



Safety and Health Manual

Revision – June, 2014

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Section 1. Responsibilities for Safety

Safety Statement

It is the expectation of ABM to establish a safe work environment for all of its employees and to promote safety awareness at all levels of the ABM organization.

ABM recognizes its responsibility to maintain a safe workplace for its employees; to provide safety devices and mechanical safeguards; to use methods and processes to protect the life, health, safety, and welfare of its employees and the general public and to maintain and enforce a program to fulfill this responsibility.

To achieve this goal, an Injury and Illness Prevention Program (I2P2) has been adopted in compliance with applicable local, state, and federal laws. This program includes training and instruction concerning safety and health matters, along with identifying and minimizing workplace hazards and correcting unsafe work conditions.

To be successful, this program requires cooperation not only between supervisors and employees, but also between each employee and his or her co-worker. It is the obligation of each employee to comply with the requirements of this Injury and Illness Prevention Program at all times.

Signed: **Jim McClure**

Date: **November 1, 2013**

Jim McClure, President
ABM

Leadership

ABM is committed to the safety and health of our employees, and understands that our strength as a company is only as good as the strength of each individual. We will strive to place safety and health above all else, and will involve all workers at every level in establishing a culture of safety.

To this end, ABM's safety initiative is comprised of three segments.

First, our written ***Injury Illness Prevention Program*** (I2P2) provides the framework from which we execute our safety policies and procedures. These policies and procedures are designed to help prevent and/or reduce the likelihood of job-related injuries and illnesses. It is our intent to comply with the requirements of each State and/or Federal OSHA General Industry Safety Orders.

Second, the framework provided within our ***I2P2*** program is accomplished by our operational safety guidebook, otherwise known as our ***ABM Safety and Health Program***.

Lastly, we supplement our ABM Safety and Health Program manual with site specific / client specific instructions, work site job hazard awareness, and the client directives, programs, and their own safety culture.

ABM's intention is that our 3-element safety approach maintains a successful accident prevention, loss management, and safety program at our work sites. Each individual from top management to the front line service employee is responsible for the safety and health of those persons in their charge and the co-workers around them. By accepting mutual responsibility to operate safely, we will all contribute to the well-being of the ABM family of employees.

Management Approval and Management Responsibility

ABM On-Site Services has established the following lines of authority for the implementation and maintenance of the Injury and Illness Prevention Program (I2P2) in its branches. Each of these managers has the authority to shut down the operation immediately, if safety and health conditions so warrant.

REGION – Area of Responsibility:

Name:

Title: Executive Vice President

Address:

Responsibility: Overall responsibility for all company operations in the Region. Reviews and supports implementation of safety programs and activities.

Name:

Title: Regional Safety Director

Address:

Responsibility: Overall responsibility for all safety programs and activities in the Region. Provides assistance and support for the region's branches with all safety related matters. Monitors the region's opportunities for improvement in safety and training. Works with those departments in items of interest to governmental regulatory agencies.

BRANCH – Area of Responsibility:

Name:

Title: Branch Manager

Address:

Responsibility: Oversee, support, and advise on all Branch functions. Reviews and supports implementation of branch personnel in training and safety related issues.

Name:

Title: Operations Manager

Address:

Responsibility: Oversee, support, and advise on all Branch operations. Provides immediate support to the account in all phases including operations, administration, and safety.

This Safety & Health Program is hereby approved and supersedes any previous program previously established in this location.

Print Branch Manager Name: _____

Branch Manager Signature: _____ Date: _____

Safety Commitment

ABM is committed to providing safe working for all employees and to promote continuing safety awareness at all levels, from top Management to the individual worker.

ABM recognizes its responsibility to furnish a place of employment which shall be safe for employees and visitors; to provide safety devices and mechanical safeguards; to use methods and processes to protect the life, health, safety and welfare of its employees, visitors and the general public and to maintain and enforce a program to fulfill this responsibility.

To achieve this goal at our client's job sites this Safety and Health Plan has been developed to recognize the specific needs of our employees who work at the various client facilities throughout the Northeast region. It is developed to be in compliance with applicable local, state and federal laws and the special requirements of our client. This program includes training and instruction concerning safety and health work-related injuries and illnesses, identifying and equalizing workplace hazards and correcting unsafe work conditions.

To be successful, this program requires cooperation in all safety and health matters, not only between supervisors and employees, but also between each employee and his or her co-worker. It is the obligation of each employee to comply with the requirements of this Safety and Health Plan at all times.

Signed: _____ Date: _____
ABM Vice President

_____ Region

Job Site:

Responsible for Sire Safety and Health Plan

Name:
Title:
Address:
City, ST ZIP:
Telephone/Fax/Cell:
Responsibilities: .

Name:
Title:
Address:
City, ST ZIP:
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Operations Managers and Supervisors Responsibility

Every operations manager and supervisor is responsible for implementing and maintaining the I2P2 in their work areas and for answering employee questions about the I2P2. A copy of this I2P2 is available for each operations manager and supervisor. Directly or indirectly, each is responsible for:

1. Ensuring safety orientation training for all new employees.
2. Training all employees in their scope of work and company safety programs.
3. Delivering regularly scheduled safety training.
4. Conducting site safety inspections on an ongoing basis.
5. Developing hazard assessments for any new hazards introduced or identified through inspections or accident investigations and taking proper action to eliminate those hazards or training employees on how to work safely with those known hazards.
6. Providing necessary documents to employees in the event of an accident; following and maintaining company policies and procedures in reporting and investigating all accidents; arranging for injured employees to receive immediate and timely medical assistance and expediting the injured employees back to work.

Employees Responsibility for Workplace Safety

All employees are expected to comply with the provisions of this program and its intent, which is to minimize injuries to people and damage to property. We expect all employees to join in the spirit and intent of this program by making every attempt to work in a safe and efficient manner.

These subjects are also referenced and taught on a monthly basis through the safety talks which serve as a reinforcement training to the safe work principles taught in the employees' safety orientation when they begin working for ABM.

The code of safe work practices is supplemented by the document found in the "New Hire Packet" – *Employee Instructions, Information, and Work Rules* and in the document *Safety Rules for Your Protection*. Please refer to these rules listed on the following page as to a reminder of our partnership with safety.

Signing the compliance statement on these forms testifies to the employee's intent to comply with the safety rules of ABM. You will be held accountable for your actions if you fail to comply with company safety and health policies and procedures.

ABM employees are expected to perform work tasks in a safe manner. Under no circumstance shall an employee be permitted to create a hazard that could result in injury to themselves, their coworkers, the client, or the public. This also applies to the potential for damage to property.

Employees shall not attempt to perform any task for which they have not been trained. Employees shall attend all safety training, and are expected to demonstrate comprehension and understanding of the topic(s) covered prior to commencing work.

Employees shall follow all safety instructions provided to them by the Supervisor, Management, the client, or safety personnel. ABM employees shall generally be responsible for reporting:

1. Any work-related safety concerns;
2. Work-related injuries or illnesses;
3. Threatening situations that could affect the safety or security of the work environment;
4. Situations or conditions that could be reasonably expected to result in injury or property damage, and
5. The presence of unauthorized individuals in the workplace.

Employees may report unsafe work practices to their immediate supervisor or to a hotline telephone number which will direct their call to Region, Division or Corporate safety directors for immediate attention. This can be done anonymously if the employee desires.

Section 2. Compliance with Safety Policies and Procedures

Management is responsible for ensuring that all safety and health policies and procedures are clearly communicated and understood by all workers. Managers and supervisors are expected to enforce the rules fairly and uniformly.

All workers are responsible for using safe work practices, for following all directions, policies and procedures, and for assisting in maintaining a safe work environment.

Our system of ensuring that all workers comply with the rules and maintain a safe work environment includes, but is not limited to:

- A. Informing employees of the provisions of the Injury and Illness Program (I2P2).
- B. Evaluating the safety performance of all employees.
- C. Recognition of employees who follow safe work practices.
- D. Providing information, training and retraining to employees.
- E. Disciplining workers for failure to comply with safe and healthful work practices.
- F. Providing an Emergency Contact List and/or and Organization Chart.

Employees are required to comply with safe work practices. If noncompliance is observed, the following disciplinary measures will be used as appropriate to assure future compliance. These will depend on the gravity of the violation and the frequency of such violation and be administered according to progressive discipline guidelines. See the **Baseline Safety Procedures** for more specific guidelines. These methods can include:

- A. Private counseling from the person responsible for implementing the I2P2 or the employee's supervisor.
- B. A written warning.
- C. Suspension and/or termination.

Documentation of safety communications and enforcement

It is the responsibility of each account to document each instance of communication with the employee. Actions taken to enforce compliance with safe work practices in any case which exceeds verbal counseling will be documented by the account and filed in the employee's personnel record.

Shut down of operations to ensure safety

Management has given every manager, supervisor, and safety representative the authority to immediately shut down or cease service operations in the event of non-compliance to safety policies and procedures deemed necessary to ensure the safety and health of all employees.

When taking such action, the manager, supervisor or safety representative shall immediately make necessary corrections to put services back in place to prevent as little disruption as possible to our service goals. If it is not possible to take immediate action to eliminate or properly reduce the safety hazard, you must contact a company or customer representative who can do what is necessary to ensure our employees safety and health is not put at risk.

As a follow up to this action, write a hazard assessment of the situation so that we can implement changes to prevent reoccurrence.

Baseline Safety Procedures Corrective Action

It is essential that ABM appropriately address decisions and behaviors that result in unsafe work practices or uncontrolled/uninformed exposure to hazards. Undesired and unsafe behaviors make corrective action necessary. The purpose of this corrective action guideline is to provide a consistent approach for addressing unsafe work behaviors and conditions that may result in serious injury to employees. **This guideline applies to all ABM employees.** This is not intended nor should be used to punish an employee who has an injury and files a worker's compensation claim.

Violations of safe work practices may result in progressive disciplinary measures based upon the circumstances of the event and any active disciplinary documentation on file for employees involved.

Any employee permitting a known hazard to remain unresolved which could potentially cause serious injury to another person, or who intentionally "covers up" a hazardous condition or incident will receive a formal written warning and may be subject to disciplinary action up to and including discharge depending on the facts of the incident.

Use the guidelines established in this document to determine corrective action when an employee is determined to be in violation of safety rules, procedures, policies, etc. Document any corrective action taken in accordance with company procedures. Local management, with the support of the appropriate Human Resources representative, will determine what appropriate corrective action to initiate.

Safety violations have been divided into two categories. Category 1 violations consist of behaviors or violations of common practices safety rules. Category 2 violations consist of safety violations which could cause hazardous conditions that may result in serious injury or death.

Responsibilities to Establish Rules and Guidelines

Division Leadership, Regional Safety and Regional Human Resource Directors shall:

- Communicate this guideline to employees, supervisors and managers and enforce appropriate corrective action activities throughout the region.
- Supervisors / Managers shall:
- Communicate, comply with, and enforce the Baseline Safety Procedures, Accident Prevention Rules, Division Safety and Health Policies, as well as regulatory requirements.
- Take responsibility for assuring adherence to safe work practices and shall have the authority to take corrective measures to ensure safe working practices and conditions in all work areas.

Employees shall:

- Read, understand, and comply with the Baseline Safety Procedures, Accident Prevention Rules, Safety and Health Policies, and regulatory requirements. Direct any questions regarding these guidelines to the immediate supervisor or manager.
- Each employee has the ultimate responsibility for his or her own work behavior. However, the person charged with the direction of work (supervisor or project manager) is responsible for informing subordinates on safety matters and initiating corrective action when non-conformance with safety rules, procedures, guidelines, etc., occurs.

Section 3. Hazard Assessment

Periodic Inspections

Performed at least annually, will be conducted to identify and evaluate workplace hazards, including unsafe conditions and/or work practices. The company forms or similar documentation will be used for these inspections. These inspections will be performed by a competent observer such as the District Manager, Operations Manager, Project Manager, Site Supervisor, Shift Supervisor, or Safety Director.

Periodic inspections are performed according to the following schedule:

- A. When the I2P2 is initially established.
- B. When new, previously unidentified hazards are introduced to the workplace.
- C. When new, previously unidentified hazards are recognized.
- D. When occupational injuries and illnesses occur.
- E. When we hire and/or reassign permanent or intermittent workers to processes, applications, or tasks for which a hazard evaluation has not been previously conducted.
- F. Whenever workplace conditions warrant an inspection.
- G. At least annually.

Unsafe or unhealthy work conditions, practices, or procedures shall be corrected in a timely manner based on the severity of the hazards. Hazards shall be corrected according to the following procedures:

- A. When observed or discovered.
- B. When an imminent hazard exists which cannot be immediately abated without endangering employee(s) and/or property, we will remove all exposed workers from the area except those necessary to correct the existing condition. Workers who are required to correct the hazardous condition shall be provided with the necessary PPE.
- C. Corrections must be made in a timely manner and action taken must be documented.
- D. Once improvements have been implemented, they need to be inspected again by a competent observer.

Prevention and Identification of Hazards

This I2P2 document helps identify safety and health hazards includes using information from OSHA standards and other relevant material in this program to discover any potential hazards in the workplace. In addition, potential hazards may be identified by reviewing causes of injury and illnesses (OSHA 300 Log and the “Supervisor’s First Report of Employee Injury and Investigation”), periodic scheduled inspections, investigating injuries, illnesses and accidents, and considering information provided by employees.

Compliance with any applicable OSHA standard is to be assured to address hazards covered by such standards. In addition, any unsafe or unhealthy condition or work practice that is discovered will be corrected in a timely manner based on the following:

- A. If the hazard discovered may cause injury or illness, it shall be corrected immediately or employees removed from the area, source of exposure or unsafe condition.

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- B. If the hazard is one that is easily abated, it shall be corrected immediately.
 - C. Other hazards shall be corrected in a timely manner.

Employee Report of Hazardous Conditions

Employees and supervisory personnel have the responsibility to inform their managers of potential hazards, or when something is not right at their accounts. This includes notification when tenants, customers, or visitors have a slip and fall accident. We also need to know when you identify any hazardous conditions that may at some time cause injury or property damage. The following describes what is required.

Notice of Account Hazards or Unsafe Work Conditions

- ❑ Any time that you see or are informed of a hazardous condition in your account, immediately notify your supervisor to fill out a report.
- ❑ We need to know about these hazards even if they are not in your immediate work area.
- ❑ Although there are many things that create hazardous conditions, here are some of the most common:
 - Water leaking or dripping from plumbing, pipes, ceilings, walls, windows, or bathrooms fixtures.
 - Continuous overflowing toilets or urinals.
 - Standing water or a flooded area from pipe bursts or severe storms.
 - Floor or lobby mats that roll up on the ends or are torn.
 - Torn or ripped carpeting in common areas or tenant spaces.
 - Loose floor tiles or tiles stuck in an uneven position.
 - Non-slip adhesive strips on stairs rolling up or torn.
 - Cement floors or stairs cracking, coming loose, or missing sections.
- ❑ Do not attempt to fix any of these hazardous conditions on your own. Any action you take that does not hold up or work properly will result in us being responsible for damages.

For Your Information

- ❑ All employees and supervisors may face disciplinary action if they fail to follow these procedures.
- ❑ If for some reason you can not contact your supervisor, notify your branch office.
- ❑ Prior to discussing any events with someone who is not an employee of ABM, please contact your branch office for authorization. If you are not certain whether or not to talk to any particular individual, get their contact information and let them know that either you or someone else from ABM will get back to them, then advise your branch office.

Section 4. Workplace Incidents and Illnesses

Reporting Workplace Incidents and Illnesses

1. ABM's desire is to provide fair and equitable treatment to employees with legitimate on-the-job injuries. This training is designed to help you process workers' compensation claims more efficiently and effectively. Proper claim handling is in the best interest of injured employees.

All work related incidents, including Workers' Compensation, General Liability, Property Damage, or Automobile Liability, shall be reported accurately and in a timely manner according to ABM's Nurseline according to procedures provided by ABM Risk Management Services.
2. Employees are required to report a workplace injury immediately to their supervisor so that proper care assistance can be given. When an employee informs the employer representative that they have an industrial related injury or illness, **you must first determine if the employee is in need of immediate medical attention.**
3. **If YES - Call 9-1-1** if an employee has a medical emergency that requires immediate attention such as a serious head injury, loss of consciousness, severe bleeding, broken bones, seizure, or an apparent heart attack or stroke. If in doubt, call 9-1-1.
4. **If NO** - and the employee wants to seek medical attention they and their supervisor must call the nurse triage line: **1-888-840-4148**, to be directed to perform self-care or to be sent to the ABM partnered designated health clinic, or call 911. Use the proper Medical Treatment Authorization form for each health clinic. Advise the employee that we have temporary light duty available and provide the employee with your contact information, directing them to contact you once they are seen by the physician. It is acceptable to have the employee be treated the next day for minor injuries at our clinic during normal operating hours.
5. Complete the State "First Report of Injury or Illness" (FROI).
6. Request the employee to sign the medical release form "HIPAA."
7. Have the employee complete the Employee Detail Report in the language they feel most comfortable with writing in.
8. Conduct a thorough investigation of the incident (time, conditions, witnesses, specifics of the injury, etc.). Ask the employee how the injury or illness occurred. If possible, have the employee show you where the incident took place and report to us your observations. **BUT do not reenact the accident.**
9. Complete your notes and fax notes, FROI, Employee Detail Report, and HIPAA within 12 hours to ABM Risk office. Include any medical notes from the employee.
10. If the employee has reported a work related injury at night, the designated risk manager / or local claims coordinator will follow up with him or her the next day to gather information on their status:
 - a) How they are doing (ask specifically what part of their body is hurting)?

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- b) Did they see their physician (request name, address, and telephone number of physician)?
 - c) When was their appointment and what did the doctor say (what were they diagnosed with, was the employee prescribed medication or physical therapy)?
 - d) Does the employee have any follow-up appointments?
 - e) Work status-is the employee released to full duty, modified duty or off work?
 - i) If the employee has been given restrictions, advise them that work is available and what he or she will be doing.
 - ii) Assure the employee that the work will fall within the restrictions as outlined by the physician.
 - iii) Advise the employee when and at what time they are expected to return to work.
 - f) Document your discussion with the employee (handwritten notes are fine).
11. Call the ABM Risk Management office between 8:00 a.m. and 5:00 p.m. either the same day (if the injury happens during the day) or the next day (if it happens during the evening).
12. Risk Management will coordinate with the supervisor on Stay at Work / Return to Work program and claims management of the employee.
13. If the employee submits any medical notes, fax these notes to Risk Management.
14. **If NO** - and the employee does NOT wants to seek medical attention, you need to conduct the same type of investigation and complete all of the necessary forms just as you would when an employee seeks medical attention.
- a. Follow up with the employee the next day to make sure that they are fine and will not be seeking any medical attention. Document any conversation with the employee.
 - b. Advise the employee that if they later need to seek medical attention, that they are to inform you (their supervisor) immediately. At which time you have them use the Medical Treatment Authorization from for our designated health clinics. Advise the employee that we have temporary light duty available and provide the employee with your contact information, directing them to contact you once they are seen by the physician.
 - c. Follow up with the employee throughout the week. Should the employee later mention that they sought medical treatment, we must be advised of this promptly. Gather all pertinent information to send along to Risk Management.

Accident Investigations

All accidents, exposures, and incidents will be investigated by management. Use the Incident and Accident Reporting and Investigation forms as found on the ABM ConnectX site.

Procedures for investigating workplace accidents and hazardous substance exposures include:

- A. Visiting the accident scene as soon as possible.
- B. Interviewing injured workers and witnesses.
- C. Examining the workplace for factors associated with accident/exposure.
- D. Determining the cause of the accident/exposure.

-
- E. Taking corrective action to prevent the accident/exposure from recurring.
 - F. Recording the findings and corrective actions taken.
 - G. Forwarding any additional information as it may develop.

Experience may be the best and toughest instructor an employee or manager can have. If employees do not take advantage of documenting their experiences and learning from them, they are apt to repeat the bad habits or unproductive activities. This applies especially to accidents in the workplace. ABM takes seriously its responsibility to provide a safe working condition for all its employees. Unfortunately our working conditions often change and ABM employees may face new hazards.

It is important that ABM managers take appropriate action to deal with accidents in the workplace and constantly strive to eliminate unsafe working conditions from the workplace. An important activity in ABM's effort to effectively address the hazards and eliminate them is the conducting of an immediate and thorough investigation of the accident. This process enables the manager and employee to learn from their experiences and eliminate the hazard in the workplace as much as possible.

Conducting an Accident Investigation

Before beginning any investigation, make sure the injured individual receives the appropriate medical care.

Collect Information

This includes immediate actions, interviewing witnesses, assessing accident history and reviewing other significant records.

Immediate Actions

1. Secure the scene, when needed
2. Protect against further loss (barricade the area)
3. Investigate the physical conditions at the scene (lighting, floor conditions, air)
4. Document all key information

Interviewing Witnesses

1. Put the person at ease and explain the purpose of the interview
2. Ask open-ended questions to get to the facts – do not assign blame
3. You are trying to obtain the facts of the accident and not disciplining or building a case against the employee

Assessing Accident History

1. Evaluate trends using available information such as:
 - a. OSHA Logs
 - b. First Aid Reports
 - c. Accident Files – Supervisor's First Report of Injury
 - d. Documented Interviews with workers and managers.

Reviewing Other Significant Records

1. This steps includes looking for helpful information in such records as:
 - a. Standard Work Practices
 - b. Job Safety Analysis
 - c. Material Safety Data Sheets
 - d. Employee Training Records
 - e. Maintenance Logs
 - f. Inspection Records

List All Possible Causes – This includes determining immediate causes and contributing causes

1. An *immediate cause* could be the unsafe act itself, conductions or systems that directly led to the accident
2. A *contributing cause* could be the actions, conditions, or systems that aided in the development of an accident, but did not directly cause it.

Accident investigations are not totally effective unless all causes are determined and appropriately corrected.

Analyze the Possible Causes – Do not over analyze the possible causes – Keep it Simple!

1. The causes may fall into four broad categories: (Equipment, Environment, People, and Management).
2. Feel comfortable that you know the “Who,” “What,” “Where,” “When,” and “How” for the *immediate causes* and for the most significant *contributing causes*.
3. With the probable causes to the accidents in mind, ask yourself “Why is that so?” until it no longer makes sense to go any further.
4. With these causes understood, it is time to develop corrective actions.

Developing Corrective Actions – This may include one or more of the following activities:

1. Eliminate the Hazard
2. Substitute a Less Hazardous Material
3. Substitute a Less Hazardous Process
4. Use Engineering Controls
5. Use Administrative Controls
6. Assess Appropriateness of Personal Protective Equipment
7. Institute or Reinforce Employee Training

Formalize the Investigation Information and Corrective Actions

1. Document the Summary of the Investigation
2. Determine if the corrective actions apply to more than one employee, to more than one job function, to more than one shift, etc.
3. Prioritize corrective actions abased on future accident potential
4. Submit both interim and permanent corrective actions to the Branch Manager and Regional Safety Director.

Implement the Corrective Action and Monitor the Results

1. Ensure that permanent corrective actions do not get lost in the shuffle.
2. Evaluate the effectiveness of implemented corrective actions.
3. Interview Employees
4. Conduct Job Safety Analysis
5. Run reports to detect accident experience rate

ABM Fatality Protocol

In the unfortunate event of an employee fatality at one of our work sites, the shift supervisor must immediately contact their manager or any senior manager (regardless of the time of day). Under no circumstances should anyone contact OSHA directly. Only ABM Division Counsel, along with Corporate Safety Services, can directly inform OSHA of the fatality within the required eight (8) hour notification period.

Hospitalization of three or more employees seriously injured also requires this same OSHA contact protocol action. Serious refers to life threatening or crippling injuries. Apparent death by a non-work related heart attack or stroke does not require this protocol.

Do not discuss the incident to any member of the press or media; instead, direct them to contact our local branch office.

ABM Incident Discussion Direction

There may be times when someone outside ABM contacts you or another employee at your account to get information and knowledge that you or they may have on an incident that occurred that becomes a legal matter. If you are contacted in such a manner, you must be aware of our strict guidelines regarding sharing information with someone other than a known ABM manager or representative. Keep all employees informed of these guidelines:

At no time should an ABM employee give information to any attorney, investigator, or other unknown person who attempts to discuss an incident with them by telephone or by conducting an onsite interview, unless they receive the expressed permission from the ABM Risk Management. There are no exceptions to this rule, even if requested by a customer.

If any employee is contacted by any attorney or investigator (even if the employee thinks they work for ABM), they are to direct that individual to the ABM branch office immediately. They may contact by phone an ABM Risk Management employee. Only these ABM individuals may give you or any other employee permission to discuss the incident with others.

Section 5. Training and Instruction

Responsibility

All workers, including Managers and Supervisors, shall have training and instruction on general and job-specific safety and health practices.

Training and instruction shall be provided as follows:

- A. When the I2P2 is first established.
- B. To all new workers.
- C. To all workers given new job assignments for which training has not been previously provided.
- D. Whenever new substances, processes, procedures, or equipment are introduced to the workplace and represent a new hazard.
- E. Whenever the employer is made aware of a new or previously unrecognized hazard.
- F. To supervisors to familiarize them with the safety and health hazards to which workers under their immediate direction and control may be exposed.
- G. To all workers with respect to hazards specific to each worker's job assignment.

The person responsible for implementing the I2P2 is responsible for assuring the employee training is provided and documented. Supervisors and other designated employees may be designated to assist.

Some of the training topics covered include, but are not limited to, the following:

- A. Explanation of the employer's I2P2, measures for reporting any unsafe conditions, work practices, and injuries.
- B. The Hazard Communication Program, including the use of personal protective equipment.
- C. Information about chemical hazards to which workers could be exposed and other hazard communication program information.
- D. Emergency action and fire prevention plan.
- E. Provision for medical services and first aid, including emergency procedures.
- F. Prevention of musculoskeletal disorders, including proper lifting techniques.
- G. Proper housekeeping
- H. Proper storage to prevent stacking goods in an unstable manner and storing goods against doors, exits, fire extinguishing equipment and electrical panels.
- I. Prohibiting horseplay, scuffling, or any violence, or other acts that tend to inhibit safety.

Documentation of Training

Training is documented in the following manner:

- A. Training sessions will be documented with a sign-up sheet that indicates the date, subject of training, trainer (with his/her signature), and attendees.
- B. Records will be kept with the branch office for all employees participating in the training sessions.

Safety Training Requirements

Employees are required to receive safety training to that will inform them on how to:

- A. When the I2P2 is first established.
- B. To all new workers.
- C. To all workers on new job assignments that training has not been previously provided.
- D. Whenever new substances, processes, procedures, or equipment are introduced to the workplace and represent a new hazard.
- E. Whenever the employer is made aware of a new or previously unrecognized hazard.
- F. To supervisors to familiarize them with the safety and health hazards to which workers under their immediate direction and control may be exposed.
- G. To all workers with respect to hazards specific to each worker's job assignment.

Employee training will be conducted based on the site specific hazards of each location or job task. All hazards at each location and for each job task will be assessed and proper training will then be planned and conducted before employees encounter any such known hazards that put their safety and health at risk.

No new job task can be assigned to an employee unless the proper job task safety assessment has been performed, hazards eliminated or the necessary safety training was conducted prior to doing the assignment. It is ABM's commitment to safety that also dictates continuous improvement to safety including regular safety discussions, safety talk meetings, job task safety checks, safety audits, job hazard assessments, site hazard assessments.

At minimum, monthly safety talks will be conducted for all employees on various safety related subjects. These will be distributed through payroll and should be conducted within a week of receipt. **Copies of the sign-in rosters should be sent back to the safety director with the next payroll (or directly to your manager if so instructed).** Training success rate is calculated each month, so it is important to return the rosters on a timely basis.

All training should be verbally communicated to all employees in their dominant language. Translators should be utilized when necessary.

Written safety compliance programs and training material will be distributed to each account on an "as needed" basis. Once provided, site managers and supervisors must maintain the written programs in binders or files and be made available for review to any employees when requested or for ABM managers conducting a safety assessment.

The required safety training for compliance with these programs must be conducted before employees perform tasks which contain hazards for which the training was made necessary. **All safety training must be documented on training rosters and maintained in the same binders or files containing the written safety programs.** When requested, copies of these training records shall be sent to the branch office for review by the safety director (or other company representative).

Section 6. Hazard Communication Program including GHS

NOTE: ABM has updated its safety manuals to reflect the new OSHA “Globally Harmonized System of Classification and Labeling of Chemicals” (GHS). Accordingly, this manual reflects the retirement of the formerly Material Safety Data Sheets (MSDS) with both the new labels and safety data sheets (SDSs), as well as the. ABM is continuing to work with our partners in the retirement of the former HazCom program and the rolling out of the new GHS program.

Hazard Communication & Global Harmonized System Training

Introduction to Global Harmonized System

In 1983, the Federal Government established the OSHA Hazard Communication Standard. The purpose of this standard is to protect employees who are or could be exposed to hazardous chemicals on the job. Now, OSHA is updating this standard to the “**Globally Harmonized System of Classification and Labeling of Chemicals**” (GHS). In short, chemical manufacturers must provide hazard information to employers and their workers. New labels and new safety data sheets (SDSs), (formerly Material Safety Data Sheets) (MSDS), are tools you can use to understand the hazards in your job sites. Each employee at our locations has a Right-to-Know about the hazardous materials used in their work areas and the potential effects of these materials upon their health and safety.

Purpose

[Occupational Safety & Health Administration \(OSHA\)](#) has mandated that all companies whose workers are affected by hazardous chemicals in any way must conduct Globally Harmonized System (GHS) training this year. According to the osha.gov website, December 1, 2013 is the deadline for all companies to train employees on the new label elements (pictograms, hazard statements, precautionary statements, signal words) and the structure of Safety Data Sheets.

Scope

The GHS provides such a standardized approach, including detailed criteria for determining what hazardous effects a chemical poses, as well as standardized label elements assigned by hazard class and category. This will enhance both employer and worker comprehension of the hazards, which will help to ensure appropriate handling and safe use of workplace chemicals. In addition, the safety data sheet requirements establish an order of information that is standardized. The harmonized format of the safety data sheets will enable employers, workers, health professionals, and emergency responders to access the information more efficiently and effectively, thus increasing their utility.

Responsibilities

1. All service lines have received the training materials related to the GHS training. There are full and abbreviated training presentations, a narrated movie file, PowerPoint presentations and handouts. Also included are a supervisor quick guide sheet and a Safety Communication in English and Spanish on the CD. More resources will be available in the resource tool box toward the end of this document.

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2. Training has begun with newly hired employees as well as incumbent employees, documenting each employee that goes through a program with Name and Employee Number.
 3. A signed attendance copy should be kept at the Branch for internal audit and OSHA review. A copy of the training sign off sheets will need to be provided to your Regional Safety Director.
 4. The preceding Onsite Services GHS Plan will provide detail and instruction for specific division and or regions.

Transition Process: Replacement of the former OSHA HazCom standard with OSHA's updated "*Globally Harmonized System of Classification and Labeling of Chemicals*" (GHS).

ABM is revising its current safety manuals to reflect the retirement of OSHA's previous program with changes under the GHS program through supplemental sections and or amended manuals. This transition is an on-going process in some circumstances with the rollout of GHS, in light of chemical suppliers executing their responsibilities of the GHS program (e.g., new SDS sheets and labels).

1. Direct any questions about the GHS system or support manuals to the ABM branch or regional safety representative, or business-line safety director.
2. The following pages reflect the core changes and the GHS training materials ABM is distributing to the field.
3. ABM safety officials will add bulletins, announcements, and notices to this manual as applicable.
4. ABM has provided the following flyer as a quick guide summary to OSHA's new GHS program.
5. The documents that follows the flyer is ABM's OSHA level GHS training booklet utilized by all ABM Safety trainers for both newly hired employees and incumbent employees.

OSHA[®] FactSheet

Hazard Communication Standard Final Rule

New changes to the Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard are bringing the United States into alignment with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), further improving safety and health protections for America's workers. Building on the success of OSHA's current Hazard Communication Standard, the GHS is expected to prevent injuries and illnesses, save lives and improve trade conditions for chemical manufacturers. The Hazard Communication Standard in 1983 gave the workers the 'right to know,' but the new Globally Harmonized System gives workers the 'right to understand.'

The new hazard communication standard still requires chemical manufacturers and importers to evaluate the chemicals they produce or import and provide hazard information to employers and workers by putting labels on containers and preparing safety data sheets. However, the old standard allowed chemical manufacturers and importers to convey hazard information on labels and material safety data sheets in whatever format they chose. The modified standard provides a single set of harmonized criteria for classifying chemicals according to their health and physical hazards and specifies hazard communication elements for labeling and safety data sheets.

Benefits: The new standard covers over 43 million workers who produce or handle hazardous chemicals in more than five million workplaces across the country. The modification is expected to prevent over 500 workplace injuries and illnesses and 43 fatalities annually. Once fully implemented it will also:

- Enhance worker comprehension of hazards, especially for low and limited-literacy workers, reduce confusion in the workplace, facilitate safety training, and result in safer handling and use of chemicals;
- Provide workers quicker and more efficient access to information on the safety data sheets;
- Result in cost savings to American businesses of more than \$475 million in productivity improvements, fewer safety data sheet and label updates and simpler new hazard communication training; and
- Reduce trade barriers by harmonizing with systems around the world.

Rulemaking background: OSHA published a Notice of Proposed Rulemaking to update the Hazard Communication Standard in September 2009 and held public hearings in March 2010.

Major changes to the Hazard Communication Standard:

- **Hazard classification:** Chemical manufacturers and importers are required to determine the hazards of the chemicals they produce or import. Hazard classification under the new, updated standard provides specific criteria to address health and physical hazards as well as classification of chemical mixtures.
- **Labels:** Chemical manufacturers and importers must provide a label that includes a signal word, pictogram, hazard statement, and precautionary statement for each hazard class and category.

- **Safety Data Sheets:** The new format requires 16 specific sections, ensuring consistency in presentation of important protection information.
- **Information and training:** To facilitate understanding of the new system, the new standard requires that workers be trained by December 1, 2013 on the new label elements and safety data sheet format, in addition to the current training requirements.

Changes from the Proposed to the Final Rule: OSHA reviewed the record and revised the Final Rule in response to the comments submitted. Major changes include:

- Maintaining the disclosure of exposure limits (Threshold Limit Values [TLVs]) established by the American Conference of Governmental Industrial Hygienists (ACGIH) and carcinogen status from nationally and internationally recognized lists of carcinogens on the safety data sheets;
- Clarification that the borders of pictograms must be red on the label;
- Flexibility regarding the required precautionary and hazard statements to allow label preparers to consolidate and/or eliminate inappropriate or redundant statements; and
- Longer deadlines for full implementation of the standard (see the chart below).

What you need to do and when:

- **Chemical users:** Continue to update safety data sheets when new ones become available, provide training on the new label elements and update hazard communication programs if new hazards are identified.
- **Chemical Producers:** Review hazard information for all chemicals produced or imported, classify chemicals according to the new classification criteria, and update labels and safety data sheets.

Effective Completion Date	Requirement(s)	Who
December 1, 2013	Train employees on the new label elements and SDS format.	Employers
June 1, 2015* December 1, 2015	Comply with all modified provisions of this final rule, except: Distributors may ship products labeled by manufacturers under the old system until December 1, 2015.	Chemical manufacturers, importers, distributors and employers
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.	Employers

Transition Period	Comply with either 29 CFR 1910.1200 (this final standard), or the current standard, or both.	All chemical manufacturers, importers, distributors and employers
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* This date coincides with the European Union implementation date for classification of mixtures.

Other U.S. Agencies: The Department of Transportation (DOT), Environmental Protection Agency, and the Consumer Product Safety Commission actively participated in developing the GHS. DOT has already modified its requirements for classification and labeling to make them consistent with United Nations transport requirements and the new globally harmonized system.

OVERVIEW

Introduction

Chemicals are a common part of your workplace, but if they are not handled properly, they can pose dangers to your safety and health. That is why it is essential that you become knowledgeable about the chemicals that you use, and especially their potential hazards. Although hazardous chemicals can be harmful in many ways, chemicals contain two general types of hazards - health and physical.

When your body is improperly exposed to chemicals, it could cause health hazards. Direct contact with your skin or eyes, breathing in or swallowing a chemical may burn your skin or eyes, cause blindness, nausea, dizziness, or in extreme cases, it may even result in death. Chemicals also may create dangerous situations by causing fires or explosions, which are referred to as physical hazards. Chemical hazards can be minimized by understanding each product’s unique hazards and using safe work practices.

Right to Know

OSHA’s Hazard Communication Standard based on a simple concept – that employees have both a need and a right to know the hazards and identities of chemicals they are exposed to when working. Employees also need to know what protective measures are available to prevent adverse effects from occurring.

ABM has developed a written Hazard Communication Program to ensure that employees who may be exposed to hazardous materials in the workplace receive information about associated hazards.

Determining and communicating the hazards is the responsibility of chemical producers, which are charged with providing suitable labels and safety data sheets for employees.

At ABM, we work at many different client-controlled worksites which use a variety of chemicals. Based on our scope of work, our site hazard evaluations will identify only those chemicals that we may work with or be exposed to and then provide the evaluation, classification and relevant hazard training to our employees.

Course Objectives



Part of this program is to inform you of your rights and provide you with proper training. The training you will receive today includes three areas:

- How to identify hazardous chemicals
- How to read and understand product warning labels and safety data sheets (called previously MSDS or and now SDS) and where to find them
- How to properly handle and use the chemicals you use in the workplace

COURSE CONTENT

1. Routes of Entry
2. Identifying Hazardous Chemicals
3. Labeling Requirements and Systems
4. Safety Data Sheets
5. Chemical Safety Awareness
6. Eye Wash Stations
7. Leaks and Spills
8. Non-Routine Tasks
9. Chemically Sensitive Employees
10. Safety Guidelines



ROUTES OF ENTRY

Chemicals can enter the body in four ways. Most common are through skin contact or through inhalation. Other ways include ingestion and injection.

IDENTIFYING CHEMICAL HAZARDS

What is a hazardous chemical? OSHA defines a hazardous chemical in a broad sense. It is any substance or mixture that can produce negative effects on the health or safety of a human being. Most cleaning chemicals are defined as hazardous. However, some chemicals may only be irritating, while others may be very dangerous. We try to use cleaning chemicals that have minimal or no hazards. But, because the chemicals we use can be hazardous, it's important for you to be able to identify those hazards and know how they can affect you.



Categories of Chemical Hazards

Chemical hazards fall into two categories:

Physical hazards and **health hazards**. A physical hazard is one that creates a hazardous situation outside the body. For example, if a chemical can cause a fire or explosion it is a physical hazard. A health hazard, on the other hand, is a hazard that causes health damage.

There are two types of health hazards: acute and chronic. Some health hazards can occur rapidly, following a brief exposure, which is called an **acute** effect. Health hazards can also cause long-term effects that usually follow prolonged or repeated long-term exposure, referred to as a **chronic** effect.

“Exposure levels” or dose is amount of a hazardous chemical that an average person can safely be exposed to in an eight-hour work day. These exposure levels are typically called Permissible Exposure Level (PEL) as set by OSHA, or a Threshold Limit Value (TLV). This is like your doctor telling you to take one pill every eight hours. If you take two instead, you are technically overdosing and could suffer side effects.

UPDATED HAZARD COMMUNICATION STANDARD

In 2012, the OSHA Hazard Communication standard was updated to ensure consistency across the world for classifying chemicals, labels, and safety data sheets, and to reduce confusion in the workplace, resulting in safer handling and use of chemicals (i.e., GHS). Because you will see labels and safety data sheets that meet the old and new requirements during the three year transition period, we'll discuss information both.



LABELING REQUIREMENTS AND SYSTEMS **Labels (1)**

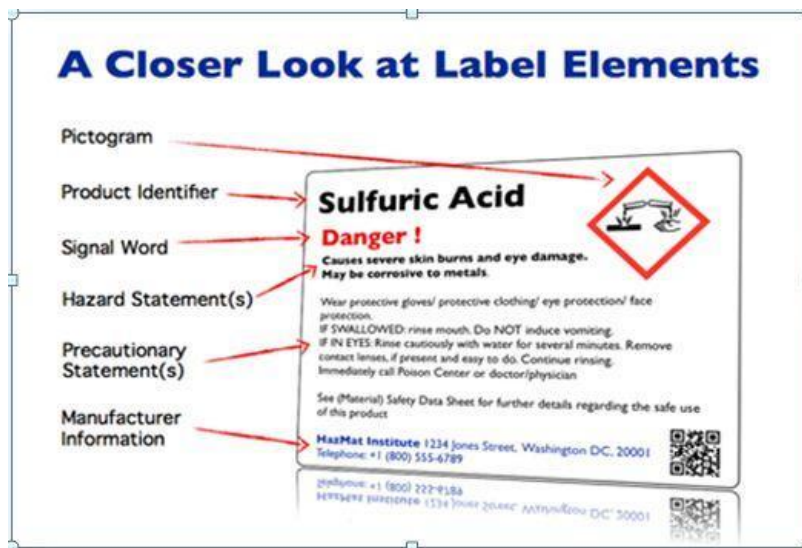
The purpose of labels is to provide an immediate warning of potential dangers. Labels are not intended to be the only or the most complete source of information on hazards or identity of a hazardous chemical. A label's hazard warnings use words, pictures, colors and numbers.

Labels are required on containers of hazardous chemicals. A 'container' is any bag, barrel, bottle, box, can, compressed gas cylinder, drum, reaction vessel, storage tank, or the like.

Labeling Requirements (2)

Until chemical manufacturers and distributors revise container labels to show the pictograms and other hazard classification information required by the 2012 revision of the Hazard Communication standard, you will still see containers with labels that require limited information, consisting of:

- ☐ The identity of the hazardous chemical
- ☐ Appropriate hazard warnings
- ☐ Name and address of the chemical manufacturer, distributor, or other responsible party



Labeling Requirements (3)

Newer labels for hazardous chemical containers must include six elements. This sample label displays all the required elements:

1. A **Product identifier** is the name or number used to identify the chemical on the SDS and the list of hazardous chemicals in our hazard communication program.
2. A **Signal word** indicates the severity of the hazard and alerts you to a potential hazard. The two signal words are "Danger" and "Warning."

"Danger" indicates a more severe hazard.

3. A **Hazard statement** is a brief statement that describes the nature of each hazard.
4. A **Pictogram** is a symbol used to show you the chemical's hazard class. There are eight pictograms for physical and health hazards, and one for environmental hazards.
5. A **Precautionary statement** recommends the steps required to safely use, handle, and store the chemical.
6. The **Name, address, and telephone number** of the chemical manufacturer, distributor, or other responsible party.

Pictograms

There are eight pictograms for hazards related to health and physical hazards.

1. The **Flame over a circle** is used for oxidizers



2. The **Flame** is used for flammables, self-reactives, pyrophorics, self-heating chemicals, chemicals that emit flammable gas, and organic peroxides



3. The **Exploding bomb** is used for explosives, self-reactives, and organic peroxides.



4. The **Skull and crossbones** is used for acute toxicity



5. The **Corrosion symbol** is used for skin corrosion, burns, eye damage, and corrosive to metals



6. The **Gas cylinder** is used for gases under pressure.



7. The **Health hazard symbol** is used for carcinogenicity, respiratory sensitizers (allergic reaction), reproductive toxicity, target organ toxicity, mutagenicity, and aspiration toxicity (directly inhaling a harmful solid or liquid chemical or indirectly inhaling liquid after vomiting)



8. The **Exclamation mark** is used for irritants (skin and eye), skin sensitizers (allergic reaction), acute toxicity (harmful), narcotic effects (such as dizziness, drowsiness, headache, and nausea), and respiratory tract irritants.



Rules About Labels

- Employees can rely on the labels affixed to the containers when they arrived in the workplace. Unless a label falls off a container or becomes unreadable, OSHA does not require containers to be re-labeled. (Relabeling)
- When hazardous chemicals are transferred into another container, the new container must be properly labeled. (Container Transference)
- Signs, placards, batch tickets, or printed operating procedures can be used in place of labels on individual stationary containers, such as tanks. (Alternatives)



Other Labeling Systems – NFPA Diamond

Although they will be phased out over several years, there are two other commonly used hazard labeling systems you may encounter. The first is the NFPA Diamond, which consists of four numbers or letters arranged in a diamond shape. The blue, red, and yellow fields provide information on health, flammability, and reactivity using a numbering scale ranging from 0 to 4. A value of zero means that the material poses essentially no hazard; a rating of four indicates extreme danger. The white segment of the diamond indicates a special hazard, and a variety of symbols are used for hazards such as Water Reactive, Oxidizing Agent, Explosive, Radioactive, and Poison.



Other Labeling Systems – HMIS

The second labeling system is called HMIS. The color and number coding are identical to the NFPA diamond, but instead of the diamond, the HMIS uses a color bar system.

The key difference between the two is the white section, which is used to indicate the level of protective equipment required instead of a special hazard. The level of protection is indicated by a letter. For example, the letter A indicates safety glasses are required and letter B specifies the use of safety glasses and gloves.

MATERIAL SAFETY DATA SHEETS (retiring) AND SAFETY DATA SHEETS (newly rolled out)

Overview

Material Safety Data Sheets (MSDS) and Safety Data Sheets (SDS) are fact sheets that provide the details of a chemical’s hazards and signs of exposure, situations that make chemicals more dangerous, and the procedures and equipment to reduce the risk of exposure. While labels provide basic information about hazards, detailed information is available on the chemical’s safety data sheet. There are many reasons to check a SDS. For example, you may want to:

- Verify label information
- Determine if you are using the recommended PPE
- Learn about the potential health effects related to exposure to the chemical, and
- Review recommended first aid and emergency procedures.



Safety data sheets are available for you to review at any time. You are welcome to request them and ask questions.

MSDS are being replaced by an updated version, known as Safety Data Sheets (or SDSs). Until chemical manufacturers and distributors fully convert MSDS to the Safety Data Sheet (SDS) format, you likely will continue to see MSDS.

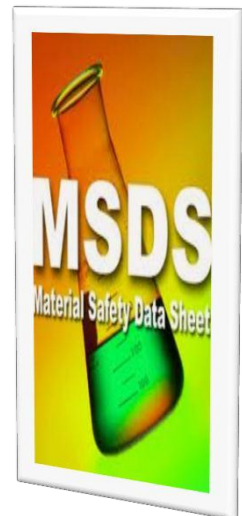
GHS’ SDS / MSDS Content

The layout and design of an SDS/MSDS may vary from one manufacturer to the next. MSDS provide us a lot of information, and it’s important that you know how to use them. Key sections of the MSDS are:

Section 1 provides **identification information** such as the common name and the chemical name. In this example, the chemical’s identification is NaCl, and salt is its common name. The chemical name for salt is sodium chloride. The identification section also includes the name and address of the chemical manufacturer, emergency phone numbers, and the date the form was last updated.

Section 2 identifies **hazardous ingredients**, listing materials in the chemical that may harm you. It also lists safe exposure limits, if any have been set by OSHA.

In Section 4 you’ll find **first aid** information. This section describes the chemical’s main routes of entry into the



body or how they affect the body — either contacting the eyes or skin, or by swallowing or breathing. This section also specifies the **health hazards**, listing the possible consequences of becoming overexposed to a chemical, and explaining emergency and first aid procedures.

Firefighting measures are provided in Section 5. Here you can find the flash point of a chemical, which is the lowest temperature at which it could catch fire. This section also explains the best way to put out a fire involving that chemical.

Section 6 covers **accidental release** measures. Here you can find out what materials you will need to clean up this chemical and how to dispose the product if large quantities should spill or leak. You can also find out how to store the product, and if there are any other necessary health and safety precautions.

Precautions for **safe handling and storage** are covered in Section 7.

In Section 8 the MSDS lists special protection information, such as the type of **protective clothing or equipment**, if any, you may need when handling the product.

In Section 9 **physical and chemical properties** are listed. In other words, this section describes how the chemical looks, how it smells, and how it behaves.

Section 10 describes the **stability and reactivity** of the material, including what conditions to avoid and what things may be incompatible with the chemical.



SDS Requirements vs. MSDS Requirements

The same rules apply to the new SDS as the original MSDS:

- There must be an SDS available for each hazardous chemical in the workplace.
- The employer is responsible for making sure the SDSs are kept up to date.
- SDSs must be immediately available to you in your work area.

Let your supervisor know right away if you can't find an SDS or you think one is missing.

SDS Information (1-16)

Unlike MSDS, all SDS are organized the same way. Each SDS must contain the specific sections in a set order. Let's explore each section using one of the more commonly used chemicals at ABM:



Section 1, Identification includes the product identifier; manufacturer or distributor name, address, and phone number; emergency phone number; recommended use; and restrictions on use.

Section 2, Hazard(s) identification includes the hazard classification and the required label elements.

Section 3, Composition/information on ingredients includes the chemical name, common name and synonyms, Chemical Abstract Service (CAS) number, and percentages of ingredients in mixtures.

Section 4, First aid measures includes necessary measures for each route of exposure, important acute or delayed symptoms, and any immediate or special treatment requirements.

Section 5, Fire-fighting measures lists suitable extinguishing methods; hazardous combustion products, equipment, and special precautions for firefighters.

Section 6, Accidental release measures lists protective equipment, emergency procedures, and proper methods and materials for containment and cleanup.

Section 7, Handling and storage lists precautions for safe handling and storage, including any incompatibilities.

Section 8, Exposure controls/personal protection lists OSHA's Permissible Exposure Limits (PELs), Threshold Limit Values (TLVs), and other recommended exposure limits, appropriate engineering controls, and personal protective equipment.

Section 9, Physical and chemical properties lists the chemical's appearance; its odor and odor threshold; and physical properties such as pH, flash point, upper and lower flammability or explosive limits, vapor pressure and density, auto-ignition temperature, decomposition temperature, viscosity, and relative density.

Section 10, Stability and reactivity lists chemical stability, the potential of hazardous reactions, conditions to avoid, incompatible materials, and hazardous decomposition products.

Section 11, Toxicological information includes routes of exposure, symptoms, immediate and chronic effects, available toxicity data, and whether the chemical is considered a carcinogen.

OSHA does not enforce Sections 12 through 15, so an SDS may not include information in these sections:

Section 12, Ecological information would include aquatic and terrestrial ecotoxicity, bioaccumulative potential, and ecological persistence and degradability.

Section 13, Disposal considerations would include a description of waste residues and information on safe handling and disposal.

Section 14, Transport information would include the proper DOT shipping name, UN number, hazard class, and packing group.

Section 15, Regulatory information would include any product-specific safety, health, and environmental regulations.

Finally, **Section 16, Other information** includes the date of preparation or last revision of the SDS.

SAFETY DATA SHEET		Page: 1
Solvent Wipe #120		Printed: 05/05/2011
		Revision: 09/12/09
1. Product and Company Identification		
Product Code:	SOLVENT #120	
Product Name:	Solvent Wipe #120	
Reference #:	AVS 1241014	
Company Name:	Standardized Sanitation Systems, Inc. 141 Middlesex Turnpike Burlington, MA 01803	
Emergency Contact Information:	Emergency	(408)422-2071 (617)273-2000
Product Category:	Solvents	
2. Hazards Identification		
Flammable Liquids, Category 2		
Serious Eye Damage/Eye Irritation, Category 2A		
Target Organ Systemic Toxicity (single exposure), Category 3		
GHS Hazard Phrases:	H225: Highly flammable liquid and vapor H319: Causes serious eye irritation H335: May cause respiratory irritation	
GHS Precaution Phrases:	P223: Keep container tightly closed. P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P280: Wear protective gloves/protective clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority. P240: Ground/ground container and receiving equipment - if the explosive is electrostatically sensitive. P241: Use explosion-proof electrical/venting/lighting/ equipment - other specified by the manufacturer/supplier or the competent authority - if dust clouds can occur. P243: Take precautionary measures against static discharge. P242: Use only non-sparking tools. P254: Wash hands thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P261: Avoid breathing dust/fume/gas/mist/vapor/spray.	
GHS Response Phrases:	P303+P361: In case of fire, use ... for extinction. ... appropriate media specified by the manufacturer/supplier or the competent authority. ... if water increases risk. P303+P361+P353: IF ON SKIN (or hair): Remove/soak off immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313: If eye irritation persists, get medical advice/attention. P303+P311: Call a POISON CENTER or doctor/hospital if exposed or you feel unwell. P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.	
GHS Storage and Disposal Phrases:	P403+P233: Store in cool/dry-ventilated place. P501: Dispose of contents/container to ... (in accordance with local/regional/national/international regulation). P405: Store locked up. P403+P233: Store container tightly closed in well-ventilated place - if product is as volatile as to generate hazardous atmosphere.	
MIRG MSDS, (c) A-V Systems, Inc.	GHS format	

Chemical Safety Awareness



ABM has conducted hazard assessments of each job task and implemented the appropriate work practices for handling hazardous chemicals.

We have identified what personal protective equipment (PPE) is needed to avoid overexposure to, or injury by, a chemical. If you do not know where you can find the necessary personal protective equipment, please ask your supervisor. The Company will supply necessary PPE to use on the job at no cost to you.

You will now learn how physical and health hazards could be dangerous to you when using chemical products and what proper precautions you must follow to avoid injury.

Physical Hazards

Flammable or Fire. Do not expose aerosol cans to excessive heat as it could catch fire. Other flammable chemical products include glass cleaners, degreasers, floor strippers, carpet spotters, and solvents. Do not use these items near a heat source and do not smoke while using these products.

Explosive. Do not expose an aerosol can product to the sun or other heat source as overheating could cause it explosion.

Health Hazards

Skin and Eye Irritant–(MILD)

- Personal Protective Equipment. Disposable latex gloves must be used when using chemical products that do not specifically require the use of rubber gloves. Use rubber gloves if there are no latex gloves available. Eye goggles or glasses are optional, except when using the more harmful products listed below. Regardless of the product used, if you need to work in a small, confined area where it is likely that a chemical will get into your eyes, you must use goggles.
- Appropriate Work Practices. Always extend your arm out and spray chemicals away from your body to avoid contact with your skin and eyes. Dilute chemicals properly by mixing water first and then slowly pouring the chemical to avoid splashing onto your skin or eyes.
- First Aid. Flush skin or eyes with cool, clean water after exposure. If irritation continues, seek medical assistance.

Skin and Eye Burn–(SEVERE)

- Personal Protective Equipment. Wear rubber gloves and goggles when working at a mixing/dilution station and using chloride-based disinfectants (such as bleach and other disinfectants), acid-based cleaners (such as vinegar, acid bowl cleaner and other strong cleaners with acid), and when using hydroxide-based heavy-duty detergents (such as floor stripper or degreaser). These hazards are reduced when diluted with water.
- Appropriate Work Practices. When using chemicals in spray bottles or cans, extend your arm and spray the product away from your face and other body parts to prevent injury to your skin and eyes. When diluting a chemical with water be sure to fill the bucket or container with water first, then slowly add the proper chemical mix so the harmful concentrate does not accidentally splash onto your skin or eyes.
- First Aid. Immediately after exposure flush skin or eyes with cool, clean water for 15 minutes. Use an eye wash station or portable eye wash bottle if possible. Seek immediate medical attention.

Respiratory Irritant--(MILD)

- Personal Protective Equipment. None necessary.
- Appropriate Work Practices. When using spray bottles extend your arm and spray the product away from your face to avoid breathing in chemical mist or fumes. Never use chemicals for more than a few minutes in a small, confined area. Only use water to dilute chemical products; if you mix different chemicals, it may create dangerous and poisonous gases. Never intentionally smell chemicals.
- First Aid. Immediately move to fresh air if any chemical causes mild respiratory irritation. If irritation continues, seek medical assistance.

Respiratory Burn--(SEVERE)

- Personal Protective Equipment. None necessary.
- Appropriate Work Practices. When using chemicals in aerosol cans, use them infrequently to avoid overexposure. Never spray a chemical from an aerosol can for more than several seconds at a time and spray the product away from your face to avoid breathing the mist or fumes. If necessary, use a fan to blow fumes away from you.
- First Aid. If you feel overcome by fumes with symptoms like feeling faint, headaches or dizziness, move to fresh air immediately. Contact someone nearby to help monitor your condition and seek immediate medical attention if symptoms do not subside. Deliberate inhalation of a concentrated spray can product could be harmful or fatal.

Digestive Distressor Burn

- Personal Protective Equipment. None necessary.
- Appropriate Work Practices. Do not eat or drink near chemicals and wash your hands after using chemicals to prevent ingestion.
- First Aid. Seek immediate medical attention if you accidentally swallow a chemical, as it could cause serious injury or even death.

FACILITY-SPECIFIC CHEMICALS

<Review safety data sheets for chemicals specific to your facility>

EYE WASH STATIONS

It is important that every employee be familiar with the locations of eye wash stations. Eyes should be thoroughly flushed for 15 minutes. Seek medical attention. Refer to the safety data sheet for recommended First Aid procedures.

Medical assistance is readily available by calling in an emergency at "911".

LEAKS AND SPILLS

The primary ways to determine the presence or release of hazardous substances in the work area are:

- Visual identification (e.g. more chemical or substance has been released in the work area than required) and
- Olfactory identification (e.g. a stronger than usual odor in the air).



If you observe a chemical container leaking or a spill of an unknown substance spilled, please follow these safety procedures:

- Evacuate the area and stay away
- Notify a supervisor immediately
- Advise co-workers and tell them to stay away

Only trained and authorized employees should clean up leaks and spills.

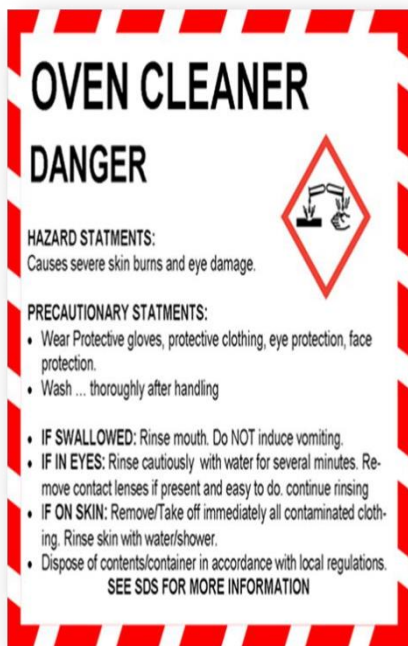
NON-ROUTINE TASKS

When an employee is to perform potentially hazardous non-routine tasks, special training may be conducted about potential hazards and precautions to take to reduce or avoid exposure. This training will include a review of safe work procedures and use of required personal protection equipment.



CHEMICALLY SENSITIVE EMPLOYEES

Chemically sensitive employees may refuse to work with specified substances. If you choose to stop working with a particular substance, the situation should be reviewed with TO BE DETERMINED.



SAFETY GUIDELINES:

Read the label. This will tell you the kind of substance in the container, what its hazards are and how to protect yourself.

Precisely follow the directions for handling a chemical.

Never mix chemicals together unless you are supposed to. Never mix chemicals with water unless you know you should because some chemicals will react violently when mixed with water.

Store chemicals correctly, as specified on the SDS and label. There must be adequate ventilation, the proper temperature, spill containment devices and other provisions.

Know how to safely dispose of chemicals. This information will be included on the label and in the SDS for each chemical.

Use the right Personal Protective Equipment (PPE). Depending on the chemical hazard, you may need to use eye and face protection, gloves, boots or aprons. Respiratory protection such as a filter

cartridge or supplied air type might be required. It is vital you use the correct type. The PPE must be made of the right material. For instance, some chemicals require gloves made of specific natural or synthetic materials to protect you.

Know the emergency procedures in case of a chemical accident. Find out what telephone numbers to call and what alarms to activate. Learn whether you should clean up a spill, or whether you should call in experts. Know where to find the right absorbent materials to contain and clean a spill, and how to use them.



CLOSING

This concludes ABM employee training for GHS Hazard Communication. For the most part, industrial chemicals that you use most frequently are the products that, if used correctly, pose little danger to you. Be careful when you use any product that you typically would use infrequently because it may be a chemical that could be harmful to you. Check container safety labels, the SDS, or ask your supervisor for assistance before using a chemical that you are not familiar with.

Hazardous materials are often part of our everyday activities in the workplace. Used correctly, chemicals are an important part of the work we do. But often we don't give these chemicals a second thought—until there is an accident.

Some materials though important tools, can also be flammable, reactive, corrosive, or toxic. If hazardous materials are in your workplace, it's important that everyone be aware of the risks and how to avoid them. When employees know what materials are being used, how to use them safely, and what to do if an emergency occurs, the workplace can be kept much safer.



SAFETY TRAINING: EMPLOYEE ACKNOWLEDGEMENT FORM

- 1) OSHA is updating its standard of hazardous communications. The “Globally Harmonized System of Classification and Labeling of Chemicals” (GHS) requires chemical manufacturers to provide hazard information to employers and their workers. New labels and revised safety data sheets (SDSs) are part of this update.
- 2) Core duties of ABM’s may range from observing and reporting to real exposure possibilities exist for our employees at their job sites.
- 3) ABM is embracing this new guideline of hazardous chemical recognition and training. For that reason, each branch is responsible meeting Company and OSHA guidelines of safety training on “GHS.”
- 4) As a designated Branch safety coordinator (or designated staff management), your signature below acknowledges that you have read the OSHA-compliant pamphlet ***ABM Onsite Services Hazard Communication Training Program***.
- 5) Completing the information below:
 - a) Complete all data boxes.
 - b) Sign with a legible signature. This verifies your understanding of the content and importance of ABM’s hazard communication training program.
 - c) This form is subject to verification by Company management and auditors and government safety agencies.
 - d) Remove this Acknowledgment page from the training pamphlet and turn into your local safety coordinator.
- 6) Branch safety coordinators will send copies of this form to the Regional or Service Line Safety Director. Originals will be kept in the employee’s personnel folder.

ACKNOWLEDGEMENT:

By my signature below, *“I acknowledge that I have read the **ABM Onsite Services Hazard Communication Training Program** pamphlet. I understand how the issues and subjects covered relate to my completion of my job duties as a member of our safety team. I agree to apply the information presented to my job to the best of my abilities.”* Formal credit for completing my training will be upon the Branch/Region Safety personnel receiving this signed form.

PRINT NAME	BU#:	REGION	BRANCH
SIGNATURE	DATE	JOB TITLE	

Hazard Communication Program Outline

The following outlines the minimum components or pieces that should be part of every Hazard Communication Binder or “book” at each job site where HAZCOM and SDS documentation is required. This information must be readily available to employees as the new OSHA GHS program began rolling out through ABM in early 2013.

Written Hazard Communication Program

- Introduction
- Hazard Communication Program Overview
- Hazard Determination
- Management Responsibilities
 - a. Hazard Determination
 - b. Chemical Inventory
 - c. Labeling
 - d. Safety Data Sheets
 - e. Client and Employer Notification
 - f. Hazardous Non-Routine Tasks
 - g. Employee Information and Training Chemical Inventory

Master Chemical List

- Each job site shall have an inventory list of all chemicals used at the job site and must be certain that the Master Chemical List is updated for any new products used on site.
- There are two parts for this section. The first part (Part I -Primary) is a list of all primary products used at all of the accounts. The second part (Part II -Additional) is a list to be hand written for any new products introduced to the work site or a product being used not in the preprinted list.

Safety Data Sheets (SDS) for each chemical product.

- A SDS sheet must be maintained for every chemical product an employee may use or come in contact with at the job-site. Most of these are already included in this book.
- There must be a SDS for each chemical that is on the hand written Additional list. Attach each of the “Additional” SDS in order following the last SDS as listed so they can be easily located during a search.
- Do not remove SDS in this book except for medical emergencies or to make copies.

Hazard Communication Employee Training Program

- Every employee exposed to chemicals at the job site must go through an ABM Service’s Hazard Communication Employee Training Program. This applies even if an employee rarely uses any chemicals.

Hazard Communication Training Roster Log

- The completed training log must remain at the job-site with a copy at the branch office.
- This section contains the employee sign in roster log only.

Chemical Handling Safety Rules Handout

- Distribute a copy to each employee or post for everyone to review.

Written Hazard Communication Program

Introduction

OSHA's Hazard Communication Standard (29 CFR 1910.1200) was passed with an understanding that workers may be in danger because of exposure to toxic substances in the workplace. The Standard is based on a simple concept - that employees have a need and a right to know all the health hazards and their potential exposure to toxic substances or chemicals in their work. The employees also need to know what protective measures are available to prevent adverse effects from occurring. All workplaces where employees are exposed to hazardous chemicals must have a written plan which describes how the standard will be implemented in that facility.

ABM has developed this Hazard Communication Program (HAZCOM) to ensure that all employees who may be exposed to hazardous materials in the workplace receive adequate information on the possible hazards associated with these materials. The HAZCOM program includes a written plan which describes how the standard will be implemented in every ABM jobsite. The program covers issues such as labeling of containers, safety data sheets (SDS), hazardous chemical list, and employee training. This program, labels, training, and SDS may be offered in other languages, but the English version of all these documents must be available and present at all times.

Hazard Communication Program Overview

In compliance with OSHA regulations, ABM has developed a comprehensive Chemical Hazard Communication Program. It is the Branch Manager's responsibility to ensure that ABM's Hazard Communication Program is available at each worksite, that it has been implemented, and that it is enforced. This written program addresses the specific chemicals in use at our worksites and contains the following major elements:

- Hazard Determination
- Chemical Inventory
- Labeling
- Safety Data Sheets (SDS)
- Client and Employer Notification
- Employee Information and Training

Hazard Determination

Hazard determination is the responsibility of the chemical producers. The Company does not intend to evaluate any of the hazardous substances purchased from suppliers and/or manufacturers, but has chosen to rely upon the evaluation performed by the suppliers or by the manufacturers of the substances to satisfy the requirements for hazard determination. ABM's suppliers and manufacturers have identified those hazards and key safety precautions on labels and safety data sheets (SDS).

Management Responsibilities

A. Hazard Determination

ABM informs its employees about these chemical hazards and precautions with this training program, which is for their benefit and protection. Employees will learn the methods and observation techniques used to determine the presence or release of hazardous substances in the work area. Employees will receive the information necessary so that each knows how to safely use the cleaning chemicals necessary to complete any assigned tasks.

This module addresses the ABM guidelines concerning storage, handling, and use of chemicals and the applicability of the OSHA Hazard Communication Standard (29 CFR 1910.1200). ABM's expectation requires that all the elements of the Standard will be implemented and followed. Each chemical includes detailed information about its safe usage and the required PPE. The importance of safe chemical handling procedures must be stressed to all employees.

B. Chemical Inventory

OSHA safety regulations mandate that each chemical used be accompanied by detailed information about safe usage and any required personal protective equipment (PPE). The information for each chemical used is provided on a Safety Data Sheet (SDS) and must be kept at the work place. A listing of all cleaning chemicals used at the worksite must be included in Section 2: Master Chemical List of the SDS book/binder.

- The Branch Manager, or his designee, shall compile, annually review, and update as necessary, a master inventory of all chemicals used by the Branch. The list shall be kept with the Master SDS file.
- Job Site Managers shall compile, annually review, and update as necessary an inventory of all chemicals used at the job site. This list shall be kept in the Job Site SDS file.

C. Labeling

Job Site Managers and Supervisors shall ensure that:

- No chemical will be released for use unless the container is correctly labeled and the label is legible.
- Every label contains: (a) the chemical name of the contents, (b) the appropriate hazard warnings, (c) the name and address of the manufacturer, and (d) any other information required.
- All secondary containers are labeled. The information must include the identity of the chemical(s) contained in it, appropriate hazard warnings and the name and address of the chemical manufacturer, importer, or other responsible party.
- All chemicals in bags, drums, barrels, bottles, boxes, cans, or cylinders received at the job site are checked to make sure the manufacturer's label is intact, is legible, and has not been damaged in any manner during shipment. Any containers found to have damaged labels should not be used until a new label has been applied.

-
- All unlabeled containers are to be collected with their contents for disposal. If the product cannot be identified, the ABM Branch Safety Coordinator should be contacted for disposal instructions.

D. GHS Safety Data Sheets (SDS)

- The Branch Manager, or designee, will maintain a master GHS SDS file for all chemicals used at the various job sites. This file shall be kept at the Branch Office, and is available to all employees upon request.
- The Job Site Manager will maintain an SDS file for all chemicals used at the job site. These Safety Data Sheets are available to all employees, at all times, upon request.
- The Branch Manager, or a designee, is responsible for reviewing all incoming SDS for new and significant health/safety information (the company will ensure that any new information is passed on to the employees involved).
- The Branch Manager, or a designee, will review all incoming SDS for completeness. If any SDS is missing or obviously incomplete, a new SDS must be requested from the manufacturer or distributor. OSHA is to be notified if the manufacturer or distributor will not supply the SDS, or if it is not received within 30 days from request.
- New chemicals will not be introduced into the work area until a SDS has been received. Any new information will be passed on to the employees involved.
- All Managers with the authority to purchase new chemicals must obtain SDS for these materials when they are first ordered.
- The Branch Manager, or a designee, shall coordinate with appropriate job sites to make sure all SDS are obtained, distributed, and communicated.

E. Client Notification and Client Furnished Chemicals

To ensure that outside contractors/subcontractors work safely at our job sites, and to ensure the safety of the contractor's employees, it is the responsibility of management to make sure our written hazard communication program is available to employees or their designated representatives upon request. This information includes the following:

- The hazardous substance to which they may be exposed while working at the job site and the labeling system of those substances;
- The precautions the contractor's employees must take to lessen the possibility of exposure by usage of the appropriate measures;

The Branch Manager, via the Job Site Manager, will be responsible for obtaining from outside contractors the name of any hazardous substance the contractor's employees may be bringing into the facility for use in their work. The contractor should also supply a copy of the material safety data sheet relevant to these materials.

F. Hazardous Non-Routine Tasks

Periodically, employees are required to perform hazardous non-routine tasks. Prior to starting work on such projects, each affected employee will be given information by their supervisor about hazards to which they may be exposed in such an activity.

This information will include:

- a. Specific Hazards.
- b. Protective measures which must be utilized.
- c. Measures the company has taken to lessen the hazards including ventilation, respirators, presence of another employee and emergency procedures.

Hazardous Substances in Unlabeled Pipes (If Applicable):

To ensure that our employees who work on unlabeled pipes have been informed as to the hazardous substances contained within, the guidelines have been established. Prior to starting work on unlabeled pipes, our employees are to contact the Branch Manager or Branch Safety Coordinator for the following information:

- a. Hazardous substance in the pipe.
- b. Potential hazards.
- c. Safety precautions to be taken.

G. Employee Information and Training

ABM has developed an approved list of cleaning chemicals. It has chosen Ecolab as its preferred supplier of cleaning products. Each product on this list has been professionally tested and selected for use by ABM. Our approved product listing includes cleaning chemicals that are among the safest and most effective available, and when used properly will not harm people, property, or the environment.

Unless other chemicals have been specified by our customers, this chemical list will constitute our entire cleaning chemical inventory. Any exceptions must be cleared through the ABM Branch Safety Coordinator.

Employees are required to attend a safety orientation presented by the supervisor prior to starting work and whenever a new hazard is introduced. Hazard communication training must be performed at the following times:

- Upon the employee's initial assignment with ABM;
- When a new chemical hazard is introduced into the workplace (such as a need for the use of a respirator);
- Annually for employees exposed to chemicals.

Requirements of the Hazard Communication Standard can be satisfied by following the Training Program in the last section of this document. Have all trained employees sign the training roster. Keep the original training roster in the last section of the SDS book and send or fax a copy of the completed roster to the Branch Safety Coordinator.

Master Chemical List

Review the sections of the list to find the chemical product(s) that you need. The first part (**Primary**) is all of the primary chemicals used at all of the accounts. The second part (**Additional**) is for additional chemicals that are now being used by everyone or special products used at your account. The Primary list is in alphabetical order. The Additional list is in order as received and used in the building and must be maintained by the account supervisor. There must be an SDS for every product used, attach new product SDS after the last SDS in this book and write in pen the required information on the Additional list.

Part I - PRIMARY Chemical Products

<u>PRODUCT NAME</u>	<u>COMPANY</u>	<u>SITE. #</u>
• Clean by Peroxy	Spartan Chem. Co.	176338
• Defoamer	Spartan Chem. Co.	159418
• Fast & Easy	Spartan Chem. Co.	156656
• Foamy Q&A	Spartan Chem. Co.	038366
• Germicidal Bowl Cleanse	Spartan Chem. Co.	033049
• Green Solutions All Purpose Cleaner	Spartan Chem. Co.	176330
• Green Solutions Floor Seal and Finish	Spartan Chem. Co.	176343
• Green Solutions Glass Cleaner	Spartan Chem. Co.	176332
• Green Solutions Industrial Cleaner	Spartan Chem. Co.	174237
• Green Solutions Neutral Disinfectant Cleaner	Spartan Chem. Co.	176331
• Hepacide Quat II	Spartan Chem. Co.	154641
• High Performance Vandalism Mark Remover	HP Products	141607
• Kimcare Continuous Air-Freshener	Kimberly-Clark	not req'd
• Kimcare Pink Lotion Soap	Kimberly-Clark	175445
• Kimcare Industrie NTO Hand Cleaner w/Grit	Kimberly-Clark	170223
• Laminate Lights Endurastrip	Spartan Chem. Co.	043643
• M*95	Spartan Chem. Co.	041254
• NABC Non-Acid Disinfectant Bathroom Cleaner	Spartan Chem. Co.	019835
• Orange Tough 15	Spartan Chem. Co.	140852
• Purell Foaming Hand Sanitizer	GOJO Industries	174989
• SC-200	Spartan Chem. Co.	009601
• Shinline Emulsifier Plus	Spartan Chem. Co.	043643
• SSE Carpet Prespray & Spotter	Spartan Chem. Co.	not req'd

Part II -ADDITIONAL Chemical Products

(add SDS in order after last one in book and complete below in pen)

PRINT PRODUCT NAME (as seen on label)

SITE CHEM. #

• _____	_____
• _____	_____
• _____	_____
• _____	_____
• _____	_____
• _____	_____
• _____	_____
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• _____	_____
• _____	_____
• _____	_____

Hazard Communication Employee Training Program

Overview

OSHA's Hazard Communication Standard was passed with an understanding that workers may be in danger because of exposures to toxic substances in the workplace. The Standard is based on a simple concept – that employees have both a need and a right to know the hazards and identities of the chemicals they are exposed to when working. The employees also need to know what protective measures are available to prevent adverse effects from occurring.

ABM has developed a written Hazard Communication Program to ensure that all employees who may be exposed to hazardous materials in the workplace receive adequate information on the possible hazards associated with these materials. The program includes labeling of containers, safety data sheets (SDS), hazardous chemical list, and employee training.

Hazard determination is the responsibility of the chemical producers and they have identified those hazards and key safety precautions on labels and safety data sheets (SDS). ABM informs its employees about these chemical hazards and precautions with this training program, which is for your benefit and protection.

Chemical Hazards

Cleaning chemicals that you use may have certain hazards that you need to be aware of so you can make informed decisions on how to properly handle and use each of these products. Chemicals contain two types of hazards, physical, and health.

Physical hazards

Include a chemical's ability to either catch fire or explode. This usually occurs when the chemical is improperly exposed to heat, air, and water or by being mixed with other incompatible chemicals.

Health hazards

Include ways you may be injured from being improperly exposed to a chemical:

1. Direct contact with chemicals on the skin or eyes can cause burns, rashes, vision difficulties, or even blindness.
2. Breathing in or inhaling chemical vapors or fumes can cause dizziness, nausea, lung damage, unconsciousness or even death.
3. Accidentally swallowing or digesting chemicals can cause poisoning with damage to internal organs or even death.

Hazard Determination

ABM uses container safety labels and safety data sheets (SDS) to identify a chemical and its hazards and how you should properly use these chemicals to ensure your safety. You should review this information carefully before you begin any job task requiring the use of a cleaning chemical.

Each site janitorial office or supply room contains an ABM SDS book. This book contains a written GHS / Hazard Communication program, a master list of hazardous chemicals existing onsite and Safety Data Sheets (SDS) for all of the chemicals. This information is available at all times for your use and copies are available upon request. Let's first review how to read safety labels.

Container Safety Labels

Labels affixed to chemical product containers provide important safety information regarding the chemical's hazards. Each label will contain the product's common name or chemical name that can be matched with the SDS sheet for additional information. The SDS can be reviewed at any time and should always be used in case of emergencies. A label's hazard warnings use words, pictures, colors, and numbers.

- a) Words may describe the level of risk in using the chemical product. These include:
 - DANGER – may cause immediate, serious injury or death.
 - WARNING – may cause serious injury.
 - CAUTION – may cause moderate injury or mild irritation.
- b) Words may also list specific physical hazards (e.g. flammable, corrosive, explosive).
- c) Pictures may illustrate hazards (such as flames for fire or skull & crossbones for poison).
- d) Colors and numbers are coded as ratings within a triangle, diamond or square to give you quick reference to the extent of the hazards. The numbers rated from 0 – 4 tell you how serious the hazard is. The higher the number, the more severe the hazard. The colors tell you what type of hazard you have with the chemical.

0. Minimal Hazard	BLUE = Health Hazard
1. Slight Hazard	RED = Fire Hazard
2. Moderate Hazard	YELLOW = Reactivity Hazard
3. Serious Hazard	WHITE = Other Hazard - Acid, Corrosive or
4. Severe Hazard	Personal Protection Equipment

GHS Safety Data Sheets (SDS)

SDS are fact sheets that detail a chemical's hazards and signs of exposure, situations that make chemicals more dangerous, and the procedures and equipment to use to reduce the risk of exposure. SDS are provided by the producer or manufacturer of each chemical and at the top lists their name and address as well as an emergency telephone number in case any further information is desired. Each SDS contains the following information:

1. Product Identification. This information helps you identify the chemical with the exact product or trade name that is listed on the container label. It also describes the product type and usually has a quick reference hazard rating identical to the label system.
2. Hazardous Components. This section lists each of the chemical components that the product contains. It also lists the concentration of each chemical component to which you can be safely exposed to on average or within limits.
3. Physical Data. This helps you identify the appearance and odor of the product. It also includes data on other characteristics such as solubility in water and the pH level.
4. Fire and Explosion Data. Here you can find at what temperature the chemical ignites, known as the flash point. It also explains how you would properly extinguish the fire.
5. Reactivity Data. This section informs you of the stability, what conditions to avoid, and what things may be incompatible with a chemical. Heat, elements, or mixing other chemicals with the product may cause a fire, explosion, or the release of dangerous gases.
6. Spill or Leak Procedures. This information will assist you with the proper cleanup or waste disposal if there is an unexpected spill or leak.

-
7. Health Hazards. This is the most important part of an SDS. This section lists the possible consequences of becoming overexposed to a chemical. These effects could include burns to eyes or skin, stomach distress, headaches, dizziness or even death.
 8. First Aid. This informs you of first aid and emergency procedures in case of overexposure to a chemical. In certain cases, immediate medical attention is required.
 9. Protective Measures. Here you will find a listing of any specific personal protective equipment (PPE) that is recommended for use with the chemical. PPE for chemical use typically includes protective gloves and/or safety goggles.
 10. Additional Information. This usually includes regulatory information.

Chemical Safety Awareness

There are also other steps that we have taken to keep you safe while using chemical products. We have made hazard assessments of each job task and implemented through this training, the appropriate work practices for the best way to safely handle cleaning chemicals. On occasion, first-aid may be necessary if you become overexposed to a chemical.

We have identified what personal protective equipment (PPE) you will need to avoid being overexposed or injured by a chemical. If you do not know where you can find the necessary personal protective equipment, please ask your supervisor. The company will supply all necessary PPE for you to use on your job at no cost to you.

There are two types of chemical hazards: physical and health. You will now learn how these different hazards could be dangerous to you when using our cleaning chemical products and what proper precautions you must follow to avoid injury.

Physical Hazards

FLAMMABLE OR FIRE

- Be careful not to expose any aerosol can product to excessive heat as it could become on fire. Several other chemical products are also flammable including glass cleaners, degreasers, floor strippers, carpet spotters, and solvents. Do not use these items near any heat source and do not smoke while using these products.

EXPLOSIVE

- Be careful not to expose any aerosol can product to the sun or any other heat source as overheating could cause it to explode.

Health Hazards

SKIN AND EYE IRRITANT –(MILD)

- Personal Protective Equipment. Disposable latex gloves must be used when using any chemical product that does not specifically require the use of rubber gloves. Use rubber gloves if there are no latex gloves available. Eye goggles or glasses are optional but not necessary, except when using the more harmful products listed in next section. Regardless of the product used, if you need to work in a small area where it is certain that a chemical will get into your eyes, you must use eye goggles.

-
- Appropriate Work Practices. Always extend your arm out and spray chemicals away from your body to avoid contact with your skin and eyes. Dilute chemicals properly by mixing water first and then slowly pouring the chemical so that it will not splash onto your skin or eyes.
 - First Aid. Flush skin or eyes with cool, clean water after exposure. If irritation continues, contact a physician.

SKIN AND EYE BURN –(SEVERE)

- Personal Protective Equipment. You must wear rubber gloves and eye goggles when working at a mixing/dilution station and using chloride-based disinfectants (such as bleach and other disinfectants), acid-based cleaners (such as vinegar, acid bowl cleaner and other strong cleaners with acid) and when using hydroxide-based heavy-duty detergents (such as floor stripper or degreaser). Watch for DANGER written on a label, a 3 Health Hazard on a SDS or label, or a written warning that the product may cause permanent eye damage or blindness. These hazards are lessened when diluting these items with water.
- Appropriate Work Practices. When using chemicals in spray bottles or cans, always extend your arm and spray the product away from your face and other body parts to prevent injury to your skin and eyes. When diluting a chemical with water be sure to fill the bucket or container with water first, then slowly add the proper chemical mix so the harmful concentrate does not accidentally splash onto your skin or eyes.
- First Aid. Immediately after exposure flush skin or eyes with cool, clean water for 15 minutes. Use an eye wash station or portable eye wash bottle if possible. Seek immediate medical attention.

RESPIRATORY IRRITANT –(MILD)

- Personal Protective Equipment. None necessary.
- Appropriate Work Practices. When using spray bottles always extend your arm and spray the product away from your face to avoid breathing in chemical mist or fumes. Never use a chemical for more than a few minutes in a small, confined area.
- First Aid. Immediately move to fresh air if any chemical causes mild respiratory irritation. If irritation continues, contact a physician.

RESPIRATORY BURN –(SEVERE)

- Personal Protective Equipment. None necessary.
- Appropriate Work Practices. When using any chemicals in aerosol cans, you must use them infrequently to avoid overexposure. Never spray a chemical from an aerosol can for more than several seconds at a time and spray the product away from your face to avoid breathing the mist or fumes. If necessary, use a fan to blow fumes away from you. Only use water to dilute chemical products; if you mix different chemicals, it may create dangerous and poisonous gases. Never intentionally smell chemicals for any reason.
- First Aid. If you feel overcome by fumes with symptoms like feeling faint, headaches, or dizziness, move to fresh air immediately. Contact someone nearby to help monitor your condition and seek immediate medical attention if the symptoms do not subside. Deliberate inhalation of a concentrated spray can product could be harmful or fatal.

DIGESTIVE DISTRESS OR BURN

- Personal Protective Equipment. None necessary.

-
- Appropriate Work Practices. Do not eat or drink near any chemicals and always wash your hands after using chemicals to prevent ingestion.
 - First Aid. Seek immediate medical attention if you accidentally swallow a chemical, it could cause serious injury or even death.

Conclusion

This concludes ABM employee training for OSHA's Hazard Communication Standard. For the most part, cleaning chemicals that you use most frequently are the products that, if used correctly, pose little danger to you. Be careful when you use any product that you typically would use infrequently because it may be a chemical that could be harmful to you. Check container safety labels, the SDS, or ask your supervisor for assistance before using a chemical that you are not familiar with. Do not forget that aerosol can products may contain very strong chemicals and their safety should be carefully reviewed before using these items.

If you have any questions about what was discussed, please ask them now. Thank you.



Hazard Communication Training Roster Log

Account Address _____ **Business Unit #** _____

Trainer (print name) _____ **Date** _____

This is to acknowledge that I have received training concerning ABM' Hazard Communication Program. I have been trained on the following:

- The purpose of the Hazard Communication Standard and the written ABM Program.
- Awareness of physical and health hazards of chemicals.
- How to read and understand container safety labels and Material Safety Data Sheets (SDS).
- The location of the ABM Hazard Communication Program and the SDS at the job-site.
- Instructions for safely using and handling all chemical cleaning products.
- Instructions for the personal protective equipment (PPE) needed for using certain chemicals.

Note: This form is to be signed by each employee and kept in the SDS book (a copy must be sent to the branch office). Use additional copies if you need to do multiple trainings or sign on the back for more room.

Employee Sign-In (Print and Sign Name)

Chemical Handling Safety Rules Handout

The following rules apply to all chemical products used in ABM operations. You may utilize this as a handout with your GHS Hazard Communication Employee Training and as a jobsite posting.

Labels and Safety Data Sheets (SDS)

- Read all product labels and SDS before use. If you have any questions concerning how to safely use a product, contact your Supervisor prior to using that chemical.
- Obey all chemical container labels and SDS warnings and use the products only as directed.
- Never use an unlabeled secondary container or any chemical product that isn't properly labeled.
- Report to the Supervisor all missing, dirty, or unreadable labels so they can be replaced.

Personal Protective Equipment (PPE) and Appropriate Work Practices

- Wear protective gloves and/or safety goggles as directed on the product label or SDS.
- Always spray chemical products away from your body, especially your face and exposed skin.
- Do not eat or drink near any cleaning chemicals and always wash hands after using chemicals.
- Do not smoke when you are using or near chemicals, you may cause a fire or explosion.
- Never smell or inhale the contents of a chemical container to determine its contents.

Chemical Safety and Emergency Procedures

- Report all chemical product spills to your Supervisor immediately and refer to instructions on the SDS for proper spill cleanup and disposal.
- If any product comes into contact with any body part, flush immediately with lots of water. Follow first-aid instruction on the label or SDS and call 9-1-1 if necessary.
- All chemical containers are to be securely covered and stored away from flames, heat, and the sun.
- Properly remove all cleaning chemical residue so customers and tenants will not be unknowingly exposed to chemicals.

Diluting Chemicals

- Dilute chemicals with clean water only to properly dilute concentrated products. Never mix two different chemical products, this may cause a very dangerous and poisonous gas.
- When diluting a chemical with water be sure to fill the bucket/container with the water first, then slowly add the chemical mix. This will prevent splashing of harmful concentrated chemicals.
- Only refill a secondary container bottle with exactly the same product.
- Do not use mixing stations or dilution centers unless you are both authorized and trained to so. Watch for leaks with mixing station containers and hoses, these spilled chemicals are heavily concentrated and thus could be more harmful.

START NEW SDS SHEETS HERE

Insert each new GHS SDS beginning after this page. They do not need to be page numbered, just insert in order as you receive. Also for new products, write in pen on the Part II –ADDITIONAL Chemical Products list the exact same product name that is on the retiring MSDS and the company that makes the product. Keep the same order for the new SDS attached after this page with the list that you write, this way any new SDS on the ADDITIONAL list could be easily located.

You must have a SDS (and it must be on the Master Chemical List) for each product that you use at your account. Do not purchase or stock any item until you have the SDS in this book. You also must have a secondary safety label attached to any container that is not labeled for chemical products used in the workplace. Any needed SDS or secondary label can be obtained by using the SDS/Label request form or by contacting your manager or the safety director listed below.

QUESTION? Contact your operation's manager at their phone number or the safety director.

Section 7: Energy Control and Power Lockout Program

Overview

ABM has developed this program to create policies and procedures designed to prevent accidents and injuries caused by the unexpected release of hazardous energy during any servicing or maintenance of machinery or equipment. All machinery and equipment being serviced or maintained by ABM employees must FIRST be stopped, isolated from all potentially dangerous energy sources, and LOCKED OUT before performing service or maintenance. This is extremely important because the unexpected start-up or energization of the machinery or a release of stored energy equipment could cause result in serious injury.

WHAT MUST BE LOCKED OUT OR TAGGED OUT?

The control of hazardous energy standard covers servicing and maintenance of equipment where unexpected energization or start-up could cause accidents or injuries. In general OSHA requires that all power sources that can be locked out must be locked out for service or maintenance.

ENERGY SOURCES

- Electrical
- Mechanical
- Pneumatic (involves gases, especially air)
- Hydraulic (involves fluids, especially water)
- Chemical
- Thermal
- Water under pressure (steam)
- Gravity
- Potential Energy is defined as “The energy that a body or system has stored because of its position in an electric, magnetic, or gravitational field, or because of its configuration.”

Dangerous effects of hazardous energy:

- Accidental Start-up
- Electrical Shock
- Release of stored residual or potential energy

Lockout – Tagout Awareness

Locking out a piece of equipment is the process of preventing the flow of energy from a power source to a piece of equipment so that the equipment will not operate. Locking out is accomplished by installing a lockout device at the power source so that the equipment powered by that source cannot be operated.

Lockout device: This is a lock, block, or chain that keeps a switch, valve, or lever in the off position. Locks are provided by your ABM supervisor and can only be used for lockout purposes. They should never be used to lock tool boxes, storage sheds, or other devices.

Tagout is the application of a unique tag which identifies the individual applying the lockout.

ASSIGNING LOCKS

Upon successful completion of all required training for authorized employees, each individual will be assigned a pair (two) of their own locks and photo identification cards (attached together at all times). Each lock will have a key that is to be kept attached to the lock at all times, or secure in your pocket when being utilized. ABM Supervisors (NOT client representatives) are responsible for issuing and assigning locks.

ABM will maintain a log of all locks issued with the name of the employee, the assigned lock number and the lock serial number. Although no master keys may be created, a duplicate key for each lock (with all pertinent information attached to it) will keep in the key box in the ABM office.

Locating Lockout Points

Complex machines/lines can have many sources of energy and present many hazards to the employee. Locating the proper lockout points and controlling all energy sources is critical to doing the job safely.

Lockout points can be located in a number of ways:

- Check with the machine/line operator
- Read the machine placards
- Check the machine prints
- Watch the machine operate
- Ask the area or maintenance supervisor
- Safety department

It is important to remember that machines adjacent to the machine being worked on will also need to be controlled if their movement could cause injury to the employee.

The machine/line operator and area supervisor would be the best sources of information about the machine you need to work on. The operator would have the most knowledge of where the lockout points would be located and just how the machine operates. The machine placards provide valuable information about the location of lockout points for both the machine being worked on and also adjacent machines in the area. The placards will also provide a reference map of those locations.

The machine placards can provide detailed information about the machine but may have been changed and not updated and they probably will not show the adjacent machines in the area. Watching the machine operate can provide insight into secondary source of energy, which would have to be controlled once the machine is locked out such as residual pneumatic and hydraulic pressure.

Applying Lockout and Tagout Equipment

Once you have identified the proper lockout points for the machine you are about to work on and any adjacent machines it is time to apply your locks and tags.

Lockout Procedure:

1. Shut off the operating controls for the machine.
2. Shut off the operating controls for adjacent machines.
3. Disconnect the primary and secondary energy sources from the machines by using the point of entry disconnect locations.
4. Neutralize any stored energy.
5. Apply locks and tags.
6. Verify that lockout is successful.
7. Complete the job task.
8. Remove locks and tags.
9. Release the machine for use.

The employee is required to attach a lock with an identification tag to each energy control disconnect point. If multiple employees will be locking out at the same disconnect point a multi-lock device should be used.

Employee locks and tags can be used for one shift only. If there is an anticipated work continuation, the ABM supervisor should place a **department lock** on each disconnect point until the next shift arrives to continue work at which time the arriving employees will apply their personal locks and tags before beginning work. They must follow all of the same steps required for proper lockout – Tagout including verification of successful lockout before they begin work.

Department locks will be of a different color than employee locks and will be identified as ABM department locks. The keys for the department locks will remain in the control of the ABM Supervisors and Site Manager.

Employees must remember the following rules:

- Only use Company provided safety locks for energy control and lockout.
- Identification tags must be used with safety locks.
- Never lend your lock or identification tag to another employee.
- Never rely on the machine operating controls as the sole means of energy control.
- Carry your safety locks with you while at work.
- Obtain extra locks and multi-lock devices, if needed, before you begin lockout.
- One lock and ID tag is to be used for each disconnect point.
- Secondary sources of energy must be controlled.
- Obstructions to proper lockout must be reported to your supervisor.

-
- You must never remove another employee's lock. They are responsible for removing their own locks and tags

** Contact your supervisor if there is a problem **

Releasing Stored Energy

Stored energy presents a very serious hazard to the worker. It can take many forms including the following:

- Thermal energy
- Stored electric energy
- Mechanical energy
- Stored pressure

There are three primary means of neutralizing secondary, stored energy sources

- **Control** – such as blocking the machine parts to prevent movement after disconnecting power.
- **Release** – such as discharging electrical energy from batteries or capacitors and relieving pressure stored in piping and vessels.
- **Dissipate** – such as allowing a flywheel to rotate down until it stops or allowing a hot machine to cool before proceeding.

The first step in releasing stored energy is to disconnect power to the machine and then identify and use the best method to release the stored energy. Sometimes multiple methods might be needed, such as releasing stored energy from a hot hydraulic pipe, which has both thermal energy and stored pressure. Residual pressure in pipes should be vented or isolated to prevent exposure or mechanical movement, which could cause injury to the employee. Never open a pipe without knowing its contents and the proper way to handle them.

Thermal energy should be allowed to dissipate over time. You should allow time for hot or cold energy to normalize with the surrounding air temperature. Stored electrical energy should be discharged if it cannot be turned off or isolated. This may require the attention of an electrician.

Suspended parts that may fall because of the effect of gravity must be controlled by pinning them in place, placing blocks under them to shore them up, or allowing them to lower to the lowest possible position until gravity no longer has any effect.

Mechanical motion such as that found in a rotating flywheel, conveyor belt or machine blades should be allowed to dissipate gradually once power has been cut. The secret here is to stop and wait until movement ceases. Releasing stored energy takes time. Wait until you have made the machine safe before you proceed with repairs.

Verifying the Machine is Safe

Employees **must always verify** that the lockout has worked and that the machine is safe to work on before they make repairs to the machine or begin working around it. Verifying is often overlooked but should never be. It is a critical step in ensuring the safety of the worker and anyone else that may be in the area and exposed to the potential hazard. Verifying also means you double-check that your lockout has completely de-energized the machine and that all potential hazards have been eliminated or controlled.

Electrical energy can be checked by attempting to turn the machine back on with the locks in place or by checking the controls with electrical volt/amp meter. Check and verify the absence of any machine movement. If you find the machine remains energized you will have to repeat the lockout – Tagout procedure until you have controlled all sources of energy.

Pneumatic and hydraulic pressure can be checked by monitoring the gauges attached to the pipe or vessel. However, gauges should never be used alone to verify pressure, they can stick – watch for machine movement at the same time. Stored pressure for other sources such as steam, gas, water, and chemicals are checked in the same manner as above.

Remember to verify yourself...

- Are you physically ready to proceed?
- Do you have everything under control?
- Do you have everything you need to do your job?
- Are you wearing the proper PPE.?

Remember to verify the machine...

- Are all restraining devices in place?
- Have all hazards been eliminated or controlled?
- Are you completely sure that nothing can or will move?

Remember to verify the area...

- Have all adjacent machines been locked out?
- Have all housekeeping issues been identified and corrected?
- Have all of the personnel in the area been informed as to the plan of action and control measures taken?

Employees must remember to be alert at all times for changing conditions in their work area. New hazards may develop which will need to be eliminated or controlled before employees can continue.

Removing Locks

Only your job has been completed should you ever remove your locks. Removing your lock and leaving a machine un-guarded is inviting trouble.

If, for any reason, you must remove your lock before work has been completed, you should inform your supervisor so that they can replace your lock with a department lock to prevent any possible accidents. If you must leave the job to get materials, or tools, or to go to lunch or break you should leave your locks in place to protect anyone coming in contact with the machine.

Your locks and tags should remain in place for the duration of the job, or until the end of your shift. If you are re-assigned to another job before the work is complete or the shift has ended, ask your supervisor to place a department lock in its place. Supervisors, if you find that an employee has gone home for the day and left their locks in place on a machine you must follow the local lock removal procedure.

A typical lock removal procedure will include the following steps:

- Contacting the ABM supervisor or site manager
- Contacting the plant safety department
- Contacting Security
- Attempting to call the employee back to work to remove their lock
- Filling out the appropriate lock removal form
- Removing and saving the lock
- Replacing the lock with a department lock

Releasing the Machine

If the machine is ready to operate, the following steps would be added to the procedure:

- Verifying the machine is ready to operate if repairs are complete. This would include a thorough inspection of the machine
- Making sure that all personnel are clear of the machine before starting it
- Removing any additional pins, blocks and shoring in the machine
- Replacing all guards and safety devices
- Checking the surrounding area
- Informing the appropriate personnel and operators in the area
- Notifying supervision
- Starting the machine to verify proper operation.

Verification is an important step for the safety of everyone in the area. Always take the time needed to verify that the machine is safe to work on before starting a job.

Abandoned Lock Procedures

All employees MUST remove their locks from all equipment when they have completed their assignment and before they leave the work area. Upon being notified of an ABM lock being abandoned, supervisors should follow these steps:

- Verifying whose lock has been abandoned and from what equipment, then locate the employee and have them immediately remove their lock from the equipment.
- If the employee has left work for the day, the supervisor must locate the duplicate key for that lock stored in the ABM office and remove the lock.
- The supervisor can not remove any lock except if they are certain an employee is punched out and gone for the day.

- A thorough check of all equipment in the area must be conducted to be certain that the employee who left the lock completed all other ECPL procedures properly.
- Inform all Ford representatives that need to know that the lock has been removed and the equipment is prepared for operation.

Employee Training

Lockout/Tagout training requirements vary depending on whether the employee is *authorized* to perform the LOTO procedure or if the employee is simply *affected* by the procedure.

An **authorized employee** must be trained in the identification in exposure recognition, control, and the proper use of locks and tags.

Affected employees should have awareness training under the lockout/tagout program, but not in the actual use of tags and locks.

Periodic audits must be performed annually by an authorized employee who does not use energy control procedures. Retraining must be done when there are changes in the procedure, changes in equipment, in job assignment, when an audit shows deficiencies, or when management feels that procedures should be reviewed.

Affected employees shall receive initial and refresher training in the following areas:

- A. OSHA 10 Hours Lockout/Tagout,
- B. ECPL 8 Hour Classroom and Site,
- C. Machine Guarding 2 Hour Classroom and Site,
- D. Site Hazard Assessment upon assignment,
- E. Annual refresher ECPL course.

Records

All training records for both Authorized and Affected employees shall be kept at the job site.

Section 8. Personnel Protective Equipment Plan

1.0 Purpose

The purpose of this plan is to protect employees from exposure to work place hazards and the risk of injury through the use of personal protective equipment (PPE).

PPE is not a substitute for engineering and management controls, and its use will be considered only when other means of protection against a hazard are not adequate or feasible. It will be used in conjunction with other controls unless no other means of hazard control exist.

This plan addresses general PPE requirements for:

1. Eyes & Face
2. Foot and Leg
3. Hand and Arm
4. Body Protection

This plan does not cover fall, hearing or respiratory protection. See those individual plans for assistance.

2.0 Responsibility

2.1 Site Safety Coordinator

The Site Safety Coordinator is accountable to the Branch Safety Director for the implementation and administration of this plan. Duties include:

1. Ensuring job site hazard assessments are conducted to determine the need for PPE.
2. Selecting and purchasing the appropriate PPE.
3. Maintaining records on hazard assessments.
4. Providing training and guidance to supervisors and employees on the proper use, care and cleaning of approved PPE.
5. Maintaining records on PPE assignments and training.
6. Reviewing and updating the overall effectiveness of this plan.
7. Consulting the Branch Safety Director on issues that cannot be resolved on site.

2.2 Managers & Supervisors

Managers and supervisors have the primary responsibility for implementing and enforcing PPE use in their work areas. This includes:

1. Making the appropriate PPE available to employees
2. Ensuring that employees are trained in the proper care and use of PPE.
3. Documenting training.
4. Ensuring employees properly use and maintain their PPE.
5. Notify the Branch Safety Director when new hazards or work processes are added or changed.

6. Ensuring that damaged or defective equipment is immediately disposed of and replaced.

2.3 Employees

Employees are responsible for the following:

1. Wearing PPE in the proper manner.
2. Cleaning & maintaining and inspecting PPE as required.
3. Inspecting PPE prior to use.
4. Informing the supervisor when PPE needs to be repaired or replaced.

3.0 Procedures

3.1 Hazard Assessments

Hazard assessments are conducted at least annually or whenever:

1. A job task starts
2. New equipment is used
3. There has been an accident
4. An employee request it

Hazard assessments will be documented using the Hazard Assessment Form. The form and instructions for using it are located in Appendix 1. A copy of the assessment will be maintained at the job site and at the Branch.

3.2 PPE Selection

Care shall be taken to recognize the possibility of multiple and simultaneous exposure to a variety of hazards. Only equipment that meets ANSI or NIOSH standards will be purchased or accepted for use. PPE will be provided to the employees at no charge. Careful consideration shall be given to comfort and proper fit of PPE.

3.2.1 Eye & Face Protection

Eyes and face protection must meet ANSI Z87.1-1989 Standards and shall be selected as follows:

Eye & Face Protection	
Hazard	Type of Protection
Dust	Dust Goggles
Eye Impact	Safety Goggles or Safety Glasses with side shields
Heat (Eyes)	Safety Goggles or Glasses
Chemical Splash (Eyes)	Splash Proof Goggles
Face Impact	Face Shield

Heat (Face)	Face Shield with reflective or heat resistant surface
Chemical Splash (Face)	Chemical Resistant Face Shield

Eye and face protection must be replaced when the equipment is damaged or when vision is impaired due to the following:

1. Scratches
2. Paint
3. Other debris

3.2.2 Head Protection

Head protection must meet ANSI Z89.1 – 1986 Standards and shall be selected as follows:

Head Protection	
Hazard	Type of Protection
Falling Objects	Class A,B,C,E or G Type I or II Hardhat
Flying Objects	Class A,B,C,E or G Type II Hardhat

Hardhats must be replaced when:

1. It has been subject to impact.
2. It has been damaged.
3. Shows signs of deterioration (such as white chalky substance from being left in the sun light).

The suspension system should be replaced when it is damaged, or shows signs of wear or deterioration.

3.2.3 Foot & Leg Protection

Foot protection must meet ANSI Z41-1991 Standards and shall be selected as follows:

Foot & Leg Protection	
(More than one type of leg protection may be needed)	
Hazard	Type of Protection
Laceration/Amputation (Legs)	Kevlar or Cut Resistant Chaps
Penetrating/Piercing Object (Legs)	Knee High Snake Boots
Thermal Burns (Legs)	Aluminized Apron, Suit or Pants , or Welding Leather
Chemical Exposure (Legs)	Long Rubber Apron or Chemical Resistant Clothing
Chemical Exposure (Feet)	Chemically Resistant Footwear (Nitrile, Butyl Rubber, Neoprene,etc)

Foot & Leg Protection	
(More than one type of leg protection may be needed)	
Hazard	Type of Protection
Thermal Burns (Feet)	Hard Toed Leather Work Boots
Penetrating/Piercing Object (Feet)	Hard Toed Leather Work Boots
Laceration/Amputation (Feet or Toes)	Hard Toed Ankle High Cut Resistant Boots
Slips	Slip resistant footwear
Rolling Objects	Hard Toed Hard Toed Shoes with Metatarsal Protection if object could crush foot
Falling Objects	Hard Toed Hard Toed Shoes with Metatarsal Protection if object could crush foot

Replace chemical resistant foot and leg protection when it is worn or damaged or the chemical breakthrough time established by the manufacturer is exceeded. All other leg and foot protection should be replaced when worn or damaged.

3.2.4 Hand & Arm Protection

There are no ANSI standards for gloves; however, selection must be based on the performance characteristics of the gloves relative to the tasks being performed.

Hand & Arm Protection	
Hazard	Equipment
Lacerations (Minor Cuts)	Leather Gloves and or Sleeves
Lacerations (Severe Cuts)	Steel Mesh Gloves/Sleeves or Kevlar Gloves/Sleeves
Heat	Insulated Gloves, Aluminized Sleeves, Oven Mitts
Chemical Exposure	Chemical Resistant Gloves
Abrasion	Leather Work or Coated Fabric Gloves

Replace all hand & arm protection when it is damaged or worn out. In addition, chemical resistant clothing should be replaced when it has exceeded the breakthrough time.

3.2.5 Body Protection

There are no ANSI standards for body protection; however, selection must be based on the performance characteristics of the clothing relative to the tasks being performed. The presence of multiple hazards may require the use of more than one type of body protection.

Body Protection	
Hazard	Equipment

Body Protection	
Hazard	Equipment
Dust	Disposable Cloth Coveralls
Heat	Aluminized Jacket & Pants
Chemical Splash	Two-piece Splash Protective Suit/Coveralls
Chemical Gas/Vapor	Fully Encapsulated Vapor Suit (Pressure Tested)
High Vehicular Traffic (Impact/Struck by)	Orange or Green Reflective Vests

Replace all hand & arm protection when it is damaged or worn out. In addition, chemical resistant clothing should be replaced when it has exceeded the breakthrough time.

4.0 Selection Chemical Protective Clothing

Chemical protective clothing does not protect indefinitely. Over time chemicals will breakthrough the material. Once chemical breakthrough occurs, the material holds the chemical against the skin and promotes absorption.

It is important to change out chemical protective clothing once break through has occurred. Information on breakthrough times is available from the manufacturer and/or suppliers of chemical protective clothing.

5.0 Inspection & Maintenance of PPE

All PPE must be inspected before each day’s use and immediately following an incident that can reasonably be expected of having caused damage.

PPE must be free of harmful physical irregularities. Damaged or defective equipment must be replaced immediately with equipment that is free of defects.

Defective equipment is any equipment that has holes, tears, punctures, cuts, an embedded foreign object, softening, swelling, inelasticity, hardening, or any other noticeable damage.

PPE must be stored in a manner that protects it from:

1. Damage
2. Contamination
3. Sunlight
4. Extreme Temperatures
5. Sunlight
6. Temperature & Moisture Extremes

6.0 Training

Employees using PPE must be trained on the following:

1. When PPE is necessary
2. What PPE is necessary
3. How to put on and remove PPE
4. PPE limitations
5. The proper care, maintenance, useful life and disposal of PPE

Supervisors must conduct training as follows:

1. When new employees are initially signed to a new job or task
2. When a new hazard is introduced
3. When a work process is changed or added
4. When an employee does not properly utilize PPE.

Training must be documented and maintained at the job site and the Branch. The documentation must contain the following information:

1. Name of each employee trained
2. Date(s) of training
3. Type of PPE for which the user was trained. (Exception: Training of employees using fall, hearing or respiratory protection must be document as outlined the respective program).

7.0 Job Hazard Assessment Instructions and Forms

Instructions

1. Conduct a walk through survey of job site. For each job/task step, note the presence of any of the following hazard types (see table below), their sources, and the body parts at risk. Fill out the left side of the hazard assessment form. Gather all the information you can.

- Look at all steps of a job and ask the employee if there are any variations in the job that are infrequently done and that you might have missed during your observation.
- For purposes of the assessment, assume that no PPE is being worn by the affected employees even though they may actually be wearing what they need to do the job safely.
- Note all observed hazards. *This list does not cover all possible hazards that employees may face or for which personal protective equipment may be required.* Noisy environments or those which may require respirators must be evaluated with appropriate test equipment to quantify the exposure level when overexposure is suspected.

Hazard Type	General Description of Hazard Type
Impact	Person can strike an object or be struck by a moving or flying or falling object.
Penetration	Person can strike, be struck by, or fall upon an object or tool that would break the skin.
Crush or pinch	An object(s) or machine may crush or pinch a body or body part.
Harmful Dust	Presence of dust that may cause irritation, or breathing or vision difficulty. May also have ignition potential.
Chemicals	Exposure from spills, splashing, or other contact with chemical substances or harmful dusts that could cause illness, irritation, burns, asphyxiation, breathing or vision difficulty, or other toxic health effects. May also have ignition potential.
Heat	Exposure to radiant heat sources, splashes or spills of hot material, or work in hot environments.
Electrical Contact	Exposure to contact with or proximity to live or potentially live electrical objects.
Ergonomic hazards	Repetitive movements, awkward postures, vibration, heavy lifting, etc.
Environmental hazards	Conditions in the work place that could cause discomfort or negative health effects.

2. Analyze the hazard. For each job task with a hazard source identified, use the Job Hazard Analysis Matrix table and discuss the hazard with the affected employee and supervisor. Fill out the right side of the hazard assessment form:

- Rate the SEVERITY of injury that would *reasonably* be expected to result from exposure to the hazard.
- Rate the PROBABILITY of an accident actually happening.
- Assign a RISK CODE based upon the intersection of the SEVERITY and PROBABILITY ratings on the matrix.

Job Hazard Analysis Matrix						
Severity of Injury		Probability of an Accident Occurring				
Level	Description	A Frequent	B Several Times	C Occasional	D Possible	E Extremely Improbable
I	Fatal or Permanent Disability	1	1	1	2	3
II	Severe Illness or Injury	1	1	2	2	3
III	Minor Injury or Illness	2	2	2-3	3	3
IV	No Injury or Illness	3	3	3	3	3

Risk Priority		
Code	Risk Level	Action Required
1	High	Work activities must be suspended immediately until hazard can be eliminated or controlled or reduced to a lower level.
2	Medium	Job hazards are unacceptable and must be controlled by engineering, administrative, or personal protective equipment methods as soon as possible.
3	Low	No real or significant hazard exists. Controls are not required but may increase the comfort level of employees.

3. Take action on the assessment. Depending on the assigned Risk Level/Code (or Risk priority), take the corresponding action according to the table above:

- If Risk priority is LOW (3) for a task step → requires no further action.
- If Risk priority is MEDIUM (2) → select and implement appropriate controls.
- If Risk priority is HIGH (1) → immediately stop the task step until appropriate controls can be implemented.

A high risk priority means that there is a reasonable to high probability that an employee will be killed or permanently disabled doing this task step and/or a high probability that the employee will suffer severe illness or injury!

4. Select PPE:

- Try to reduce employee exposure to the hazard by first implementing engineering, work practice, and/or administrative controls. If PPE is supplied, it must be appropriately matched to the hazard to provide effective protection, durability, and proper fit to the worker. Note the control method to be implemented in the far right column.

5. Certify the hazard assessment:

- Certify on the hazard assessment form that you have done the hazard assessment and implemented the needed controls.



Hazard Assessment Form							
Date of Assessment:		Branch:		Job Site:		Job/Task:	
Printed Name of Person Completing Hazard Assessment:				Signature:			
Job/Task Step	Hazard	Hazard Source	Body Part	Severity	Probability	Risk Code	PPE

Section 9. Equipment, Machinery, and Tool Safety Program

ABM employees shall be provided proper training and protection from equipment, machinery, and tool hazards.

Responsibilities

Management shall ensure employees are trained in the hazards associated with equipment; machinery and tool use and follow safe work practices. Management shall ensure that equipment, machinery and tools are in full working condition, that no parts are missing or damaged, and that equipment is operated in accordance with manufacturer's instructions.

Employees shall exercise due care when operating equipment, machinery and tools by following the manufacturer's instructions, wearing appropriate PPE, ensuring all guards and protective devices are in place during operation. Employee shall not operate the equipment without proper training.

IDENTIFICATION OF HAZARDS

The hazards associated with equipment, machinery and tools use shall be identified through a job hazard analysis.

Pre-use Inspection and Maintenance

A schedule of effective regular maintenance shall be in place. Equipment, machinery, and tools shall be inspected prior to use to ensure they are in safe working condition. Safe working condition means that:

- A. Equipment and tools are functional,
- B. Machine and equipment guards are in place to protect users from rotating parts, pinch points, belts, blades, flying chips, and electrical hazards,
- C. Equipment is free of damage including exposed wiring, cracked handles, burred ends, and dull blades or drill bits,
- D. Equipment is clean and free of debris which could affect its operation,
- E. Tools have either: (1) a constant pressure switch or control that shuts off power when pressure is released, or (2) a lock-on control that can be turned off by a single motion of the same fingers that turn it on,
- F. Labels and other operation instructions are in place and maintained.

Defective equipment shall be immediately removed from service, tagged as such, and sent for repair or disposal. If defective equipment is discovered during pre-use inspection trip ticket or while using the equipment, it must be immediately pulled from service. The ABM Yellow Repair Tag will be completed and fastened to the equipment identifying that the equipment is out of service and not to be used.

The ABM shift supervisor will log the equipment maintenance and contact the appropriate service company for repairs. The supervisor is responsible for all equipment maintenance and repairs and must co-sign the ABM Yellow Repair tag to verify that service is required. The supervisor will also make the necessary arrangements to have the repaired equipment tested upon return and placed back in service.

Safe Work Practices

Safe work practices include, but are not limited to the following:

- A. Use of the proper tool for job being performed,
- B. Use of Company-provided approved equipment and tools that conform to OSHA Electrical Standards,
- C. Using proper handles to carry tools or equipment,
- D. Keeping tools pointed away from the body,
- E. Not placing hands, fingers, or other body parts into operating machinery,
- F. Never leaving a tool unattended where it could be available to unauthorized persons,
- G. Avoiding the use of tools in explosive or flammable atmospheres or confined spaces,
- H. Correctly removing cords and plugs to disconnect equipment from the power source,
- I. Disconnecting tools when not in use, when being serviced, and when changing parts,
- J. Keeping electrical cords dry and away from water,
- K. Grounding cord-connected electrically-operated tools (except double-insulated tools),
- L. Ensuring cords do not present a tripping hazard,
- M. Storing machines and tools in a dry place,
- N. Securing equipment and tools in transport, and
- O. Keeping the work area well lighted.

ELECTRICAL SAFETY

All employees working with equipment, machinery and tools shall be trained on electrical hazards and protection from those hazards.

Personal Protective Equipment

Machine guards shall be in place, and the correct Personal Protective Equipment shall be used when operating machines or power tools. PPE may include:

- A. Hand and arm protection, i.e., gloves,
- B. Face shield,
- C. Safety glasses or goggles,
- D. Hearing protection,
- E. Dust Mask (voluntary use),
- F. Respiratory protection (Respiratory Protection Program must be in place),
- G. Protective footwear, (steel toe and/or slip resistant), and
- H. Safety harnesses and lanyards.

Employee Training

Initial and regular refresher training shall be provided to ensure that equipment, machinery and tools are operated safely. Training shall include:

- A. Basic principles of electricity,
- B. Electrical safety,
- C. Specific equipment operating instructions,
- D. General operating instructions,
- E. Equipment maintenance,
- F. Safety machine and equipment guards and emergency devices,
- G. Pre-use inspection,
- H. Removing from service and tagging defective equipment, machinery and tools, and
- I. Importance of following a regular, scheduled preventative maintenance program.

Records

Training records pertaining to equipment, machinery and tools shall be kept at the job site and copies sent to the Branch office. All operating instructions, manuals, and manufacturer's instructions shall be kept at the job site.

Section 10. Safety Training Requirements

Employees are required to receive safety training to that will inform them on how to:

- A. When the I2P2 is first established.
- B. To all new workers.
- C. To all workers given new job assignments for which training has not been previously provided.
- D. Whenever new substances, processes, procedures, or equipment are introduced to the workplace and represent a new hazard.
- E. Whenever the employer is made aware of a new or previously unrecognized hazard.
- F. To supervisors to familiarize them with the safety and health hazards to which workers under their immediate direction and control may be exposed.
- G. To all workers with respect to hazards specific to each worker's job assignment.

Employee training will be conducted based on the site specific hazards of each location or job task. All hazards at each location and for each job task will be assessed and proper training will then be planned and conducted before employees encounter any such known hazards that put their safety and health at risk.

No new job task can be assigned to an employee unless the proper job task safety assessment has been performed, hazards eliminated or the necessary safety training was conducted prior to doing the assignment. It is ABM's commitment to safety that also dictates continuous improvement to safety including regular safety discussions, safety talk meetings, job task safety checks, safety audits, job hazard assessments, site hazard assessments.

At minimum, monthly safety talks will be conducted for all employees on various safety related subjects. These will be distributed through payroll and should be conducted within a week of receipt. **Copies of the sign-in rosters should be sent back to the safety director with the next payroll (or directly to your manager if so instructed).** Training success rate is calculated each month, so it is important to return the rosters on a timely basis.

All training should be verbally communicated to all employees in their dominant language. Translators should be utilized when necessary.

Written safety compliance programs and training material will be distributed to each account on an "as needed" basis. Once provided, site managers and supervisors must maintain the written programs in binders or files and be made available for review to any employees when requested or for ABM managers conducting a safety assessment.

The required safety training for compliance with these programs must be conducted before employees perform tasks which contain hazards for which the training was made necessary. **All safety training must be documented on training rosters and maintained in the same binders or files containing the written safety programs.** When requested, copies of these training records shall be sent to the branch office for review by the safety director (or other company representative).

Section 11. Confined Space Program

Purpose

The Confined Space Entry Program is provided to protect authorized employees who will enter confined spaces and may be exposed to hazardous atmospheres, engulfment in materials, conditions which may trap or asphyxiate due to converging or sloping walls, or contains any other safety or health hazards. This program discusses those hazards, safe entry procedures, and rescue. Its intent is educational, preventive and fulfills the requirements of the OSHA Confined Space Entry Written Control Plan, 29 CFR 1910.146. A copy of this standard is attached to the end of this document. A copy of this written program shall be available to an employee upon request. With these procedures, persons working in confined spaces should always exit alive and unharmed.

Introduction

The hazards that may be present in a confined space are not easily seen, smelled, heard, or felt, but can represent deadly risks. The worker who enters confined spaces may be, or often is, exposed to multiple hazards due primarily to ignorance or negligence in the enforcement of safety regulations. This ignorance and neglect has led to countless deaths by asphyxiation, fire, and/or explosion, and by fatal exposure to toxic materials.

A permit-required confined space is one in which dangerous air contaminants may be generated and may not be removed by ventilation. When an employee works in this type of environment, the chance exists that atmospheres present may be oxygen deficient, combustible, or toxic. Prevention of injuries to the life and health of workers requires that they be properly trained and well equipped to recognize, understand, and control the hazards they could encounter. In the process of identifying a confined space, the supervisor in charge should always assume that a hazard is present.

Responsibilities

Branch Safety Coordinator / Branch Management

1. Implement a written control plan and perform an annual review to determine necessary revisions.
2. Delegation of sufficient authority to the respective site managers involved to effectively implement the plan.
3. Appropriate the necessary resources required to effectively implement the plan.
4. Monitor the compliance of the respective Sites with the plan and regulations to include compliance with training, monitoring, permitting, record keeping, etc.
5. Provide guidance and technical assistance to Sites in the design and selection of appropriate engineering and work practice controls.
6. Provide guidance and technical assistance to Sites in the selection of the most appropriate types and quantities of personal protective equipment.
7. Provide consultation to the Sites to assist them in fulfilling their training program.
8. Provide a means in which employees can direct suggestions, complaints, and concerns regarding the Confined Space Entry Program.

Managers who are involved with Employees Who Enter Confined Spaces

1. Appoint an individual(s) to serve as authorized individual(s) to perform the required monitoring and to issue entry permits.
2. Assure that the authorized individual(s) receive all the necessary training to effectively discharge their duties.
3. Assure that all individuals who enter confined spaces receive the required training.
4. Assure that all necessary equipment and supplies to effectively protect the health and safety of the workers are provided and maintained in a good state of repair.
5. Develop site policies that will assure that all confined space entries are performed in compliance with the written program and all applicable regulations.
6. Develop policies that will assure that all required records are maintained.
7. Ensure proper training for entry & rescue teams
8. Provide proper equipment for entry & rescue teams
9. Ensure confined space assessments have been conducted
10. Ensure all permit required confined spaces are posted
11. Annually review this program and all Entry Permits
12. Evaluate Rescue Teams/Service to ensure they are adequately trained and prepared
13. Ensure rescue team at access during entry into spaces with IDLH atmospheres

Employee

1. Participate willingly in all training programs offered and learn as much as possible about the confined space entry protection procedure.
2. Abide by all work rules and apply to the fullest extent possible.
3. Follow program requirements
4. Report any problems that are observed, which could compromise health and safety your immediate supervisor.

Entry Supervisor

Entry supervisors are responsible for the overall permit space entry and must coordinate all entry procedures, tests, permits, equipment, and other relevant activities. The following entry supervisor duties are required:

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure
- Verifies, by checking that the appropriate entries have been made on the permit, all test specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin
- Terminate the entry and cancel the permit when the entry is complete and there is a need for terminating the permit
- Verify that rescue services are available and that the means for summoning them are operable
- Remove unauthorized persons who enter or attempt to enter the space during entry operations
- Determine whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space that entry operations remain consistent with the permit terms and that acceptable entry conditions are maintained.

Entry Attendants

At least one attendant is required outside the permit space into which entry is authorized for the duration of the entry operation. Responsibilities include:

- To know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure
- To be aware of possible behavioral effects of hazard exposure on entrants
- To continuously maintain an accurate count of entrants in the permit space and ensure a means to accurately identify authorized entrants
- To remain outside the permit space during entry operations until relieved by another attendant (once properly relieved, they may participate in other permit space activities, including rescue if they are properly trained and equipped).
- To communicate with entrants as necessary to monitor entrant status and alert entrants of the need to evacuate.
- To monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the entrants to immediately evacuate if: the attendant detects a prohibited condition, detects entrant behavioral effects of hazard exposure, detects a situation outside the space that could endanger the entrants; or if the attendant cannot effectively and safely perform all the attendant duties.
- To summon rescue and other emergency services as soon as the attendant determines the entrants need assistance to escape the permit space hazards.
- To perform non-entry rescues as specified by that rescue procedure and entry supervisor
- Not to perform duties that might interfere with the attendants' primary duty to monitor and protect the entrants.
- To take the following action when unauthorized persons approach or enter a permit space while entry is under way:
 1. Warn the unauthorized persons that they must stay away from the permit space,
 2. Advise unauthorized persons that they must exit immediately if they have entered the space, and
 3. Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.

Entrants

All entrants must be authorized by the entry supervisor to enter permit spaces, have received the required training, used the proper equipment, and observe the entry procedures and permit. The following entrant duties are required:

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
- Properly use the equipment required for safe entry;
- Communicate with the attendant as necessary to enable the attendant to monitor the status of the entrants and to enable the attendant to alert the entrants of the need to evacuate the space if necessary;

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- Alert the attendant whenever; the entrant recognizes any warning signs or symptoms of exposure to a dangerous situation, or any prohibited condition is detected; and
 - Exit the permit space as quickly as possible whenever; the attendant or entry supervisor gives an order to evacuate the permit space, the entrant recognized any warning signs or symptoms of exposure to a dangerous situation, the entrant detects a prohibited condition, or an evacuation alarm activated.

Types of Confined Spaces

1. Those of such design that restrict the movement of air in such a manner that ventilation may be inadequate.
2. Enclosed areas with very limited openings for entry and exit. Examples of open-topped confined spaces are pits, degreasers, and certain storage tanks. Gases that are heavier than air (such as butane and propane) can remain in low places of these type spaces where they are difficult to remove. Other hazards may also develop due to the nature of the work being involved or by a residue remaining in the space.
3. Confined spaces may contain an engulfment or entrapment hazard. See the definition section of this document for a more detailed explanation of these terms. Confined spaces, such as trenches, sewers, tanks, or silos usually have limited access and are considered the most hazardous. Gases, such as carbon dioxide and propane, that are heavier than air, may lie in recessed areas for hours or even days. Because many of these gases are odorless, the hazard may be overlooked with fatal results. At the opposite end, gases which are lighter than air may be trapped at the top of a space where access is from the bottom.

Confined Space Hazards

- Explosive / Flammable Atmospheres
- Toxic Atmospheres
- Engulfment
- Asphyxiation
- Electric Shock
- Communication Limits
- Entrapment
- Thermal
- Noise & Vibration
- Slips & falls
- Chemical Exposure / Chemical Burns

Hazardous Atmospheres

Explosive & Flammable Atmosphere

A flammable atmosphere generally arises from an enriched oxygen atmosphere, vaporization of a flammable liquid, chemical reaction, a by-product of work, heavy concentrations of combustible dust, and even desorption (release of entrapped substances) of chemicals from inner linings of confined spaces.

An atmosphere becomes flammable when the ratio of oxygen to combustible material in the air is neither too rich nor too lean for combustion to occur. Combustible gases or vapors will accumulate when there is inadequate ventilation in areas such as confined spaces.

Flammable gases such as acetylene, butane, propane, hydrogen, methane, natural or manufactured gases or vapors from liquid hydrocarbons can be trapped in confined spaces, and since many gases are heavier than air, they will seek lower levels as in pits, sewers, and various types of storage tanks and vessels. In a closed top tank, it should also be noted that lighter than air gases may rise and develop a flammable concentration if trapped above the opening.

The byproducts of work procedures can generate flammable or explosive conditions within a confined space. Specific kinds of work such as spray painting can result in the release of explosive gases or vapors. Welding in a confined space is a major cause of explosions in areas that contain combustible gas.

Flammable atmospheres may also be formed by chemical reactions. These occur when surfaces are initially exposed to the atmosphere or when chemicals combine to form flammable gases. This condition arises when dilute sulfuric acid reacts with iron to form hydrogen or when calcium carbide makes contact with water to form acetylene. Other examples of spontaneous chemical reactions that may produce explosions from small amounts of unstable compounds are acetylene-metal compounds, peroxides, and nitrates. In a dry state, these compounds have the potential to explode upon percussion or exposure to increased temperature. Another class of chemical reactions that form flammable atmospheres arises from deposits of pyrophoric substances (carbon, ferrous oxide, ferrous sulfate, iron, etc.) that can be found in tanks used by the chemical and petroleum industry. These tanks containing flammable deposits will spontaneously ignite upon exposure to air.

Combustible dust concentrations are usually found during loading, unloading, or conveying coal, grain, fertilizers, or other combustible materials. The explosion from these concentrations occurs when high amounts of static electricity accumulates at low humidity readings and causes a spark which ignites the combustible mixtures present in the air.

Also, desorption of chemicals from the inner linings of surfaces of a tank or vessel may produce a flammable mixture. An example of desorption can occur when propane is emptied from a tank. After the removal, the walls may desorb some remaining gas and create a flammable mixture in the tank.

Toxic Atmospheres

Toxic atmospheres can be created from almost any gas, vapor, or airborne dust. Examples of the source of these substances include:

1. The manufacturing process itself.
2. The product being stored.
3. The operation being performed in the confined space (e.g. welding or brazing certain metals).
4. Leakage of lines within the space.
5. Leakage of substances into the space from the outside.

During loading, unloading, formulation, and production, mechanical and/or human error may also produce toxic gases which are not part of the planned operation.

Certain gases are prevalent in various vessels; one is carbon monoxide (CO). This odorless and colorless gas has approximately the same density as air and is formed from the incomplete combustion of such materials as wood, oil, gas, etc. It has poor warning signals as to its level of intoxication. Higher levels (more than 1,000 ppm) can occur without warning and are almost always fatal.

Carbon monoxide is a relatively abundant colorless, odorless gas, therefore, any untested atmosphere must be suspect. It must also be noted that a safe reading on a combustible gas indicator does not ensure that CO is not present. Carbon monoxide must be tested for specifically. The formation of CO may result from chemical reactions or work activities, therefore fatalities due to CO poisoning are not confined to any particular industry. There have been fatal accidents in sewage treatment plants due to decomposition products and lack of ventilation in confined spaces. Another area where CO results as a product of decomposition is in the formation of silo gas in grain storage elevators. In another area, the paint industry, varnish is manufactured by introducing the various ingredients into a kettle, and heating them in an inert atmosphere, usually town gas, which is a mixture of carbon dioxide and nitrogen.

In welding operations, oxides of nitrogen and ozone are gases of major toxicological importance, and incomplete oxidation may occur and carbon monoxide can form as a byproduct.

Another poor work practice, which has led to fatalities, is the recirculation of diesel exhaust emissions. Increased CO levels can be prevented by strict control of the ventilation and the use of catalytic converters.

Another prevalently released gas is hydrogen sulfide (H₂S). Hydrogen sulfide may be formed several ways, but the most common way occurs when hydrochloric acid is combined with iron sulfide, as in the cleaning of vessel walls. Another common source of hydrogen sulfide is microbial breakdown of organic material, such as sewage, manure, garbage, etc.

Irritant (Corrosive) Atmospheres

Irritant or corrosive atmospheres can be divided into primary and secondary groups. Primary irritants exert no systemic toxic effects. The adverse effect exerted by them on the respiratory tract is direct irritation to the tissue. Examples of these are hydrochloric acid, sulfuric acid, and ammonia. A secondary irritant produces toxic effects plus surface irritation. Examples of this type are benzene and carbon tetrachloride. Prolonged exposure at high levels of irritant atmospheres may produce a general weakening of the nerve endings in the upper respiratory tract.

Irritant gases vary widely among all areas of industrial activity. They can be found in plastics plants, chemical plants, the petroleum industry, tanneries, refrigeration industries, paint manufacturing, and mining operations.

Prolonged exposure at irritant or corrosive concentrations in a confined space may produce little or no evidence of irritation. This may result in a general weakening of the defense reflexes from changes in

sensitivity. The danger in this situation is that the worker is usually not aware of any increase in his/her exposure to toxic substances.

Oxygen-Deficient / Asphyxiating or Oxygen-Enriched Atmosphere

An oxygen-deficient atmosphere is caused when the oxygen (O₂) level of an atmosphere depreciates below 19.5% by either consumption or displacement. The consumption of O₂ takes place during combustion of flammable substances, such as in welding. A more subtle consumption of oxygen occurs during bacterial action, as in the fermentation process. Oxygen may also be consumed during chemical reactions, such as the formation of iron oxide (rust). The number of people working in a confined space and the amount of their physical activity will also influence the oxygen consumption rate. A second factor in an asphyxiating atmosphere is displacement by another gas. One such example of displacement is by "inerting" a tank by placing nitrogen in it. The total displacement of O₂ will cause immediate collapse and death. A confined space should never be purged with nitrogen or other gas used in welding as this could lead to an oxygen-deficient atmosphere.

Carbon dioxide may also be used to displace air and can occur naturally in sewers, storage bins, wells, tunnels, wine vats, and grain elevators. Aside from the natural development of these gases, or their use in the chemical process, certain gases are also used as inerting agents to displace flammable substances and retard pyrophoric reactions. Gases such as nitrogen, argon, helium, and carbon dioxide, are frequently referred to as non-toxic inert gases but have claimed many lives. The use of nitrogen to inert a confined space has claimed more lives than carbon dioxide. The total displacement of oxygen by nitrogen will cause immediate collapse and death. Carbon dioxide and argon, with specific gravities greater than air, may lie in a tank or manhole for hours or days after opening. Since these gases are colorless and odorless, they pose an immediate hazard to health unless appropriate oxygen measurements and ventilation are adequately carried out.

Oxygen deprivation is one form of asphyxiation. While it is desirable to maintain the atmospheric oxygen level at 21% by volume, the body can tolerate deviation from this ideal. When the oxygen level falls to 17%, the first sign of hypoxia is deterioration to night vision which is not noticeable until a normal oxygen concentration is restored. Physiologic effects are increased breathing volume and accelerated heartbeat. Between 14-16% physiologic effects are increased breathing volume, accelerated heartbeat, very poor muscular coordination, rapid fatigue, and intermittent respiration. Between 6-10% the effects are nausea, vomiting, inability to perform, and unconsciousness. Less than 6%, spasmodic breathing, convulsive movements, and death in minutes.

An oxygen-enriched atmosphere contains greater than 23.5% oxygen. The main hazard associated with an oxygen-enriched atmosphere is fire. Combustible materials burn much faster in the presence of an oxygen-enriched environment. Some materials which are generally not considered fire hazards will burn rapidly when the oxygen concentration is increased. A contaminated atmosphere must never be purged with oxygen as this would greatly increase the fire hazard in the space.

General Safety Hazards

Mechanical / Electrical

If the activation of any electrical or mechanical equipment could cause injury to persons in a confined space, each piece of equipment shall be manually isolated and inactivated (locked out) before workers are allowed to enter a confined space. Also, there may be other hazards associated with confined spaces, such as flammable vapors or gases, in which special precautions must be taken. Preventing vapor leaks, flashbacks, and other hazards by closing valves is not sufficient. All pipes should be physically disconnected or isolation blanks bolted in place. Some tanks or vessels must also be blanked off and a blanket of inert gas placed within the tank to prevent a build-up of flammable vapors.

Communications for Permit-Required Confined Spaces

Communication between the worker and personnel outside is of the utmost importance. If a worker becomes unconscious or suddenly feels distressed, an injury may quickly become a fatality without proper communication. Communications should include visual monitoring at a minimum. Frequently, there are situations where visual monitoring is impossible and communication by means of an electronic communication system will be necessary.

Entry and Exit

The extent of the time required to enter and to exit is of major significance as a physical limitation and is directly related to the potential hazard of the confined space. The extent of precautions taken and the standby equipment needed to maintain a safe work area will be determined by the means of access and rescue. The following should be considered:

1. Type of confined space to be entered
2. Access to the entrance
3. Number and size of openings
4. Barriers within the space
5. Occupancy load
6. Time required to exit confined space

Physical Effects

Thermal Effects

When working in confined spaces, certain considerations must be taken to prevent conditions such as frostbite, hypothermia (excessive body heat loss), and heat stress.

Four factors influence the interchange of heat between people and their environment. They are: (1) air temperature, (2) air velocity, (3) moisture contained in the air, and (4) radiant heat. Because of the nature and design of most confined spaces, moisture content and radiant heat are difficult to control. As the body temperature rises progressively, workers will continue to function until the body temperature reaches approximately 102°F. When this body temperature is exceeded, the

workers are less efficient, and are prone to heat exhaustion, heat cramps, or heat stroke. In a cold environment, certain physiologic mechanisms come into play, which tend to limit heat loss and increase heat production. The most severe strain in cold conditions is chilling of the extremities so that activity is restricted. Special precautions must be taken in cold environments to prevent frostbite, trench foot, and general hypothermia.

Protective insulated clothing for both hot and cold environments will add additional bulk to the worker and must be considered in allowing for movement in the confined space and exit time. Therefore, air temperature of the environment becomes an important consideration when evaluating working conditions in confined spaces.

Noise

Noise problems are usually intensified in a confined space because the interior tends to cause sound to reverberate and cause extremely high noise levels. This high noise level can sometimes cause hearing damage to workers and can create problems with communication between workers inside the confined space, and assisting workers outside the confined space. Hearing protection must be provided when the time-weighted sound level pressure exceeds 85 decibels. If the workers inside are not able to hear commands or danger signals due to excessive noise, the probability of severe accidents can increase.

Vibration

Whole body vibration may affect multiple body parts and organs depending upon the vibration characteristics. Segmental vibration, unlike whole body vibration, appears to be more localized in creating injury to the fingers and hands of workers using tools, such as pneumatic hammers, rotary grinders or other hand tools which cause vibration.

General

Some physical hazards cannot be eliminated because of the nature of a confined space or the work to be performed. These hazards include such items as scaffolding, surface residues, and structural hazards. These hazards pose an almost unrecognizable threat when compared to threats posed by oxygen deficiency, combustible or lethal gas pockets, engulfment, entrapment, etc. These lesser problems, however, account for more injuries because of oversight. Samples of these problems are slips and falls, reaction of incompatible materials, improper scaffolding, electrical shock, and chemical exposure, chemical burns etc. Because of these hazards, careful planning must be given to the relationship between the internal structure, the exit, and the worker.

Surface residues in confined spaces can increase the already hazardous conditions of electrical shock, reaction of incompatible materials, liberation of toxic substances, and bodily injury due to slips and falls. Without protective clothing, additional hazards to health may arise due to surface residues.

Definitions

Acceptable Entry Condition

Means the conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter and work within the space.

Atmosphere

Refers to the gases, vapors, mists, fumes, and dusts within a confined space.

Attendant

Means an individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant duties assigned in the employer's permit space program.

Authorized Entrance

Means an employee who is authorized by the employer to enter a permit space.

Combustible Dust

A dust capable of undergoing combustion or burning when subjected to a source of ignition.

Confined Space

Refers to a space that:

- (1) Is large enough and so configured that an employee can bodily enter and perform assigned work;
- (2) Has limited or restricted means of entry or exit; and
- (3) Is not designed for continuous employee occupancy.

Emergency

Means any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

Engulfment

Engulfment is the surrounding and effective capture of a person by a liquid or finely (flowing) solid substance that can be aspirated or cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

Entrapment

A condition where an uninjured person is unable to remove themselves, or any body part, from a confined space. Entrapment occurs as a result of the configuration of a confined space and is often associated with converging or convoluted surfaces.

Entry

Entry is the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Entry Permit

The entry permit is the written or printed document that is provided by the employer to allow and control entry into a permit space.

Entry Supervisor

The entry supervisor (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required.

Flammable or Explosive Limits

When flammable vapors are mixed with air in the proper proportions, the mixture can be ignited. The range of concentrations over which the flash will occur is designated by the Lower Explosive Limit (LEL) and the Upper Explosive Limit (UEL). Flammable limits (explosive limits) are expressed as percent volume of vapor in air.

Hazardous Atmosphere

A hazardous atmosphere may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue, injury, or acute illness from one or more of the following causes:

1. Flammable gas, vapor, or mist in excess of 10% of the lower flammable limit.
2. Airborne combustible dust at a concentration that meets or exceeds the lower flammable limit.
3. Atmospheric oxygen concentration below 19.5% or above 23.5%
4. Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published. Note: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, and impairment of ability or self-rescues, injury or acute illness due to its health effects is not covered by this provision.
5. Any other atmospheric condition that is immediately dangerous to life or health.

Hot Work

Any work involving burning, welding, riveting, or similar fire producing operations as well as work which produces a source of ignition, such as drilling or abrasive blasting.

Immediately Dangerous to Life or Health

Means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individuals' ability to escape unaided from a permit space.

Inerting

Displacement of an area's atmosphere by a non-reactive gas (such as nitrogen) to such an extent that the resulting atmosphere is non-combustible.

Isolation

The process whereby the confined space is removed from service and completely protected against an inadvertent release of material. Examples are blanking off lines, lockout of electrical systems, and disconnecting mechanical linkages.

Non-Permit Required Confined Space

A non-permit confined space means a confined space that does not contain a recognized acute hazard or does not have the potential to contain, any hazard causing death or serious physical harm.

Oxygen Deficiency

An atmosphere where the oxygen concentration is less than 19.5%.

Oxygen Enrichment

An atmosphere where the oxygen concentration is greater than 23.5%.

Permissible Exposure Limit (PEL)

The maximum 8 hours, time weighted average of an airborne contaminant to which an employee may be exposed. At no time shall the exposure level exceed the ceiling concentration for the contaminants as listed in 29 CFR 1910 Subpart Z.

Permit-Required Confined Space

A permit-required confined space has one or more of the following characteristics:

1. Contains or has a potential to contain a hazardous atmosphere;
2. Contains a material that has the potential for engulfing an entrant;
3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
4. Contains any other recognized serious safety or health hazard.

Permit System

The permit system is the employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

Purging

The method by which gases, vapors, or other airborne impurities are displaced from a confined space.

Retrieval system

The retrieval system (including a retrieval line, full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

Threshold Limit Value (TLV)

An occupational exposure guide published by the American Conference of Government Industrial Hygienist (ACGIH), extensively used to judge acceptable exposure levels to hazardous substances.

Medical Requirements

Medical requirements of employees who enter a confined space must be taken into consideration due to the increased hazard potential. In this type setting, employees must rely more heavily upon their physical, mental, and sensory attributes, especially under emergency conditions. In areas where the hazard potential is high, a person certified in CPR and First Aid should be in attendance.

Training

Training of employees for entering and working in confined spaces is required because of the potential hazards and the use of life-saving equipment. To ensure worker safety, the training program must be especially designed for the type of problems encountered. Instructional areas to be covered in the training program are:

1. Duties Of Entry Supervisor, Entrant And Attendants
2. Potential Dangers Of Confined Space Work
3. Confined Space Entry Permits
4. Air Quality Monitoring
5. Space Ventilation Procedures
6. Lockout And Tagging Procedures
7. Fire Protection
8. Communications
9. Use Of Air Monitoring Equipment
10. Use Of Rescue Equipment
11. Emergency Exit Procedures
12. Use Of Respirators
13. First Aid And Cardio-Pulmonary Resuscitation
14. Training employees in permitting requirements must be done by a qualified person or someone knowledgeable in all relevant aspects of confined space entry procedures. The qualified person must be proficient in the following areas:
 - a. Types of confined spaces that employees will be entering
 - b. Chemical and physical hazards
 - c. Work practices and techniques
 - d. Testing requirements, permissible exposure limits, etc.
 - e. Safety equipment such as respirators, protective clothing, and other protection such as helmets and shields
 - f. Emergency action & Rescue procedures
 - g. Rescue training, including entry and removal from representative spaces
 - h. Knowledge of applicable Federal, State, and Local regulations
 - i. Evaluation and test methods

The effectiveness of the training program can be determined by the qualified person to see if safe work practices are being followed and testing the employee for knowledge of the operations and hazards. Training shall be provided an approved source.

Confined Space Identification and Warnings

All permit-required confined spaces located inside buildings shall be identified and posted with appropriate signs to discourage the entry of unauthorized individuals. Where possible, they shall be secured to prevent unauthorized entry.

Permit Retention and Recordkeeping

Individual sites should maintain a copy of these forms. The following records shall be maintained:

1. Training. Information to include the date, location, instructor, content of course, name, and signature of trainee, etc. 3 years
2. Permits and pre-entry check lists. 3 years
3. Equipment calibration and maintenance log. 3 years
4. Confined space log. Indefinitely

Equipment

The Branch will have and maintain a multi-channel gas detector for use. These units shall be calibrated before each use. Sites may wish to purchase their own gas detectors. In addition, the branch shall make available a single rescue tripod/winch, lifeline, and body harness for outside rescue.

Written Standard Operating Procedures

Specific Procedures And Work Practices

The Confined Space Entry procedure does not cover all possible situations or conditions that could be encountered. Additional or different safety features or procedures may be necessary for specific operations.

Hazard Control

Engineering Controls

- Locked entry points
- Temporary ventilation
- Temporary Lighting

Administrative Controls

- Signs
- Employee training
- Entry procedures
- Atmospheric Monitoring
- Rescue procedures

-
- Use of prescribed PPE

Application

This procedure must be followed when entering confined spaces such as manholes, vaults, boilers, ductwork, vessels, etc. Its intent is to protect entering personnel against such hazards as oxygen deficiency, combustible gas and vapors, toxic gases and vapors, mechanical hazards, entrapment, etc.

Confined spaces may be closed on all sides, top and bottom, with entry provided through restricted openings, or may be open completely on one side, top, or bottom. Entry is defined as breaking the plane of the confined space with any part of the body.

Permit-required confined spaces are of greater hazard than non-permit required confined space. The entry points to permit-required confined spaces located within a building are marked with red stenciled signs stating: Danger - Permit-Required Confined Space, Do Not Enter.

It is important to realize that a non-permit required confined space may require re-classification based on the type of work to be performed. For example, an underground vault may be classified as non-permit required; however, if an employee will be applying a solvent within this space, it could be upgraded to a permit-required confined space.

Standard Operating Procedures

WARNING: SMOKING IS NOT PERMITTED IN A CONFINED SPACE OR NEAR THE ENTRANCE TO A CONFINED SPACE AT ANY TIME. THIS IS ESPECIALLY IMPORTANT WHEN THE SPACE IS BEING INITIALLY OPENED AND THE ATMOSPHERE TESTED.

WARNING: ALL ENERGY SOURCES MUST BE LOCKED OUT OR TAGGED OUT BEFORE ENTRY, UNLESS HOT WORK PERMITS HAVE BEEN AUTHORIZED BY THE SUPERVISOR.

A Standard Operating Procedure (SOP) outline must be developed for each space to standardize the entry procedure. The SOP must outline:

- Hazards
- Hazard Control & Abatement
- Acceptable Entry Conditions
- Means of Entry
- Entry Equipment Required
- Emergency Procedures

Confined Space Entry Procedures

Each employee who enters or is involved in the entry must:

1. Understand the procedures for confined Space Entry

2. Know the Hazards of the specific space
3. Review the specific procedures for each entry
4. Understand how to use entry and rescue equipment

Before entering the confined space, the employee should follow these minimum requirements:

1. Employees may not enter the confined space without specific training in confined space entry and approval of their supervisor;
2. Any conditions making it unsafe to remove an entrance opening cover shall be evaluated and the necessary precautions applied before the cover is removed;
3. When an entrance opening cover is removed, the opening will be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and will protect each employee working in the space from foreign objects entering the space.
4. At this point a check list must be completed. The permit form can be used for permit-required confined spaces will serve as the check list in non-permit required confined spaces.

During all Confined Space Entries, the following Safety Rules must be strictly enforced:

1. Only Authorized and Trained Employees may enter a Confined Space or act as Safety Watchmen.
2. During Confined Space Entries, a Watchman must be present at all times.
3. Constant visual or voice communication will be maintained between the Safety Watchmen and Employees entering a Confined Space.
4. No bottom or side entry will be made or work conducted below the level any hanging material or material which could cause engulfment.
5. Air and Oxygen Monitoring is required before entering any Permit-Required Confined Space. Oxygen levels in a Confined Space must be between 19.5 and 23.5 percent. Levels above or below will require the use of an SCBA or other approved air supplied respirator. Additional ventilation and Oxygen Level Monitoring is required when welding is performed. The monitoring will check Oxygen Levels, Explosive Gas Levels, and Carbon Monoxide Levels. Entry will not be permitted if explosive gas is detected above one-half the Lower Explosive Limit (LEL).
6. To prevent injuries to others, all openings to Confined Spaces will be protected by a barricade when covers are removed.

Confined Space Entry Permits

- Each Permit-Required Confined Space will be marked "Confined Space - Entry Permit Required."

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- Confined Space Entry Permits must be completed before any Employee enters a Permit-Required Confined Space. The Permit must be completed and signed by an Authorized Member of Management before entry.
 - Permits will expire before the completion of the shift or if any pre-entry conditions change. Permits will be maintained on file for 12 months.
- I. In addition to the minimum requirements before entry, the following procedures must be observed for entry into a permit-required confined space:
- A. Before an employee enters the space, the internal atmosphere must be tested with a calibrated direct-reading instrument for oxygen content, flammable gases and vapors and toxic gases and vapors (in that order). Note that some instruments test for multiple gases simultaneously. If the presence of a toxic gas or vapor is suspected in a confined space, contact Manager for advice on air sampling. Hot air and steam shall be ventilated from steam vaults before testing the atmosphere.
 - 1. If possible, the atmosphere immediately inside the cover (entry point) must be tested without removing the cover. This testing can be accomplished by using the gas meter and the hand-held probe and sampling line attached to the pump. If the cover does not have a sampling port, carefully open the cover a small amount and check the atmosphere immediately inside the cover by lowering the gas meter into the space or inserting the hand-held probe and sampling line attached to the pump;
 - 2. After testing the atmosphere immediately inside the confined space, carefully remove the cover. Test the atmosphere from the top to bottom and around ductwork and uneven surfaces. This testing can be done by slowly lowering the gas meter by its attached rope or string or using the hand-held probe and sampling line attached to the pump. Do not let the gas meter or end of the tubing submerge in any water that might be present. For horizontal confined spaces and confined spaces that must be entered from the bottom, it will be necessary to use a pole to test the atmosphere;
 - 3. Avoid leaning over the space or placing your head inside the confined space you are testing.
 - B. If the oxygen concentration test indicates an oxygen deficiency (less than 19.5%) or an excess (more than 23.5%), the gas meter should sound an alarm and forced ventilation must be provided. For ventilation of confined spaces, see Appendix I at the back of this procedure. No entry into the confined space will be permitted until follow-up tests after ventilation indicate that the atmosphere is safe.
 - C. If the flammability test (combustible gas) indicates a flammable concentration greater than 10% of the lower explosive limit, the gas meter should sound an alarm and forced ventilation must be provided. No entry shall be permitted until follow-up tests indicate that the atmosphere is safe.
 - D. The gas meters test for carbon monoxide and hydrogen sulfide. Carbon monoxide is produced by internal combustion engines and hydrogen sulfide is often found in sewers. If the gas meter indicates levels of either carbon monoxide that exceed 25 parts per million (ppm) or hydrogen sulfide that exceed 10 ppm, the gas meter should sound an

-
- alarm and forced ventilation is required. No entry shall be made until the atmosphere is safe.
- E. After purging, sufficient ventilation shall be supplied to the confined space where needed, making sure that your source of ventilation air is not contaminating the confined space (i.e. carbon monoxide from traffic).
 - F. At this point the confined space entry permit must be completed. Each person entering the confined space must sign the confined space entry permit. The confined space entry permit must be posted near the entrance to the confined space. For outdoor entry points during wet or windy weather, the permit may be kept in a nearby safe location such as a department vehicle. It is now acceptable to enter the confined space. Continuous air monitoring must be conducted while the confined space is occupied. A gas meter should be worn by an employee in the confined space.
 - G. Pre-entry retesting for air contaminants in the confined space atmosphere must be made after every work break.
 - H. If a hazardous atmosphere is detected while individuals are in the space, each employee shall leave the space immediately.
 - I. If an attendant outside the confined space orders an evacuation or if the gas meter signals an alarm, all employees must immediately evacuate the confined space. The space shall not be re-entered until the source of the problem has been identified and corrected.
 - J. The completed confined space entry permit or check list must be kept in the department files.
 - K. Upon completion of a work shift, the gas meter must be returned to its charger. If the next shift will continue the work, a gas meter with a fully charged battery must be obtained. If the gas meter is damaged or malfunctioning, tag the unit as being out of service. Repairs and recalibration must be performed before re-use.
 - L. An attendant must be stationed outside the confined space to maintain voice and/or visual contact with entrants and to recognize the early symptoms of danger in the space. The attendant must be fully familiar with rescue procedures and be able to recognize hazardous conditions. The attendant must not enter the confined space in an emergency. The attendant must order an evacuation of the confined space if a hazardous condition develops or when the workers inside the confined space appear to be in danger;
 - M. When applicable, wristlets, life line or full-body harnesses will be provided for each person in the confined space. In some cases, it will not be possible to use these rescue features based on the shape, size or contents of the particular confined space;
 - N. A mechanical winch and tripod, approved for rescue, must be provided for top entry permit-required confined spaces. The equipment shall be inspected upon set up. The attendant outside the confined space must be trained in the use of this equipment. In some cases, the winch and tripod cannot be used if they create a hazard.
 - O. A portable radio or other device must be used to maintain communication between the attendant and the entrant(s);
 - P. The number of employees allowed to enter a permit-required confined space must be kept to a minimum. The supervisor on site, or a designated authorized person, must

complete the entry permit and make sure all entrants have signed before entry. The supervisor will cancel the permit at the completion of the job or when conditions substantially change within the confined space such that the permit is no longer valid.

Rescue Procedures

1. If an employee is injured, or becomes unconscious in a permit-required confined space, the employee must be retrieved using the rescue tripod and winch or lifeline (if provided). Emergency personnel should be summoned via 911 as soon as possible after it is recognized that a problem exists. In some instances, the notification may have to be delayed until the injured person has been removed from the space.
2. The attendant must never enter a confined space. If rescue cannot be accomplished outside the confined space by using a tripod/winch or lifeline, then rescue assistance must be summoned immediately by calling 911.

APPENDIX A - GUIDE TO MECHANICAL VENTILATION OF CONFINED SPACES

In many situations, it will be necessary to ventilate a confined space before entry and to maintain forced ventilation while the space is occupied. Forced ventilation is required to remove air contaminants, provide oxygen and to keep the air as clean as possible. The following is a guide to help ventilate confined spaces. Some confined spaces have a single opening, others have multiple opening; or are connected to tunnels, etc.

1. It is best to blow air into the confined space and draw it out simultaneously. This procedure generally requires two or more openings. For ventilation purposes, it is best to open as many of the adjacent entry points as possible.
2. With a confined space that has only a single entry point or when only a single fan is available, air should be blown into the confined space. A flexible hose is helpful in directing the air to the bottom of the confined space.
3. It is important that the fresh air intake not be contaminated. In some cases, a portable gasoline powered generator will be used to power the ventilation fan(s). The generator should be located as far as possible from the fan air intake. Motor vehicles or other internal combustion engines should not be allowed to operate with their exhaust pipes located near the air intakes.
4. When using ventilation, it is important to have a rough idea of the volume of the confined space to be entered. It is also important to know the rating of the ventilation fan. When forced ventilation of a confined space is required, at least three air changes should be provided before re-sampling. Here is an example:

An underground fault is 10 feet wide by 8 feet high by 10 feet long. Multiplying these three dimensions yields 800 cubic feet. The fan to be used is rated for 400 cubic feet per minute.

800 cubic feet = one air change every 2 minutes

400 cubic feet per minute

Thus it will take the fan two minutes to ventilate the confined space. It will take 6 minutes to provide the necessary three air changes.

APPENDIX B - EQUIPMENT FOR CONFINED SPACE ENTRY

The following is a list of equipment that may be necessary for safe entry into the confined space.

- Hard hats, safety shoes, safety glasses and ear protection
- Ladder, respirator, lock, key, multiple-lock hasp, tags, lights, fans, barriers and fire extinguisher
- Portable radios
- Harness, lifelines, wristlets, tripod and winch
- Permit or checklist

APPENDIX C - ASSOCIATED PROGRAMS AND STANDARDS RELATED TO CONFINED SPACE ENTRY

- Respiratory Protection - OSHA 1910.134 (Selection, care, maintenance, fit testing, use and training related to respirators).
- Heat Stress - American Conference of Governmental Industrial Hygienist (ACGIH)
- Control of Hazardous Energy Sources - (lockout/tagout) OSHA 1910.147. This regulation and University safety program deals with assuming a zero energy source in equipment prior to servicing.
- Other Programs - ladder safety (OSHA 1910.25), Hearing Conservation, guidelines on exposure to electromagnetic radiation, etc.

Confined Space Entry Permit

NOTE: This form must be completed prior to entry of the confined space and posted near the entry opening. A copy of this form is to be maintained site

Date of Issue:	Expiration Date:
Time:	Time:
Location of Space:	
Description of Space:	
Purpose of Entry:	
Hazard Assessment:	
Attendant(s):	
Signature of Employees to Enter:	

SAFETY EQUIPMENT/REQUIREMENTS	Y	N	PERSONAL PROTECTIVE EQUIPMENT	Y	N
PIPE LINES PURGES OR FLUSHED			AIR PURIFYING RESPIRATOR - TYPE		
AREA SECURE AND SIGNS POSTED			SAFETY GLASSES OR GOGGLES		
TRIPOD/RETRIEVAL SYSTEM			HARD HAT		
COMMUNICATION EQUIPMENT			CHEMICAL RESISTANT CLOTHING		
GAS DETECTOR			PROTECTIVE BOOTS AND/OR GLOVES		
FIRE EXTINGUISHER			HEARING PROTECTION		
GROUND FAULT CIRCUIT INTERRUPT			CHEST HARNESS AND LIFE LINE		
LIGHTING			OTHER		
LOCKOUT/TAGOUT					
PIPE LINES CAPPED OR BLANKED					
MECHANICAL VENTILATION					

TIME/DATE	%LEL(10%)	%O ₂ (19.5-23.5)	H ₂ S 10ppm	CO 35ppm	INITIALS	INSTRUMENT

SUPERVISOR AUTHORIZING ENTRY (PRINT)	SIGNATURE
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Section 12. Hearing Conservation Program

Introduction

A Hearing Conservation Program is intended to identify and protect all employees who are exposed to significant occupational noise exposures from suffering hearing impairment even if they are subjected to such noise exposures over their working lifetimes. Noise, or unwanted sound, is a by-product of many industrial processes. Exposure to high levels of noise causes hearing loss and may cause other harmful health effects as well. The extent of damage depends on the intensity of the noise and the duration of exposure. Noise induced hearing loss may be temporary or permanent. Temporary hearing loss results from short term exposures to noise, with normal hearing returning after a period of rest. Prolonged exposure to high noise levels over a period of time gradually causes permanent hearing loss.

Definition

A hearing conservation program is a set of guidelines set to assure that employees do not suffer hearing loss due to exposure to high noise levels.

Guidelines and Criteria:

ABM understands its responsibility to ensure its employees do not suffer hearing loss due to occupational noise exposure (29CFR 1910.95). The Permissible Exposure Limit (PEL) for noise has been established as 90 decibels (dBA) for an 8-hour time weighted average (TWA). ABM also requires the implementation of a hearing conservation program for those employees who are exposed to a sound level greater than the “Action Level” of 85 dBA TWA. The five key elements of an effective hearing conservation program are:

- Noise measurement;
- Hearing testing;
- Providing proper hearing protection;
- Education and training on the health effects of noise and training on hearing protection;
- Recordkeeping.

The starting point in an effective hearing conservation program is noise measurement to determine who needs to be included within the program. Hearing protection can minimize the adverse effects of noise but the ***most important element is education and training.***

A good rule of thumb for determining if the noise in an area may be at harmful levels is: If two people are standing within arms length of each other and have to yell to be heard, the noise level is probably harmful. For example, many shop’s employees who use power tools daily should be monitored for noise exposure to determine if they should be included in a hearing conservation program. Hygienists have noise monitoring equipment and are available to perform surveys.

Does ABM have to provide hearing tests?

If a hearing conservation program is required, ABM will be providing its employees hearing tests annually and at no cost to the employees. An audiometric testing program must include the baseline or first hearing test, annual tests, training and follow-up procedures. The audiometric testing program follow-up should indicate whether the employer’s hearing conservation program is preventing hearing loss. The employer must notify the employee of the results of the audiogram and retain the record for the length of the employee’s employment.

What does training have to include and how often does it need to be given?

Training must be given **before** an employee is assigned to an area where noise levels require that employees participate in a hearing conservation program and **annually** thereafter.

Introduction

In order to protect employees and students from possible adverse effects ABM will evaluate high noise areas to determine if hazardous noise levels exist. Where it is recognized that potentially hazardous noise levels do exist, the necessary control measures will be taken to protect employees from possible hearing loss. ABM will also comply with all applicable standards considered reasonable within the medical industry. Where noise levels exist which are not considered hazardous but are considered irritating by employees, actions may be taken to reduce levels based upon management discretion. All applicable provisions of the Hearing Conservation Program shall be implemented when employee noise exposures equal or exceed the Action Level (AL) of an 8-hour Time Weighted Average (TWA) exposure to a sound level of 85 DBA.

Recognizing that some work environments may have operations which produce levels of noise considered to be hazardous, ABM has established a formal program to protect all employees and students from the possible adverse effects of such noise. The purpose of this Hearing Conservation Program is to ensure that employees at ABM who are exposed to hazardous noise levels are adequately protected to prevent hearing loss.

Program Components

The fundamental components of an effective Hearing Conservation Program are as follows:

- Employee Exposure Monitoring
- Medical Surveillance
- Implementation of Noise Hazard Controls
- Employee Training Program
- Documentation of all activities related to the Hearing Conservation Program
- Program Maintenance

All employees shall comply with federal, state, local, and institutional regulations and guidelines when working in areas which have noise levels which could be considered to be potentially hazardous. Each employee is responsible for his own safety and health, the safety and health of the workers around him/her, and the protection of the environment.

Monitoring Strategy

The need for monitoring will be based on data collected via comprehensive industrial hygiene surveys. Based on this information, an employee exposure monitoring strategy will then be developed and implemented. Monitoring shall be conducted in a manner approved by the Hearing Conservation Program Page XV-5

National Institute for Occupational Safety and Health (NIOSH). Monitoring shall be repeated whenever there is a change in production level, processes, equipment, or noise controls that change employee noise exposures. The Site Supervisor shall notify employees, in writing, of results of exposure monitoring, and shall do so in a timely manner.

Medical Surveillance

Within 6 months of an employee's exposure at or above the Action Level, as determined by employee exposure monitoring, ABM Safety Services shall establish a valid baseline against which subsequent audiograms will be compared. An audiogram is a hearing test that measures the ability of an individual to hear different pitches at different levels of loudness. The Employee Health Department shall conduct annual audiograms on all employees participating in the Hearing Conservation Program.

Where audiometric tests (audiograms) indicate unexplainable changes in an employee's hearing, further investigation shall include, but need not be limited to, consultation with an Industrial Hygiene Specialist. Please contact the Branch Safety Director for assistance.

It is each supervisor's responsibility to ensure that employees who participate in the hearing conservation program have received the required annual medical surveillance from employee health and that this is properly documented. Employees shall be removed from the Hearing Conservation Program only when monitoring data has been obtained which indicates that these employees are no longer exposed to noise levels which exceed the Action Level. An employee may also be removed when changing to a job classification which is not required to participate in this program.

Noise Exposure Controls

ABM shall ensure that exposure levels are reduced to a safe level using engineering, administrative, or personal protective equipment controls. Where engineering or administrative controls are not economically or technically feasible, to reduce employee exposures to below the 8-hour TWA PEL of 85 dBA, employees will be provided with a selection of hearing protectors. This shall be done at no cost to employees. Employees working in areas where there is equipment that produces noise levels of 85 dBA or greater shall wear adequate hearing protection, regardless of the employees' full shift exposure levels. Also, these areas shall be designated and posted as hearing conservation areas. Employees working with equipment which produces noise levels of 85 dBA or greater shall wear adequate hearing protection, regardless of full shift exposure.

Supervisors shall be responsible for ensuring that hearing protectors are readily available to, and are worn by employees during times of exposure to noise greater than 85 dBA. Employees are responsible for caring for their hearing protection and wearing their hearing protection properly and when necessary. The Site Safety Coordinator and the Branch Safety Director are responsible for recommending the appropriate hearing protection.

Training Program

ABM shall institute a training program for all participants of the Hearing Conservation Program. This training will be conducted upon initial employment, and annually thereafter.

This training shall include at least the following information:

- The effects of noise on hearing
- The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on fitting
- How to select, use, and care for their hearing protective devices
- The purpose of audiometric testing and an explanation of the test procedures
- How employee exposure levels are determined
- How engineering and administrative controls are used to reduce noise exposures

Supervisors shall be responsible for ensuring that employees have attended this training as required.

Documentation

The Branch shall maintain written records showing employee participation in annual Hearing Conservation Training. The Site Safety Coordinator or Branch Safety Director shall maintain documentation of all medical surveillance including baseline and all subsequent audiometric testing. The Supervisor shall maintain documentation of area and personnel noise monitoring.

Hearing Conservation Training Program

This training module is designed to teach you about the purpose and benefits of a hearing conservation program. After completing the training, you should understand the following:

- ❑ The effects of noise on hearing
- ❑ The purpose of ABM's Hearing Conservation Program
- ❑ The proper selection and use of hearing protection devices
- ❑ The purpose of audiometric testing

How We Hear

When we detect sounds, or noise, our body is changing the energy in sound waves into nerve impulses which the brain interprets. SOUND WAVES are produced when the air is disturbed.

Sound is measured by its:

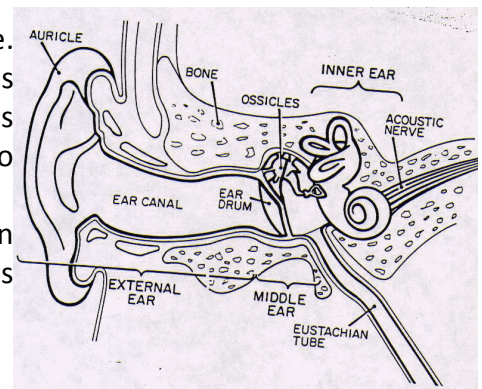
Frequency - This is the pitch (high or low) of a sound -- the number of complete sound wave cycles each second. High frequency noises are more damaging to hearing than low frequency noises.

Intensity - This is the loudness of a sound. It's measured in decibels (dB).

When we hear a sound, this is what actually takes place:

SOUND WAVES enter the ear canal and cause the eardrum to vibrate. **VIBRATIONS** pass through 3 connected bones in the middle ear. This motion **SETS FLUID MOVING** in the inner ear. Moving fluid bends thousands of delicate hair-like cells which convert the vibrations into **NERVE IMPULSES**.

Nerve impulses are **CARRIED** to the brain by the auditory nerve. In the brain, these impulses are **CONVERTED** into what we "hear" as sound.



How Noise Can Affect Your Health

Simply put, noise can damage your hearing! Exposure to excessive noise raises your hearing threshold -- the degree of loudness at which you first begin to hear.

There are two types of hearing loss:

- A **temporary hearing loss** can be caused by exposure to loud noise for a few hours. Fortunately, hearing is usually restored after a period of time away from noise.
- A **permanent hearing loss** occurs after the ear has been continually exposed to excess noise. Hair cells gradually harden and die, making it increasingly difficult to recover from a temporary hearing loss.

There are warning signs that may be indicative of permanent hearing loss, including: inability to hear high-pitched or soft sounds trouble understanding conversation, or speech heard over the telephone ringing or roaring in the ears (called tinnitus).

There is **NO CURE** for hearing loss caused by noise. Hearing aids do not restore noise-damaged hearing, although they may help most people.

In addition to hearing loss, excessive noise exposure may contribute to mental and physical stress, certain illnesses, and accidents.

How Much Noise?

There are **LEGAL LIMITS** on noise in the workplace, set by the Occupational Safety and Health Administration (OSHA).

According to OSHA noise regulations, workers:

- May not be exposed to more than an average of 90 dB(A), or decibels, over 8 hours
- Must be included in a Hearing Conservation Program if exposure averages 85 dB(A) or more over 8 hours

Review the table below, showing the effects of various noise levels.

DECIBELS	EXPOSURE	EFFECTS
85-90	Exposure over a length of time MAY cause hearing loss. Examples: subway, loud shout	Most hearing loss happens over a period of time - weeks, months or years. No pain at this level of exposure.
90-100	Exposure over a length of time causes hearing loss. Examples: Power mower, air hammer, newspaper press	At this level of exposure, the noise can be uncomfortable
100-130	Exposure over a short period of time causes hearing loss. Examples: riveter, compacter, rock concert	Tinnitus (ringing in the ears) may occur after an exposure at this level. Discomfort threshold is 120 dB(A)
140+	A single exposure can cause hearing loss. Examples: jet taking off, shotgun	Pain threshold.

You may be exposed to too much noise if you:

- Have trouble understanding normal conversation at work with someone 2 feet away
- Hear prolonged ringing or other unusual noises after leaving work
- Have trouble hearing TV or speech, but can hear normally again after a few hours off the job

The Hearing Conservation Program

Again, the purpose of a Hearing Conservation Program is to **prevent hearing loss from exposure to loud noise**.

Your department should have a Hearing Conservation Program if your noise exposure is equal to or greater than 85 decibels, averaged over an 8 hour work day. This can only be determined by measuring the noise level of machines that you were with or near, or by attaching a device to you that measures your personal exposure to noise throughout the day.

A Hearing Conservation Program must include 4 basic parts:

- Noise monitoring
- Hearing protection
- Hearing tests
- Training



Noise Monitoring

If you are at risk of exposure to excess noise, monitoring should be done in your workplace. The results of this monitoring will tell you what your exposure is, and whether you and people who do similar work should be included in a Hearing Conservation Program. Noise monitoring results are also used to determine when hearing protection is required to protect you.

If your exposure is continuous throughout the day (for example, if you spend your day in a noisy steam plant), it may be only necessary to measure the noise level present in your work area. However, if you are exposed to varying, intermittent noise levels (such as numerous types of grounds maintenance or carpentry equipment), you may have to wear a noise dosimeter (picture on right) for a day to determine your daily noise exposure.

Hearing Protection Devices

Hearing protection devices, or HPDs, are your best defense when you are unable to reduce your exposure to loud noise levels. When worn properly, hearing protection can greatly reduce the decibel level that reaches your ear. HPDs act as barriers to reduce sound entering the ear. They are very important, in that they decrease the risk of excessive noise exposure and subsequent hearing loss.

There are three basic types of hearing protection devices:

- ear muffs
- ear plugs
- canal caps

Ear plugs

Ear plugs have several advantages over ear muffs, such as:

1. lighter weight
2. can be worn without interference from eyeglasses, headgear, earrings or hair
3. more comfortable in hot/humid environments
4. less expensive than ear muffs

One of the disadvantages of ear plugs is that the amount of protection may vary among workers.

There are several styles of ear plugs, including flanged type (right) and malleable foam (above).

When inserting your ear plugs:

- C. Before putting ear plugs in, wash your hands to prevent infections from entering the ear.
- D. Inspect the ear plugs for tears, cracks, or hardening.
- E. To insert a malleable foam plug, roll the plug between your fingers and thumb to make it thinner, making sure there are no wrinkles or creases in the plug.
- F. Reach one hand behind your head and pull your ear outward and upward to widen the auditory canal. Insert the plug well into the ear and hold it in place until it expands. Don't be afraid to place the plug into the ear canal. You cannot hurt your eardrum because the plugs are too short to reach it. If the seal is not tight, the earplug will not be effective.



Remember to properly clean and store your ear plugs!

Ear Muffs

Ear muffs hearing protection devices that are worn over the head, like headphones. Some advantages of wearing ear muffs include:

- G. provide more consistent protection than plugs
- H. one size fits most heads
- I. easy to put on and take off
- J. good for short jobs
- K. The disadvantages of ear muffs:
- L. heavier than ear plugs
- M. may be uncomfortable in hot environments
- N. eyeglass wearers may not get a good seal
- O. more expensive than other types of HPDs
- P. resonate (vibrate) at lower sound frequencies (<400 Hz)



If you wear ear muffs, remember that anything that comes between your ear and the ear muff will make them less effective and reduce your level of protection! Also, you should choose eyewear with thin temples so they don't interfere with the seal.

Also, when putting on ear muffs, remember to push your hair away from your ears. Center the ear muffs over your head and make sure the seal is tight. Adjust the headband so the ear muffs are resting comfortably on your head. The cups should entirely cover your ears.

Before you put on your earmuffs, it is important to inspect them for cracks, tears or other signs of wear

Canal Caps

Canal caps have flexible tips that act as caps which plug the ear canal. They DO NOT extend into the ear canal, only close the ear opening. Therefore, they do not give you as much protection as ear plugs or ear muffs.



Canal caps are ideal for situations where hearing protection must be taken on and off frequently. They are NOT designed for continuous, long-term wearing.

Insert canal caps much as you would ear plugs. Pull the outer ear up and back, then insert the tips of the caps into the ear, firmly pushing and wiggling them into place.

Audiometric Testing and Employee Training

If you are enrolled in the Hearing Conservation Program, you will have an audiometric test (or hearing test) conducted on you annually. The purpose of this hearing test is to measure your hearing ability over time. Before you began your job in a high noise area, you should have had a baseline audiogram. Subsequent audiograms are then compared to this baseline to see if your hearing ability has degenerated since the baseline was taken.

A Standard Threshold Shift (STS) occurs when the hearing threshold changes by an average of 10 decibels (dB) or more in either ear at 2000, 3000 or 4000 Hertz. If audiometric testing reveals that you have a STS, you will be notified.

The last component of the Hearing Conservation Program requires [employee training](#). You must be trained at least annually on the material presented in this training module.

Hearing Conservation Program Quiz

1. At noise exposures of an 8-hour time-weighted average of 85 decibels, a Hearing Conservation Program is required by OSHA. True / False

 2. A Hearing Conservation Program must include:
 - a. noise monitoring and audiometric testing
 - b. hearing protection devices
 - c. employee training
 - d. All of the above
- If you need hearing protection devices on the job, you must provide your own. True / False
 - You should first try engineering controls to reduce your exposure to noise. True / False
 - You must wear hearing protective devices if you are exposed over the permissible exposure limit . True / False
 - Hearing loss becomes permanent when the hair cells in the inner ear harden and die. True / False
 - You should make sure your hands are clean before inserting ear plugs or canal caps. True / False
 - Noises that are at or above 140 decibels (such as a gunshot) can cause hearing loss from a single exposure. True / False
 - The ringing sensation in the ears that can happen after being exposed to very loud noise is called _____.
 - a. decibels
 - b. hertz
 - c. tinnitus
 - d. none of the above
 - How often should you receive an audiometric test after having a baseline audiogram?
 - a. once a month
 - b. once a week
 - c. once in your lifetime
 - d. once a year

Section 13. Short Service Employee Program

Purpose

This procedure provides guidelines for a Short Service Employee Program to appropriately supervise, train and monitor new experienced and inexperienced employees.

Scope

This procedure applies to all employees whose facilities or regions have adopted a Short Service Employee Program. All ABM subcontractors must meet or exceed the requirements of ABM's Short Service Employee Program.

Definitions

1. Mentoring - a process of transferring skills and knowledge from one person to another in a work environment.
2. Supervisor – The individual responsible for the direct supervision of the employee.
3. Short Service Employee (SSE) - Company full time or temporary employee with less than six months in the same type of job or employment.
4. Short Service Employee Mentor - Person with working experience with the Company assigned to the Short Service Employee.

Supervisor Responsibilities

The responsibilities of Supervisors in the Short Service Employee Program are:

1. Develop and communicate to affected personnel daily Job Safety Analysis (JSA) 1) upon initial assignment and 2) when the operation changes,
2. Ensure Short Service Employee Mentor maintains proper knowledge and skills in the particular job task assigned,
3. Ensure Short Service Employee Mentor is adequately training SSE,
4. Ensure Short Service Employee is gaining the particular knowledge and skills in the particular job tasks,
5. Ensure Short Service Employee is appropriately identified per this plan, and
6. Follow all safety rules and company policies of the Company.

Mentor Responsibilities

The responsibilities of Mentors in the Short Service Employee Program are to:

1. Have the desire, a patient disposition, and be willing to devote the necessary time to succeed as a mentor,
2. Possess knowledge and skills in the job tasks assigned to the SSE,
3. Be willing and able to effectively listen to the SSE to determine if the SSE is learning and retaining the knowledge being shared,
4. Be willing to watch a SSE perform a job without interfering as long as the SSE is not in a position to hurt themselves, others or damage equipment,
5. Provide a positive SAFETY attitude, avoid criticism, and strive to build confidence and self-esteem in the SSE,

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6. Be able to teach the SSE the proper way to create a quality JSA and to follow that JSA in performing tasks,
 7. Keep abreast of new equipment in their field of expertise,
 8. Mentor only one assigned crew that includes an SSE and he or she must remain on site with them,
 9. Refrain from taking short cuts and doing anything hazardous to health or safety,
 10. Demonstrate a positive work ethic at all times, and
 11. Follow all company policies and procedures.

Short Service Employee Responsibilities

The responsibilities of the Short Service Employee are to:

1. Be willing to watch and listen to the Mentor,
2. Establish a positive SAFETY attitude towards assigned job tasks,
3. Participate and learn the proper development of JSA's and to follow JSA in performing tasks,
4. Be willing to gain the knowledge and skill in a particular job task to be able to perform in a safe and environmentally sound manner,
5. Wear the uniquely colored vest/smock that identifies him or her as an SSE. If working in a construction area or area where hardhats are required, the hardhat will also be easily identifiable as it will be a color different than others at the jobsite.
6. Stop and report unsafe conditions at any time.
7. Participate in safety meetings, and
8. Follow all safety rules and policies of the Company.

Safety Coordinator Responsibilities

The responsibilities of the Safety Coordinator in the Short Service Employee Program are to:

1. Conduct or provide access to the necessary safety training needed by the SSE by Job Description and
2. Follow all policies and procedures.

Procedures

The following procedures apply to the Short Service Employee Program.

A. Notification

The human resource department will notify the District Manager of all newly hired employees. The District Manager will in turn notify the Branch Safety Coordinator of new employees in the branch that require training.

In addition to internal notifications, ABM will also notify the facility management (customer) when a SSE will be working at their site. That notification will be documented and clearly convey the name, title, job responsibilities, assigned shifts/locations and the name of their direct supervisor. ABM will also identify the unique color that will be used with vests/smocks and hardhats which will easily identify the SSE to the customer and their personnel at the job site.

B. Orientation

Each SSE shall be provided Company orientation specifically based on job position and job related topics prior to performing job tasks. Each SSE shall receive a Company Employee Handbook.

C. Training

The supervisor shall ensure that each SSE is properly trained in:

1. The hazard(s) present in the work place;
2. The policies, procedures, processes and PPE utilized to control these hazards to prevent illnesses, injuries, property damage and/or environmental incidents; and
3. The skills necessary to conduct their assigned jobs safely and efficiently while providing quality and economy.
4. The supervisor shall ensure that each SSE is properly trained per Federal, State, Industry, Company, and Operator requirements before starting work when:
 5. The employee is first hired;
 6. The employee is appointed a new job assignment; and
 7. The employee is exposed to new substances, processes, procedures, equipment, etc that represent a new hazard to the employee.

Supervision

The SSE will be identified by the wearing of a smock that recognizes the employee as a SSE employee. The Supervisor and the mentor will provide supervision and not allow the SSE to perform any task in which they have not been properly trained. The SSE may not work alone at any time. The Supervisor and the SSE Mentor shall ensure that the SSE understands the task to be performed and the associated hazards. A work crew of less than five employees may not have more than one SSE as a member of the crew.

The SSE shall be monitored for compliance with health, safety, and environmental policies and procedures. The supervisor shall remove the vest/smock upon expiration of the SSE term, and after verifying that the SSE exhibits a knowledge and skill level to perform the job tasks assigned.

Documentation

The HR Specialist in the Branch shall complete the SSE Notification form for new employees and forward to the Supervisor.

All records for the SSE Orientation and Training will be maintained at the employee's location by the supervisor.

The supervisor will attach a copy of the SSE's job description(s) to the following Notification form when submitted.

The HR Specialist shall maintain orientation and training records for the SSE.

Company Short Service Employee Notification Form

Short Service Employee Information (completed by Branch HR Specialist)

Employee Name (Print): _____
Employee Hire Date: _____
Current Job Title: _____
Time in Present Position: _____
Years of Janitorial Experience: _____

SSE Mentor Information (completed by Supervisor)

Employee Name (Print): _____
Employee Hire Date: _____
Current Job Title: _____
Time in Present Position: _____
Years of Janitorial Experience: _____

Supervisor Sign-Off (Send to Branch HR Specialist)

Print Name: _____
Print Job Title: _____
Signature: _____
SSE Employee has received the required Safety Orientation: Yes No
Employee has received all required Safety Training: Yes No