



# DEFENSE BASE ACT

DBA WHITE PAPER FOR ALLIED WORLD POLICYHOLDERS

October 2017

## Personal Protective Equipment

### Introduction

In order to provide and maintain safe and healthful working conditions in your workplace, issuance of personal protective equipment may be necessary to protect against potential hazards.

Personal protective equipment (PPE) is not considered a substitute for control or elimination of known hazards. Elimination of the hazards through engineering or procedural changes and guarding of the hazards should be considered the primary methods of control. Personal protective equipment is used whenever a potential hazard to the employee still exists after other hazard control methods have been applied.

It is essential that PPE hazard assessments are conducted of all areas and jobs in the facility. The assessments must identify required and recommended PPE. Management must also document a certification that hazard assessments have been completed.

Personal protective equipment must meet the requirements set forth by specific ANSI (American National Standards Institute) as well as NIOSH (National Institute of Safety and Health) standards. The person authorizing equipment purchases should consult with your safety coordinator to determine that applicable standards are met.

Specific personal protective equipment requirements should be posted in those departments or work areas where use is required. To promote compliance by the employees, the requirements must also be adhered to by all levels of management and visitors.

### PPE and Associated Hazards

#### Safety Glasses:

*Hazards: Chemical splashes, impact from flying particles and irritation from airborne dust or mist. One study indicated that 40% of eye injuries occurred to people wearing some form of eye protection. In most instances, the flying matter went under or around the protective eyewear. This shows that the proper choice of eye protection is critical to the reduction of eye injuries.*

*Although all prescription safety glasses are impact resistant, normal glasses will not withstand the same impact as industrial safety glasses.*

Protection: Safety glasses with side shields should be required in all areas where the potential for eye injury is present. Side shields are mandatory when there is an exposure to flying particles.

#### Face Shields:

Hazards: *Chemical splashes, grinding or in heavy machining operations. Face shields do not by themselves provide adequate impact resistance, so face shields should be used in conjunction with safety glasses or impact resistant safety goggles. For severe or molten metals, it may be advisable to wear face shields in addition to safety goggles or glasses.*

Protection: A face shield should be required when using any type of grinder, performing overhead drilling operations, charging forklift batteries, working with hazardous chemicals or solvents, or whenever the potential for facial or eye injuries warrants greater protection than safety glasses. Goggles to protect against impact or chemical splash should be worn under the face shield when the hazard exists.

#### Foot Protection:

Hazards: *In many work places, falling and rolling objects are a serious concern. Foot injuries come in all shapes and sizes, some of which include punctures, lacerations, crushing, sprains, and falls. The proper footwear can prevent unnecessary accidents. Believe it or not, safety boots often times provide extra support and comfort, which can raise overall comfort levels while standing for a long time.*

Protection: Safety shoes should be worn whenever there is a hazard from falling or rolling objects. Sport shoes, sandals or similar type footwear should not be allowed in the work environment. Hazards to the feet due to certain operations may require additional foot protection, i.e., metatarsal protection.

#### Hearing Protection:

Hazards: *Excessively loud noise such as an explosion or a gunshot can damage your hearing instantly. More commonly, hearing damage occurs over a period of time by steady exposure to noise, such as noise caused by machinery. Your inner ear contains hair-like cells which vibrate when contacted by sound waves. These cells communicate information to the brain, and that is how you hear. Exposure to excessive or prolonged noise causes permanent damage to these cells and the result is a decrease in your ability to hear.*

Protection: Employees exposed to hazardous noise levels, 85 dBA and above, should be provided with hearing protection. If noise levels reach 90 dBA and engineering and administration efforts to reduce the noise have been ineffective, hearing protection is mandatory.

A continuing hearing conservation program must be established when the eight-hour time weighted noise exposure is at or above 85 dBA.

To increase the employee acceptance of the program, more than one type of hearing protection should be made available. Employees who wear hearing protection should be instructed and trained in the proper fitting, use of and care of hearing protection.

### Respiratory Protection:

Hazard: Airborne contaminants such as dust, inhalable particles and chemicals until adequate engineering, work practice, substitution, or administrative controls are implemented. This exposure can present immediately dangerous illness / injury or cumulative effects that may lead to illness.

Some workers may also need to operate in an oxygen deficient environment.

Protection: It is the employer's responsibility to ensure that the employees are instructed and trained in the proper use, care and maintenance of respirators. Each respirator should be selected on the basis of the respiratory hazard(s) to which the worker is exposed, and workplace and user factors that affect performance and reliability.

Only respirators which are certified by NIOSH for protection against the contaminant(s) to which employees is/are exposed should be used.

### Special Clothing:

Hazard: Dirt, dust, paint spray and chemical splashes. Additional exposures may be posed by thermal stress.

Protection: Special clothing should be provided in locations where employees are exposed to hazards caused by extreme temperatures, chemicals or corrosive materials. A variety is available, and selection depends on the hazard or substance involved.

### Head Protection:

Hazard: Flying or falling objects, electric shock and burns can expose employees to risks of receiving head injuries. Hard hats protect the head of our most valuable assets by protecting the employees if they bump their heads against fixed objects and equipment. Hard hats will also protect employees if heavy equipment bumps into them and from falling objects. A properly worn hard hat will protect the employee's head in case of a fall.

Protection: Hard hats should be required when the possibility of an injury due to a falling object is present. General areas of concern are overhead construction, loading or lifting. Hard hats should also be worn when working in and around areas with low head clearance, such as with pipes and beams, or where there may be an electrical exposure.

### Hand Protection:

Hazards: Exposure to excessive heat or cold, sharp or rough materials, and toxic or corrosive chemicals that may cause illness or injury.

Protection: Protective gloves are required for many types of work and are made of various types of material. Each type of glove has a specific purpose.

- Leather gloves are used when handling rough surfaces such as skids, broken concrete, etc., and when working with sharp or jagged edges.

- Mesh gloves are used when handling knives or performing other types of operations where the threat of lacerations is high. In addition to mesh gloves, protective sleeves and aprons are also available to reduce the potential for lacerations.
- Rubber gloves are required when changing forklift batteries and when handling solvents or hazardous chemicals. Special rubber gloves are also available to use on high voltage equipment. Care is needed to make sure the proper gloves are obtained to protect against the specific chemical(s) being handled.
- Plastic gloves are recommended for jobs such as painting and handling of light chemicals and detergents.
- Heat resistant gloves and arm sleeves are required when working around hot surfaces.

### Fall Protection:

*Hazard:* Falls from elevations such as ladders, scaffolds and work platforms can result in serious injury or death.

Protection: A comprehensive fall protection should be developed and implemented when an employee is working above ground and has no general protection cage or railing around them. General protection must meet OSHA regulations and have a 42" rail with a 21" midrail and a 4" kick board.

Note - Safety harnesses and restraint belts should be inspected prior to each use by the employee, testing the belt/harness to ensure the equipment is in safe working condition

### **Overcoming Objections and Motivating Workers**

If engineering controls or process elimination do not remove a hazard from a job, then your company must provide the employee with personal protective equipment. What do you say to people who give you excuses for not wearing personal protective equipment? Here are some ideas:

- Make sure *you* believe in the use of protective equipment. If you don't wear yours, you can't really expect your subordinates to wear theirs.
- Explain to your employees why the equipment is necessary. Sometimes a simple explanation is all that is necessary; other times you may have to cover every detail, such as accident costs (direct and indirect), past accidents, near misses, new equipment and so on.
- Let your subordinates choose their protective equipment. Give employees a choice of shoe style, hard hat color, eyeglass frames or type of hearing protection unless dictated by regulatory requirements. Employees tend to take pride or feel a sense of ownership in something that they have chosen, as opposed to something that was forced on them. They will also take better care of the equipment.
- Show employees that you care about their safety. Take the time to show employees how to adjust the equipment to fit them properly. Train them how to care for and maintain safety gear.
- Show them that you want them to be comfortable and safe.
- Be firm about the use of equipment. Make employees believe that without their glasses, they are only

partially dressed. Pat them on the back when you see them wearing their glasses or lacing up their safety shoes.

If necessary, use disciplinary measures to keep employees safe. If you let one employee get away with not wearing their gloves, glasses, or hard hat, soon there will be others. Give a warning first; then take more serious steps.

Certain occupations may require highly specialized PPE. As with all PPE, this will be determined by conducting a hazard assessment for the specific job. Management must certify that the hazard assessment has been conducted. Hazard assessments should be reviewed by management and legal for adequacy and compliance. To assist you with your personal protective equipment efforts, attached are sample hazard assessment forms.

## **Author**

**Michael P. Murtha**

Senior Managing Consultant  
Bureau Veritas North America

## **Contributor/Editor**

**Thad Whittier, CIE**

Assistant Vice President, Loss Control

**AWAC** Services Company,

Member Company of **Allied World**

**E.** [riskmanagement@awacservices.com](mailto:riskmanagement@awacservices.com)

**T.** 860.284.1305

**W.** [www.awac.com](http://www.awac.com)

This white paper is provided as a risk management resource for Allied World Defense Base Act insurance policyholders for informational purposes only. It is not intended as, nor does it constitute, legal or professional advice or recommendations. While reasonable attempts have been made to ensure that the information in this white paper is accurate and current as of its publication date, we make no claims, guarantees, representations or warranties, either express or implied, as to the accuracy, completeness or adequacy of any information contained herein. This white paper may not be reproduced or distributed without the express, written permission of Allied World Assurance Company Holdings, GmbH, a Fairfax company ("Allied World"). Risk management services are provided by or arranged through AWAC Services Company, a member company of Allied World.

© 2017 Allied World Assurance Company Holdings, GmbH. All rights reserved.





<b>Task/Work Area: ITEM</b>	<b>YES</b>	<b>NO</b>	<b>HAZARD SOURCE</b>	<b>HAZARD SEVERITY</b>	<b>HAZARD PROBABILITY</b>	<b>HAZARD INDEX</b>	<b>FREQUENCY</b>	<b>APPROPRIATE PPE</b>	<b>COMMENTS</b>
Employees are working in an area where floor surface may create a slip hazard.									
<b>HAND PROTECTION</b>									
The employee's hands are exposed to skin absorption of harmful substances, severe cuts or abrasions, punctures, chemical burns, or harmful temperature.									
<b>CLOTHING</b>									
Employees are exposed to harmful materials, chemicals, temperature extremes, or source of cuts, lacerations or punctures.									
<b>FALL PROTECTION</b>									
Employees are working at an elevated area where a slip or fall to a lower level is a potential hazard.									

Hazard Source - Identify machinery, chemical, work area, etc. which is source or potential source of a hazard.

Hazard Index - See attached chart.

Frequency - Frequency per period is acceptable (i.e. #/hour, #/minute)

## HAZARD INDEX

HAZARD PROBABILITY	HAZARD SEVERITY		
DEFINITION	I – CRITICAL	II - MARGINAL	III – NEGLIGIBLE
A – Likely to occur immediately or within a short period of time.	1	1	2
B – Probably will occur in time.	1	2	2
C – May occur in time.	2	2	3
D – Unlikely to occur.	2	3	3

### DEFINITIONS:

#### HAZARD SEVERITY

- I Critical - May cause severe injury
- II Marginal - May cause minor injury
- III Negligible - Probably would not affect personnel or may cause first aid visit

#### HAZARD INDEX

- 1 - PPE required. Engineering modifications are strongly recommended where feasible.
- 2 - PPE is strongly recommended. Engineering modifications are strongly recommended where feasible.
- 3 - PPE may not be necessary.

**PERSONAL PROTECTIVE EQUIPMENT  
TRAINING & CERTIFICATION LOG**

Following training on the PPE program, \_\_\_\_\_ has demonstrated the ability to correctly answer the following:

**OUTLINE:**

What Personal Protective Equipment (PPE) is needed to perform this job?

Where do you get your PPE?

Demonstrate how to put on, take off, and/or adjust your PPE.

How do you inspect, clean, and store your PPE?

What do you do with damaged PPE?

Is there any limitation to your use of this PPE?

This employee meets the certification requirements for wearing PPE while performing his/her job.

\_\_\_\_\_  
Supervisor/Trainer Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Employee Signature

\_\_\_\_\_  
Job Title

## CERTIFICATION OF PPE HAZARD ASSESSMENT

**JOB TASK OR WORK AREA:** \_\_\_\_\_

**DATE OF ASSESSMENT:** \_\_\_\_\_

I certify that a hazard assessment meeting the requirements of 29 CFR 1910.132 was conducted at the job task or work area indicated above. This assessment was conducted to identify hazards present or likely to be present which necessitate the use of personal protective equipment.

**Signature of Individual Making Certification:** \_\_\_\_\_