



Fire Investigator Respiratory Protection Fact Sheet

This document references U.S. regulations/standards, documents and agencies. Readers from other countries should refer to the appropriate similar items for their country or, if none exists, use the U.S. ones for reference.



SCBA – photo courtesy of Scott

Self-Contained Breathing Apparatus (SCBA) certified by the U.S. National Institute for Occupational Safety and Health (NIOSH) MUST be used in all situations where the environment is immediately dangerous to life and health (IDLH), defined by the U.S. Occupational Safety and Health Administration (OSHA) as exposure to airborne contaminants that are at an atmospheric concentration of any toxic, corrosive, or asphyxiation substance that poses an immediate threat to life or would interfere with an individual's ability to escape from a dangerous atmosphere (OSHA 29 CFR 1910.120 (a) [3])

A correctly sized half-mask air purifying respirator (1/2 mask APR) and goggles OR a full-face air purifying respirator with proper filtration media/filters* should first be fit tested and then correctly worn by fire investigators at most every non-IDLH incident scene. Goggles should be ANSI rated and must fit tightly to minimize particulate exposure to the eyes. Alternatively, a full face, tight fitting, powered air purifying respirator (PAPR) with proper filtration media/filters* may be worn, provided a written respiratory protection program is established and implemented.



Half-mask APR and goggles



Full-face APR

PAPR

Mask photos courtesy of 3M



Dust masks are NOT NIOSH-approved particulate filtering facepiece respirators (FFR) and are not approved for use in any fire investigation environment under any circumstances. See a list of NIOSH-approved FFRs at https://www.cdc.gov/niosh/npl/topics/respirators/disp_part/default.html

This document was reviewed by the NIOSH Personal Protection Laboratory staff for compliance with applicable U.S. standards, documentation and language.

* Pursuant to 29 CFR 1910.134 (U.S. OSHA) the minimum acceptable filter for fire investigators is a P100/OV/AG filter or equivalent. This filter traps 99.97% of airborne particulates to .3 microns, oily particulates, organic vapor chemical compounds and acid gases, per respirator manufacturer specifications. Some available canisters, cartridges or particulate filters have other or additional protections from other gases and vapors and these are also acceptable, provided they have the NIOSH logo present and confirmation that the complete individual respirator has been awarded NIOSH approvals to the original respirator manufacturer, since they are greater than the minimum requirement. A NIOSH rated CBRN Cap 1 air-purifying respirator canister, which is intended for emergency responder use at CBRN terrorism incidents, can be acceptable for fire and explosion investigation work, provided a written respiratory protection program is in effect and there is repeatable science that demonstrates the concentration gradients of the respiratory hazards present in the fire/explosion overhaul or post overhaul scene are less than IDLH and environmentally characterized at known concentrations that exceed the published OSHA permissible exposure limit (PEL) or a NIOSH restricted exposure limit (REL) as stated by OSHA or in the NIOSH Pocket Guide to Chemical Hazards, <https://www.cdc.gov/niosh/npg/pgintrod.html#npr>