



# **SAFETY & PRODUCTIVITY GUIDE FOR INDUSTRIAL MANUFACTURING**

**By Bryan McWhorter**

**QUEST**   
SAFETY PRODUCTS, INC

Headquarters  
1414 S. West Street, Suite 200  
Indianapolis, Indiana, 46225  
800-878-4872 • [www.shopquestsafety.com](http://www.shopquestsafety.com)  
[SafetyCSR@QuestSafety.com](mailto:SafetyCSR@QuestSafety.com)

# CONTENTS

<b>Introduction</b> .....	<b>3</b>	<i>Hand Protection</i> .....	23
<i>Keeping Workers Safe: A Key Responsibility</i> .....	4	<i>Foot Protection</i> .....	24
<i>Complying with Governing Safety Agencies</i> .....	5	<i>Foot Protection</i> .....	25
<b>Components of a Health and Safety Management System</b> .....	<b>6</b>	<i>Cooling / Heating / Hydration</i> .....	26
<b>Hazard Assessment</b> .....	<b>8</b>	<i>Fall Protection / Confined Space</i> .....	27
<i>Risk Analysis</i> .....	9	<i>Awareness Safety</i> .....	28
<i>Health Hazards</i> .....	11	<i>Eyewash</i> .....	29
<i>Hierarchy of Hazard Controls</i> .....	12	<i>Instrumentation</i> .....	29
<b>Product Showcase</b> .....	<b>13</b>	<i>Calibration/Gas Instruments/Cases</i> .....	29
<i>Respiratory Protection</i> .....	13	<i>Cleanroom Wipers and Mats</i> .....	29
<b>Product Showcase</b> .....	<b>14</b>	<i>Janitorial Supplies Towels, Tissue &amp; Wipers</i> .....	29
<i>Lockout/Tagout</i> .....	14	<b>Training</b> .....	<b>31</b>
<i>Protective Clothing</i> .....	15	<i>Required Safety Training</i> .....	31
<i>Arc Protection</i> .....	16	<i>Behavior</i> .....	32
<i>Ergonomic Matting / Ergonomics</i> .....	17	<i>Rules and Enforcement</i> .....	33
<i>Head Protection</i> .....	18	<b>Incident Investigation</b> .....	<b>34</b>
<i>Hearing Protection</i> .....	19	<i>Root Cause Analysis</i> .....	34
<i>First Aid / Soaps / Creams / AED</i> .....	20	<i>Corrective Actions</i> .....	35
<i>Facilities Management, Maintenance, &amp; Identification</i> .....	21	<b>Wrap Up</b> .....	<b>36</b>
<i>Eye Protection</i> .....	22	<i>About the Author</i> .....	36



## Introduction

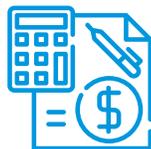
The modern factory is complex. It's made up of work cells and high-speed production lines, and it's driven by spreadsheets. As a manufacturer, your days are filled with challenges that must be met if you want to stay competitive.

Given all this, the only way to become or remain a world-class manufacturer is to be performance-driven. That means constantly monitoring and striving to improve in four key areas:



### SAFETY

Reflects control and is an integral part of operating a sustainable business



### COST

Cost control ultimately translates to profit



### QUALITY

Defective products cost you more than cutting corners could save you



### DELIVERY

Meeting customer demand is essential

All of these are critical, but safety has become a top performance metric in recent years. And with good reason: it protects your greatest assets, your employees. It's also a reflection of how stable your operation is.

The problem is that safety can conflict with other metrics. Factory workers might value safety (their own and their coworkers'), but they also know that they are being measured on their production performance. Knowing this, they might take unnecessary risks to minimize downtime and scrap rates or to improve their production yield.

Safety and productivity have often been at odds, but they don't have to be. Keeping workers safe doesn't have to come at the expense of productivity.

The secret to achieving that? Make safety part of your production system. That means implementing safe work practices for everything you do on the shop floor. And it needs to be sustainable – those processes need to be both repeatable and reliable.

Manufacturing environments expose workers to many types of serious hazards. It's up to managers to assess the risks and implement control measures to protect workers. It is also the responsibility of employers to follow the guidelines and standards laid out by governing safety agencies.

That can seem like an overwhelming task. But we're here to help. We've created this guide to assist you through it. In it, you'll find a simple framework for safety in manufacturing.

## **KEEPING WORKERS SAFE: A KEY RESPONSIBILITY**

---

No one should have to put themselves in harm's way to earn a living, and certainly not in manufacturing. Thankfully, manufacturing shop floors can be optimized to minimize risks and protect workers.

We can't be complacent about safety. According to the U.S. Department of Labor, there were 5,190 fatal work injuries record in 2016. That's a 7% increase over the figures from 2015. But with a good understanding of how to identify and control hazards in the manufacturing environment, we can do our part to improve those statistics, instead of letting our workers become one.

## COMPLYING WITH GOVERNING SAFETY AGENCIES

---

Employers can be so focused on ensuring compliance that they can lose sight of why it's so important in the first place. Meeting every standard might feel like a bother. But the purpose of agencies like OSHA isn't to drain your funds or make busy work – it's to keep your workers safe.

As a manufacturer, you must make sure you remain compliant with the regulations that pertain to your industry. What manufacturing managers may not know, however, is that regulatory agencies provide many tools and resources you can use to accomplish this. eTools and eMatrix, for instance, are online training tools developed and offered by OSHA. You can also find downloadable content, expert advice, and interactive training, complete with tests and quizzes to boost your confidence in the material you're reviewing.

And don't forget that you can work more directly with your governing agencies. Your tax dollars are funding these organizations and paying for their programs, so don't hesitate to reach out to them and learn about all the resources they provide. And if they ever come knocking on your factory's door following an incident, it won't hurt to have a (positive) history of working with them.

# Components of a Health and Safety Management System

A safety policy is your stated commitment to safety, endorsed by management. What you include in it is crucial because, despite our best intentions, our effort rarely exceeds our commitment.

We suggest you begin with a written safety policy. Having a clear and comprehensive document available focuses everyone's attention and elevates safety as an important concern for both management and employees.

Your smartphone, your laptop, and your tablet all run on an operating system. It's how they allow you to make the most of them and access all of their capabilities. It guides all the activity that takes place on your devices. It's the same with your industrial manufacturing operation: its safety management system will guide everything that happens in it.

Here are its main components:



We'll review each of these and discuss how they improve safety and ensure compliance in manufacturing settings.



**SafetyNetwork.me**™

THE PARTNERSHIP THAT WORKS

Customer ▶ Distributor ▶ Supplier



## EXPERTS YOU CAN TRUST!

SafetyNetwork.me is dedicated to advancing anyone in, and associated with, the safety industry. The network provides advantages to Customers, Distributors, and Suppliers of Safety Equipment & Services.

The Network is a consortium of Safety Equipment Suppliers & Distributors who collaborate to enable their industry's advancement. From creating efficiencies for partnering, planning, and networking to driving investment & incentivizing best practices for serving today's workforce. SafetyNetwork.me is here to provide the platform for an industry putting their differences aside and their mission first – Safer Workplaces.

Our members are here to help you stay safe at work. That's the SafetyNetwork.me Promise.

Where else can you find competitors in an industry coming together to create advantages for all? A rising tide raises all boats and, as the largest & longest standing Safety Buying Group in North America, SafetyNetwork.me is honored to be the Safety Industry's chosen body.



180+

**Stocking Locations**

Buy Local



1000+

**Safety Sales Pros.**

Find an Expert



50+

**Safety Distributors &  
50+ Safety Suppliers**

Go to Site

# Hazard Assessment

Sharks are a risk if you're scuba diving off the coast of Australia.

Sunstroke and dehydration are risks if you're hiking in a desert.

Every environment poses its own unique set of risks. The factory floor is no exception, but we can't deal with dangers until we uncover them.

Hazard assessments are the starting point for all safety programs. It's the process by which we uncover unsafe conditions, unsafe behaviors, and unsafe policies. This is crucial – we can't address these unless they've been surfaced.

Not every danger can be eliminated but surfacing them is still important. That's because there's a big difference between dangers and hazards:



**DANGER = A RISK TO  
EMPLOYEES FOR WHICH THERE  
IS NO CONTROL IN PLACE**



**HAZARD = A DANGER THAT IS  
MADE LESS RISKY THROUGH  
SOME CONTROL MEASURE**

A danger is an emergency. It puts employees in imminent danger and needs to be dealt with immediately. But hazards? We can work around hazards all-day long and never be in any grave danger so long as we understand the risks and that there are control measures in place to keep us safe.

A control measure is any item or process meant to eliminate or mitigate a danger. In manufacturing environments, these include:

- Cut-resistant gloves
- Machine guards
- Lockout/tagout procedures
- Guardrails and personal fall arrest systems
- Ergonomic equipment and work practices
- Earplugs and earmuffs
- Faceshields and safety glasses
- Steel toe boots and shoes

You should perform a hazard assessment on all activities your employees engage in, not just the ones with obvious risks. Figure out where there is any potential for injury and whether there are control measures in place.

Once a hazard has been uncovered, your next step is to conduct a risk analysis to understand the risks associated with it.

## RISK ANALYSIS

With a risk analysis, you'll give every identified risk a numerical value. This will allow you to prioritize your efforts and address the most pressing safety needs first.

Rate the risks based on three factors:

**EXPOSURE**

**SEVERITY**

**PROBABILITY**

Rate each from 1 to 10:

**Low Risk: 1, 2, or 3**

**Moderate Risk: 4, 5, 6, or 7**

**High Risk: 8, 9, or 10**

Then, multiply the risk ratings for all three factors to get the score for the individual work task.

Let's run through an example so we can see what this looks like in practice.

Each shift, the employees in one department have to climb a ten-foot ladder to check equipment located on a mezzanine.

**Risk:** Falling off the ladder to the mezzanine.

- Exposure: They must go up and down the ladder once an hour – Risk Score = 7
- Severity: A fall could result in severe injury and possibly a fatality – Risk Score = 8
- Probability: Going up a ladder does not often result in injury, but workers are performing the task several times a shift, increasing the likelihood of an incident – Risk Score = 4

Risk Assessment Score = Exposure x Severity x Probability = 7 x 8 x 4 = 224.

After all the risks are assessed and rated, prioritize corrective action based on which risk received the highest score.

If you're having trouble identifying hazards in your workplace, use the following approaches:

- **Facility Hazard Inspections (Safety Walks):** Have competent people use a safety inspection checklist to perform regular safety audits throughout the facility.
- **Activity Hazard Assessments:** Identify all activities that take place in the factory, from the shop floor to the warehouses and loading docks. Capture every activity and review each for hazards, including:
  - Do employees handle sharp objects and face possible cuts and lacerations?
  - Are employees working with chemicals that might require PPE?
  - Do employees require protection from caught-between hazards, fall hazards, or electrical hazards?

- **Bonus Tip:** Many manufacturers use flow charts of work activities as part of their efforts at continuous improvement (essentially, looking for better ways to save time and money, even a small amount). Simply add safety to these activities. It makes sense: you don't want to make a change without understanding what consequences it could have for the safety of your employees.

## HEALTH HAZARDS

---

Potential health concerns need to be taken into account as well. These can come in a number of different forms, including:

- Exposure to substances (asbestos, silica, harmful chemicals)
- Repetitive work that affects workers over time (carpal tunnel syndrome, back problems, musculoskeletal disorders)
- Exposure to unsanitary environments (increased risk of infection and transmission of diseases)
- Exposure to extreme weather conditions
- High stress

Monitor, assess, and manage these health hazards the same way you do physical safety hazards. Once the risks are identified, possible assessments might include noise control studies or annual air sampling. Using trained professionals and third parties to perform safety inspections will ensure that no hazard goes overlooked.

Once you've uncovered these dangers, it's time to figure out how to control them. And your first step to doing this will be to follow OSHA's hierarchy of hazard controls.



## HIERARCHY OF HAZARD CONTROLS

---

The hierarchy of hazard controls gives you a systematic way of running through control measures to find the one that will adequately reduce the risk presented by some danger in the workplace.

The hierarchy has five items, arranged in order as follows:

- **Eliminate** the hazard
- **Substitute** the risk for a lesser one
- Implement **engineering controls**
- Implement **administrative controls**
- Supply **personal protective equipment** to all exposed employees

Employers should first attempt to control the hazards with the higher methods on the list and only move on to the other measures if they are impossible, inadequate, or unreasonably impractical. In many cases, more than one control method will be required.

For instance, if workers use a very harsh chemical, start by evaluating whether it can be eliminated. If the work task requires the use of chemicals, move on to the second item: can it be substituted for a lesser risk? For example, the harsh chemical could be replaced with one that emits fewer harmful fumes or one that is less corrosive. (Notice that even if substitution is possible, it's unlikely to be adequate on its own and employees will still require adequate PPE for using the less harmful chemical.)

## PRODUCT SHOWCASE

## RESPIRATORY PROTECTION

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



NX952



NX952V



## Respirator, Valved, Contoured – Model# NX952 and NX952V



The Cordova Safety Products brand Class N952 particulate respirator filters fine particulates. It is equipped with a cushioned nose pad, two latex-free straps, and an adjustable, aluminum nose piece. The NIOSH-Approved N95 respirator is designed to achieve a close facial fit and very efficient filtration of airborne particles. The respirator blocks at least 95% of very small (0.3 micron) test particles. Assigned Protection Factor: APF 10. Item#: NX952V. Also available without valve: #NX952.

## 4200 N95 AirWave® Series Particulate Respirator



AirWave® is the next wave in respiratory protection – a revolutionary step forward from today's disposable respirators. Its patent pending wave technology allows easier breathing for cool comfort, providing the protection you need all day long. Plus, it delivers on the Moldex® commitment – comfortable, durable respirators that increase compliance and decrease costs.

## Features

- Exclusive easy-breathing wave design
- Less resistance, better breathability
- Less cost than valved respirators
- Dura-Mesh shell resists collapsing in heat and humidity
- Longer wear means less cost
- Softspun® lining for increased comfort and durability.
- Soft foam nose cushion and contour shaped for comfort
- Pinch free nose bridge
- Meets heat and flame resistance in accordance with ANSI/ISEA 110-2009
- Made in USA



## Safety Works® - N100 Particulate Disposable Respirator - 3 Pack



## Product # SWX00397

NIOSH approved N100 Particulate Disposable Respirator, designed in cup style with exhalation valve. Effective against all solid particulates.



## PRODUCT SHOWCASE

# LOCKOUT/TAGOUT

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



### SlimView™ Group Lock Box



Good things come in small packages. The SlimView Group Lock Box reduces the space you need for group lockout or box storage. An innovative recessed door allows padlocks to hang straight, meaning space-saving efficiency for you.

- Rugged steel body and polycarbonate door stand up to all of your toughest jobs
- Clear door gives you clear view into everything you need during your group lockout
- Convenient storage with built-in padlock and key hangers
- Room for a dozen—storage space for up to 12 padlocks
- Easy to wall mount with button mount holes



### Portable Lockout Kit



Contains:

- (1) 13" Rugged polypropylene carrying case
- (3) 1 1/2" Lockout hasps
- (3) 3/4" Shackle padlocks
- (16) ID labels (IDL1)
- (1) 10/pack of LOTAG10 Tags
- (3) Single pole circuit breaker lockouts
- (2) Double pole circuit breaker lockouts
- (1) Large plug lockout
- (1) Lockout handbook

## PRODUCT SHOWCASE

## PROTECTIVE CLOTHING

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



## DEFENDER™ Series Coveralls - Model# CP



Cordova Safety Products brand DEFENDER™ protective clothing is constructed of tough, composite fabric that combines breathable microporous film and soft non-woven polyolefin. It provides an effective barrier against particulates, aerosols, and liquids while maintaining comfort. It is designed for work environments where hazardous and non-hazardous liquid and dry particulate contaminants may be present. This DEFENDER™, microporous, disposable coverall features serged seams, a zipper front and collar and open wrists and ankles.



## Tyvek® 400, TY120S Coverall



The lightweight, durable protection of Tyvek® keeps out workplace hazards like mold, fiberglass, lead, asbestos and aerosols—even light chemical splashes and radioactive dust. Yet it breathes to keep you comfortable all day long. Whatever the job, there's a Tyvek® garment to fit your needs.



## MicroMax NS CoolSuit Coverall



MicroMax NS protection you need from dirt, dust, grease, grime and light chemical splash with the addition of a breathable back panel for the most comfortable coverall around. Attached hood and elastic wrists provided added protection.



## Hi-Vis FR Control 2.0™ Base Layer Tee - Type R Class 2



Our FR Control 2.0™ is built to tackle both hot and cold temperatures. This flame resistant base layer offers the most advanced fabric technology allowing it to actively respond to conditions and assist in regulating body temperature. Want to know more about this FR tee? Contact us via email or give us a call at 800-553-0672. - Product Code: BSTJTRC2 Arc Rating: 4.0 cal/cm<sup>2</sup>.

## Standards:

- ANSI/ISEA 107 Type R Class 2
- Compliant to ASTM F1506 for Arc Flash
- Compliant to CSA Z462 for Arc Flash (Canada)
- Compliant to NFPA 70E for Arc Flash
- OSHA 1910.269

## Fabrics:

- 5.5 oz Modacrylic Blend

## Features:

- 3M™ Scotchlite™ FR Silver Segmented Material
- Anti-microbial fabric to resist odors
- Moisture Wicking & Breathable
- More stretch for a customized fit
- Reduces perspiration
- Inherently flame resistant
- Proactively regulates body temperature
- Tagless shirt collar

## PRODUCT SHOWCASE

## ARC PROTECTION

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



## 40 Cal ArcGuard® RevoLite™ Arc Flash Kit

NATIONAL  
SAFETY APPAREL

Chock full of premium options, our RevoLite™ Arc Flash Kit is our lightest weight 40 Cal arc flash PPE. Conveniently packed in one bag, all of the 40 Cal protection you need is close at hand.

Product Codes: KIT4SCLT40 - Standard Kit ; KIT4SCLT40NG - Kit Without Gloves. Arc Rating: 40 cal/cm<sup>2</sup>

## Standards:

- Compliant to CSA Z462 for Arc Flash (Canada)
- Compliant to NFPA 70E for Arc Flash
- Compliant to OSHA 1910.269
- Compliant to ASTM F1506 for Arc Flash

## Fabrics:

- ArcGuard® RevoLite™

## Features:

- Available with inside drawstring waist
- Breathable FR fabric
- Collar can be turned down
- FR Fabric will NOT melt, drip, or ignite
- Inherently Flame Resistant for FR protection that will NOT wash out
- Nomex® Knit Wrists
- Premium anti-fog & scratch resistant coating on faceshield

- PureView™ faceshield technology features a greater range of visibility
- Quick disconnect and easy adjustable shoulder straps for quick entry
- Raglan Sleeve for increased mobility
- Wide-cut legs with FR hook and loop cuff closure

## Kit Includes:

- 12" Leather Protectors
- Class 2 Rubber Voltage Gloves
- Glove Bag
- Hood Bag
- Large Gear Bag
- Revolite™ Bib Overall
- Revolite™ Short Coat
- Safety Glasses
- PureView™ Faceshield with hood and hard hat

Product # 355-2500AR



## FALCON™ VizAR™ - AR/FR ANSI Type R Class 3 Heavy Duty Waterproof Breathable



FALCON™ VizAR is a Type R Class 3 heavy duty jacket that is waterproof and breathable. Designed with water-tight "D" ring harness access, this jacket is ideal for work environments like HVAC, welding, hybrid auto mechanics, and petrochemical.

## PRODUCT SHOWCASE

## ERGONOMIC MATTING / ERGONOMICS

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



## ProFlex® 1650 Economy Elastic Back Support



The ProFlex® 1650 Elastic Back Support Brace is designed to remind workers of proper lifting techniques while also enhancing the body's intra-abdominal pressure, moving the stress away from the spine for back pain relief.

- 7.5in economical, all-elastic body
- 5in (12.7cm) single strap closure
- Non-conductive polypropylene stays
- Adjustable, detachable suspenders
- Rubber track webbing

## PRODUCT SHOWCASE

# HEAD PROTECTION

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



H24R2V



H34R2V



### Duo Safety™ Hard Hat Cap model# H24R2V and Full Brim model# H34R2V



The Cordova Safety Products Duo Safety™ hard hats are constructed of high-density polyethylene. Available in vented cap-style and also full-brim models, they offer a sleek, low-profile. These hard hats are equipped with 4-point ratchet suspension. It has a cushioned brow pad, vertical height adjustment, and meets ANSI/ISEA Z89.1-2014 Class E (Electrical) & G (General). They are available in several colors. Cordova Safety Products can also customize it with a high-quality, permanent pad-printed logo.



### Evolution® Deluxe 6161 - Full Brim Hard Hat with HDPE Shell, 6-Point Polyester Suspension and Wheel Ratchet Adjustment



Evolution® Deluxe Full Brim Hard Hat designed with Revolution™ Wheel Ratchet for secure and comfortable fit. High-Density Polyethylene (HDPE) shell and 6-Point suspension system offer unrivaled comfort without compromising performance.

## PRODUCT SHOWCASE

## HEARING PROTECTION

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



EPFU01



EPFC01



## Encore™ - Disposable, Foam Ear Plugs



The Encore™ line of ear plugs offer a soft, comfortable fit and optimal hearing protection with a 32 decibel noise reduction rating. These foam polyurethane (PU) ear plugs expand to fit snugly within the ear canal. The tapered design allows for easy insertion/removal and the bright orange color makes compliance checks easy. The corded model has a convenient cord that keeps them safe around the neck when not in use. Encore™ PU earplugs are produced in an ISO 9001:2000 Certified Facility to ensure consistent quality and performance.

## Glide® Foam No Roll Twist-In Earplugs - NRR 30dB



Glide Foam earplug's unique multi-curved stem helps the plug to turn its way inside the ear canal for a quick and effortless fit. You simply push & twist to find your fit. The no roll down design is perfect for workers with dirty hands or wearing gloves. Glide, like all Moldex products and packaging, is 100% PVC-Free for a greener alternative. Plus, Moldex offers the convenience, increased compliance and cost savings of our popular earplug dispenser, the PlugStation with Glide Foam earplugs with cord.

Features:

- Unique multi-curved stem rotates for a custom fit
- Large handle on curved stem for easy insertion & removal
- No roll down design is perfect for workers with dirty hands or wearing gloves
- Cord can be attached at any desired length
- Look for the bright green color as a symbol of Moldex quality
- Independently tested to ANSI S3.19-1974
- 100% PVC-Free, like all Moldex products & packaging - for a greener alternative
- Large soft foam pod for a comfortable, snug seal
- Made in USA



## PIP® - Disposable Polyurethane Foam Corded Ear Plugs - NRR 32



Soft polyurethane foam disposable ear plugs in bright orange color with NRR of 32 dB is amongst the highest in its class. Each pair comes individually wrapped.



## PRODUCT SHOWCASE

## FIRST AID / SOAPS / CREAMS / AED

PREFERRED SAFETYNETWORK.ME MANUFACTURERS

**SCJohnson**  
PROFESSIONAL.  
A family company™



**FIRST AID ONLY**

**Honeywell**  
THE POWER OF CONNECTED



**ZOLL**



### PIP® - ANSI Class A Metal First Aid Kit - 50 Person



Compact and lightweight first aid kit with gasket for weatherproof protection of contents. Meets ANSI Z308.1-2015 requirements only when the required minimum fill is maintained with first aid products marked ANSI Z308.1-2015.

## PRODUCT SHOWCASE

## FACILITIES MANAGEMENT, MAINTENANCE, &amp; IDENTIFICATION

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



## Keep Aisles Clear Walk on Floor Sign



Specs:

- Message Type: Accident Prevention
- Message or Graphic: Message Only
- Legend: Keep Aisles Clear
- Color: Green on White
- Special Color Properties: No Special Properties
- Material: Pressure-Sensitive Vinyl
- Shape: Round
- Diameter: 17 Inches (Size 17" x 17")
- Surface Type: Anti-Skid
- Language: English
- Mounting: Adhesive Backed
- Coating: Anti-Skid Laminate
- Special Features: Grit Coating

## PRODUCT SHOWCASE

# EYE PROTECTION

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



### SLAMMER II™ Safety Glasses - Clear, Anti-Fog – Model# EOTG10ST



Cordova's SLAMMER II™ safety glasses are designed to fit over prescription eyewear. They are slightly smaller than the SLAMMER™ glasses, offering a sleeker, lower profile design. These provide anti-fog protection and a wrap-around style with brow guard, integrated side shields, and coated (scratch-resistant) lens. They meet ANSI Z87.1+ standards and provide 99.9% UV protection. Check out our entire collection of SLAMMER glasses.



### Skullerz® Sköll Safety Glasses



Sköll is a sleek half frame “blade style” model with all the style and features you’ve come to expect from Skullerz® eye protection at an outstanding value. Flexible rubber temples and non-slip nose piece.

- Meet ANSI Z87.1+, CSA Z94.3 & MIL-PRF 32432 Ballistic Impact
- Scratch-resistant lens blocks 99.9% of harmful UV Rays
- Single lens, blade-frame design provides wide field of vision and coverage
- Rubber temple tips and non-slip nose piece provides a snug, comfortable fit
- Available Fog-Off™ technology won't wash or wear off
- Patent pending

Product # 250-54-0520



### Fortify™ - Rimless Safety Glasses with Gray Frame, Clear Lens, Foam Padding and Anti-Scratch / FogLess® 3Sixty™ Coating



Fortify™ Rimless Safety Glasses with Gray Frame, Clear Lens and Foam Padding. Lightweight, comfortable foam-sealed design keeps out dust & airborne particles. Enhanced FogLess®3Sixty™ version includes interchangeable headband.

## PRODUCT SHOWCASE

## HAND PROTECTION

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



### COMMANDER HV™, HPPE/Glass/Steel, A7 - Model# 3732HV



High-performance polyethylene (HPPE) gloves with added steel and/or glass fibers offer an increased cut resistance over gloves made with HPPE only. The Cordova-brand COMMANDER HV™ glove features a 13-gauge, hi-vis yellow HPPE/Glass/Steel fiber shell with a red, sandy nitrile palm coating for added gripping power. It offers an A7 cut level. [View all COMMANDER-brand gloves.](#)



### ProFlex® 7041 Level 4 Cut-Resistant Gloves



The ProFlex® 7041 Hi-Vis Level 4 Cut-Resistant Gloves are designed with two new technologies to create the most comfortable, breathable and best gripping ANSI cut level 4 gloves on the market.

- TenaLux™ yarn (13 gauge) provides A4 cut protection without fiberglass or steel for non-irritating comfort
- WSX™ dip technology provides superior grip in oily and wet conditions
- WSX™ dip combined with TenaLux™ yarn is fully breathable and cool to the touch
- Hi-Vis lime color for increased visibility
- Machine washable



### ArcGuard® Rubber Voltage Gloves Class 00, 0, & 2



Available in classes: 00, 0 and 2 and are available in colors: Black, Yellow & Red

NATIONAL SAFETY APPAREL ArcGuard® Rubber Voltage Gloves/Kits Meet:

- NFPA 70E-2015 Compliant for Arc Flash
- CSA Z462-15 Comp

NSA offers three different levels of protection for our ArcGuard® Rubber Voltage Gloves:

- Class 00 - Max Use Voltage 500V AC/750V DC
- Class 0 - Max Use Voltage 1000V AC/1500V DC
- Class 2 - Max Use Voltage 17000V AC/25500V DC

ArcGuard® Rubber Voltage Glove Kits

- Available in classes: 00, 0 and 2
- Available in colors: Black, Yellow & Red
- Kit Includes: Rubber Voltage Gloves, 10" Leather Protectors, & Glove Bag

Product # 16-368



### G-Tek® PolyKor® X7™ - Seamless Knit PolyKor® X7™ Blended Glove with NeoFoam® Coated Palm & Fingers - Touchscreen Compatible



G-Tek® PolyKor® X7™ Seamless Knit PolyKor® X7™ Blended Glove with NeoFoam® Coated Palm & Fingers - Touchscreen Compatible.

## PRODUCT SHOWCASE

## FOOT PROTECTION

PREFERRED SAFETYNETWORK.ME MANUFACTURERS

**Boots, PVC, Steel Toe – Model# PB22**

PVC Boots resist solvents, animal fats, light acids, alcohols and oil-based chemicals. They feature cut-off bands for height adjustment, punch-out holes for easy hanging, and kick-off spurs for quick removal. In addition, these black Cordova Safety Products-brand PVC boots provide steel toe and midsole, are polyester/cotton lined for comfort and are equipped with EVA (ethylene vinyl acetate) insoles for excellent shock absorption.

**ProShield® 30, PE440S Shoe Cover**

DuPont Personal Protection offers a range of shoe covers and boot covers in a variety of fabrics, sizes, colors, and slip resistance for a variety of applications. Whether you need an economical shoe cover for a dirty job, or a low-linting, sterile boot cover with enhanced durability and slip resistance for a cleanroom, DuPont Personal Protection has a solution for you.

**TREX™ 6300TC One-Piece Tungsten Carbide Ice Traction Device**

One-piece device with 8 highly durable tungsten carbide studs that stretch over shoes or boots for tenacious grip & stability. These lightweight ice cleats provide unbeatable traction and are ideal for work and leisure outdoor activities in the ice and snow.

- Full-foot slip protection over shoes, boots and athletic shoes
- 8 rugged, highly durable tungsten carbide steel studs for tenacious grip & stability
- Stretchable rubber with heel tabs for perfect fit and easy on/off
- Lightweight and stays flexible in temperatures as low as -40°F (-40°C) for all day comfort
- Compact size makes them easy to store
- TRES® 6301TC Replacement Studs sold separately

## PRODUCT SHOWCASE

## FOOT PROTECTION

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



## Men's Manchester 6'' WP (Aluminum Toe)



This 6'' hiking-inspired work boot is built for light construction, featuring KEEN.ReGEN midsole cushioning to carry you through the day. With waterproof leather upper, slip-resistant outsole, and aluminum toe.

## Features

- Left and Right Asymmetrical Aluminum Toes
- KEEN.DRY Waterproof, Breathable Membrane
- Waterproof Leather Upper
- TPU Shank for Midfoot Support
- KEEN.ReGEN: A Lightweight, Compression-Resisting Midsole
- Oil- and Slip-Resistant Non-Marking Rubber Outsole
- Locking Metal Lace Hooks
- Reflective Webbing for Additional Safety and Visibility
- Removable Metatomical PU Footbed
- Cleansport NXT™ for Natural Odor Protection

## Safety Rating

- Meets ASTM F1677-96 MARK II Non-Slip Testing Standards
- Meets ASTM F2412-17 and F2913-17 M I/75 C/75 EH Standards
- Meets ASTM F2913-17 SATRA Non-Slip Testing Standards



## MicroMax NS Non-Skid Boot Cover

**Lakeland** MicroMax NS provides the protection you need from dirt, dust, grease, grime and light chemical splash with the added benefit of a non-skid surface to give these boot covers added grip.

## PRODUCT SHOWCASE

## COOLING / HEATING / HYDRATION

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



## Chill-Its® 6687 Economy Dry Evaporative Cooling Vest



The Chill-Its® 6687 Dry Evaporative Cooling Vest offers immediate and dry cooling relief that lasts up to three days. With its exclusive patented dry evaporative technology, this cooling vest keeps the wearer completely dry and comfortable, as opposed to other cooling vests on the market that require soaking and get you wet.

- Instant cooling relief with patented technology
- Long-lasting effect: Up to 3 days of cooling power to help maintain a healthy body temperature
- Easy activation: Fill vest with 13.5oz - 15.5oz / 400ml - 450ml of water
- Lightweight and durable made of industrial grade quality nylon
- Elastic wrap closure for personalized fit
- Machine washable
- Cooling material is treated with an anti-microbial that inhibits mold growth. Keep cap closed at all times to maintain vest's effectiveness. Do not clean the inside reservoir.

Product # 396-EZ900



## EZ-Cool® Max - Evaporative Cooling Towel



EZ-COOL® Max Evaporative Cooling Towel. Quickly reduces temperatures when soaked in water and activated to provide cooling effect. Provides UV protection and resists odors.



## EverLyte™ 8 oz pouch



Don't settle. Demand more from your electrolytes. New EverLyte™ by Sqwincher® offers a convenient beverage to replenish electrolytes with no color or dye, no preservatives, and no artificial sweeteners. Simply chill and serve to enjoy a tasty electrolyte beverage.

Sqwincher® EverLyte™ 8 oz pouches are a quick & convenient method to replenish your electrolytes and rehydrate with less calories and sugar than regular Sqwincher®. Simply chill and serve to enjoy a tasty 8 oz serving of electrolyte replenishment beverage.

## EVERLYTE™ FORMULA FEATURES &amp; BENEFITS:

- No artificial sweeteners - 100% REAL Sugar
- No High Fructose Corn Sweetener
- No artificial flavors - Naturally flavored
- No chemical preservatives
- No artificial dyes or colors to eliminate staining

## EVERLYTE™ POUCH FEATURES &amp; BENEFITS:

- Reduced product waste
- Sleek design - easy to carry, easy to consume
- Less time and space required to cool product
- Easy to distribute to employees
- Non-resealable package

## PRODUCT SHOWCASE

## FALL PROTECTION / CONFINED SPACE

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



**Honeywell**  
THE POWER OF CONNECTED



## Squids® 3194 Hand Tool Tethering Kit - 1lb / 0.5kg



The Squids® Hand Tool Tethering Kit includes a 3156 Coil Tool Lanyard with Single Carabiner and the 3740 Hand Tool Attachment Trap – Slips™ Variety 4-Pack. This tool tethering kit allows you to tether four different sized screwdrivers and hex key wrenches making it easy to use your tools on the job while preventing dropped objects when working at-heights.



- Approved to the ANSI/ISEA 121-2018 standard
- Kit includes:
  - One Variety 4-Pack 3740 Hand Tool Attachment Trap – Slips™
  - One 3156 Coil Low Profile Tool Lanyard with Single Carabiner
- Tether four different sized screwdrivers and hex key wrenches ranging from 0.05in - 0.5in // 1.3mm - 12.5mm diameter
- Maximum tethering capacity of up to 1lb / 0.5kg
- 3740 Slips™ features:
  - Patent-pending one-piece design easily slides onto small hand tools without requiring additional tools to install or complicated wrapping or shrinking
  - Swiveling exterior ring spins 360-degrees allowing screwdrivers and other rotating tools to be used without issue
  - Flexible inner core grips tool after application securing it as an attachment point
- 3156 Coil Lanyard features:
  - Low-profile durable plastic coil to withstand even the toughest conditions
  - Coiled lanyard design prevents snag and tangle hazards
  - Lightweight aluminum carabiner with manual locking screw gate
  - Tethering loop to securely connect to an anchor or tool attachment
  - Coiled length 12in / 30cm; extended length 48in / 122cm

## PRODUCT SHOWCASE

## AWARENESS SAFETY

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



TINGLEY



### Safety Vest, COR-BRITE™, Type R, Class 3, FR – Model# VB3201FR



This Cordova Safety Products brand COR-BRITE™ Type R, Class 3 safety vest is constructed of lime, mesh, self-extinguishing fabric. It features a five-point, breakaway design, two-tone contrasting tape, and hook & loop closure. It provides a clear badge holder, dual mic tabs, and pockets. Class 3-rated vests offer greater visibility to workers in complex backgrounds and through a full-range of body movements.



### GloWear® 8346Z Two-Tone Hi-Vis Class 3 Surveyor Vest



The GloWear® 8346Z Two-Tone Hi-Vis Class 3 Surveyor Vest is loaded with six pockets and built with durable, yet breathable ANSI/ISEA compliant polyester mesh providing maximum visibility for any job in both daylight and nighttime conditions.

- Durable and breathable polyester mesh (3.3 oz./112 gsm)
- Zipper front closure for easy on/off
- 2" wide reflective tape set on 3.5" contrasting background for ultimate visibility
- Reflective trim outlines the whole vest enhancing visibility
- Quick access to mic tabs/safety glasses holder
- 6 Easy Access Pockets
  - 1 upper left exterior dual layer flap top cell phone pocket + clear ID badge holder
  - 1 upper right exterior dual layer chest pocket with 4 pen holders + open top pocket
  - 2 large lower exterior flap top pockets
  - 2 large lower interior pockets
- Meets ANSI/ISEA 107-2015 Type R Class 3 standard

PRODUCT SHOWCASE

EYEWASH

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



INSTRUMENTATION

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



CALIBRATION/GAS INSTRUMENTS/CASES

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



CLEANROOM WIPERS AND MATS

PREFERRED SAFETYNETWORK.ME MANUFACTURERS



JANITORIAL SUPPLIES TOWELS, TISSUE & WIPERS

PREFERRED SAFETYNETWORK.ME MANUFACTURERS





**SEE** Safety  
Equipment  
Expert

## WHAT'S THE ADVANTAGE OF WORKING WITH A SAFETYNETWORK.ME DISTRIBUTOR?

SafetyNetwork exclusively supports Independent Safety Distributors who prove to have a "DNA Match" with the membership's Core Values:

### Safety-First

- Safety Products & Services Solution Providers makes up >60% of Business

### Safety Expertise

- Extensive Safety Sales Training. Enrolled in 150+ Hour Safety Equipment Expert (SEE) Certification

### Service Oriented

- Flexible Business that Prioritizes Customer Service over SOP
- Regularly part of Customer's Safety Team

**This DNA has proven to provide excellent customer satisfaction.**

*"We rely on Independent Safety Distributors because they can be proactive in making our worksites safer by providing training, suggesting products, and offering other insights that general distributors cannot do."*

— Rodd Weber, Corporate Safety Director, PENTA Building Group



**SafetyNetwork.me**  
THE PARTNERSHIP THAT WORKS

If you're in or associated with the safety industry – whether you wear, move, or make safety equipment – SafetyNetwork.me is for you!

# Training

You can implement the best safety controls, but you still won't get much out of them if your workers don't know about them. That's why OSHA requires employers to provide their workers with comprehensive safety training.

Once you've identified hazards in your workplace, you must ensure that every employee is trained to recognize these hazards and understand the control measures put in place to keep them safe.

Good recordkeeping also matters. Record and file any and all training administered. Not only will this help you manage the training and know when refresher training is required, it also gives you a way to show proof of compliance. If recordkeeping sounds daunting, there are quality apps and software that can make the work a lot easier.

## REQUIRED SAFETY TRAINING

Your annual training needs will be based on the hazards that were identified by your hazard assessments.

Companies in the manufacturing sector are likely to deal with training topics such as:

- Bloodborne pathogens
- Excessive noise
- Lockout/tagout
- Confined spaces
- Ergonomic injuries
- Respiratory hazards
- Fall protection
- PPE

If you're wondering when an employee needs safety training, the answer is simple: before they go to work on any new job or are about to face a hazard for which they haven't received training. Employers who don't provide adequate training may be considered negligent for placing their employees in harm's way, which could harm the company's reputation, finances, and the morale of the workforce in the event of an accident.

Some safety topics will require stand-alone programs, including:

- **Hearing Conservation:** Covers the harmful effects of prolonged exposure to loud noise and outlines steps to protect one's hearing in noisy work environments.
- **Powered Industrial Trucks:** Managing and safely operating forklifts, electric pallet jacks, and other similar vehicles.
- **Respiratory Protection:** Training in the use, inspection, and fit testing of respirators.

While this sounds more complicated than using one overall safety training program, in reality, it is a very manageable approach. Safety training needs to cover a lot of ground, so you shouldn't rush through it.

## BEHAVIOR

---

Let's face it, when employees show up on the factory floor, they're probably not thinking safety. They're thinking about the work. They're thinking about what they get paid to do and how their work will be measured. It's all about performance, which means:

- Production volume
- Shrinkage or scrap rates
- Machine or assembly line downtime
- Quality
- Delivery

That's going to create some safety vs. production dilemmas, and you need to address these. This means that safety rules must be enforced as part of normal working practices. We're quick to normalize behavior – good or bad. When safe work practices are made part of your production system, they become the norm, the way people work in your factory.

When encouraging safe behavior, be sure to focus on leading indicators of safety.

Accidents, near misses, and other safety events that have already happened are lagging indicators. They're helpful information, but they're limited. They show you what your safety performance was like, but they don't give you a good indication of what it will be like in the future.

Wearing PPE, adhering to safety rules, and conducting safety inspections are all leading indicators of safety. They're the kinds of things that make it less likely that an incident or accident will occur.

Leading indicators, in other words, predict lagging indicators. The more leading indicators are in place, the less fewer lagging indicators you should see in the future. And if you're lacking in leading indicators, you're likely to see a correspondingly higher rate of accidents and near misses.

Setting and following safe work practices are leading indicators. Do this and you're quite likely to see your accident rates go down, along with your insurance rates.

## **RULES AND ENFORCEMENT**

---

Setting rules is only the first step. Those rules also need to be enforced.

Think about it: do you always follow every little rule you encounter? Likely, the answer is no. Unless there are consequences to breaking the rules, we'll bend them when it's convenient or they don't seem important. That's why enforcement is critical.

Workers tend to have a sense of what's important to management. If safety rules aren't enforced on the production floor, that sends the message that they must not matter. Safety rules can feel constricting, like they're getting in the way of getting the job done, so there's always that temptation to ignore them. Workers need to know in no uncertain terms that production never trumps safety.

Choosing not to enforce safety rules and practices is something else that can be viewed as negligence. And neglecting to enforce safety is the same as condoning unsafe work practices.

# Incident Investigation

When safety professionals refer to an “incident,” they mean any undesirable event, such as an injury, property damage, or a near miss.

Even when incidents don’t result in serious injury or property damage (as is the case with near misses), you should take steps to avoid a future recurrence. Doing so will involve a thorough and timely investigation, a root-cause analysis, and proper recording and reporting.

You can’t turn back the clock and undo an accident, but you can learn from it. An incident investigation allows you to study the event in the hope of creating control measures that will stop them from happening again.

To perform an effective accident investigation, it’s best to have a set form to follow. This will give you a framework to follow and guide you through the process to ensure that you don’t miss anything.

Do the investigation as soon as possible after the incident, and make sure to speak with witnesses and take pictures if it’s possible.

## ROOT CAUSE ANALYSIS

Perform a root cause analysis as part of your investigation. All this means is that you’re taking the time and effort needed to find the actual cause of the incident. Locating the root cause pays off. You don’t want a quick fix that doesn’t address the real problem.

There are multiple methods you can use when performing a root cause analysis, such as the 5 Whys, Fish Bone Diagrams, Brain Storming, and using simple flow charts.

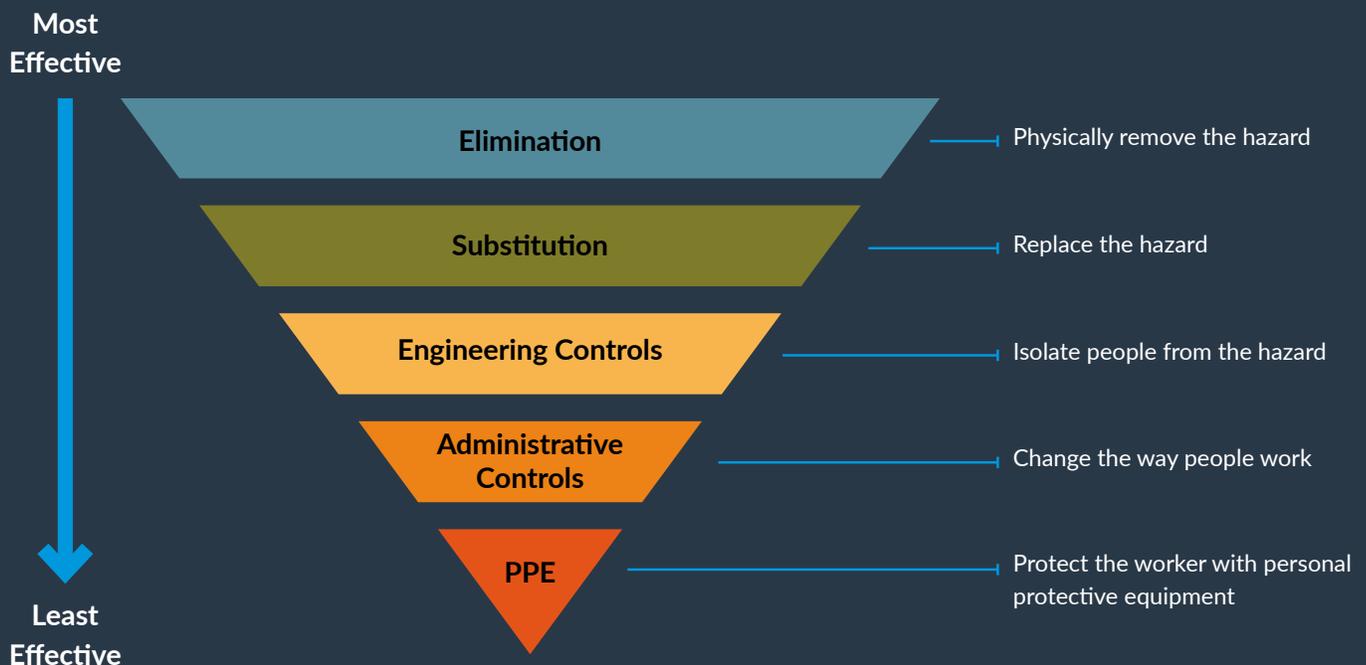
## CORRECTIVE ACTIONS

---

The corrective action is the control measure you will put in place to guard against a future recurrence. Remember to follow the hierarchy of hazard controls when focusing your efforts.

Once you've implemented the new measure, confirm that it works. Set aside some time to reevaluate it on a regular basis. Observe the control measure for a set amount of time as a trial run. Once you're sure it works, you already have the solution in place and it's just a matter of recording the observation and celebrating your success.

### Hierarchy of Controls



# Wrap Up

Each topic we covered in this paper is a component of health and safety that can be integrated into your production system.

Infusing your health and safety practices into your production management system will eliminate the dilemmas between production and safety and ensure that workers don't sacrifice safety for the sake of keeping the line going or making a few more units.

Design standard work operating procedures (SOPs) to include personal protective equipment (PPE), lockout/tagout (LOTO), and other safety controls. If safety is not part of the routine work, it might not be thought of at all, even when things get riskier.

And remember, we covered safety topics that were important to industrial manufacturing in general. But every factory or manufacturing plant is unique and will require its own hazard assessment.

## ABOUT THE AUTHOR

Bryan McWhorter is a productivity expert and safety professional with expertise in driving and teaching safety, leadership, and productivity tools. He's an accomplished author, having published 9 books and is a former national Tae Kwon Do champion.



**QUEST**   
SAFETY PRODUCTS, INC

Headquarters  
1414 S. West Street, Suite 200  
Indianapolis, Indiana, 46225  
800-878-4872 • [www.shopquestsafety.com](http://www.shopquestsafety.com)  
[SafetyCSR@QuestSafety.com](mailto:SafetyCSR@QuestSafety.com)