

HOW TO RESPOND TO HAZARDOUS CHEMICAL SPILLS pdf

1: CDC - Chemical Agent Information - NIOSH Workplace Safety and Health Topic

Edit Article How to Respond To and Contain Chemical Spills. In this Article: Minor Spills Community Q&A There are various chemicals used for a variety of purposes across the world.

Injury or Illness In addition to contacting University Police for an injury or illness needing medical attention, personnel must notify their immediate supervisor of an injury or illness resulting from exposure to hazardous materials. **Chemical Exposure to Skin:** Immediately flush with cool water for at least 15 minutes. If there are no visible burns, remove all jewelry and soap area. Seek medical attention if a reaction occurs or if there are concerns. **Chemical Exposure to Skin - Serious:** Remove all contaminated clothing. Immediately soak with cool water for at least 15 minutes. Have someone contact the University Police at **Seek immediate medical attention.** Irrigate eyes for at least 15 minutes with tempered water from emergency eyewash station. Remove contact lenses if possible. Notify the University Police at **Smoke and other Airborne Contaminants:** Anyone overcome by smoke or other airborne contaminants should be relocated to an area where there is fresh air. Never attempt to enter a location where potentially dangerous air contaminants might place you at risk. If someone is down, contact emergency personnel. Extinguish burning clothing by using the drop and roll technique, dousing with cold water using an emergency shower or smothering with a fire blanket. If using a fire blanket, do not allow the person to remain standing. If possible, remove contaminated clothing and cover injured person to prevent shock. **Chemical Spills liquid, gas, solid** There is a wide range of chemicals in the workplace. The safe clean up of a chemical spill requires knowledge of the properties and hazards posed by the chemical, and any added dangers posed by the location of the spill. If you believe a spill is beyond your capacity to clean up, do not attempt to do so on your own, **STOP** and contact the University Police. Spill kits with instructions, absorbents, neutralizing agents if applicable, protective equipment, and sealable waste buckets should be present in the workplace. A minor spill is characterized by all of the following criteria: **Minor Spill Clean Up:** Alert people in the immediate area of the spill. Contain the spill with absorbent spill material. Completely clean the area where the spill occurred. Place the absorbed spill material in secondary containment, such as the spill bucket. Dispose of contaminated PPE properly. A major spill is characterized by all of the following criteria: Results in a fire or explosion, or presents a risk for a fire or explosion; Results in personnel requiring medical attention; Is not contained within a laboratory; or Is characterized as a major spill by the Emergency Coordinator. **For a Major Spill or Leak:** Remove any injured or contaminated persons if you can do so safely. Contact the University Police at x and stand by in a safe location. Remove all contaminated clothing, shoes etc. Seek immediate medical attention if you have been exposed. Do not attempt to clean up a major spill. Leave it to the experts! Use a pipette or medicine dropper to pick up mercury droplets. Do not use a commercial or domestic vacuum cleaner as this will contaminate the vacuum and spread mercury vapor. Cover the area of the spill with sodium polysulfide solution powdered sulfur or silver metal compounds. Place the spill material in secondary containment, such as the spill bucket. **Biological Spills** The release or spill of biohazardous material will require a different response based on several factors, including the actual agent and the associated risks, the amount of material spilled, type of spill and the location of the spill. The following guidelines are to provide a quick reference to employees involved in a response to a biohazardous spill. Each lab working with biohazardous material should have their own specific spill response procedure. Where applicable, consult with your supervisor to be sure you have received the specialized training for your area. **Spill Inside the Biosafety Cabinet** A spill or release inside a biosafety cabinet BSC does not pose a risk to others in the lab or to the environment. The BSC functions to contain the spill and protect people in the lab from exposure to the agent. Leave the BSC turned on. Person working in the BSC at the time of the spill should remove contaminated gloves, lab coat and sleeve covers if in use and dispose of them in the biohazardous waste container. New Personal Protective Equipment PPE including a lab coat, gloves and sleeve covers, if needed, should be donned prior to placing arms and hands inside the cabinet. Large volumes of liquid should be covered with absorbent material then disinfectant should be poured over the spill, being careful to not create splashes. Allow the disinfectant to stand for minutes or longer if indicated based on the

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agent in use. All disposable material should be removed from the cabinet and placed into the biohazardous waste container. Reusable material should be wiped down and either autoclaved or thoroughly chemically disinfected prior to reuse. If material is spilled into a drain pan, be sure that disinfectant is poured into the pan and allowed to sit for a minute contact time. This liquid should then be poured into a container and placed into the Satellite Accumulation Area in the lab for pick up and disposal as hazardous chemical waste. Clean up person should remove PPE and dispose of into the biohazardous waste container. Hands should be thoroughly washed and if clothes were contaminated, they should be changed prior to returning to regular work activities. Extensive hood decontamination may be necessary and the BSC should not be used until clean up is completed. Document spill and response procedures. If exposure occurred, please refer to the appropriate Exposure Response Plan for the biological agent. The plans can be accessed online at [viceprovost](#). If a plan does not exist for your biological agent, additional information can be found in the Biological Materials Registration Form, which provides agent-specific information and should be available to all lab personnel. All exposures should be reported to the supervisor and to the Biosafety Office at [x](#) If the exposure is associated with a medical emergency, the University Police should also be notified at [x](#) If you are contaminated or potentially contaminated, do not leave the area. Ask a colleague to get PPE and the spill response kit for you. If you are not contaminated, obtain this material yourself and return to the spill area. Put on PPE, including gloves, lab coat, disposable booties, and facial protection. Cover spill with paper towels or other absorbent material. Carefully pour disinfectant onto the spilled material and do not create any splashes. Allow minutes of contact time. Discard cleanup material into a biohazardous waste container. Use mechanical means to pick up broken glass. Re-wipe area of spill with disinfectant and dispose of material into biohazardous waste container. Remove PPE and dispose of into biohazardous waste container. Document spill and response procedures as outlined above. If exposure occurred, report to the supervisor and to the Biosafety Office at [x](#)

All Other Biohazardous Material If agent involved in the spill is infectious via mucous membrane exposure or inhalation and the spill has resulted in the creation of aerosols, the lab should be evacuated for 30 minutes to allow the aerosols to settle. All non-essential people in the lab should be told to leave immediately.

Radioactive Material Spills The quantity of radioactive materials used in research at Tufts University are small, and the type of radiation produced from such materials is incapable of traveling far distances and posing significant external radiation dose concerns. Additional radiation protection precaution is exercised when accessing areas i. Radiological contamination control and assessment should be considered during any emergency response involving radioactive materials. The purpose is to prevent further spread of contamination, allow for prompt decontamination of surfaces and personnel, accurately communicate contamination to offsite services i. Medical assistance should not be withheld or delayed in situations involving radiological contaminated personnel. Minor Spills of Liquids and Solids Less than 1mCi in controlled areas not involving personnel contamination: Notify persons in the area that a spill has occurred. Prevent the spread of contamination by covering the spill with absorbent paper. Clean up the spill using disposable gloves and absorbent paper. Carefully fold the absorbent paper with the clean side out and place in a plastic bag or transfer to a radioactive waste container. Put contaminated gloves and any other contaminated disposable material in the bag. Survey the area with a contamination survey meter set on the lowest range. Check the area around the spill for removable contamination. Also check your hands, clothing and shoes for contamination. For tritium contamination, follow up wipe tests are needed for further evaluation using a liquid scintillation counter. Major Spills of Liquids and Solids Powders Greater than 1mCi, all spills in uncontrolled areas and spills involving personnel contamination:

2: Standard Regulations by OSHA on Hazardous Waste Spills | www.enganchecubano.com

Beyond the properties of the actual material itself, the degree of hazard may also depend on just how much material was spilled, where the spill occurred and what surface received the spill, the amount of ventilation in the area, and the temperature of the surface, immediate area, and the chemical itself.

Evacuate and Call Appropriate absorption spill kit and consider outside help to ensure nothing can enter stormwater drains. In addition to this chart, there are three basic categories of chemical spills or release events. The following information should be used as guidance in the event of these types of spills. In this case, the following must be done: Sound the fire alarm to notify others in the area for evacuation. Call from a safe location and provide the following information to the dispatcher: NMSU building name and room number or nearest building location if outdoors. If calling from a cell phone, report location as NMSU campus. Remain on scene to meet response personnel and provide additional information. Individual is not familiar with the hazards of the material and not comfortable performing clean-up. Individual does not have proper training to perform clean-up. Equipment needed for clean-up is not available. Guidelines include the following: Individual is thoroughly familiar with the hazards of the material. Take appropriate steps to confine and limit the spill without risk. Clean-up spill using appropriate equipment and procedures. It is essential that all spill clean-up waste is properly disposed of: Do not place in or around the regular trash. Preparation Hazardous chemical spills must be dealt with promptly, however, due to the range and quantities of chemicals used within laboratories and shops of NMSU, spill response procedures must be clearly defined before work commences. Personnel should be instructed on the following in the event of a spill: The location of emergency equipment fire extinguishers, safety shower and eyewash. The location of appropriate personal protective equipment and spill control equipment see below for Spill Kit contents. The location of available exits. The location and content of department Chemical Hygiene Plan applicable to laboratories. When and who a spill shall be reported to. Name and phone number of individual responsible for the work area. A spill kit should contain appropriate absorbent, adsorbent, neutralizers and personal protective equipment PPE. Items in a small NMSU spill kit are as follows:

3: Hazardous Materials Spill - Office of Emergency Management

EHS offers training for employees who work directly with chemicals (see Chemical Spills and Waste Procedures) and who are expected to respond outside their work area to assist with spill cleanup (see Chemical Emergency Response (HAZWOPER) First Responder - Operations Level Training).

The cleanup of chemical spills should only be accomplished by knowledgeable and experienced people. Spill kits with instructions, absorbents, reactants, and protective equipment should be available to clean up minor spills. Three factors determine if a hazardous materials spill is a non-emergency or an emergency. How much was spilled - if the amount of the material spilled is more than one liter, it is considered a major spill and you should contact the Chemical Safety Office for assistance. What are the hazards of the material spilled - if the spill is less than one liter, but presents an immediate danger to health, safety, the environment, or is an immediate fire hazard, it is considered a major spill and you should follow Emergency Response Procedures for Chemical Spills. All laboratory workers, or persons using hazardous materials must be trained in how to clean up the materials they are using. Spill Kits are required in all areas where chemicals are used or stored - employees who work in those areas must be trained in how to use the kits and in how to activate the Emergency Response Procedures for Major Spills. Alert people in immediate area of spill. Wear protective equipment - including safety goggles, gloves, long-sleeve lab coat. Avoid breathing vapors from the spill. Confine spill to small area. Use appropriate kit to neutralize and absorb inorganic acids and bases. Collect residue, place in container, fill out blue waste tag, and contact the Chemical Safety Office at ext. For other chemicals, use appropriate kit or absorb spill with vermiculite, dry sand, or diatomaceous earth. Collect residue, place in container and dispose as chemical waste. Clean spill area with water. Chemical Spill Kits shall be available in the laboratory. The contents of the kit should include materials for cleaning up a spill for all chemicals in the lab such as: Chemical Resistant Gloves Neutralizing agents for acids and bases Absorbents for highly reactive acids and flammable solvents Polyform F if you have aldehyde solutions in the lab Scraper and Scoop for collecting absorbed materials Hazardous Material Disposal bags or containers for collecting spill materials for disposal Commercial spill kits are available that have instructions D. Spill of greater than 1 Liter of ethanol, methanol, strong acids or bases or any quantity of highly volatile organics, and mercury compounds. Stop work Turn off any ignition sources Attend to any injured persons - if you can do so without personal risk. Call to evacuate injured persons. Leave laboratory hood on Evacuate laboratory and close door Secure lab, i.

4: 7 Step Guide to Spill Reponse - How to Respond to a Spill | CEP Sorbents, Inc.

If a chemical, biological, or radiation spill is beyond your ability to clean up, STOP and call x to get help. Members of Tufts Environmental Health & Safety will respond quickly.

Preparing Spill Response No place is free from the potential for an emergency response spill if hazardous materials are present. And beyond regulatory requirements that all employees are trained to handle chemical spills, it is also the responsibility of an owner to keep employees safe when doing so. Below are answers to some of the most commonly asked questions about emergency response spills, as well as some tips on how companies can be better prepared in recognizing different types of spills and how to respond. Every leak or spill should be evaluated to determine whether it has crossed that threshold beyond which any spill cleanup must be performed by specifically trained and equipped personnel. What are the different types of hazmat spills? Releases spills can be categorized into three distinct groups in terms of emergency recognition: Releases that are clearly incidental. Releases that may be incidental or may require emergency response, depending upon circumstances. Releases that clearly require emergency response. Emergency recognition must be employed to distinguish between "incidental spills" and those requiring emergency response. OSHA defines an incidental release or spill as "a release of a hazardous substance which does not pose a significant safety or health hazard to employees in the immediate vicinity or to the worker cleaning it up, nor does it have the potential to become an emergency. They may be cleaned up by employees working in the area where the spill occurred or by maintenance personnel. Incident spill response personnel do need to be trained in Hazard Communication and to use appropriate personal protective equipment consistent with the federal or state OSHA standards under which they are regulated. Incidental spill responders may absorb, neutralize, or otherwise control a spill, so long as doing so does not expose them to significantly greater risk than is posed by routine handling or use of the hazardous material. What is an emergency response spill? Some spills will clearly require emergency response. Examples include high levels of toxic substances, situations immediately dangerous to life and health IDLH , and fire or explosion hazards exceeding 25 percent of their lower explosion limit. If however, area employees are not certified to don appropriate respiratory protection, a spill that could potentially exceed the ceiling permissible exposure limit would also require an emergency response. An emergency response spill is defined by 29 CFR There is no single factor upon which this determination may be made, beyond the initial assessment as to whether or not the spilled material is hazardous. A key factor, however, is the actual volume of the spilled material. A very-small-volume spill is obviously less likely to pose a significant risk to personnel than a large spill of the same material and is unlikely to escalate into an emergency response. Even a very small spill of a highly toxic chemical with physical properties that would provide a potential for exposure, such as a respirable hazard, could cross the emergency response threshold. Factors that must be considered in this risk determination include: Nature of the hazard properties of the material i. These include the location of the spill, the level of ventilation, and the knowledge and experience of area personnel. Where do emergency response spills typically occur? Emergency response spills have the potential to occur anywhere: No place is free from the potential for an emergency response spill if hazardous materials are present. Rarely is an emergency response spill expected. A spill occurs only when a system of hazardous material containment fails, usually as a result of a chain of unfortunate events. The potential for chemical spills exists anywhere these materials are stored, used, or transported, and unforeseen chemical spills can threaten employees, customers, and the general public. Even when personnel are safely evacuated from the spill zone, emergency response spills often lead to serious business interruption, facility or environmental damage, as well as other potential for financial impact. How should I prepare for emergency response spills? Emergency response preparedness and planning is a very detailed and costly program that involves equipping and training a hazmat team: Training typically includes 24 to 40 hours of combined classroom education and "hands-on" instruction in practical spill response techniques. OSHA mandates annual refresher training, and prudent EHS managers recognize the need for frequent drilling to maintain team readiness. Equipment requirements vary depending upon the nature of the potential emergency response scenarios to which the

hazmat team is expected to respond. Typical equipment for even a modest team would include protective clothing, air monitoring equipment, self-contained breathing apparatus, tools, and absorbent materials that can cost thousands of dollars. In addition, maintaining a hazmat team requires a considerable investment in time. Time must be provided for emergency response planning including pre-emergency assessment for on-site teams, developing resources for cooperation, annual medical evaluations, developing safety and health programs, performing recurrent training, maintaining personal protective equipment programs, air monitoring equipment maintenance, and preparation for decontamination procedures. Another consideration is that staffing an in-house emergency response team is acceptance of sole legal responsibility, not only for the trained personnel but for the effectiveness of the response and subsequent cleanup. What are the alternatives to in-house emergency response staffing? The alternative to training, equipping, and maintaining an emergency response team is to outsource emergency response, should a significant spill of hazardous materials occur. Local government may provide an outsource alternative through emergency response teams hosted by fire departments or county or parish environmental agencies. In most circumstances, outsourcing means identifying and qualifying an emergency response contractor or perhaps two or three, to ensure availability to respond on an on-call basis to spill events. Qualifying contractors is essential and best performed by an environmental professional aware of appropriate criteria and experienced in such evaluations. Alternatively, many companies contract with environmental, health, and safety information providers that pre-qualify local emergency response contractors and provide a call center to manage emergency responses, interact with regulatory agencies, and perform subsequent reporting in the event of an emergency response spill. What are the criteria to consider when selecting an outsourced provider? When selecting a call center outsource for spill response, remember these useful tips: Find a center that handles a very large number of spills on a regular basis. Remember the importance of user profiles with user procedures so the responder may be familiar with the unique needs of the environment. Spill response personnel also must have immediate access to a rich MSDS database. What reporting of the spill is required? Release reporting requirements vary based on the location of the spill, the nature and volume of material spilled, and the activities associated with the spill event. Federal, state, and local agencies mandate reporting requirements that can be quite involved. These include but are not limited to EPA, which requires immediate reporting of a release of a chemical defined under CERCLA as a "hazardous substance" that meets or exceeds the reportable quantity RQ. In addition, should a facility have a transportation issue on a public highway, the Department of Transportation may require that the spill be reported to the National Response Center. In summary, preparing to deal effectively with a significant spill of hazardous materials is good business, but the implementation of an in-house emergency response team can be very costly and time consuming. Many companies are not willing to take on the additional responsibilities and cost for such a program. Whatever the selected approach--internal team development or outsourced assistance--the key to success in the event of a hazardous materials spill is preparation.

5: How to Respond To and Contain Chemical Spills: 15 Steps

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6: Preparing Spill Response -- Occupational Health & Safety

If a spilled chemical is not hazardous, its cleanup (without the assistance of an emergency response team) is dependent on the ability to control the spill, as well as the availability of sufficient spill control materials (e.g., an absorbent for liquids).

7: Chemical Spills Procedures

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HAZARDOUS CHEMICAL SPILLS & EMERGENCY RESPONSE PROCEDURES A. Definition of Chemical Spills - Emergency & Non-emergency. The range and quantity of hazardous substances used in laboratories require preplanning to respond safely to chemical spills.

8: Emergency Planning for Chemical Spills - Chemicals in the WorkPlace

For chemical spills, CHEMTREC Exit provides access to technical experts on chemical products and hazardous materials, and maintains a large database of Material Safety Data Sheets. CHEMTREC can be reached at ()

9: Spill Response Training - eSafety

They must be taught emergency response tactics in the event of a spill and should be trained in the use of personal protective equipment such as respirators and chemical protection suits. All affected workers should be informed of the organizational and management structure in the event of a spill and should understand their own specific.

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Water powers of the Province of Quebec Prayer for the Little City Made in Woodstock Anyone can be Financially Free Agrestis categorical data analysis Short wave diathermy Merger safe The question before Congress The second bottom line : a corporate executives community duty Ten little dinosaurs book Making it work by connecting parents Introduction to the research process Intermediate accounting ifrs edition volume 2 Polar oceanography 5e party tracker sheet filetype Edit mac os x The illumined road. The Fishermans Record Book A home for Melanie A precosious genius. Dw-K Yl Animal Legs BB Child protective specialist exam study guide Your Life Was Never Meant to be a Struggle Every-bodys business, is no-bodys business The witness of the sun The Seventh Miracle of Calvary Marie Claire Hair Makeup Remove apple drm from Lipids and related compounds Adventure Six: Lets Play With Information After-war problems The Grove Press guide to the blues on CD Caterpillars cant fly (Backpack books) Vital Sign For Medical Assistants Britain and America united in the cause of universal freedom The Cardinals fans little book of wisdom In pursuit of the print. The gap between worlds Smart Videoconferencing Cultural conflict