



Personal Protective Equipment (PPE) User Guideline

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I. PURPOSE

Personal Protective Equipment (PPE) is used as a control measure to protect personnel from exposure to hazards when engineering and administrative controls are inadequate or infeasible. These controls are to ensure the safety and health of associates. Such use will lessen the likelihood of occupational injury and/or illness

II. SCOPE

This associate guide provides direction and procedures for determination of PPE requirements, proper use and disposal. It applies to all Hach Lab, Assembly operations, and processes that require the use of PPE.

This guideline addresses eye, face, head, foot, and hand protection. Separate programs exist for respiratory and hearing protection since the need for participation in these programs is established through industrial hygiene monitoring.

III. REFERENCES

1. Federal Occupational Safety and Health Administration (OSHA) standards 29 CFR 1910
2. ASTM F2412-05 Standard Test Methods for Foot Protection
3. ASTM F2413-05 Standard Specification for Performance Requirements for Foot Protection
4. European Communities (PPE CE Marking) Regulations 1994. S.I. No. 457 of 1994.
5. European Communities PPE Regulations 1993. S.I. No. 272 of 1993.
6. Hach Respiratory Protection Guideline
7. Hach Laser Safety Guideline
8. Hach Hearing Conservation Guideline
9. Hach Fall Protection/Ladder Safety Guideline
10. Hach Energized Electrical Work (EEW) Guideline (yet to be created)

IV. DEFINITIONS

Chemical resistant latex glove - Durable protection, a secure grip, and tactile sensitivity. Powder-free to reduce skin irritation, and a textured surface for excellent grip - wet or dry. Disposable - for single use only, Ambidextrous.

Chemical resistant nitrile glove - Special nitrile formulation for a soft glove with excellent chemical resistance to skin irritants, displays amazing similarity to many natural latex products in terms of elasticity, but free from phthalates / softeners and allergenic latex proteins. Disposable - for single use only, Ambidextrous.

Chemical resistant MAPA glove - Touch Sensitive Chemical-Resistant Gloves with Heavy-Duty Protection. Unique blend of neoprene, nitrile, and natural latex gives unmatched dexterity and puncture/tear resistance. Disposable - for single use only, Ambidextrous.

Chemical resistant apron – Chemical apron with sleeves covers from the neck down to below the knees of a 5'10" person to protect from frontal splashes when handling or mixing chemical concentrates, One size fits all.

Safety glasses – Must meet OSHA requirements for eye protection that follow the American National Standards Institute (ANSI)Z87.1 that sets guidelines for the design, production, and use of protective eyewear.

Chemical goggles – Meets ANSI Z87.1 requirements with shields and perhaps padding with Chemical-resistant frame, and allows air to enter and keeps liquids / particulates out. Used as eye protectors from chemical fumes / vapors, flying particles, dust, or other external hazards

Face shield – Meets ANSI Z87.1 requirements, and used when more protection is needed than just basic safety glasses with work around chemicals, and machines that can produce flying debris. Must have chin and forehead guard, and safety glasses should always be worn underneath the shield as well.

Air purifying respirator (APR) (half or full-face) - A respirator equipped with filtering media which cleans up the contaminated air outside the face piece to remove specific gases, vapors, and particulate matter before entering the inside of the face piece for breathing

LASER protective eyewear - Meets ANSI Z87.1 requirements and selectively attenuates LASER wavelengths to the specified optical density (OD) to prevent the particular LASER from reaching the individual's eye.

UV protective eyewear - Meets ANSI Z87.1 requirements, and completely blocks UV wavelengths

Hearing protection (plugs or muffs) - For work in an excessively noisy environments (i.e. power tools)

Earplugs are small inserts that fit into the outer ear canal. They must be sealed snugly so the entire circumference of the ear canal is blocked.

Earmuffs fit over the entire outer ear to form an air seal so the entire circumference of the ear canal is blocked.

Hard Hat (Head Protection) - ANSI Z89.1 helmet predominantly used to protect the head from injury by falling objects, impact with other objects or debris.

Safety footwear – ANSI Z41.1 Durable boots or shoes that have a protective reinforcement in the toe, usually combined with a sole plate, which protect the foot from falling objects and punctures from below. Although traditionally made of steel, the reinforcement can also be made of a composite material.

Disposable dry particulate protective coverall or sleeve covers (e.g. Tyvek) - Protective clothing that is tough, rip/tear resistant, and highly resistant to dry particulate matter, paint, aerosols, etc...

Disposable liquid chemical protective coverall or sleeve covers (e.g. coated Tyvek, Saranex) - Protective clothing that is tough, rip/tear resistant, and the outer layer creates a 100% chemical barrier, making it an ideal product for chemical splash and acid protection.

V. PROGRAM ELEMENTS

A) General

Floor tapings delineate minimum area PPE requirements per work area

PPE



□ WORK AREAS. THE FOLLOWING MUST BE WORN:

- EYE PROTECTION (ALL AREAS)
- ESD SMOCKS (ASSEMBLY AREAS)
- STEEL TOE SHOES (FABRICATION AREAS)

- i. When inside this “caution” taped area (working, observing or passing through) the appropriate PPE must be worn. Any violations are subject to standard disciplinary action.

ESD



□ ESD REQUIREMENTS IN PCBA. THE FOLLOWING MUST BE WORN:

- EYE PROTECTION
- ESD SMOCKS
- HEEL STRAPS

- i. When inside this “ESD” taped area (working, observing or passing through) the appropriate PPE must be worn. Any violations are subject to standard disciplinary action.

No PPE



□ AISLE WAYS AND OTHER NON-WORKING AREAS

- FLOOR MATS
- DESIGNATED LOCATIONS FOR CARTS, SHELVES, TRASH CANS, ETC.

B) Hazard Assessment

1. Conduct Inspections

- i. All workplaces shall be assessed to determine the need for personal protective equipment (PPE) and to help in selecting the proper PPE for each tasks performed.
- ii. For each work cell, a Cell Hazard Assessment (CHA) must be completed which lists the findings of the inspection and the specific protective equipment needed. Results are posted on the cell “Safety Summary”.

2. CHA – Cell Hazard Assessment

- i. Supervisors, in conjunction with EHS, will conduct an assessment of each work area (with the respective certified associates) to identify sources of hazards, including exposure (chemical, heat, dust, vapors/fumes/mists), mechanical, compression, ergonomic, etc...

- ii. Each survey will be documented using the Cell Hazard Assessment Form (Appendix A), which identifies the workplace surveyed, findings of potential hazards, necessary safety precautions, person(s) conducting the survey, and date performed.
 - iii. Once the hazards of a workplace have been identified, EHS will determine the suitability of the PPE presently available and as necessary select new or additional equipment that ensures a level of protection adequately protects the associates from the hazards.
3. Protective Devices
- i. All personal protective clothing and equipment will be of safe design and construction for the work to be performed and shall be maintained in a sanitary and reliable condition.
 - ii. Only those items of protective clothing and equipment that meet NIOSH or ANSI (American National Standards Institute) standards will be procured or accepted for use.
 - a. There are no ANSI standards for gloves, however, selection must be based on the performance characteristics of the glove in relation to the tasks and chemical exposure.
 - iii. Careful consideration will be given to comfort and fit of PPE in order to ensure that it will be used.

C) PPE Selection

- 1. When PPE assessments are performed the following considerations are made to ensure the proper equipment is selected for the task.
 - i. Hazards being protected against - corrosive, irritant, splash potential, airborne contaminants, etc.
 - ii. Task being performed - duration of the task, potential for abrasion to the PPE, etc.
 - iii. Materials of construction - chemical protection compatibility, permeation rates, durability, etc.
 - iv. Needs of the associate - manual dexterity, heat stress, kneeling, crawling or reaching, etc.
- 2. Although personal clothing is not considered PPE, attire appropriate for your work environment may be required. (i.e. specific "leather" footwear and/or long pants in assembly areas with chemistry)

D) Considerations when wearing personal protective equipment

- 1. NEVER wear damaged PPE
- 2. Associates wearing chemical resistant gloves shall not touch common work surfaces such as doors, handles, phones, etc. that could potentially expose unprotected associates.
- 3. Chemical resistant gloves are intended to prevent incidental contact. The gloves are not for complete submersion of hands into chemicals.
- 4. If you have any difficulty determining the appropriate PPE for your task, STOP what you are doing and contact your manager or site EHS.
- 5. PPE can reduce dexterity, visual and hearing acuity. All associates shall understand the limitations with PPE before continuing with any pre-assigned task.
- 6. PPE should not be used in lieu of proper control of hazardous energies.
- 7. Refer to the "Safety Summary" for PPE requirements. For tasks not delineated, contact EHS to perform a PPE assessment.

E) PPE for standard chemical exposure. Contact EHS if a specific application is not noted.

Chemical	PPE Required
DI Water in squeeze bottles	No PPE required.
Isopropyl Alcohol in squeeze bottles	Safety glasses, and nitrile or MAPA gloves
Isopropyl Alcohol in swab containers	Safety glasses, and use on wipes/swabs or gloves req'd (see Note 1)
Acetone in squeeze bottles	Safety glasses, nitrile or MAPA gloves
Acetone in swab containers	Safety glasses, and use on swabs/wipes or gloves req'd
Diffuser - NPB (n-propyl bromide) in ultra sonic bath (pouring)	Safety glasses, face shield, chemical resistant nitrile or MAPA gloves, arm covers, and impermeable shoes or covers
TOC - Phosphoric Acid, Sodium Persulfate	Safety glasses, face shield, MAPA gloves, arm covers, and shoes or covers
Metal Prep - Sulfuric, Nitric, Formic Acid, etc...	Safety Glasses, Face Shield, Armed Apron, Chemical resistant Nitrile gloves, and impermeable "leather" shoes

Note 1: Gloves are not required when using Isopropyl Alcohol for short durations to wipe PPE, grease-boards/laminate sheets or other applications < 1 minute.

F) PPE Selection Chart

NOTE The following table contains information on the proper PPE commonly used when performing operation and maintenance activities at Hach.

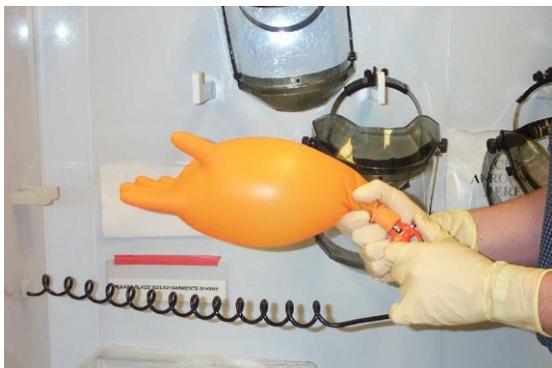
Type of protection	Specific selection criteria
Face/Eye Protection:	
General	<ul style="list-style-type: none"> Prevention of eye injuries requires that all persons who may be in eye hazard areas wear "suitable" protective eyewear that is ANSI/EN approved for its intended purposes and applications (ANSI Z87.1 and/or EN166). This includes associates, visitors, researchers, contractors, or others passing through an identified eye hazard area. Associates who wear prescription lenses shall wear eye protection that incorporates the prescription in its design, or eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses. See EHS for Rx Safety Glass purchase form (Appendix B)
Corrosive Materials	Chemical goggles or safety glasses WITH a (forehead/chin guard) face shield are required when associates are working with or handling corrosive materials that have the potential for eye and/or face contact (i.e. hand application/pouring of materials, work on equipment with pressurized liquids or operations with splash history)
Eye irritants	Safety glasses are required when working with or handling materials identified as eye irritants per their MSDS
Cryogenic Liquids	Chemical goggles / Safety Glasses WITH face shield is required when working with or handling cryogenic liquids that have the potential for eye and/or face contact (i.e. LN2 Dewar operations).
Physical Impact Hazards	<p>Safety glasses, goggles and/or face shield should be worn for protection against physical impact hazards.</p> <ul style="list-style-type: none"> Goggles provide complete protection around eyes from all directions. Safety glasses provide adequate frontal protection (Rx safety glasses are available for Hach associates) Face shields provide full face protection and should ONLY be worn in conjunction with glasses or goggles.

LASER	<ul style="list-style-type: none"> • Additional training, eye exams and laser specific PPE may be required depending upon the class of laser and the type of work performed on the laser system. • Laser protective eye wear is selected based on the laser type, wavelength, power, and exposure. Refer to standard work instructions for specific eye protection requirements prior to performing open beam work. • For more information contact your Laser Safety Officer or review the Hach Laser Safety Guideline.
<p>Foot Protection:</p> <p>General</p> <p>Physical Hazards</p> <p>Chemical Hazards</p>	<p>Any associates in the operations environment must wear closed toe and heel shoes.</p> <p>Safety shoes shall be worn in the maintenance, machine repair, Shipping and Receiving, Fab/Plastics, and areas as determined by EHS. All safety footwear shall comply with ASTM F2412-05 and F2413-05 (American Society of Testing Material) International Standards</p> <p>See EHS for Safety shoe purchase form (Appendix C)</p> <p>Safety shoes or boots with impact protection are required to be worn in work areas, and for other activities that involve routine handling and/or working with heavy objects (more than 25 pounds) which could fall on feet and where carrying or handling materials such as packages, objects, parts or heavy tools could be dropped.</p> <p>Safety toe caps/guards may be worn when lifting heavy objects in non-routine operations.</p> <p>Impermeable shoes / boots (e.g. leather, rubber or poly) should be worn for operations which involve the potential for chemical splashes onto feet or for operations which involve working around operations with collected water or other liquids on the working surface.</p>
<p>Hand Protection:</p> <p>Physical Hazards</p> <p>Sharp Edges</p> <p>Thermal Hazards</p> <p>Hot</p> <p>Cold</p> <p>Electrical Hazards</p> <p>Chemical Hazards</p>	<p>Suitable gloves shall be worn when hazards from chemicals, cuts/lacerations, burns, and temperature extremes are present. Glove selection shall be based on performance characteristics of the gloves, conditions, and hazards present.</p> <p>Wire mesh, leather or Kevlar gloves should be worn when working with cutting tools (e.g., knives) or when handling materials with sharp edges.</p> <p>Thermal gloves should be worn for operations with hot surfaces or hot liquids which can splash onto the hands.</p> <ul style="list-style-type: none"> • In general, metal materials greater than 65 deg C, glass materials greater than 70 deg C and plastic/rubber materials greater than 95 deg C warrant protection or shielding. <p>Protective gear against cold hazards should be used if associates must handle very cold parts or work with materials or conditions with the potential for freezing the skin.</p> <ul style="list-style-type: none"> • Splashes of cryogenic liquids onto the skin or working in conditions with very cold temperatures (e.g., below 32 degrees F). <p>See Hach Energized Electrical Guideline for PPE requirements.</p> <p>The first consideration in the selection of gloves for use against chemicals is to determine the exact nature of the substances to be encountered.</p> <ul style="list-style-type: none"> • Read instructions and warnings on chemical container labels and MSDSs before working with any chemical. Recommended glove types are often listed in the section for personal protective equipment. • EHS can assist in determining the specific type of glove material that should be worn for a particular chemical. • Chemical resistant gloves shall not be used for immersion activities.

<p>Head Protection Physical Impact / Electrical Hazards</p> <p>Chemical Hazards</p>	<p>Hard hats must meet ANSI Z89.1 Type 1 and/or EN 397 requirements, and should be worn by personnel when hazards from handling heavy objects overhead, falling objects or fixed objects creating head bump hazards. Metal hard hats are not acceptable.</p> <p>Head protection against chemical exposure is available as part of a complete body suit for special circumstances (e.g., hooded chemical resistant suits or level A and B chemical response suits).</p>
<p>Hearing Protection Noise Hazards</p>	<p>Ear plugs or ear muffs with Noise Reduction Rating (NRR) of 27 dB or greater are acceptable.</p> <ul style="list-style-type: none"> • Hearing protection may be required when working for extended periods of time in areas where elevated noise levels are present. • Hearing protection requirements should be posted at the entrances or in the general area. • These locations are limited to the operations support areas. For more information see the Hach Hearing Conservation Guideline
<p>Transporting and Delivering Chemical Containers</p> <p>Irritant Chemicals</p> <p>Corrosive Chemicals</p>	<p>All hazardous chemicals in glass containers must be transported within splash-proof, secondary containment. Exception: Glass chemical bottles in their original shipping packaging.</p>  <p>(Sample bottle carrier w/top)</p> <p>During transportation of irritant chemicals on carts or in bottle carriers safety glasses and latex/nitrile gloves are required. .</p> <p>During transportation of corrosive chemicals on carts or in bottle carriers, safety glasses and chemical resistant gloves are required.</p>

G PPE Inspection

1. Inspect all PPE prior to use for the following equipment defects: faulty seams, cuts, tears, holes, changes in thickness of material (abrasion or chemical degradation), discoloration, opacity or scratches (eye protection), and closures or other parts that don't work.
2. All chemical resistant gloves shall be tested prior to use. Inflate using one of the following methods:
 - i. Inflate glove by breath or using Air guns (Pic 1)
 - ii. Roll the cuff to inflate glove. Squeeze glove to ensure fingers are filled with air (Pic 2)
 - iii. After inflating the dry glove, put it close to your face to identify leaks. If a leak is detected on a new glove, report the leak to your supervisor (you may have identified a quality assurance problem), and dispose of the glove in the appropriate waste receptacle.



Pic 1; Glove test with air gun



Pic 2; Glove test by rolling cuff and squeezing

H) Donning Chemical Resistant PPE

Step	Action	Note/Results
1.	Don clean chemical-resistant gloves. 	Place a 2 to 3 inch cuff in the glove to catch any drips which may run down the gloves.
2.	Don the chemical resistant apron/ gown. 	Place the gown sleeve over the glove cuff such that chemicals can not directly contact the skin in the event of a splash or liquids being on the glove. Tighten the sleeve of the gown over the glove using tape once around the wrist or when the sleeve is not snug around the glove cuff. Create a 1" tab for easy removal by folding the tape back onto itself.
3.	Put on protective eyewear NOTE: Splash resistant goggles or safety glasses with face shield required when handling corrosives.	Ensure that the fit is comfortable, is not too tight or too loose, and will not slip during usage. Ensure face shield has head and chin guard
4.	Don the face shield.	The face shield must be worn down when ever there is the potential for splash to the face area i.e. pouring chemicals, etc...

I) Decontaminating Chemical PPE

1. Prior to removing PPE, wipe any chemical residues or liquids from the PPE with wipes to prevent accidental contact or contamination with chemicals. Care must be taken to ensure all contaminants are removed and the gloves are dry.
2. DI water can be used in addition to wipes to clean chemically exposed face shields, and pH paper may be used to determine if contamination has effectively been removed

J) Doffing and Disposal of Chemical PPE

1. Remove the face shield and goggles, decontaminate and inspect them (Be careful to not contact your face with dirty gloves – Don clean gloves as needed) Disposition as appropriate.
2. Draw your arms out of the apron/suit using caution not to touch the outside with your arms.
3. Remove the apron/suit by lifting upwards and away from the body.
 - i. Dispose (in appropriate corrosive/solvent container) after use. If the apron is known or believed to be clean, store for future use.
4. Remove gloves (turn inside out while removing) and dispose in the appropriate receptacle.

5. In the event of chemical exposure, enter the shower to remove PPE under running water.

K) PPE Storage

1. PPE must be stored in the designated locations. Separation of the face shield and gown must be maintained (not stored on top of each other) to prevent cross contamination of the other items
2. Storage of PPE must be kept separate from personal clothing.
3. Respirators must be stored in a clean area in a container or bag, out of direct sunlight and in a manner that does not cause deformations to the face piece i.e. under heavy objects.

L) Cleaning and Maintenance

1. PPE should be inspected, cleaned, and maintained at regular intervals so that the PPE provides the requisite protection
 - i. Cleaning is particularly important for eye and face protection where dirty or fogged lenses could impair vision.
2. Personal protective equipment shall not be shared between associates until it has been properly cleaned and sanitized.
 - i. PPE will be distributed for individual use as needed.

M) Respiratory Protection

1. Specialized, annual training is required to wear a respirator. Prerequisites for this training include medical clearance and approval from the site EHS.
2. Engineering and administrative controls should be evaluated before utilizing respiratory protection to protect against airborne hazards. Contact site EHS to request an evaluation.
 - i. Refer to Standard work documentation for specifics on respirator use i.e. tasks, type of respirator, type of filter/cartridge, etc...
3. For more information see the **Hach Respiratory Protection Guideline**

N) High Noise Areas

1. Hearing protection may be required when working for extended periods of time in areas where elevated noise levels are present.
 - i. Historically, these locations are limited to the factory support areas, and intermittent tool use in model shop and Fab/Plastics.
2. Hearing protection requirements should be posted at the entrances or in the general area.
3. For more information see the **Hach Hearing Conservation Guideline**

O) Lasers

1. Additional training, eye exams and laser specific PPE may be required depending upon the class of laser and the type of work performed on the laser system.
2. Laser protective eye wear is selected based on the laser type, wavelength, power and exposure time.
 - i. Refer to the cell postings and standard work documentation for specific eye protection requirements prior to performing open beam work.
3. For more information see the **Hach Laser Safety Guideline** or contact EHS / your Laser Safety Officer.

P) Radiation

1. Hach generally manages radiation exposure through engineering and administrative controls by minimizing time, increasing distance from the source and utilizing shielding.
2. Ionizing (i.e. UV / X-Ray)
 - i. UV – Shielding and 100% UV protective eyewear is utilized.
 - ii. X-Ray – Shielding and exposure monitoring is performed
3. Non-Ionizing
 - i. IR / Microwave – Distance and shielding are utilized

Q) Elevated Work

1. Refer to the Fall Protection / Ladder Safety Guideline for specific requirements.

R) Electrical work

1. Refer to the Hach Energized Electrical Guideline for specific PPE requirements while performing energized electrical work.

S) Visitor PPE

1. PPE will be provided for security cleared, escorted visitors for access to secured general work areas that require PPE. Hach Provided PPE will be limited to:
 - i. safety glasses (ANSI Z87.1)
 - ii. steel toe shoe covers (as needed)
 - iii. hearing protection (ear plugs or muffs)

T) Contractor PPE

1. Contractors who perform tasks that are identical to those done by Hach associates must use, at a minimum, the PPE specified for the job or area by Hach.
2. The selection, training, and use of PPE must comply with applicable EHS regulations and Hach's written policies.
 - i. Contractors/Vendors must provide their associates with PPE specified for the job, unless otherwise agreed in writing.

U) Emergency Eyewash Facilities

1. Emergency eyewash facilities meeting the requirements of ANSI Z358.1 will be provided in all areas where the eyes of any employee may be exposed to corrosive materials.
2. All such emergency facilities will be located where they are easily accessible in an emergency.

V) Training

1. All associates required to wear PPE shall receive training in the proper use and care of PPE.
 - i. Training is accomplished by completing the appropriate HazCom training and completing on the job training/certification.
 - ii. Associates must be knowledgeable of the hazards associated with their task, when PPE is required, what PPE is required, the proper method of donning/doffing PPE and the proper disposal/maintenance requirements.
 - iii. Periodic retraining shall be offered by EHS to both the associates and the leaders, as needed.
2. The training shall include, but not necessarily be limited to, the following subjects:
 - i. When PPE is necessary to be worn
 - ii. What PPE is necessary
 - iii. How to properly don, doff, adjust, and wear PPE.
 - iv. The limitations of the PPE.
 - v. The proper care, maintenance, useful life and disposal of the PPE.
3. After the training, associates shall demonstrate that they understand the components of the PPE Program and how to use PPE properly, or they shall be retrained.

NOTE Users of respiratory equipment require additional, specialized fit test & training prior to use.

W) Record Keeping

1. Written records will be kept of the names of persons trained, the type of training provided, and the dates when training occurred.
2. EHS will maintain all training records and the Hazard Assessment Certification Form for each work site evaluated for at least 3 years, and shall be maintained to document:
 - i. Training of associates
 - ii. Hazard Assessment Certification

VI ROLES AND RESPONSIBILITIES

A) Supervisors

1. Providing appropriate PPE and making it available to associates
2. Ensuring associates are trained on the proper use, care, and cleaning of PPE.
3. Ensure that the PPE Program elements are followed and that associates properly use and care for PPE
4. Seeking assistance from EHS to evaluate hazards
5. Notification to EHS when new hazards are introduced or when processes are added or changed.
6. Ensuring defective or damaged equipment is immediately replaced.

B. Associates

1. Wearing PPE as required.
2. Attending required training sessions.
3. Caring for, cleaning, and maintaining PPE as required.
4. Informing the supervisor of the need to repair or replace PPE.

C. EHS

1. Conducting workplace hazard assessments to determine the presence of hazards that necessitate the use of PPE.
2. Conducting periodic workplace reassessments as requested by leaders and/or as determined by EHS.
3. Maintaining records on hazard assessments.
4. Providing training and technical assistance to supervisors on the proper use, care, and cleaning of approved PPE.
5. Periodically reevaluating the suitability of previously selected PPE.
6. Reviewing, updating, and evaluating the overall effectiveness of the PPE Program.

VII UPDATES

Guideline Creation
Rev. 1 - 4/20/2010
T.Greaton

VIII APPENDICES

- A)** CHA (Cell Hazard Assessment) / Cell Safety Summary Template
- B)** Safety Eyewear Authorization Form
- C)** Safety Shoe Authorization Form

Appendix A

(Input Cell Name) Safety Summary:

Req'd Cell PPE:

Chemical Name	Location/ Operation	Physical Hazard(s)	Safety Precautions

Hazard Type	Location/ Operation	Physical Hazard(s)	Safety Precautions

Areas for Opportunity

Completed by: _____

Date: _____

Appendix C

Safety Shoes Payment Authorization Form

Hach Company provides safety shoes for full time associates given the following criteria:

Safety shoes shall comply with ASTM (American Society of Testing Material) International Standards F2413-05 for impact and compression.

All safety shoes are marked, on one shoe of the pair, in letters and numbers to identify a safety shoe. The identification can be in a stitched-in label, stamped, pressure sensitized label, or a combination of these methods.

Hach will pay up to \$100 for safety shoes once a year if you work in an area that requires them as PPE.

1. Obtained required signatures for authorization.
2. Purchase shoes through preferred locations:
 - Work Wear, Loveland site
 - Red Wing Shoes, Greeley
 - Red Wing Shoes, Ft. Collins
3. Present form to vendor.
4. Be prepared to pay the cost of shoes less the \$100 reimbursement.
5. Purchase from a non-preferred vendor, and submit expense report.

Employee Name: _____

EHS Manager Signature: _____

SELECTION OF SAFETY SHOES

Safety shoes should be sturdy and have an impact-resistant toe. Consider your working conditions when selecting your safety shoes. The sole should provide adequate protection on slippery or wet surfaces. The recommended fabric is leather because it resists cutting, is sturdy and allows your feet to breathe.

Please keep a copy of this form for your records.

SAFETY SHOE INFORMATION FORM

29 CFR 1910.136

If safety shoes are required in your work area, they must meet ASTM F2413-05 for minimum requirements for the design, performance, testing and classification of protective footwear.

Protective footwear can meet all the requirements of the ASTM standard or specific elements of it, as long as it first meets the requirements for impact and compression resistance. All footwear manufactured to the ASTM specification must be marked with the specific portion of the standard with which it complies. One shoe of each pair must be clearly and legibly marked (stitched in, stamped on, pressure sensitive label, etc.) on either the surface of the tongue, gusset, shaft or quarter lining.

The following is an example of an ASTM marking that may be found on protective footwear:

ASTM F2413-05
M I/75/C/75/Mt75
PR
CS

Line #1: ASTM F2413-05:

This line identifies the ASTM standard – it indicates that the protective footwear meets the performance requirements of ASTM F2413 issued in 2005.

Line #2: M I/75 C/75 Mt75:

This line identifies the gender [M (Male) or F (Female)] of the user. It also identifies the existence of impact resistance (I), the impact resistance rating (75 or 50 foot-pounds), compression resistance (C) and the compression resistance rating (75 or 50 which correlates to 2500 pounds. and 1750 pounds of compression respectively). The metatarsal designation (Mt) and rating (75 or 50 foot-pounds) is also identified.

Lines 3 & 4: PR / CS

Lines 3 and 4 are used to identify footwear made to offer protection from other specific types of hazards referenced in the standard. They are used to designate conductive (Cd) properties, electrical insulation properties (EH), footwear designed to reduce the accumulation of excess static electricity (SD), puncture resistance (PR), chain saw cut resistance (CS) and dielectric insulation (DI), if applicable. Line 4 is only used when more than three sections of the ASTM standard apply.