

14 November 2008

Chem-Bio News

1. NNSA [NATIONAL NUCLEAR SECURITY ADMINISTRATION] SECURES ONE OF THE WORLD'S LARGEST NUCLEAR STORAGE FACILITIES:

"A major cooperative effort to secure weapons-grade nuclear material is now completed at the Mayak Production Association in Ozersk, Russia, a senior official with the National Nuclear Security Administration (NNSA) said today, calling it a milestone in joint nuclear security work. "

2. EDA [EUROPEAN DEFENSE AGENCY] HOSTS A CHEMICAL, BIOLOGICAL AND RADIOLOGICAL AGENTS EXERCISE:

"The European Defence Agency hosts an exercise on how to deal better with the effects of Chemical, Biological and Radiological or Nuclear (CBRN) agents, in Jambes, Namur, from 11 to 13 November, bringing together about 100 experts from its participating Member States."

3. RESEARCHERS LEARN HOW BLEACH KILLS BACTERIA:

"In a study published in the Nov. 14 issue of the journal Cell, a team led by molecular biologist Ursula Jakob describes a mechanism by which hypochlorite, the active ingredient of household bleach, attacks essential bacterial proteins, ultimately killing the bugs."

4. NANOTECHNOLOGY E-TEXTILES FOR BIOMONITORING AND WEARABLE ELECTRONICS:

"He believes that further development of this CNT-cotton material could lead to several useful applicationsreversible sensing schemes for relevant biological compounds/markers."

5. CALIFORNIA MAN INDICTED FOR 'ANTHRAX' HOAX: JUSTICE:

"A 66-year-old man has been indicted for sending more than 120 letters containing harmless white powder marked "anthrax" to media outlets and public figures, according to justice officials."

Chem-DeMil News

1. [LEXINGTON BLUE GRASS ARMY DEPOT] - LEAK DETECTED AT DEPOT:

"A leak was detected Thursday in a M55 rocket holding the nerve agent GB at the Blue Grass Army Depot, officials said."

CB Daily Report

Chem-Bio News

NNSA [NATIONAL NUCLEAR SECURITY ADMINISTRATION] SECURES ONE OF THE WORLD'S LARGEST NUCLEAR STORAGE FACILITIES

NNSA News Release
November 12, 2008

"A major cooperative effort to secure weapons-grade nuclear material is now completed at

the Mayak Production Association in Ozersk, Russia, a senior official with the National Nuclear Security Administration (NNSA) said today, calling it a milestone in joint nuclear security work.

It is the largest nuclear materials storage facility that NNSA has completed security upgrades on to date. Over the past decade, NNSA and Rosatom, Russia's nuclear energy and materials agency, have been working on the modernization of security measures at the long-term storage facility, which holds highly enriched uranium and plutonium."

The full article can be found at: <http://nnsa.energy.gov/2195.htm>

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EDA [EUROPEAN DEFENSE AGENCY] HOSTS A CHEMICAL, BIOLOGICAL AND RADIOLOGICAL AGENTS EXERCISE

EDA News Release

November 12, 2008

"The European Defence Agency hosts an exercise on how to deal better with the effects of Chemical, Biological and Radiological or Nuclear (CBRN) agents, in Jambes, Namur, from 11 to 13 November, bringing together about 100 experts from its participating Member States."

"The exercise runs from 11 to 13 November and three scenarios are examined in order to test simulating different combinations of chemical, biological and radiological substances to enhance agents' capabilities. Each scenario runs through several mock headquarters set up to test reactions and procedure to incidents. The exercise has tactical level demonstrations of mock incidents dealt with by the Royal Belgian Army, who has significant experience in dealing with chemical weapons left over from World War 1."

The full article can be found at: <http://www.eda.europa.eu/newsitem.aspx?id=428>

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RESEARCHERS LEARN HOW BLEACH KILLS BACTERIA

Infection Control Today Magazine

November 13, 2008

"In a study published in the Nov. 14 issue of the journal Cell, a team led by molecular biologist Ursula Jakob describes a mechanism by which hypochlorite, the active ingredient of household bleach, attacks essential bacterial proteins, ultimately killing the bugs."

"Jakob and her team were studying a bacterial protein known as heat shock protein 33 (Hsp33), which is classified as a molecular chaperone. The main job of chaperones is to protect proteins from unfavorable interactions, a function that's particularly important when cells are under conditions of stress, such as the high temperatures that result from fever.

"At high temperatures, proteins begin to lose their three-dimensional molecular structure and start to clump together and form large, insoluble aggregates, just like when you boil an egg," said lead author Jeannette Winter, who was a postdoctoral fellow in Jakob's lab. And like eggs, which once boiled never turn liquid again, aggregated proteins usually remain insoluble, and the stressed cells eventually die.

Jakob and her research team figured out that bleach and high temperatures have very similar effects on proteins. Just like heat, the hypochlorite in bleach causes proteins to lose their structure and form large aggregates."

The full article can be found at: <http://www.infectioncontrolday.com/hotnews/how-bleach-kills-bacteria.html>

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NANOTECHNOLOGY E-TEXTILES FOR BIOMONITORING AND WEARABLE ELECTRONICS

Nanowerk.com

By Michael Berger

November 14, 2008

"We found that the incorporation of CNTs into the cotton yarn was much more efficient than their adsorption into carbon fibers, which was tried elsewhere" explains Bong Sup Shim, a PhD student in Kotov's group and first author of the above paper. "This could be a result of the efficient interaction of polyelectrolytes with cotton and other natural polysaccharide and cellulose-based materials, such as paper, which is well known in industry. Additionally, the flexibility of the CNTs allowed them to conform to the surface of the cotton fibers."

"He believes that further development of this CNT-cotton material could lead to several useful applications:

- # reversible sensing schemes for relevant biological compounds/markers;
- # various sensors for body functions including monitoring of degree of contusion/blast damage (of great interest to the project's funder, the Air Force); and
- # multiplexed sensing of five to six analytes with yarns modified in different ways."

The full article can be found at: <http://www.nanowerk.com/spotlight/spotid=8189.php>

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CALIFORNIA MAN INDICTED FOR 'ANTHRAX' HOAX: JUSTICE

Agence France-Presse on Google News

November 13, 2008

"A 66-year-old man has been indicted for sending more than 120 letters containing harmless

white powder marked "anthrax" to media outlets and public figures, according to justice officials.

The Department of Justice said Mark Keyser, of Sacramento, faced arraignment on 13 counts for his hoax mailing, which was sent to media outlets in California, Washington, and North Carolina.

According to prosecutors, Keyser sent packages including a compact disc titled "Anthrax: Shock & Awe Terror," accompanied by a small bag of powder carrying a bio-hazard label and marked "Anthrax Sample."

The full article can be found at: http://www.google.com/hostednews/afp/article/ALeqM5jjPH9FXI_eHfkdQhMyImVONF7B8Q

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Chem-Demil News

[LEXINGTON BLUE GRASS ARMY DEPOT] - LEAK DETECTED AT DEPOT

By Ashlee Clark

Lexington Herald-Leader

November 14, 2008

"A leak was detected Thursday in a M55 rocket holding the nerve agent GB at the Blue Grass Army Depot, officials said.

The leak comes a day after crews began neutralizing 157 gallons of GB, also known as sarin, in a plan called Operation Swift Solution. Thursday's leak was unrelated to the neutralizing plan, which will destroy sarin that is stored in three steel ton containers at the depot.'

The full article can be found at: <http://www.kentucky.com/181/story/591243.html>

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