



BREATHE EASIER WITH THESE
Respiratory Protection
Must Haves

Our presentation begins soon!





BREATHE EASIER WITH THESE
*Respiratory Protection
Must Haves*

ICW Group Risk Management



Today's presenter

Mark Yeck

Technical Specialist, CIH, CSP

ICW Group



Respiratory Hazards Covid-19 Update

COVID-19

- Shortage of N95's often leave people looking at "KN95's"
(Kind of an N95!)
- Can upgrade to ½ face respirator with HEPA cartridges
 - *Medical Clearance*
 - *Fit testing if you can*
 - *Train on limitations – Need to know what it can and can't be used for*

Respiratory Hazards Can Be Deadly

Up to **762,000**
are diagnosed annually with
cancer caused by prolonged
exposure to **workplace carcinogens.**”

- *Centers for Disease Control and Prevention*



AGENDA:

- Cost of noncompliance
- Impact of respiratory exposure
- Top 5 most common mistakes
- Helpful resources
- Q&A



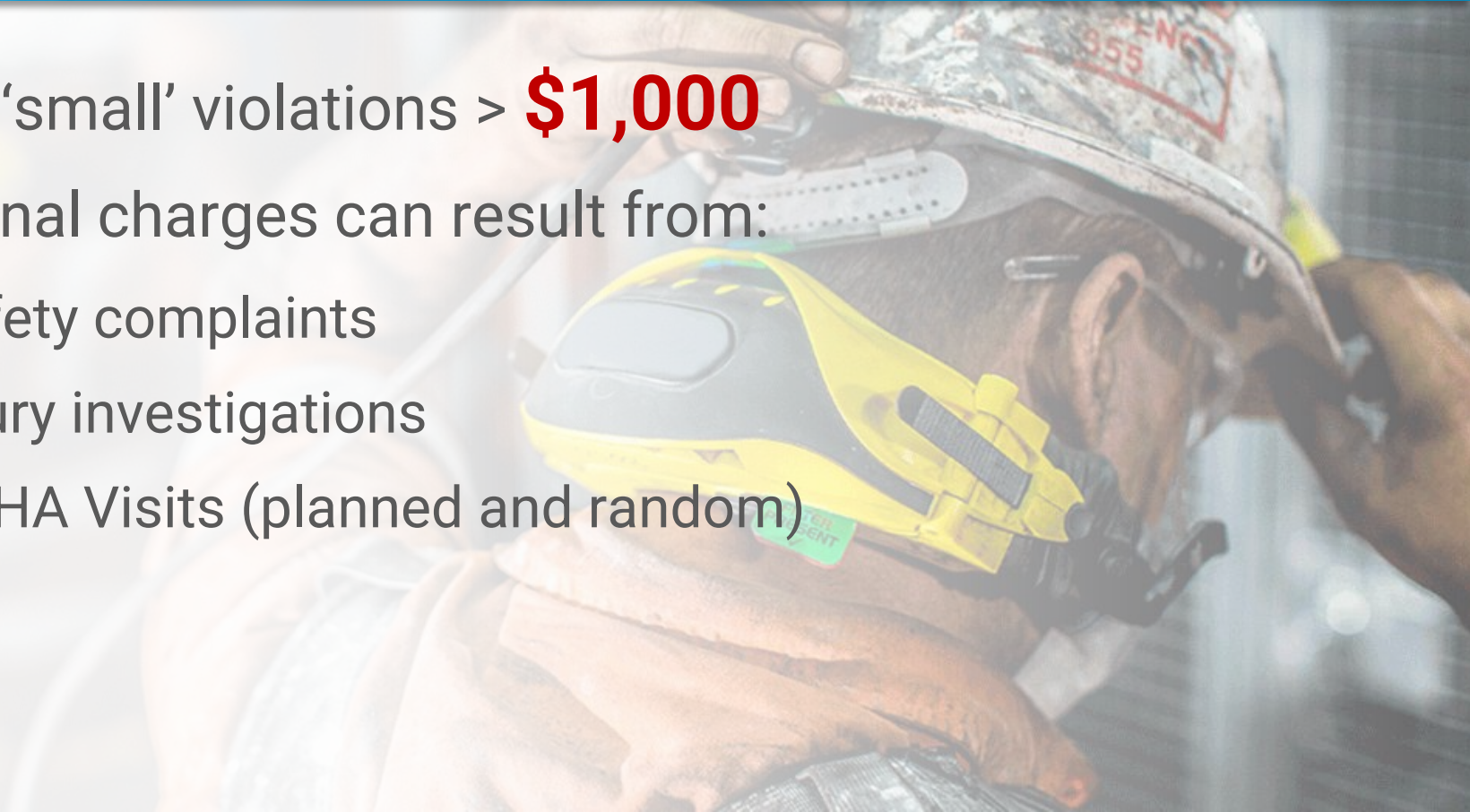
Cost of Noncompliance

Violations carry stiff penalties

Even 'small' violations > **\$1,000**

Criminal charges can result from:

- Safety complaints
- Injury investigations
- OSHA Visits (planned and random)



The wrong kind of headlines!

\$56,000 for respirator program deficiencies

\$62,000 for inadequate respiratory protection

\$152,000 for inadequate chemical protection

SAFETY AND OSHA NEWS

Did employer completely ignore workers' safety concerns?



UNITED STATES
DEPARTMENT OF LABOR



OSHA News Release - Region 1

U.S. Department of Labor

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reflect cur

Sept. 19, 20

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Daily Record

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HOME NEWS SPORTS ENTERTAINMENT OPINION ARCHIVES USA TODAY SUBSCRIBE

OSHA: Lab headquarters in Madison fined \$152K for safety violations in Conn. facility

Michael Izzo, @MizzoDR Published 4:46 p.m. ET Sept. 1, 2016 | Updated 4:50 p.m. ET Sept. 1, 20



(Photo: ~File)

f CONNECT
TWITTER
LINKEDIN
COMMENT
EMAIL
MORE

MADISON — A borough-based company is facing more than \$152,000 in fines after inadequately protecting its employees against chemical hazards, the Occupational Safety and Health Administration announced Thursday.

Employees of Quest Diagnostic Corp.'s Ameripath diagnostic laboratory in Shelton, Connecticut filed a complaint with OSHA earlier this year after growing concerns because they were experiencing sore throats, headaches, and difficulty breathing, OSHA said.

Stiff Fines!

\$1.4 Million

Amount Wisconsin shipyard faces in penalties for exposing workers to lead and other hazards.



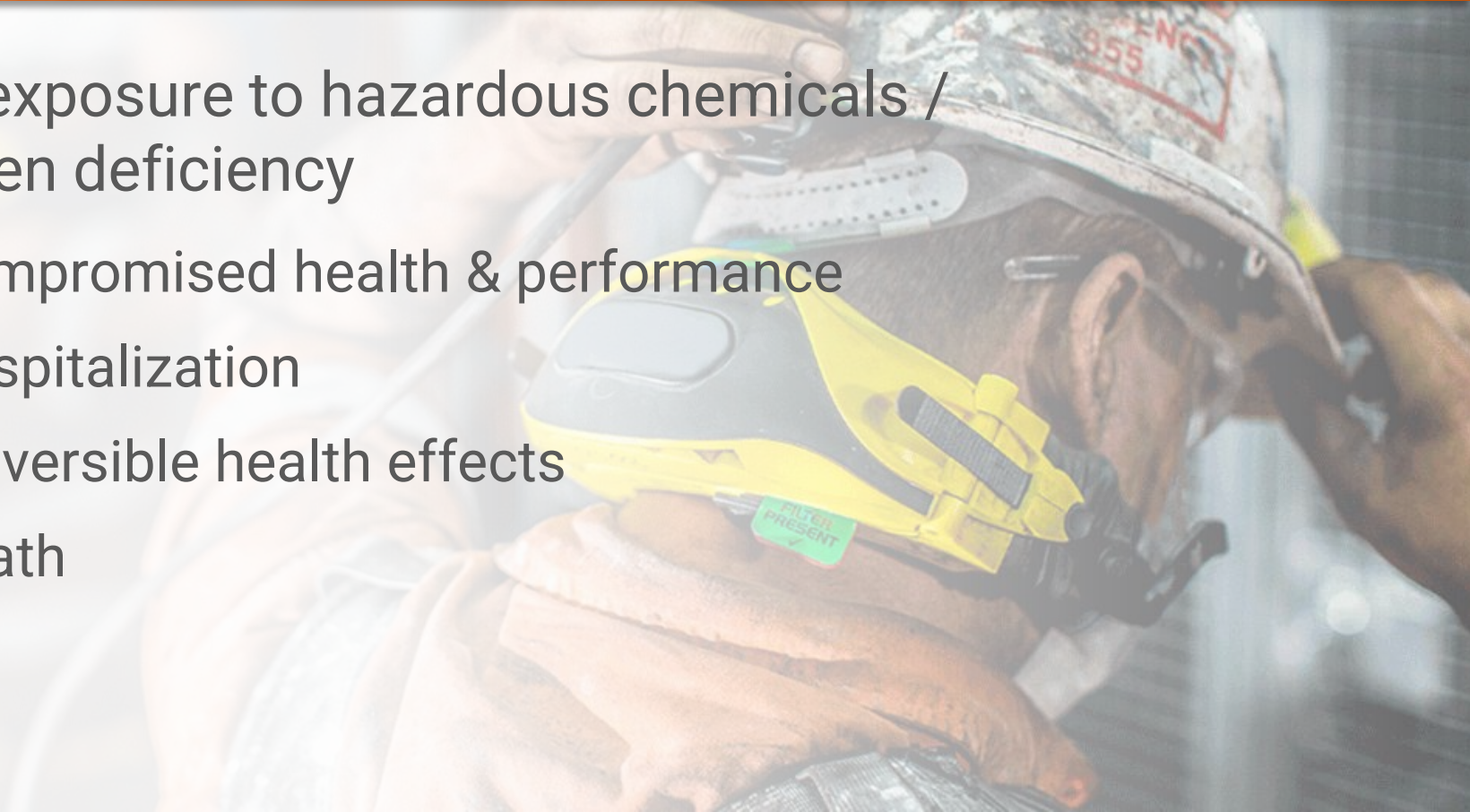


Impact of Respiratory Exposure

Impact to Employees' Health

Overexposure to hazardous chemicals /
Oxygen deficiency

- Compromised health & performance
- Hospitalization
- Irreversible health effects
- Death

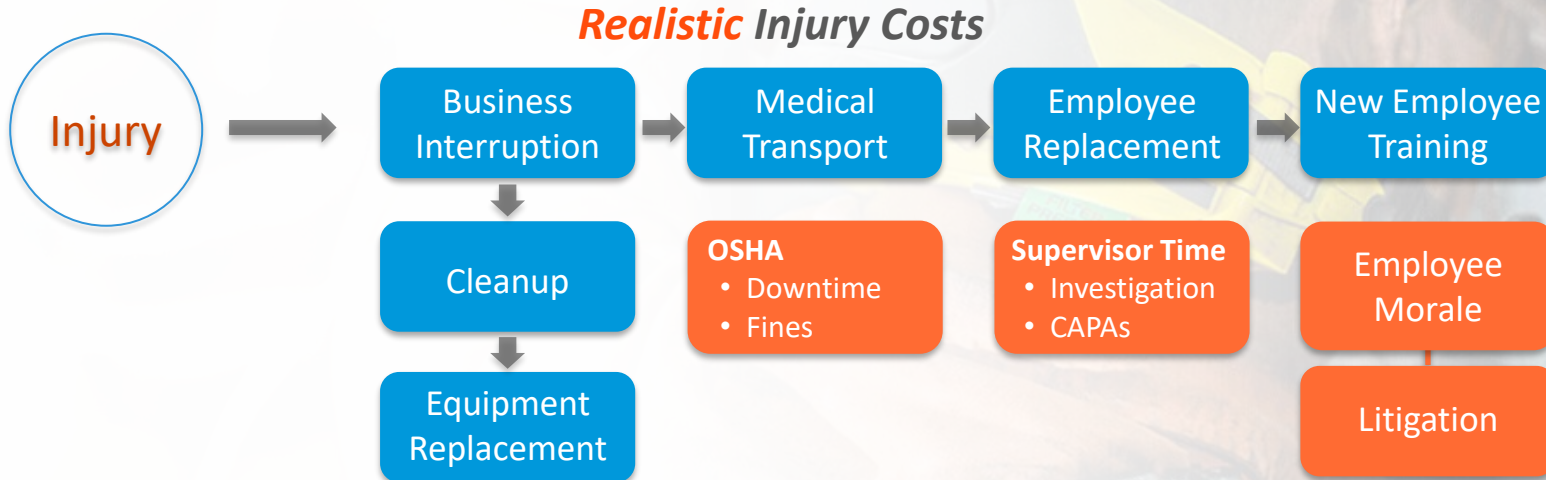


Impact to Your Organization

- OSHA Fines
- Business Interruption
- Productivity Loss
- Decline in Morale
- Company Reputation
- Costly Claims



Impact to Your Organization



Top 5 Most Common Mistakes



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 **Don't Choke On These 5 Common Respiratory Protection Mistakes**

1
MISTAKE: Misinterpreting required vs. voluntary
If exposure exists, and other precautions (such as eliminating) are unfeasible, you must implement all Respiratory Protection Program (RPP) elements.


2
MISTAKE: Not starting with the Hazard
Understand the nature and magnitude of exposure to respiratory hazards first – this is key to selecting protection equipment.


3
MISTAKE: Using the wrong respirator and cartridges
Select the right tool for the job! Match the respirator to the contaminant's chemical state & form. Or, consider it immediately dangerous to life and health (IDLH).


4
MISTAKE: Missing the required program elements
What are the elements to include? Respirator selection, Medical clearance, Fit testing, Procedures, Training, Periodic program evaluation.


5
MISTAKE: Practicing improper maintenance
Inspect respirator regularly for cleanliness and check it's in proper working order.
Your checklist should include:

- Respirator cleaned regularly
- Exhalation valve in working order
- Cartridges are appropriate and current
- Sealed fit & positive/negative pressure
- Stored properly - bag, box & secure



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2. Not starting by understanding hazard
3. Using wrong respirator and cartridges
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MISTAKE #1: Misinterpreting required vs. voluntary

Required

- Exposure risk at or above limit
- Control strategies unfeasible / too costly
- As result:
 - *All Respiratory Protection Program (RPP) elements are required to be implemented*





MISTAKE #1: Misinterpreting required vs. voluntary

Voluntary

- No exposures requiring control
- Comfort against 'nuisance' particles
- Filter face-piece (dust mask)
 - *Using respirator other than dust mask requires elements of RPP*
- Provide Appendix D of the OSHA Regulation

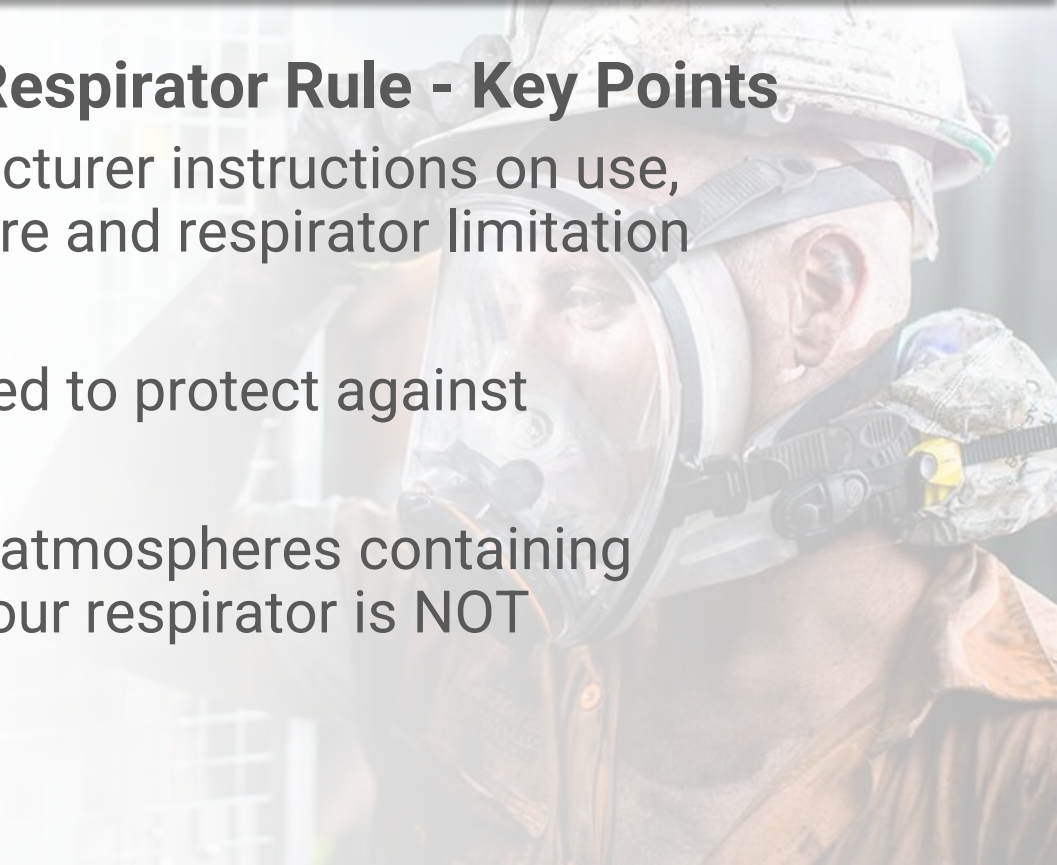




MISTAKE #1: Misinterpreting required vs. voluntary

Appendix D of the OSHA Respirator Rule - Key Points

- Read and heed all manufacturer instructions on use, maintenance, cleaning, care and respirator limitation warnings
- Choose respirators certified to protect against contaminant of concern
- Don't wear respirator into atmospheres containing contaminants for which your respirator is NOT designated to protect





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MISTAKE #2: Not starting by understanding hazard

Employers must characterize the nature and magnitude of employee exposures to respiratory hazards...

before selecting respiratory protection equipment.

- OSHA, Exposure Assessment





MISTAKE #2: Not starting by understanding hazard

Identify hazards with...

- ✓ Safety inspections
- ✓ Job hazard analysis
- ✓ Chemical inventory





MISTAKE #2: Not starting by understanding hazard

Review:

- **Identify**
 - *Materials, tasks, environment*
- **Control**
 - *Solve the solvable!*
- **Quantify**
 - *Exposure?*





MISTAKE #2: Not starting by understanding hazard

Assess risks:

- Dusts
- Fumes
- Gases
- Sprays
- Fogs
- Mists
- Smoke
- Vapors





MISTAKE #2: Not starting by understanding hazard

Evaluate:

- Engineering controls
- Administrative controls
- Isolation/substitution
- Work practices
- PPE





MISTAKE #2:

Not starting by understanding hazard

Understanding hazard first is key!

- Avoid injury, failure, fines, & operational interruptions from **'under-sizing'**
- Avoid unnecessary cost & possible safety issues from **'oversizing'**





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MISTAKE #3: Using the wrong respirator and cartridges

*Selecting the “right” tool...
depends on the job!*



or



or



or



or



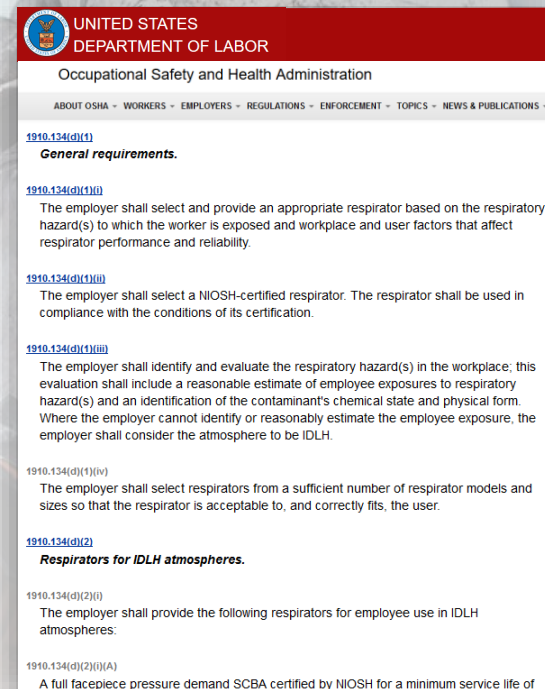


MISTAKE #3:

Using the wrong respirator and cartridges

Right respirator based on hazard:

- The employer shall identify and evaluate respiratory hazard(s) in workplace;
- This evaluation shall include reasonable estimate of employee exposures to respiratory hazard(s) and identification of contaminant's chemical state and physical form.
- Where employer cannot identify or reasonably estimate employee exposure, employer shall consider atmosphere to be **IDLH**.



The screenshot shows the OSHA website page for 29 CFR 1910.134(d)(1). The header includes the United States Department of Labor and Occupational Safety and Health Administration. The page content is organized into sections: 1910.134(d)(1) General requirements, 1910.134(d)(1)(i) (The employer shall select and provide an appropriate respirator based on the respiratory hazard(s) to which the worker is exposed and workplace and user factors that affect respirator performance and reliability.), 1910.134(d)(1)(ii) (The employer shall select a NIOSH-certified respirator. The respirator shall be used in compliance with the conditions of its certification.), 1910.134(d)(1)(iii) (The employer shall identify and evaluate the respiratory hazard(s) in the workplace; this evaluation shall include a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. Where the employer cannot identify or reasonably estimate the employee exposure, the employer shall consider the atmosphere to be IDLH.), 1910.134(d)(1)(iv) (The employer shall select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.), 1910.134(d)(2) Respirators for IDLH atmospheres, 1910.134(d)(2)(i) (The employer shall provide the following respirators for employee use in IDLH atmospheres:), and 1910.134(d)(2)(i)(A) (A full facepiece pressure demand SCBA certified by NIOSH for a minimum service life of).

*OSHA Respirator Regulations,
(OSHA 29 CFR 1910.134(d)(1)(iii))*

**NOTE: Links will be available after webinar on website*



MISTAKE #3: Using the wrong respirator and cartridges

A quick look at respirator types

Air Supplying

SCBA

Air Line

Air Purifying

Disposable Half Mask

Half Mask

Full Face

PAPR

- Loose fitting hoods
- Helmets
- Tight fitting face-pieces

Disposable
vs.
Re-Usable



MISTAKE #3: Using the wrong respirator and cartridges

Air or “Atmosphere” supplying

- SCBA and Air-line Respirators
- Used by Response Teams
- Highly hazardous environments
- Requires “Grade D” Breathing Air
- Specialized training and maintenance





MISTAKE #3: Using the wrong respirator and cartridges

Air Purifying Respirators (Without PAPR)

N95 Filtering Facepiece
aka "dust mask"



Particulates
Dusts, Mists, Fumes

½ Mask Air Purifying
tight fitting, reusable



Broad
Applications

Full-face Air Purifying
tight fitting, reusable



Greater
Protection

Low
Protection

Low Hazard

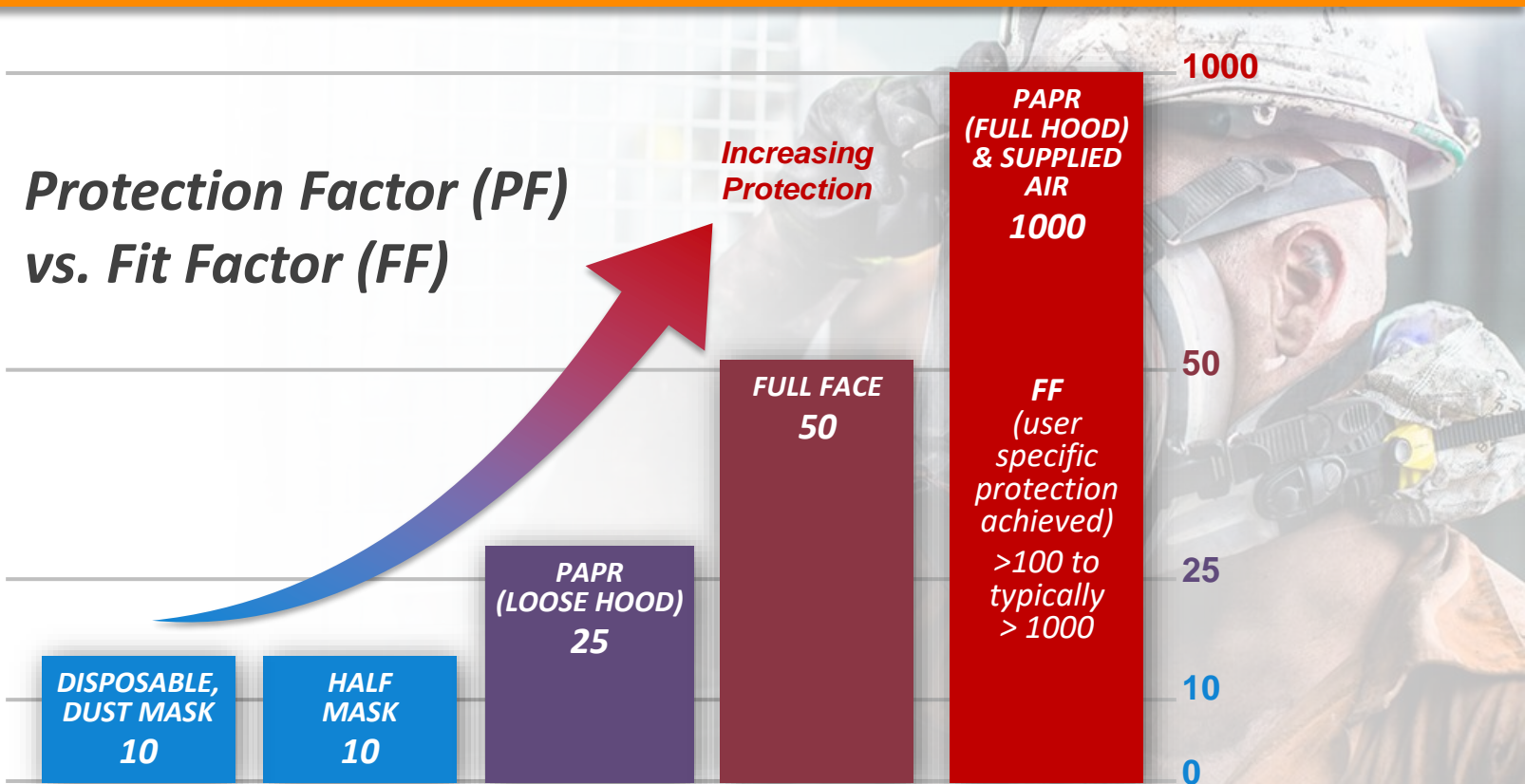
High
Protection

High Hazard





MISTAKE #3: Using the wrong respirator and cartridges





MISTAKE #3: Using the wrong respirator and cartridges

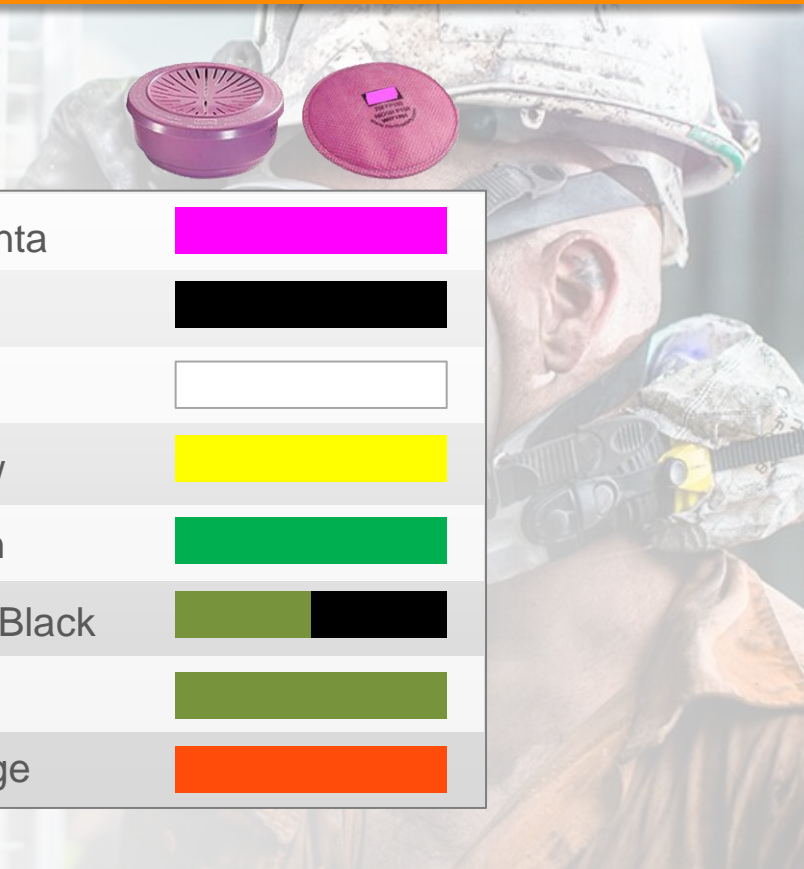
Colors indicate type of contaminant
cartridge protects against





MISTAKE #3: Using the wrong respirator and cartridges

Use correct cartridge for job!



Dusts, Mists, Fumes	Magenta	
Organic Vapor	Black	
Acid Gases	White	
Organic Vapor/Acid Gases	Yellow	
Ammonia/Methylamine	Green	
Formaldehyde/Organic Vapor	Olive/Black	
Multi-Gas/Vapor	Olive	
Mercury Vapor/Chlorine Gas	Orange	



MISTAKE #3:

Using the wrong respirator and cartridges

Cartridge Change-Out

- Previously: Judged by service-life warnings
 - *Odor, taste, resistance*
- Current: **Schedule required**
 - *Filter and chemical cartridge life*
 - *Manufacturer's Recommendation*
 - *NIOSH MultiVapor e-Tool*
 - *Service Life Indicators*
 - *Cartridge marking system*

½ Mask with cartridges and 'pancake' style pre-filters





Top 5 Most Common Mistakes

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MISTAKE #4: Missing required program elements

Required:

1. Written program
2. Program administrator
3. Hazard evaluation & respirators
4. Medical clearance
5. Fit testing
6. Procedures
7. Training
8. Periodic program evaluation
9. Record keeping





MISTAKE #4: Missing required program elements

Reinforce training

- Helpful reminders
- Coaching
- Signage
- Posters, etc.

TOP TIPS
For Respirator Safety
Wearing a respirator? Check these tips to be safe!

1 **Got the correct mask?** Don't just pick any Friday the 13th mask. Understand the hazard and the protection you need, then select the right respirator to wear.

2 **Don't neglect to inspect.** Check your respirator closely before you wear it – cleanliness, cartridge, valve. Do a complete pre-flight. After all, your lungs depend on it!

3 **Sporting a beard?** Facial hair can impair the face-to-face seal of the respirator and destroy the effectiveness. Sorry, it may look stylish, but save your lungs and shave your beard!

4 **Reusing disposable filters?** These aren't made for repeated use. Don't hang onto a filter until you can "taste it" (yuck). Here's a bright idea - replace with each use!

5 **Never read a map?** Start now - read the instructions that came with your respirator. Check to be sure it's designed for the hazard and ensure you're using it properly.

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MISTAKE #5: Practicing improper maintenance

Respirator owner identification

Inspect regularly

- Cleanliness
- Exhalation Valve
- Cartridges

Check fit

- Positive/negative pressure





MISTAKE #5: Practicing improper maintenance

Cleaning

- Wipes – Use ammonia based wipes (not alcohol)
- Bath – Warm water, mild soap





MISTAKE #5: Practicing improper maintenance

Storage

- Bagged / boxed / secure





Top 5 Most Common Mistakes

Summary...

1. **Know** what's required vs. voluntary
2. **Start** by understanding hazards
3. Use **correct** respirator and cartridges
4. **Include** required program elements
5. Practice **proper** maintenance



**Understanding Respiratory
Requirements and
Committing to Safety**

=

**Healthier and More
Productive Workforce**

*and sustainable competitive
business advantage!*





ICW Group Safety & Risk Resources

ICW Group Policyholder Website!

icwgroup.com/safety

- Safety and Risk Management area!
- Safety Webinars

Breathe Easier With These Respiratory Protection Must Haves

5 Common Mistakes, Key Requirements, Your Plan & Top Tips for Respirator Safety



ICW Group Policyholder Website!

Log into myResource

- Open **Safety OnDemand**
- Search for “respirators” provides **300+ results**
- Example Safety Talk: **Safe Respirator Use**

Handouts, checklists, quizzes, narrated presentations!

**NOTE: Links will be available after webinar on website*

The collage features several safety-related documents and a video. At the top, a 'SAFETY TALKS QUIZ' titled 'Safe Respirator Use' is visible, with a 'SafetyNow' logo and the ID 'RESPIRATORS T201807-03'. Below it, a 'SAFETY TALKS' handout titled 'Safe Respirator Use' includes sections for 'BEFORE THE TALK', 'PREPARATION TIPS', 'AFTER THE TALK CHECKLIST', and 'TEST YOUR KNOWLEDGE'. The 'BEFORE THE TALK' section lists five points: 1. Discuss the hazard, 2. Be prepared to discuss different types of airborne contaminants, 3. Discuss and pass around written respirator programs/procedures, 4. Ask workers 'do you have any problems wearing a respirator?', and 5. Have respirators available for demonstration. The 'AFTER THE TALK CHECKLIST' includes items like 'Provided extra training to workers who did poorly on quiz', 'Observed workers', 'Refresher training', and 'Other (describe)'. The 'TEST YOUR KNOWLEDGE' section contains four multiple-choice questions. To the right, another handout titled 'RESPIRATORS HANDOUT' is partially visible. At the bottom, a video player shows a person wearing a respirator, with the title 'Safe Respirator Use' and the 'SafetyNow' logo.

ICW Group Policyholder Website!

Safety OnDemand

- Resources > OSHA Program Wizards
- **Respiratory Protection:** Automated safety plans to quickly customize

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Questions?





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Thank you!

