The toxic vapors sources included GB, GD and HD. Among the foams were 10 fire fighter foams (e.g. AFFF, protein) and the aqueous decontamination foam CASCAD.
Small scale experiments showed that CASCAD is best suited for covering a toxic source; a 10cm layer of it covers and decontaminates GB. The large scale experiments confirmed that any fire fighter foam is a suitable cover for a longer or shorter period.

Key Words/ Phrases: C-terrorism, mitigation, toxic vapor, foam, first responder

Dr. Walter P. Aue is the Head of Chemical Detection and Decontamination at SPIEZ LABORATORY.
A physical chemist by training, he is mainly supporting procurement by sophisticated testing of detectors and decontamination systems. Earlier activities include 9 years of chemical disarmament (international and national implementation of the Chemical Weapons Convention), and 15 years of basic research in nuclear magnetic resonance spectroscopy. His hobbies are swimming, mountaineering, model trains and RC model gliders.

4. CHEMICAL TOXICITY APPROACH FOR EMERGENCY RESPONSE

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In the event of an airborne release of chemical agent or toxic industrial chemical by accidental or intentional means, emergency responders must have a reasonable estimate of the location and size of the resulting hazard area. Emergency responders are responsible for warning persons downwind of the hazard to evacuate or shelter-in-place and must know where to look for casualties after the hazard has passed or dissipated. Given the same source characterization, modern hazard assessment models provide comparable concentration versus location and time estimates. Even urban hazard assessment models often provide similar predictions. There is a major shortcoming, though, in applying model output to estimating human toxicity effects. There exist a variety of toxicity values for non-lethal effects ranging from short-term to occupational to lifetime exposures. For health and safety purposes, these estimates are all safe-sided in converting animal data to human effects and in addressing the most sensitive subset of the population. In addition, these values are usually based on an assumed 1 hour exposure duration at constant concentration and do not reflect either a passing cloud,s concentration profile or duration. Emergency responders need expected value toxicity parameters rather than the existing safe-sided ones. This presentation will specify the types of toxicity values needed to provide appropriate chemical hazard estimates to emergency responders and will demonstrate how dramatically their use changes the hazard area.

Key Words/ Phrases: toxicity, hazards, emergency response, casualties, models

Tim Bauer is a senior chemical engineer at the US Naval Surface Warfare Center. Tim has provided CBR technical expertise to the Chemical and Biological Defense Program and domestic and international expert panels for over 20 years. Current efforts include developing improved chemical agent surface evaporation and contact transfer methodology and estimating the consequences of terrorist attacks resulting in release of Toxic Industrial Chemicals (TICs) for the US Departments of Defense and Homeland Security. Tim is currently active on working groups concerned with developing and standardizing CBR test and evaluation procedures and determining TIC challenge levels to acquisition products.

5. SECURITY AND HEALTH PROTECTION DURING THE TRANSPORT OF HAZARDOUS SUBSTANCES

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The introduction of this work describes the legal regulations which regulate the conditions and method of the transport of hazardous substances, necessary documentation for storage, forwarding and transport. Hazardous substances are defined and classified according to the ADR. The necessary security measures which are taken for the transport of particular types of hazardous substances are mentioned. Marking and labeling of vehicles for the transport of hazardous substances (plates and lists of hazards), packing and marking of packaging is important. The safety measures which are taken at the filling stations of combustible liquids as well as places specially organized for filling, prohibitions and limitations and necessary transport documentation are mentioned.
It is visible from the above mentioned that the activity of the whole security chain is necessary and depends on the good knowledge of basic characteristics and

features of substances. All the participants in the security chain have to be familiar with and consistently obey the legal regulations. The manufacturer must know the features of the hazardous substance, supervisory services must be acquainted with the threat and potential danger. The hauler and intervention forces must, in case of accidents and damage, be familiar with the emergency procedures in case of accidents and act properly regarding the threatening dangerous substance.

Key Words/ Phrases: danger, transport of hazardous substances, security

6. HAZARDOUS SUBSTANCES SHIPPING AT INLAND WATER HARBORS

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Safety measures and regulations system covering the aspects of fire protection, professional and ecological safety are aimed to create a safe working environment, by detection and remedy of conditions that are potentially hazardous for the wellbeing of the employees or are leading to certain undesired events.
Such unwanted incidents may result in different consequences: operating person's injury, environment pollution or material damage.
This study attempts to illustrate the organization of work during hazardous matter loading and unloading at inland water harbors, based on legal provisions and decrees involving safety precautions, and in order to achieve constant enhancement of operating procedure, decreasing thereby the number of work-related injuries and various accidental situations.
Fundamental precondition required to prevent possible accidents and to optimize general safety policy is to recognize and control any danger or potential hazard, as well as to be familiar with the legal provisions covering the inland waterway transport of harmful substances.

Key Words/ Phrases: hazardous substances, inland navigation, inland waterways, loading, unloading

Željko Benković finished high educational school in Zagreb. 2003 graduated on High school for security in Zagreb and obtained diploma as an engineer of security – protection at work. 2006 graduated on the very same faculty and obtained diploma for engineer of security – fire protection. Since 2004 working in company „Sinaco"member of INA group as a Specialist I. Until now he published several paper works and was a lecturer on different domestic and international conferences and meetings. He is a member of several professional associations. He speaks German and English language. Special education: certificate for ISO auditor.

7. THE CHARACTERISTICS OF EXOSPORIUM ANTIGENS FROM DIFFERENT VACCINE STRAINS OF BACILLIUS ANTRACIS

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ABSTRACT

To develop of both test-systems for rapid detection and identification of *B. anthracis* spores and a new subunit vaccine the antigens on the spore surface should be characterized.
Exosporium consists of two layers-basal and peripheral and has been form by protein, amino- and neutral polysaccharides, lipids and ash. Number of anthrax exosporium proteins was described and identified: glycoprotein BclA, BclB, alanine racemase, inosine hydrolase, glycosyl hydrolase, superoxid dismutase, ExsF, ExsY, ExsK,CotB,CotY and SoaA.
So far no glycosilated proteins other then highly immunogenic glycoproteins BclA, BclB were detected in the *B. anthracis* spore extract although several exosporium-specific glycoprotein have been described in other members of the *B.cereus* family- *B. thuringiensis* and *B.cereus*.
Although EA1 protein originally described as main component of S-layer from vegetative cells he can regular observed in different exosporium preparations and additionally some anti- EA1 monoclonal antibodies able to recognize spore surface .We have revealed that EA1 isolated from spore of Russians strain STI-1contain carbohydrate which determine immunogenicity of this antigen. Because some time ago we have found that exosporium protein's pattern variable among *B. anthracis* strains we investigated exosporium from spore of different strains of *B. anthracis* including STI-1, Ames, Stern and others.
We have comparative characterized antigens by using Western Blotting, Two-Dimensional electrophoresis and Mass Spec analysis. The results of analysis will be presented and discussed.

8. THE SEARCH AND IDENTIFICATION OF NEW IMMUNODIAGNOSTIC TARGETS OF BACILLUS ANTHRACIS SPORE

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ABSTRACT
Spores of *Bacillus anthracis* have been used as biowarfare agent to bioterrorize purposes. As efficiency of anti-epidemic measures included urgent