

Small Plant NEWS

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Help on How To Deal With a Chemical Leak in Your Plant

By Ariel Thompson



For any company that uses or stores hazardous materials, there is always a chance of a spill or leak. While training for chemical spills is required by Occupational Safety and Health Administration's (OSHA) regulations, the responsibility falls on you to keep your employees, products, and the environment safe.

As the old saying goes, "proper planning prevents poor performance." There are several steps you may take in order to prepare for the possibility of a chemical leak. They are:

- Maintain and be familiar with the Material Safety Data Sheets information. These sheets contain important information concerning chemical handling during emergencies, such as flammability and treatment for ingestion, inhalation, or skin contact.
- Clearly describe procedures for facility personnel to implement a response management system.
- Include procedures for employees who operate critical plant operations before they evacuate.
- Contact your local emergency response organizations, such as fire departments, to notify them of the potential response equipment they may need in the event of an emergency at your location.
- Practice drills to ensure evacuation routes are unobstructed and known by all employees.
- Remember to evaluate your plan for potential changes when you introduce new chemicals to your plant.

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Which *Salmonella* Serotypes Should You Be Most Concerned About?

By CDR Jeff Tarrant, U.S. Public Health Service

As an owner or operator of a meat, poultry, or processed egg products plant, you're all too familiar with the bacterium *Salmonella*. But, with thousands of known serotypes, which should you be most concerned about?

According to the U.S. Centers for Disease Control and Prevention (CDC), the *Salmonella* family includes over 2,300 known serotypes of bacteria. The first strain known to cause illness was discovered in 1885 by Theobald Smith, research assistant to Dr. Daniel Salmon. Salmonellosis, the infection caused by the bacteria, causes an estimated 1 million cases of foodborne illness and approximately 375 deaths annually in the United States.

To address this public health concern, in January 1998, FSIS began isolating *Salmonella* serotypes from four carcass and three raw ground product classes from establishments regulated by the Agency. In June 2006, turkey carcasses were added.

It's noteworthy to point out that some of the most common serotypes isolated from meat and poultry products are rarely found in humans. Conversely, some of the serotypes frequently detected in humans are found in various meat and poultry products, in addition to other foods and non-food sources.

The CDC has identified *Salmonella* Enteritidis; Typhimurium; Newport; I 4,[5],12:1:-; Javiana; Heidelberg; and Montevideo as the seven most commonly identified serotypes causing human infection in the United States. According to the CDC's Foodborne Diseases Active Surveillance Network (FoodNet), these serotypes combined accounted for a majority (61.6%) of human *Salmonella* infections detected in 2007. These serotypes are among the more commonly identified in meat and poultry products, with the exception of Javiana.

In addition, year-to-year variations in serotypes and product classes occur regularly. For instance, *Salmonella* serotypes Kentucky, Hadar, and Derby were the predominant serotypes detected by FSIS in chicken broilers, ground turkey, and market hogs respectively in 2007, but were not



Photo of *Salmonella* under a microscope. (USDA)

among the top seven serotypes identified by CDC surveillance data.

So, what has FSIS done to counter these serotypes? In 2006, the Agency launched the *Salmonella* Initiative Program to reduce the presence of *Salmonella* in raw meat and poultry products. The initiative included concentrating resources at plants with higher levels of *Salmonella* and changed the reporting and utilization of FSIS *Salmonella* verification test results.

Since then, the Agency has posted quarterly aggregate

results of all sample results on its Web site at www.fsis.usda.gov/Science/Quarterly_Salmonella_Results/index.asp to give consumers more complete and timely information about *Salmonella* trends. Note, however, that those results are not broken down into serotypes.

In 2006, the Agency also launched a full-scale outreach campaign targeting small and very small meat, poultry, and processed egg products establishments by providing technical resources to control and reduce *Salmonella* levels by applying best management practices in their facilities. More importantly, FSIS continues to work with international and domestic public health partners to better identify the proportion of human salmonellosis attributable to FSIS-regulated products.

For more information on *Salmonella* and salmonellosis, visit FSIS' Web site at www.fsis.usda.gov. To help combat *Salmonella* within your facility, contact the Small Plant Help Desk at (877) 374-7435 to order guidance materials, CDs, DVDs, and other useful resources. Also, remember to utilize the *Small Plant News* annual index available at www.fsis.usda.gov/News_&_Events/Small_Plant_News_Index_2007_2008/index.asp to research past stories and references about *Salmonella* in this publication.

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How you respond to a chemical leak is just as important as preparing for the possibility of one. Some actions you may take include:

- Assess the risk of the spill before determining what actions to take. Some things to consider include:
 - The amount of chemicals spilled. Highly toxic chemical spills, even in small quantities, may require a full emergency evacuation.
 - The properties of the spilled chemical. Is it corrosive, flammable, toxic, etc.? Is it liquid, powder, or gas? If toxic, what are the possible routes of entry?
 - Any other special circumstances, such as the location of the spill, ventilation, knowledge of personnel, specialized equipment needed, etc.
- Follow your predetermined evacuation plan, if necessary. Prevent access to the facility for any non-essential personnel to reduce the possibility of exposure/contamination.
- When necessary, notify your local emergency response authorities of the situation and what actions you have taken so far.
- If appropriate, take action to contain the spill. Remember that your actions will be determined by the properties of the chemical.

Finally, as with any emergency, you will face recovery. Once the chemical spill is contained, dispose of all chemical waste in an approved manner. You will then need to

decontaminate your personnel and your facility. You need to determine the amount of exposure versus the amount of contamination. Things to consider when determining the amount of contamination include:

- the amount of material to which you have been exposed,
- how long you have been exposed,
- concentration of material,
- physical state of material, and
- ambient temperatures.

When decontaminating your facility, always work from dirty to clean. Steps should be tailored to the particular spill and may include:

- increasing ventilation,
- rinsing the area with copious amounts of water,
- washing and sanitizing the area and equipment, and
- condemning affected product.

Document your procedures in depth, both for your own records and for reporting to regulatory authorities.

After the spill has been remediated, evaluate your response for possible improvements. Were there any unnecessary risks or exposures? Did your plan work as it should have or were there unexpected problems? Was your team adequately trained? You can use the answers to these questions to help you improve your response if a spill occurs in the future.

Food Safety Resources

By Kurtis Calhoun

Do you need assistance finding sources to aid you with meeting the requirements of FSIS regulations and policies? Look no further. The FSIS Web site offers “Policy Points,” which can be viewed at www.fsis.usda.gov/Regulations_&_Policies/Policy_Points/index.asp.

The purpose of the site is to help you gain a better understanding of how to comply with Agency regulations. The “Policy Points” are provided in the form of PowerPoint presentations. The presentations are used to develop a standard understanding of Agency notices, directives, and other issuances.

The site offers a variety of “Policy Points” including, but not limited to, exports/imports, Hazard Analysis and Critical Control Point (HACCP) plans, slaughter inspection, and exemptions. With the topic of HACCP, for example, this particular Policy Point discusses how and when to perform HACCP basic compliance checks, how to document regulatory noncompliance, and the different procedures that can take place under FSIS Notice 09-08.

The Policy Points were created by FSIS’ Policy Development Division. For help with policy interpretation, call (800) 233-3935.

Commonly Asked Questions & Answers

Q. *If “retraining employees” is the proposed preventive measure for meeting the corrective action requirement, is a plant required to document the specific retraining event when it occurs?*

A. If the establishment’s preventive measure is that the employee “will be retrained,” documentation that retraining occurred is required to demonstrate that the training was performed to meet the requirement of 9 CFR 416.15(b) and 9 CFR 416.16(a).

Q. *May I use “employee training” multiple times on my Sanitation Standard Operating Procedures (SOP) records as a preventive measure to meet the requirements of 9 CFR 416.15?*

A. The plant may document “employee training” multiple times as a preventive measure on its Sanitation SOP records. If the establishment documents employee training as a preventive measure, the training should also be documented when it occurs. However, if after repeated employee training has occurred, FSIS inspectors find the Sanitation SOP failed to prevent direct contamination or adulteration of product, employee training may not be accepted as an effective preventive measure by the Agency.

Q. *A new firm has just started producing product in a foreign country and would like to send samples of its product to the United States for research and evaluative purposes. What information could be provided on current requirements that govern the importation of product into the United States for such purposes?*

A. FSIS authorizes requests for the importation of samples of meat, poultry, and/or processed egg products destined for laboratory examination, research, evaluative testing, or trade show exhibition. Provided there are no animal health restrictions imposed by USDA’s Animal and Plant Health Inspection Service (APHIS), meat, poultry, and processed egg products samples can originate from any foreign country. Samples originating in countries with animal health restrictions must apply to APHIS for a permit prior to importing.

Further information on importing samples is referenced on FSIS’ Web site at www.fsis.usda.gov/Regulations_&_Policies/samples_for_research_&_testing/index.asp, and information from APHIS can be accessed at www.aphis.usda.gov/vs/ncie. You also can contact the Small Plant Help Desk at (877) 374-7435.