

NIOSH Pocket Guide to Chemical Hazards, Comparison Chart

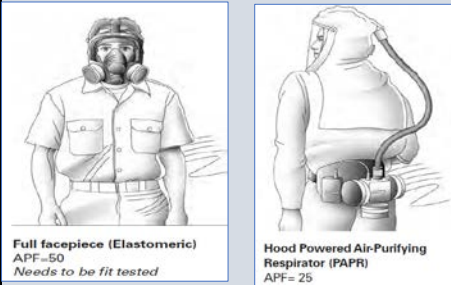
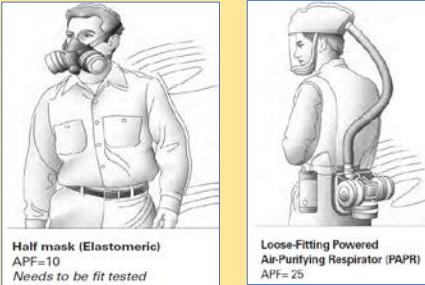

* This is a recap of the current NIOSH Respirator & PPE recommendations for Chemicals found in 3 common blast media as listed on the NIOSH Chemical Pocket Guide

* Beryllium is listed on the SDS of coal and copper slags, Crystalline Silica is listed on the SDS of Silica Sand, Amorphous Silica is found in Glass

* NIOSH recommends that during Abrasive Blasting the blaster must wear an APF 1000 (Abrasive Blast Hood). This type Respirator would protect a worker for all 3 chemicals

* This Comparison Chart is to show the NIOSH recommendations for non-blaster workers that are exposed to the dust from abrasive blasting particularly in enclosed spaces

* These workers include pot tenders, clean up crews and Inspectors both Government (OSHA, DOT, Military) and Industry (i.e. Coating/ Paint Companies)

Beryllium	Crystalline Silica	Amorphous Silica
OSHA (NIOSH has adopted the New OSHA PEL)	NIOSH - REL (New OSHA PEL is same)	NIOSH - REL
.2 Micrograms per Cubic Meter	50 Micrograms per Cubic Meter	6,000 Micrograms per Cubic Meter
Respirator Recommendations (updated June 2019)	Respirator Recommendations	Respirator Recommendations
Up to 0.0002 mg/m3 (milligrams) TWA (8 hours) .2 Micrograms per Cubic Meter	Up to 0.5 mg/m3 milligrams : TWA (8 hours) 500 Micrograms per Cubic Meter	Up to 30 mg/m3 milligrams TWA (8 hours) 30,000 Micrograms per Cubic Meter
Up to 0.002 mg/m3 (STEL 15 minutes) 2.0 Micrograms per Cubic Meter	NA	NA
(APF = 10) Any air-purifying full-facepiece respirator equipped with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100, P100.	(APF = 10) Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering facepieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100, P100.	(APF = 5) Any quarter-mask respirator.
Up to 0.005 mg/m3: 5 Micrograms per Cubic Meter	Up to 1.25 mg/m3: 1250 Micrograms per Cubic Meter	Up to 60 mg/m3: 60,000 Micrograms per Cubic Meter
(APF = 25) Any powered air-purifying full facepiece respirator equipped with a hood or helmet and a high efficiency (HEPA) filter	(APF = 25) Any powered, air-purifying respirator with a high-efficiency particulate filter.	(APF = 10) Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering facepieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100, P100.
 <p>Full facepiece (Elastomeric) APF=50 <i>Needs to be fit tested</i></p> <p>Hood Powered Air-Purifying Respirator (PAPR) APF= 25</p>	 <p>Half mask (Elastomeric) APF=10 <i>Needs to be fit tested</i></p> <p>Loose-Fitting Powered Air-Purifying Respirator (PAPR) APF= 25</p>	 <p>Half mask/Dust mask APF=10 <i>Needs to be fit tested</i></p> <p>Half mask (Elastomeric) APF=10 <i>Needs to be fit tested</i></p>

* Note: Pictured is an APF 50 which takes an N100, R100, or P100 filter

The APF 10 will also work as well per the above comments by NIOSH

* Pictures come from the current OSHA Respirator Guide

<https://www.osha.gov/Publications/3352-APF-respirators.html>

Personal Protection/Sanitation	Personal Protection/Sanitation	Personal Protection/Sanitation
Skin:Prevent skin contact Eyes:Prevent eye contact Wash skin:Daily Remove:When wet or contaminated Change:Daily Provide:Eyewash	Skin:No recommendation Eyes:No recommendation Wash skin:No recommendation Remove:No recommendation Change:No recommendation NA	Skin:No recommendation Eyes:No recommendation Wash skin:No recommendation Remove:No recommendation Change:No recommendation NA

Back Up Information/ Definitions

mg/m3 = milligrams per cubic meter

ug/m3 = micrograms per cubic meter (1000 x mg/m3)

STEL= Short Term Exposure Limit (15 minutes)

TWA= Time Weighted Average 8 hours

Link to NIOSH Chemical Pocket Guide

<https://www.cdc.gov/niosh/npg/npgd0054.html>