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6.14.5 Leather, Canvas or Metal Mesh Gloves: Sturdy gloves made from metal mesh, leather or canvas provide protection against cuts and burns. Leather or canvass gloves also protect against sustained heat.

6.14.5.1 Leather gloves protect against sparks, moderate heat, blows, chips and rough objects.

6.14.5.2 Aluminized gloves provide reflective and insulating protection against heat and require an insert made of synthetic materials to protect against heat and cold.

6.14.5.3 Aramid fiber gloves protect against heat and cold, are cut- and abrasive-resistant and wear well.

6.14.5.4 Synthetic gloves of various materials offer protection against heat and cold, are cut- and abrasive-resistant and may withstand some diluted acids. These materials do not stand up against alkalis and solvents.

6.14.6 Fabric and Coated Fabric Gloves: Fabric and coated fabric gloves are made of cotton or other fabric to provide varying degrees of protection.

6.14.6.1 Fabric gloves protect against dirt, slivers, chafing and abrasions. They do not provide sufficient protection for use with rough, sharp or heavy materials. Adding a plastic coating will strengthen some fabric gloves.

6.14.6.2 Coated fabric gloves are normally made from cotton flannel with napping on one side. By coating the unsnapped side with plastic, fabric gloves are transformed into general-purpose hand protection offering slip-resistant qualities. These gloves are used for tasks ranging from handling bricks and wire to chemical laboratory containers. When selecting gloves to protect against chemical exposure hazards, always check with the manufacturer or review the manufacturer's product literature to determine the gloves' effectiveness against specific workplace chemicals and conditions.
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6.14.7 Chemical and Liquid - Resistant Gloves: Chemical-resistant gloves are made with different kinds of rubber: natural, butyl, neoprene, nitrile and fluorocarbon (viton); or various kinds of plastic: polyvinyl chloride (PVC), polyvinyl alcohol and polyethylene. These materials can be blended or laminated for better performance. As a general rule, the thicker the glove material, the greater the chemical resistance but thick gloves may impair grip and dexterity, having a negative impact on safety. Some examples of chemical-resistant gloves include:

6.14.7.1 Butyl gloves are made of a synthetic rubber and protect against a wide variety of chemicals, such as peroxide, rocket fuels, highly corrosive acids (nitric acid, sulfuric acid, hydrofluoric acid and red-fuming nitric acid), strong bases, alcohols, aldehydes, ketones, esters and nitrous compounds. Butyl gloves also resist oxidation, ozone corrosion and abrasion, and remain flexible at low temperatures. Butyl rubber does not perform well with aliphatic and aromatic hydrocarbons and halogenated solvents.

6.14.7.2 Natural (latex) rubber gloves are comfortable to wear, which makes them a popular general-purpose glove. They feature outstanding tensile strength, elasticity and temperature resistance. In addition to resisting abrasions caused by grinding and polishing, these gloves protect workers' hands from most water solutions of acids, alkalis, salts and ketones. Latex gloves have caused allergic reactions in some individuals and may not be appropriate for all resources. Hypoallergenic gloves, glove liners and powderless gloves are possible alternatives for workers who are allergic to latex gloves.

6.14.7.3 Neoprene gloves are made of synthetic rubber and offer good pliability, finger dexterity, high density and tear resistance. They protect against hydraulic fluids, gasoline, alcohols, organic acids and alkalis. They
generally have chemical and wear resistance properties superior to those made of natural rubber.

6.14.7.4 **Nitrile gloves** are made of a copolymer and provide protection from chlorinated solvents such as trichloroethylene and perchloroethylene. Although intended for jobs requiring dexterity and sensitivity, nitrile gloves stand up to heavy use even after prolonged exposure to substances that cause other gloves to deteriorate. They offer protection when working with oils, greases, acids, caustics and alcohols but are generally not recommended for use with strong oxidizing agents, aromatic solvents, ketones and acetates.

6.14.8 Care of Protective Gloves

6.14.8.1 The resource will select a protective glove size that offers a good fit. Protective gloves should be inspected before each use to ensure that they are not torn, punctured or made ineffective in any way. A visual inspection will help detect cuts or tears but a more thorough inspection by filling the gloves with water and tightly rolling the cuff towards the fingers will help reveal any pinhole leaks. Gloves that are discolored or stiff may also indicate deficiencies caused by excessive use or degradation from chemical exposure.

6.14.8.2 Any gloves with impaired protective ability should be discarded and replaced. Reuse of chemical-resistant gloves should be evaluated carefully, taking into consideration the absorptive qualities of the gloves. A decision to reuse chemically-exposed gloves should take into consideration the toxicity of the chemicals involved and factors such as duration of exposure, storage and temperature.
6.15 Body Protection

6.15.1 Resources who face possible bodily injury of any kind that cannot be eliminated through engineering, work practice or administrative controls, must wear appropriate body protection while performing their jobs. In addition to cuts and radiation, the following are examples of workplace hazards that could cause bodily injury:

6.15.1.1 Temperature extremes
6.15.1.2 Hot splashes from molten metals and other hot liquids
6.15.1.3 Potential impacts from tools, machinery and materials
6.15.1.4 Hazardous chemicals

6.15.2 There are many varieties of protective clothing available for specific hazards. ECHO group leader/client representative are required to ensure that resources wear personal protective equipment only for the parts of the body exposed to possible injury. Examples of body protection include laboratory coats, coveralls, vests, jackets, aprons, surgical gowns and full body suits.

6.15.3 If a hazard assessment indicates a need for full body protection against toxic substances or harmful physical agents, the clothing should be carefully inspected before each use, it must fit each worker properly and it must function properly and for the purpose for which it is intended.

6.15.4 Protective clothing comes in a variety of materials, each effective against particular hazards, such as:

6.15.4.1 Paper-like fiber used for disposable suits provide protection against dust and splashes.

6.15.4.2 Treated wool and cotton adapts well to changing temperatures, is comfortable, and fire-resistant and
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protects against dust, abrasions and rough and irritating surfaces.

6.15.4.3 **Duck** is a closely woven cotton fabric that protects against cuts and bruises when handling heavy, sharp or rough materials.

6.15.4.4 **Leather** is often used to protect against dry heat and flames.

6.15.4.5 **Rubber, rubberized fabrics, neoprene and plastics** protect against certain chemicals and physical hazards. When chemical or physical hazards are present, check with the clothing manufacturer to ensure that the material selected will provide protection against the specific hazard.

6.16 **Hearing Protection**

6.16.1 Determining the need to provide hearing protection for resources can be challenging. Employee exposure to excessive noise depends upon a number of factors, including:

6.16.1.1 The loudness of the noise as measured in decibels (dB)

6.16.1.2 The duration of each employee’s exposure to the noise

6.16.1.3 Whether resources move between work areas with different noise levels

6.16.1.4 Whether noise is generated from one or multiple sources

6.16.2 Generally, the louder the noise, the shorter the exposure time before hearing protection is required. For instance, resources may be exposed to a noise level of 90 dB for 8 hours per day (unless they experience a Standard Threshold Shift) before hearing protection is required. On the other hand, if the noise level reaches 115 dB hearing protection is required if the anticipated exposure exceeds 15 minutes.
6.16.3 For a more detailed discussion of the requirements for a comprehensive hearing conservation program, see OSHA Publication 3074 (2002), "Hearing Conservation" or refer to the OSHA standard at 29 CFR 1910.95, Occupational Noise Exposure, section (c).

6.16.4 Noises are considered continuous if the interval between occurrences of the maximum noise level is one second or less. Noises not meeting this definition are considered impact or impulse noises (loud momentary explosions of sound) and exposures to this type of noise must not exceed 140 dB. Examples of situations or tools that may result in impact or impulse noises are powder-actuated nail guns, a punch press or drop hammers.

6.16.5 If engineering and work practice controls do not lower resource exposure to workplace noise to acceptable levels, resources must wear appropriate hearing protection. It is important to understand that hearing protectors reduce only the amount of noise that gets through to the ears. The amount of this reduction is referred to as attenuation, which differs according to the type of hearing protection used and how well it fits. Hearing protectors worn by resources must reduce a resource’s noise exposure to within the acceptable limits. Refer to Appendix B of 29 CFR 1910.95, Occupational Noise Exposure, for detailed information on methods to estimate the attenuation effectiveness of hearing protectors based on the device’s noise reduction rating (NRR). Manufacturers of hearing protection devices must display the device’s NRR on the product packaging. If resources are exposed to occupational noise at or above 85 dB averaged over an eight-hour period, the client is required to institute a hearing conservation program. Refer to 29 CFR 1910.95(c) for a description of the requirements for a hearing conservation program.

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6.16.6 Some types of hearing protection include:

6.16.6.1 **Single-use earplugs** are made of waxed cotton, foam, silicone rubber or fiberglass wool. They are self-forming and, when properly inserted, they work as well as most molded earplugs.

6.16.6.2 **Pre-formed or molded earplugs** must be individually fitted by a professional and can be disposable or reusable. Reusable plugs should be cleaned after each use.

6.16.6.3 **Earmuffs** require a perfect seal around the ear. Glasses, facial hair, long hair or facial movements such as chewing may reduce the protective value of earmuffs.

6.16.7 Refer to instructions in the applicable client procedure, program or policy regarding handling, cleaning and storage of hearing protection equipment.

7.0 HAZARD COMMUNICATION

7.1 The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012, requires that manufacturers, distributors, or importers provide Safety Data Sheets (SDSs) (formerly MSDSs or Material Safety Data Sheets) for each hazardous chemical to downstream users to communicate information on these hazards. The information contained in the SDS is largely the same as the MSDS, except now the SDSs are required to be presented in a consistent user-friendly, 16-section format. This brief provides guidance to help workers who handle hazardous chemicals to become familiar with the format and understand the contents of the SDSs.

7.2 The SDS includes information such as the properties of each chemical; the physical, health, and environmental health hazards; protective measures; and safety precautions for handling, storing, and transporting the chemical. The information contained in the SDS must be in English (although it may be in other languages as well). In addition, OSHA requires that SDS preparers provide specific minimum information as
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detailed in Appendix D of 29 CFR 1910.1200. The SDS preparers may also include additional information in various section(s).

7.2.1 Sections 1 through 8 contain general information about the chemical, identification, hazards, composition, safe handling practices, and emergency control measures (e.g., firefighting). This information should be helpful to those that need to get the information quickly. Sections 9 through 11 and 16 contain other technical and scientific information, such as physical and chemical properties, stability and reactivity information, toxicological information, exposure control information, and other information including the date of preparation or last revision. The SDS must also state that no applicable information was found when the preparer does not find relevant information for any required element.

7.2.2 The SDS must also contain Sections 12 through 15, to be consistent with the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS), but OSHA will not enforce the content of these sections because they concern matters handled by other agencies.

7.2.3 A description of all 16 sections of the SDS, along with their contents, is presented below:

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

7.2.3.2 **Section 2, Hazard(s) Identification** includes all hazards regarding the chemical; required label elements.

7.2.3.3 **Section 3, Composition/information on ingredients** includes information on chemical ingredients; trade secret claims.

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7.2.3.8 Section 8, Exposure controls/personal protection lists OSHA’s Permissible Exposure Limits (PELs); Threshold Limit Values (TLVs); appropriate engineering controls; personal protective equipment (PPE).

7.2.3.9 Section 9, Physical and chemical properties lists the chemical’s characteristics.

7.2.3.10 Section 10, Stability and reactivity lists chemical stability and possibility of hazardous reactions.

7.2.3.11 Section 11, Toxicological information includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.

7.2.3.12 Section 12, Ecological information (non-mandatory)*

7.2.3.13 Section 13, Disposal considerations (non-mandatory)*

7.2.3.14 Section 14, Transport information (non-mandatory)*

7.2.3.15 Section 15, Regulatory information (non-mandatory)*

7.2.3.16 Section 16, Other Information, includes the date of preparation or last revision.

*Note: Since other Agencies regulate this information, OSHA will not be enforcing Sections 12 through 15 (29 CFR 1910.1200(g)(2)).

7.3 Clients must ensure that SDSs are readily accessible to consultants and contractors. These SDS’s are accessible as per your client’s procedure and/or may be requested to an Environmental, Health and Safety Representative.
11.0 ECHO’s SAFETY COMMITTEE

11.1 The primary purpose of ECHO’s safety committee is to be a primary contact in the event of a medical emergency. The committee members have been trained in the American Heart Association Basic Life Support Program. The composition of the Safety Committee can change, for this reason a diagram depicting its members by plant will be maintained separately and updates forwarded to all resources.

12.0 EMERGENCY ACTION PLAN

12.1 An emergency plan is a written document required by OSHA 29 CFR 1910.38a with the purpose to facilitate and organize employer and employee actions during workplace emergencies. Proper employee training and communication will result in fewer and less severe employee injuries and less structural damage to the facility during emergencies.

12.1.1 Field Personnel: ECHO resources deployed at a client’s facility will be trained on their emergency plan and will participate in events such as evacuation drills. ECHO resources will observe and follow all of the requirements of this plan at all times.

12.1.2 Home Office: ECHO-CG home office possesses two exit alternatives (front and back of the building). An ABC type fire extinguisher is located in the conference room, which is inspected annually by an outside contractor. No chemicals or explosives are stored at the premises. In the case of a medical emergency, there are two appointed representatives of the Safety Committee in the premises. Should these persons not be present at the office, 911 emergency services will be contacted. Emergency contact numbers are included under the “incident/Emergency Reporting” section of this document. In the case of an emergency such as fire, earthquake etc. resources at the office will evacuate the premises using the closest available exit, stay at a safe place and await management instructions.
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13.0 DISASTER RECOVERY PLAN:

13.1 Field Personnel: Personnel deployed at the different client’s facilities will ensure to follow the pertinent procedures regarding disaster recovery measures.

13.2 Office Personnel: Resources allocated to our main office will ensure that they keep both electronic and hard copies of relevant documents as per current ECHO Document Retention Policy.

14.0 SAFETY DISCIPLINE

14.1 ECHO Consulting Group believes that a safety program is unenforceable without some type of disciplinary policy. Our company believes that in order to maintain a safe and healthful workplace, resources must be cognizant and aware of all company, state and federal safety and health regulations as they apply to the specific job duties required.

14.2 A safety violation is any action that is in direct opposition to company safety procedures and/or state/federal safety statutes. ECHO management personnel at all levels is responsible for taking action when a violation is observed. They must take action immediately to correct the violation and enforce the applicable disciplinary policy according to HR procedures and Employee Conduct Rules. Resources who fail to follow safety rules and regulations established to protect them and their fellow resources endanger themselves and others.

14.3 ECHO resources visiting client’s facilities on a visitor capacity are also required to abide by all applicable safety rules/regulations.

14.4 The following steps will be followed unless the seriousness of the violation dictates going directly to step 2 or 3:

14.4.1 A first time violation will be discussed orally between the Project Leader and the resource. This will be done within 48 hours.

14.4.2 A second time offense will be followed up in written form and a copy of this document will be entered into the resource’s Personnel File.
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14.4.3 A third time violation will result in suspension or possible termination, depending on the seriousness of the violation.
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ATTACHMENT I
Incident Report Form

Instructions: An ECHO representative (Group Leader or designee) will use this form to report all work related injuries, illnesses or near miss events (which could have caused an injury or illness); no matter how minor. This form must be forwarded to HR within 48 hours of the incident.

<table>
<thead>
<tr>
<th>I am reporting a work-related:</th>
<th>☐ Injury</th>
<th>☐ Illness</th>
<th>☐ Near-miss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource Name:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reporting to Group Leader:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have the Group Leader been notified about this incident?</td>
<td>☐ Yes</td>
<td>☐ No</td>
<td></td>
</tr>
<tr>
<td>Date of Incident/Near-Miss:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time of Incident/Near-Miss:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Names of Witnesses (if any):
1. 
2. 
3. 
4. 
5. 

Where exactly did it happen:

What were you doing at the time:

Describe in detail what led up to the injury/near-miss:
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What could have been done to prevent this injury/near-miss?

<table>
<thead>
<tr>
<th>What parts of your body were injured? If a near-miss, how could you have been hurt?</th>
</tr>
</thead>
</table>

| Did you see a doctor about this injury/illness? | □ Yes □ No |
|---|

<table>
<thead>
<tr>
<th>If yes, whom did you see?</th>
<th>Doctor’s Phone Number:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Date:</th>
<th>Time:</th>
</tr>
</thead>
</table>

| Has this part of your body been injured before? | □ Yes □ No |
|---|

<table>
<thead>
<tr>
<th>If yes, when?</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>ECHO Representative Signature:</th>
<th>Date:</th>
</tr>
</thead>
</table>
## HISTORY OF CHANGES

<table>
<thead>
<tr>
<th>Revision</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>03-10-15</td>
<td>To incorporate approvals page, history of changes and clarification of responsibilities concerning PPE. To include that standard equipment will be provided at no cost to employees (Administrative change).</td>
</tr>
<tr>
<td>05-28-15</td>
<td>To include specific responsibilities and general safety rules. To expand the Incident Investigation and Safety Discipline sections of this program. To include a Report of Injury Form.</td>
</tr>
</tbody>
</table>
RESOURCE CONFIRMATION

ACKNOWLEDGEMENT

I, ___________________________________________ confirm that today, ___________________________________________,

I have read and understood the contents of this document and will comply with all safety rules applicable to my assigned duties.

________________________________________    ________________________________
Resource Signature                          Date

________________________________________    ________________________________
ECHO Representative Signature               Date