized in what's known as an operational readiness exercise."

They're training to deal with chemical attacks, and they're using North Korea as their fictional deployment zone.

Through the cold spring wind, Security Forces airmen catch bits of music being broadcast to simulate North Korean propaganda.

Patrols run reconnaissance around the perimeter of the base and occasionally fire their M-240 machine gun mounted to a Humvee.

Those are some of the noises residents near the base may hear through part of the weekend.

Pulling the trigger releases a series of rapid explosions.

"Does it matter if you close your eyes when you fire it?" a reporter asks the security personnel.

They laugh and say no, that if you have a target when your eyes are open, you're going to hit it."

The full article can be found at: <http://www.deseretnews.com/article/700019533/Hill-Air-Force-Base-airmen-prepare-for-chemical-attack.html>

[Return to Top](#)

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## **CADETS, FACULTY RESEARCH USE OF 'IONIC LIQUIDS' TO NEUTRALIZE CHEMICAL WARFARE AGENTS**

By John Van Winkle  
US Air Force Academy  
March 19, 2010

"The Air Force Academy's Chemistry Research Center is crafting a fast, environmentally friendly method of neutralizing chemical warfare agents using "ionic liquids" -- salts that take liquid form between 20 and 100 degrees Celsius.

The Chemistry Research Center has been investigating ionic liquids and their applications since 1963.

"Ionic Liquids are physically stable (and) chemically stable, and they have this property I like to call 'liquidus range,' the range of temperatures at which they stay stable as a liquid," said Dr. John Wilkes, the research center director. "Once you have these materials -- ionic liquids -- you can start looking at applications of their properties: low volatility, wide thermal ranges, zero vapor pressure. That's where we've been working for the last 15 years."

Zero vapor pressure means an ionic liquid won't evaporate, unlike an alcohol- or water-based compound."

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“Through a grant from the Defense Threat Reduction Agency, cadets and Dr. Michael Wilcox, an Academy biology researcher, attempted to chemically convert specific chemical warfare agents into safer compounds. Substances being evaluated at the Academy are chemically identical to -- but much less dangerous than -- sarin gas, VX nerve agent and sulfur mustard gas.”

The full article can be found at: <http://www.usafa.af.mil/news/story.asp?id=123195755>

[Return to Top](#)

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## **ACTIVISTS SAY 500,000 TONNES OF CHEMICAL WEAPONS IN BALTIC**

YLE.fi

March 25, 2010

“The director of the Clean Baltic Fund, Arnold Pork, claims that half a million tonnes of chemical weapons were dumped into the sea after World War II. The chemical weapons are allegedly located east of the Helsinki-Tallinn line, in waters that belonged to the former Soviet Union.

The Clean Baltic Fund, which has collected data about the Baltic for the last 16 years, says that the Soviet Union immediately began dumping chemical weapons that it seized from Germany, but that the dumping continued well into the 1970's.”

The full article can be found at: [http://www.yle.fi/uutiset/news/2010/03/activists\\_say\\_500000\\_tonnes\\_of\\_chemical\\_weapons\\_in\\_baltic\\_1560082.html](http://www.yle.fi/uutiset/news/2010/03/activists_say_500000_tonnes_of_chemical_weapons_in_baltic_1560082.html)

[Return to Top](#)

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## **CHEMICAL FINGERPRINTS COULD FINGER WEAPONS MAKERS**

By Rachel Ehrenberg

Wired.com

March 25, 2010

“Chemical forensics typically focuses on identifying the compound in question, but chemist Audrey Martin and her colleagues at Lawrence Livermore National Laboratory in California wanted to take these analyses a step further. “If we already know this was a chemical attack using mustard gas, now we want to know who made it,” said Martin, who presented the research March 22 in a poster session at a meeting of the American Chemical Society held in San Francisco. “We’re looking at the next step — where did this come from?”

The technique relies on the fact that there are often many routes to the same chemical — for example there are 12 different ways of making sulfur mustard gas. Depending on the route and the ingredients, there are various chemical by-products, impurities and unreacted ingredients in the final product. The presence and proportions of these molecules can

provide clues to how the compound was made, said Martin. In some cases, such as with the rat poison tetramine, one synthetic route might be ruled out entirely by the presence of a particular ingredient. Signatures of the reaction conditions, such as temperature and pressure, may also be hidden in the final product.

So far, the Lawrence Livermore team has determined these various chemical signatures for a handful of compounds, including Sarin gas and the toxic nerve agent VX. The team is also documenting how these chemicals evolve over time, so scientists can tell if something has been sitting around for five minutes, 20 minutes or a week.

Martin has developed a computer application that she can feed these signatures into, minimizing time spent manually comparing chemical profiles. The researchers are also investigating how such agents interact with food and surfaces such as tile, plastic and metal. This information could help guide first responders charged with sampling a contaminated area, said Martin.

The full article can be found at: <http://www.wired.com/wiredscience/2010/03/chemical-fingerprints-could-finger-weapons-makers/#ixzz0jHZuXNDB>

[Return to Top](#)

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## ***Chem-Demil News***

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### **ANNISTON TESTS NEW EQUIPMENT FOR PUEBLO PROJECT**

US Army Chemical Materials Agency News Release

March 25, 2010

“A new operation here is expected to have a big impact on future chemical munition disposal operations in Pueblo, Colo.

Monday, Anniston Chemical Activity (ANCA) employees started delivering mustard-filled 4.2-inch mortars to a building on Anniston Army Depot laid out to resemble an area of the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) under construction at Pueblo Chemical Depot, Pueblo, Colo. At the Anniston building, a team of specially trained Anniston Chemical Agent Disposal Facility (ANCDF) employees started using the Linear Projectile Mortar Disassembly (LPMD) machine Tuesday (March 23) to remove explosives (fuzes and bursters) from the munitions ANCA is delivering to them.

The Anniston-based employees will collect LPMD reliability and maintenance data associated with the removal of the explosives over the course of several months. The data collected in Anniston will be analyzed and used by Pueblo-based counterparts to safely demilitarize the chemical munition stockpile in Colorado.

“We can do this important job to help our sister site in Colorado while also conducting safe operations at the ANCDF. But it is also important to know the LPMD project does not involve

the transportation of any mustard-filled munitions to or from either the Alabama site or the Colorado site," said Timothy K. Garrett, ANCDF government site project manager.

He also said, "Since the Anniston mustard-filled munitions are similar to the Pueblo stockpile, the lessons learned here will be instrumental in helping the Colorado team prepare for future safe disposal operations at Pueblo Chemical Depot."

ANCA employees are now moving mustard-filled munitions from storage igloos to the ANCDF and to the LPMD building in support of operations at both facilities. They use large, vault-like containers to safely and securely move the munitions. To date, ANCA's Army civilian employees have made more than 8,500 safe deliveries using the containers since the first trip to the ANCDF in August 2003.

Lt.Col. Andrew M. Herbst, ANCA commander, said, "I'm excited to see the LPMD project under way. ANCA employees are eager to approach this project as an opportunity to assist our sister site, Pueblo Chemical Depot, in preparing for the start of their own munition disposal campaign."

While ANCA employees are responsible for storing and moving chemical munitions at Anniston Army Depot, Westinghouse Anniston contractor employees are operating the ANCDF and the new LPMD. Steve Bragg is the LPMD Project Manager.

He said, "A large number of people have worked very hard to begin operations at the LPMD and I am very thankful for their efforts. We have worked as a team to begin safe, compliant operations."

A key component of the LPMD is a yellow, six-axis robot that is remotely operated by Bragg's team from a nearby control room. After other employees carefully place mustard munitions on a conveyor system, the robotic machine picks up the munitions one at a time and places them at munition handling stations like those used in the older PMDs. The use of the robotic LPMD, rather than older, flat, rotary tables, is expected to improve PCAPP operations. Locally, the explosives removed by the Alabama crew will be destroyed on Anniston Army Depot at a later date. The munitions, on the other hand, will be repackaged and returned to safe ANCA storage igloos for future disposal at the ANCDF.

Anniston LPMD operations are expected to remove the munition's energetic components, including the fuze and burster, from thousands of 4.2-inch mortars and 105mm and 155mm artillery shells during the next several months. The project does not involve the draining of any mustard agent. This week, only a relatively few mortars have been processed as local managers have scheduled a slow and deliberate ramp up of operations to ensure safe operations.

Since disposal operations began at the ANCDF in August 2003, more than 467,700 nerve agent and mustard-filled munitions (70.6 percent) have been safely demilitarized. More than 346,000 gallons (68.7 percent) of liquid nerve and mustard agents have also been processed during operations at the ANCDF."

The full article can be found at: <http://www.cma.army.mil/fndocumentviewer.aspx?>

[Return to Top](#)

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## **U.S. CHEMICAL WEAPONS STOCKPILE SITES**

US Army Chemical Materials Agency  
Undated

A graphic depicting the US chemical weapons stockpile sites, their status, and the amount of the stockpile that they originally held.

The original article can be found at: <http://www.cma.army.mil/fndocumentviewer.aspx?DocID=003676513>

[Return to Top](#)

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