



# Wisconsin Department of Safety and Professional Services

## Fire Prevention/Health and Safety

### Firefighter Exposure Protection

The Department of Safety and Professional Services (DSPS) standard on Fire Department Safety and Health identifies areas where fire departments must ensure that firefighters are limiting their risks and exposures to hazards or potential hazards that can be dangerous to their life and health. Many of the standards noted in [SPS 330](#) are based upon best practices from NFPA 1500 or are directly referenced from OSHA standards.

## FIREFIGHTER EXPOSURES

Inhalation	<p style="color: red; font-weight: bold;">Risks</p> <p><b>On-Scene (without SCBA)</b></p> <ul style="list-style-type: none"> <li>• Gases such as hydrogen cyanide, benzene, and naphthalene</li> <li>• Particulate matter</li> </ul> <p><b>Rehab</b></p> <ul style="list-style-type: none"> <li>• Off gassing from PPE</li> <li>• Smoke in air</li> <li>• Exhaust</li> </ul>	<p style="color: red; font-weight: bold;">Protection</p> <ul style="list-style-type: none"> <li>• Don respiratory protection while in smoky conditions</li> <li>• Wear SCBA during overhaul</li> </ul> <hr style="border-top: 1px dashed red;"/> <ul style="list-style-type: none"> <li>• Avoid off-gassing gear by airing out after doffing</li> <li>• Avoid diesel exhaust</li> <li>• Ensure rehab is set up away from smoky area or diesel exhaust</li> </ul>
Ingestion	<p><b>On-Scene, Rehab, Transit</b></p> <ul style="list-style-type: none"> <li>• Swallowing contaminated material from the nasal or oral passageway</li> <li>• Eating material that has been cross-contaminated by hands</li> </ul>	<ul style="list-style-type: none"> <li>• Clean hands and face as soon as possible after doffing SCBA</li> <li>• Clean hands and face when entering rehab</li> </ul>
Absorption	<p><b>On-Scene, Rehab, Transit</b></p> <ul style="list-style-type: none"> <li>• Vapors and small particulate may penetrate PPE</li> <li>• Cross-contamination from gear and tools</li> </ul>	<ul style="list-style-type: none"> <li>• On-scene decon</li> <li>• Use proper doffing procedures</li> <li>• Clean skin on scene as soon as possible</li> <li>• Shower as quickly as possible after completing fireground activities</li> <li>• Ensure tools and PPE are fully cleaned and ready for next response</li> </ul>

Horn et al. 2022. Firefighter Exposures. <https://doi.org/10.1080/15459624.2022.2100406>

### SPS 330 Requirements:

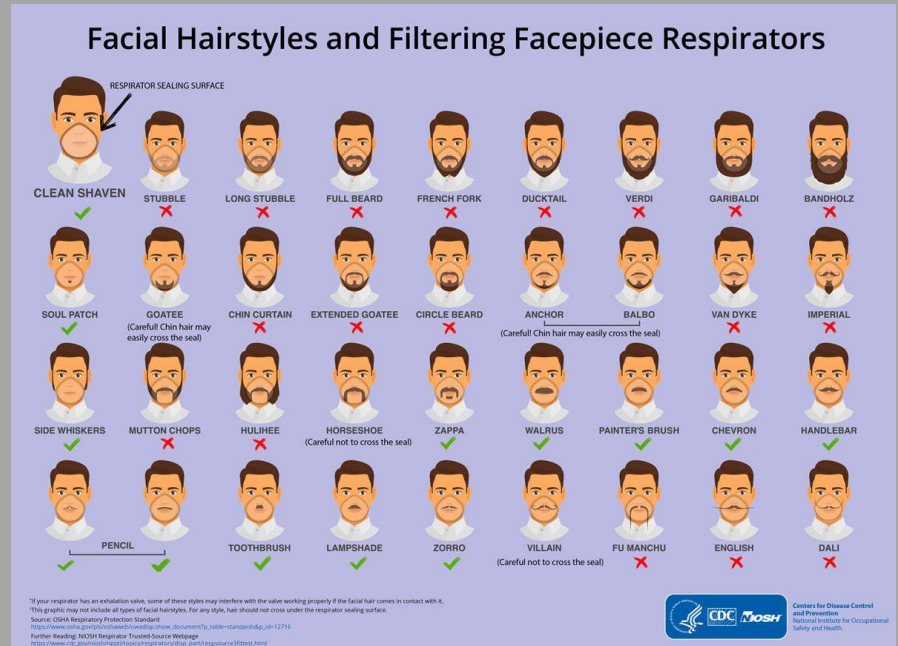
- ✓ Fire Departments must provide and [enforce the use](#) of personal protective equipment to firefighters.
- ✓ Fire Departments must ensure that personal protective equipment is [inspected and maintained](#).
- ✓ Fire Departments must provide information and training to firefighters on how to properly [use, maintain, and decontaminate](#) their personal protective equipment. Firefighters must also have training of the limitations of their personal protective equipment.

#### References:

Gavin P. Horn, Kenneth W. Fent, Steve Kerber & Denise L. Smith (2022). Hierarchy of contamination control in the fire service: Review of exposure control options to reduce cancer risk, Journal of Occupational and Environmental Hygiene, 19:9, 538-557. DOI: 10.1080/15459624.2022.2100406 <https://doi.org/10.1080/15459624.2022.2100406>

## SPS 330 Requirements:

- ✓ Prior to initial fit test, firefighters must complete a [medical evaluation](#).
- ✓ Firefighters must be [fit tested annually](#).
- ✓ Firefighters cannot have [facial hair](#) or any condition that interferes with the seal of their facemask if expected to wear an SCBA. If a firefighter wears glasses, they must be worn in a manner that does not interfere with the mask seal.



## Additional Resources:

SPS 330

[https://docs.legis.wisconsin.gov/code/admin\\_code/sps/safety\\_and\\_buildings\\_and\\_environment/326\\_360/330](https://docs.legis.wisconsin.gov/code/admin_code/sps/safety_and_buildings_and_environment/326_360/330)

Respiratory Protection PowerPoint

<https://dsps.wi.gov/Documents/Programs/FireDeptSafetyHealth/RespiratoryProtection.pdf>

Medical Evaluation Form Template

<https://dsps.wi.gov/Documents/Programs/PublicSafety/MedicalEvaluationQuestionnaire.pdf>

National Firefighter Cancer Registry

<https://www.cdc.gov/niosh/firefighters/registry.html>

FEMA Dangers in Foam

<https://www.usfa.fema.gov/blog/cb-021120.html>

NIOSH Firefighter Cancer Study

<https://oem.bmj.com/content/71/6/388.full>

Contamination Control Study

<https://doi.org/10.1080/15459624.2022.2100406>

PFAS Study

<https://www.mdpi.com/1660-4601/18/7/3730>

For Additional questions regarding SPS 330 requirements, please contact your [Fire Prevention/Health and Safety Coordinator](#). You can also visit the DSPS Fire Department Safety and Health [Website](#) for more information and resources.