Oregon OSHA's

quick guide to the

PPE hazard assessment for general industry

What you should know and not a word more!

Oregon OSHA

About this guide

This quick guide to the Personal Protective Equipment (PPE) hazard assessment for general industry is an *Oregon OSHA Standards and Technical Resources* publication. Oregon OSHA quick guides are for employers and employees who want to know about a specific topic and get back to business — quickly.

Read this guide if you want to know how to determine what PPE your employees need to protect themselves from hazards. You'll learn:

- What a PPE hazard assessment is
- Why you should do a PPE hazard assessment
- When your employees should use PPE
- How to do a PPE hazard assessment

This guide also gives you a link to a convenient hazard assessment form on our website that you can download and use to do your own hazard assessment. (See page 12.)

Layout, design, and editing

- Patricia Young: Oregon OSHA, layout and design
- Mark Peterson: DCBS Communications, editing and proofing

We want you to understand what you read!

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What is a PPE hazard assessment?

A PPE hazard assessment is an evaluation of your workplace that helps you determine what hazards your employees are exposed to *and* the personal protective equipment they need to protect themselves from those hazards.

An effective assessment should include:

- The jobs (or tasks) that your employees do
- The hazards your employees are exposed to and where the hazards are located
- The likelihood that those hazards could injure your employees
- The severity of a potential injury
- The types of PPE necessary to protect your employees from those hazards

For more information, see *How to do a PPE hazard assessment*, Page 10.

Why should you do a PPE hazard assessment?

There are three good reasons:

Reason 1: **A hazard assessment will help you find hazards at your workplace**

Reason 2: **A hazard assessment will help you determine what personal protective equipment your employees need for protection**

Reason 3: **Our *Personal Protective Equipment rule [437-002-0134] for general industry* requires that you do one**

Why a PPE hazard assessment is a good thing to do

– a real-world example

Not long ago, a worker died from complications resulting from severe burns on his face and hands when he tried to remove the bottom of a 55-gallon drum, which contained traces of motor oil, with a plasma cutter. The drum exploded.

He shouldn't have been using a plasma cutter on an oil drum until it had been cleaned and decommissioned; however, he might have survived with less severe burns if he had been using a face shield and appropriate protective gloves. He was wearing gloves, but they were made with fabric that melted on his hands from the heat of the explosion.

His employer had not done a PPE hazard assessment.

What our Personal Protective Equipment rule says about hazard assessments

Our *Personal Protective Equipment* rule says that you must "*assess your workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment.*" If you find hazards at your workplace that you can't eliminate or control without PPE, you must:

- Select the PPE that protects your employees from the hazards
- Communicate your selection decisions to each employee
- Ensure that the PPE fits each employee
- Require your employees to use their PPE when they're exposed to the hazards

When should your employees use PPE?

What's the best way to protect your employees from hazards?

It's not PPE.

The best way to protect your employees is to eliminate the hazards. But what if you can't eliminate the hazards? Then you should control them so they won't harm your employees. There are many ways to control hazards. The most effective ways are controls such as interlocks on machine guards and other "fail-safe" mechanisms that protect workers by reducing the risk of human error.

When is PPE necessary?

PPE is necessary when your employees are exposed to a hazard and you can't eliminate it or prevent their exposure any other way. Although PPE is another way to control a hazard, it's only a barrier between the hazard and the worker. When PPE doesn't fit a worker properly or the worker doesn't use it correctly, the PPE doesn't do its job and the worker risks exposure.

Before you purchase PPE, know what hazards it protects against and be sure it fits the person using it. If you're unsure, ask someone who is familiar with the type of PPE you need — especially when you're selecting respirators or chemical-protective clothing.

Always train employees how to wear, use, and maintain their PPE before they use it for the first time. Training must also include the types of PPE that are necessary and their limitations.

What types of PPE may be necessary?

Your hazard assessment should determine if your employees need any of the following types of PPE:

- Torso and abdominal protection
- Eye and face protection
- Head protection
- Foot protection
- Leg protection
- Hand protection
- Hearing protection
- Respiratory protection
- Fall protection

Table 1 ***(on the following two pages)*** shows these basic types of PPE and gives examples of hazards they control.

Table 1: Types of PPE		
PPE	**Typical hazards controlled**	**Covered by our personal protective equipment rule?**
Torso protection	• Harmful or hazardous temperatures and humidity • Hot splashes from molten metal and other hot liquids • Impacts from tools, machinery, and materials • Hazardous chemicals • Ionizing radiation • Moving vehicles	Yes; see *437-002-0134(6),Work Clothing; 437-002-0134(7), High Visibility Garments;* see also *437-002-0144(2), Additional Oregon Rules for General Environmental Controls*
Eye and face protection	• Dust, dirt, metal, or wood chips from chipping, grinding, sawing, hammering, and from power tools • Chemical splashes from corrosive substances, hot liquids, and solvents • Objects such as tree limbs, chains, tools, and ropes that swing into the eyes or face • Radiant energy from welding and harmful rays from lasers or other radiant light	Yes; see *437-002-0134(8), Eye and Face Protection*
Head protection	• Overhead objects that could fall • Exposed pipes or beams • Energized electrical equipment	Yes; see *437-002-0134(9), Head Protection*
Foot protection	• Heavy objects such as barrels or tools that might roll onto or fall on a worker's feet • Sharp objects such as nails or spikes that could pierce the soles or uppers of ordinary shoes • Molten metal • Hot, wet, or slippery surfaces • Energized electrical equipment	Yes; see *437-002-0134(10),Foot Protection*

Table 1: Types of PPE		
PPE	**Typical hazards controlled**	**Covered by our personal protective equipment rule?**
Leg protection	• Hot substances • Dangerous chemicals • Cuts from chain saws	Yes; see *437-002-0134(11), Leg Protection*
Hand protection	• Harmful or hazardous temperatures • Chemicals that can be absorbed into the skin or cause burns • Energized electrical equipment • Mechanical equipment that can cause bruises, abrasions, cuts, punctures, fractures, or amputations	Yes; see *437-002-0134(12),Hand Protection and 437-002-0134(13), Skin Protection*
Hearing protection	• Excessive noise	Yes – Ear plugs or ear muffs are required when workers are exposed to noise that equals or exceeds 85 dBA, averaged over eight hours. *See also 1910.95, Occupational Noise Exposure.*
Respiratory protection	• Harmful substances and below normal concentrations of oxygen in the air. What makes a substance harmful depends on its toxicity, chemical state, physical form, concentration, and the period of time one is exposed. Examples include particulates, gases and vapors, and biological organisms.	Yes – Appropriate respirators are required when workers are exposed above *permissible exposure limits* (PEL) for specific air contaminates, listed in *437-002-0382, Oregon Rules for Air Contaminants; see also Respiratory Protection, 1910.134*.
Fall protection	• Falls from unguarded surfaces more than 10 feet above a lower level or any height above dangerous equipment.	Yes – PPE includes personal fall arrest systems and personal fall restraint systems, which are covered in *437-002-0125, Oregon Rules for Fall Protection; 1926.502(d), Personal Fall Arrest Systems; and 437-003-0502, Personal Fall Restraint Systems*.

How to do a PPE hazard assessment

Do a baseline survey to identify workplace hazards

A baseline survey is a thorough evaluation of your entire workplace — including work processes, tasks, and equipment — that identifies safety and health hazards. A complete survey will tell you *what* the hazards are, *where* they are, and *how severe* a potential injury could be. The second column in **Table 1** includes hazards to consider in your baseline survey.

Suggestion: Use material safety data sheets (MSDS) to identify chemical hazards. An MSDS has detailed information about a hazardous chemical's health effects, its physical and chemical characteristics, and safe handling practices.

Suggestion: Review equipment owner and operator manuals to determine the manufacturer's safety warnings and recommended PPE.

Suggestion: Do a job-hazard analysis. A job-hazard analysis (JHA) is a method of identifying, assessing, and controlling hazards associated with specific jobs. A JHA breaks a job down into tasks. You evaluate each task to determine if there is a safer way to do it. A job-hazard analysis works well for jobs with difficult-to-control hazards and jobs with histories of accidents or near misses. JHAs for complex jobs can take a considerable amount of time and expertise to develop. You may want to have a safety professional help you.

Suggestion: Have an experienced safety professional survey your workplace with you.

Evaluate your employees' exposures to each hazard identified in the baseline survey

Consider the employee's task, the likelihood than the employee would be injured without PPE, and the severity of a potential injury. In the *real world example*, the worker was using a plasma cutter without a face shield and synthetic gloves to cut open a 55-gallon metal drum that had not first been properly cleaned or decommissioned. An effective PPE hazard assessment would produce the following information for the task of using a plasma cutter:

Task: Using a plasma cutter.

Hazards: The plasma-cutting arc produces hot metal and sparks, especially during the initial piercing of the metal. It also heats the work piece and the cutting torch. *Never cut closed or pressurized containers such as tanks or drums, which could explode. Do not cut containers that may have held combustibles or toxic or reactive materials unless they have been cleaned, tested, and declared safe by a qualified person.*

Likelihood of injury without PPE: High

Severity of a potential injury: Life-threatening burns

PPE necessary for the task:

Body: dry, clean clothing made from tightly woven material such as leather, wool, or heavy denim

Eyes and face: safety glasses with side shield or face shield

Feet: high-top leather shoes or boots

Hands: flame-resistant gloves

After you do a hazard assessment, document that you've done it!

We call the document a *written certification*; it must include the following information:

- A heading that says the document is a "certification" of the hazard assessment
- The name of the workplace evaluated
- The name of the person certifying the hazard assessment was completed
- The date of the hazard assessment

Your written certification can be as simple as this one.

PPE hazard assessment certification

Workplace evaluated: _____

Person certifying the evaluation: _____

Hazard assessment date: _____

There's a convenient hazard assessment form on our website that you can download and use to do your own hazard assessment.

Follow this link to download our *PPE hazard assessment and certification form*.

Reassess workplace hazards periodically

Do regular workplace inspections. Regular inspections tell you whether you've eliminated or controlled existing hazards, and help you identify new hazards. Quarterly inspections by employees trained in hazard recognition are a good way to get the job done.

Look for new hazards whenever you change equipment, materials, or work processes. Determine what hazards could result from the changes and how to control them. If your business works at multiple sites, you may need to do a hazard assessment at each site.

Notes:

*Oregon*OSHA **Services**

Oregon OSHA offers a wide variety of safety and health services to employers and employees:

Appeals

503-947-7426; 800-922-2689; admin.web@state.or.us

- Provides the opportunity for employers to hold informal meetings with Oregon OSHA on concerns about workplace safety and health.
- Discusses Oregon OSHA's requirements and clarifies workplace safety or health violations.
- Discusses abatement dates and negotiates settlement agreements to resolve disputed citations.

Conferences

503-378-3272; 888-292-5247, Option 1; oregon.conferences@state.or.us

- Co-hosts conferences throughout Oregon that enable employees and employers to learn and share ideas with local and nationally recognized safety and health professionals.

Consultative Services

503-378-3272; 800-922-2689; consult.web@state.or.us

- Offers no-cost, on-site safety and health assistance to help Oregon employers recognize and correct workplace safety and health problems.
- Provides consultations in the areas of safety, industrial hygiene, ergonomics, occupational safety and health programs, assistance to new businesses, the Safety and Health Achievement Recognition Program (SHARP), and the Voluntary Protection Program (VPP).

Enforcement

503-378-3272; 800-922-2689; enforce.web@state.or.us

- Offers pre-job conferences for mobile employers in industries such as logging and construction.
- Inspects places of employment for occupational safety and health hazards and investigates workplace complaints and accidents.
- Provides abatement assistance to employers who have received citations and provides compliance and technical assistance by phone.

Public Education

503-947-7443; 888-292-5247, Option 2;
ed.web@state.or.us

- Provides workshops and materials covering management of basic safety and health programs, safety committees, accident investigation, technical topics, and job safety analysis.

Standards and Technical Resources

503-378-3272; 800-922-2689; tech.web@state.or.us

- Develops, interprets, and gives technical advice on Oregon OSHA's safety and health rules.
- Publishes safe-practices guides, pamphlets, and other materials for employers and employees.
- Manages the Oregon OSHA Resource Center, which offers safety videos, books, periodicals, and research assistance for employers and employees.

Need more information?
Call your nearest Oregon OSHA office.

Salem Central Office

350 Winter St. NE, Rm. 430
Salem, OR 97301-3882
Phone: 503-378-3272
Toll-free: 800-922-2689
Fax: 503-947-7461
en Español: 800-843-8086
Website: www.orosha.org

Bend

Red Oaks Square
1230 NE Third St., Ste. A-115
Bend, OR 97701-4374
541-388-6066
Consultation: 541-388-6068

Eugene

1140 Willagillespie, Ste. 42
Eugene, OR 97401-2101
541-686-7562
Consultation: 541-686-7913

Medford

1840 Barnett Road, Ste. D
Medford, OR 97504-8250
541-776-6030
Consultation: 541-776-6016

Pendleton

200 SE Hailey Ave.
Pendleton, OR 97801-3056
541-276-9175
Consultation: 541-276-2353

Portland

1750 NW Naito Parkway, Ste. 112
Portland, OR 97209-2533
503-229-5910
Consultation: 503-229-6193

Salem

1340 Tandem Ave. NE, Ste. 160
Salem, OR 97303
503-378-3274
Consultation: 503-373-7819

440-2738 (1/12)

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