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DHS intends to update this Bulletin should it receive additional relevant information, including information provided to it by the recipients. Based on this notification, no change to the Homeland Security Advisory System (HSAS) level is anticipated; the current HSAS level is YELLOW.

OVERVIEW

This is a joint DHS and FBI Information Bulletin. DHS Information Bulletins communicate issues that pertain to the critical national infrastructure and are for informational purposes only.

While DHS possesses no information indicating specific terrorist targeting of U.S. critical infrastructures through the delivery by mail of the toxin ricin, such targeting would be consistent with certain terrorists' stated objectives to disrupt and undermine vital economic interests in this country.

DETAILS

On the afternoon of February 2, 2004, Senate staff observed gray granular powder on an automated mail opening system. Preliminary field tests indicated the possible presence of a biological toxin. Samples of the material were tested overnight at a government laboratory and results indicated the presence of ricin. The three Senate Office Buildings were closed and secured on February 3rd. The samples were forwarded to the Centers for Disease Control and Prevention in Atlanta, Georgia and on February 4th three out of the four samples tested positive. At this time no threat letter has been identified and no threat has been received.

Past incidents involving the presence of ricin have occurred in the United States and the United Kingdom. On October 15, 2003, a postal worker discovered a business-size envelope containing the toxin ricin in a mail distribution facility in Greenville, South Carolina. The letter, which was addressed to the U.S. Department of Transportation, did not pass through the postal system. In January 2003, law enforcement agencies in the United Kingdom searched several locations in London as part of an ongoing counterterrorism investigation and found small amounts of ricin, as well as equipment that could be used in its production. In April 1991, several members of a domestic extremist group in Minnesota extracted ricin from castor beans and discussed using it against federal law enforcement officers. The amount of ricin produced could have killed more than 100 people if effectively delivered.

Background on Ricin

1) Ricin is a poison that can be made from the waste (mash) left over from processing castor beans. Ricin can be made in the form of an off-white *powder*, a *mist*, or a *pellet* or it can be dissolved in water or weak acid. It would take a deliberate act to make Ricin and use it to poison people. Ricin is one of several toxins that exert toxicity by inhibiting protein synthesis. Ricin can enter the body through inhalation, ingestion, abraded (non-intact) skin, mucosal membranes (e.g., eyes and nose), and injection. Ricin poisoning is not contagious, and person-to-person transmission does not occur.

Toxicity

Exposure to ricin may occur through:

- 1 Inhalation, skin, or eye contact: as an aerosol, powder, or dust
- 2 Ingestion: through contamination of food, water, or consumer products
- 3 Injection: directly through the skin

Ricin toxicity and lethality can vary by dose and route of exposure. In animal studies, inhalation and intravenous injection have been shown as the most lethal routes. The lethal dose for humans, by inhalation or injection, is estimated to be 5 - 10 mg/kg. Because the ricin protein is large, it is not well absorbed orally or through the skin.

To date ricin poisonings have only occurred in humans after *ingestion* or *injection*. Ricin is considered to be a much more potent toxin when inhaled or injected compared with other routes of exposure, however ricin would need to be dispersed in *particles smaller than 5 microns* to be used as an effective weapon via inhalation. It is technologically difficult to produce ricin particles of this size and purity.

2) For more information about ricin go to: <http://www.bt.cdc.gov/agent/ricin/>

SUGGESTED PROTECTIVE MEASURES

Suggested Actions for Mail Room, Postal and Shipping Facility Operators

Two categories of actions are necessary: 1) Identifying and assessing biological (including ricin) threats; 2) Managing biological threats that appear credible.

1. Identifying and Assessing Biological Threats

Several commercial handheld or test-strip ricin detection devices are available; however the Centers for Disease Control and Prevention (CDC) have stated that the performance of these assays is unknown. While many of these tests indicate a high false positive, they may be more useful in ruling out the presence of ricin. These test kits should only be used by trained and certified hazardous materials professionals. If such testing is deemed necessary, personnel should preserve original evidence for forensic analysis. Automated, continuously monitoring bio-detection systems are available commercially; however they may be cost-prohibitive for many companies.

Measures that can be taken without installing special detection equipment are the same for most biological threats and are organized according to whether the mail is opened or unopened and whether it contains a written threat or an unidentified container:

Opened mail that is leaking a suspicious liquid or powder, or mail that has a suspicious odor: If you open a letter or package and see an unknown material, or if an unknown material is leaking from the mail as a liquid, powder, or odor, *do not try to clean it up or otherwise disturb it*. Set the mail down on a stable surface and call the first responder designated to respond to this type of threat, e.g., the HAZMAT team at the local fire and rescue department.

Opened mail that contains a written threat: If anyone in the organization opens a letter or package *with or without powder* and discovers a written threat, such as a note that says “You have been contaminated with ricin,” put the package or letter down on a stable surface and call the first responder designated to deal with this type of threat. The mail center supervisor or the first responder must ensure that local law enforcement authorities and the FBI local field office are notified in either of these events.

Unopened mail: Whenever a mail center worker identifies an unopened package or letter as “suspicious”, a mail center supervisor or specially trained employee should examine the mail piece to confirm that it meets the “suspicious” criteria established for the location (e.g., it is covered with powder or appears saturated from the inside). If confirmed, *do not open it*. A supervisor or designated mail center worker who is trained to confirm the identification must be available during all working hours.

Next, determine if the mail piece is addressed to a person who actually works in the facility. If so, and if the addressee can be located in a reasonable period of time, contact the addressee and ask him or her to identify the package. If the addressee recognizes the package and is certain it is not threatening, deliver it. If the addressee does not recognize the package, or if you cannot locate the addressee, attempt to contact the individual listed on the return address to verify the contents of the package. If you successfully contact the sender of the package, ask them to provide a description of the contents, intended addressee, and the reason it was mailed to your location. Provide this information to the addressee for further verification.

If the addressee does not recognize the package, or if you cannot locate the addressee, *do not open it*. The supervisor or designated mail center worker should call the previously

designated first responder. This first responder will be responsible for opening the package in a controlled environment and following the appropriate protocol for evaluation of the threat. A “controlled environment” may be a glove box, hood with negative airflow and HEPA filters on the exhaust airflow, or a similar device. When identifying the first responder who will open suspicious letters or packages, make sure they have a controlled environment available.

Mail that contains an unidentified secondary container: If x-ray inspection shows a secondary container that may contain an unknown material, or if you open a letter or package and discover such a container, *do not open or otherwise disturb the secondary container*. Treat the secondary container as suspicious, unopened mail. As above, first call the addressee and see if they can identify the container. If he or she cannot be located, then call in the first responder designated to open suspicious mail.

2. Managing Biological Threats That Appear Credible

In the event that a trained first responder, after reviewing the situation, determines that a possible biological hazard may actually be present (i.e., a biological agent may have been released into the workplace, or a biological agent may be present in a package or envelope that has been opened), the **first responder** should take the following steps or ensure that these activities are performed where appropriate:

- 1 Turn off the ventilation system, fans or window air conditioners for the area of potential release.
- 2 Turn off any high-speed mail processing equipment that may have handled the suspicious mail piece.
- 3 Make sure that the suspicious substance is not disturbed by covering it
- 4 Keep everyone out of any room(s) that may have been contaminated.

In addition, the first responder should immediately call local law enforcement authorities and the FBI Field Office and ask to speak to the Weapons of Mass Destruction (WMD) coordinator. The FBI website is <http://www.fbi.gov>. The FBI WMD coordinator will respond to the scene and will, in conjunction with other federal, state, local, and internal experts, conduct a threat assessment and, in conjunction with public health officials, direct other actions to protect employees and the general public.

Suggested Actions for First Responders

Ricin should only be handled by trained and certified hazardous materials professionals. Hazardous Materials Teams should be aware that ricin mostly presents a particulate inhalation or splash hazard depending on the preparation of the material. Personal protective equipment (PPE) for first responders, including those who are decontaminating victims at the scene, is generally determined by the Incident Commander based on the mechanism of dispersal and whether dispersal is continuing. Preventing droplets from contacting broken skin or mucosal membranes (e.g., the mouth or eyes) is important when decontaminating someone, but airborne dispersal of ricin during decontamination is

an unlikely hazard. PPE can consist of a chemical-resistant suit with gloves, air purifying respirator or self-contained breathing apparatus and eye/face protection. Sampling, seizure, or transportation of ricin should be completed only under the authority of or in coordination with law enforcement.

Personnel who may have been exposed to ricin should wash the effected area vigorously with soap and water. Equipment and supplies can be decontaminated with a weak (0.5 percent) hypochlorite solution (bleach) and/or soap and water.

Healthcare providers should report suspected or known cases of ricin poisoning immediately to the regional poison control center (telephone, 1-800-222-1222) and to local or state public health agencies, which will report cases to the CDC, and other federal agencies including the DHS.

DHS encourages recipients of this Information Bulletin to report information concerning suspicious or criminal activity to local law enforcement, local FBI's Joint Terrorism Task Force or the Homeland Security Operations Center (HSOC). The HSOC may be contacted at: Phone: (202) 282-8101 or by email at HSCenter@dhs.gov.