

Protecting Yourself from COVID-19 in the Workplace // Safety and Health Awareness for Responders to the Coronavirus

PREVENTING MUCOCUTANEOUS EXPOSURES: PPE & FACE PROTECTION

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OSHA PPE standard



Where applicable, requires employers to:

- Conduct an assessment for PPE
- Provide PPE at no cost, appropriate to the hazard
- Train employees on how to don (put on) and doff (take off) PPE
- Train workers to maintain, store, and replace PPE
- Provide medical evaluation and fit testing
- PPE standard does not address biological hazards specifically, but it has been interpreted by OSHA to apply



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EXAMPLES OF PPE FOR WHICH EMPLOYER PAYMENT IS REQUIRED WHEN USED TO COMPLY WITH AN OSHA STANDARD

	Metatarsal foot protection.
	Special boots for longshoremen working logs.
	Rubber boots with steel toes.
	Shoe covers – toe caps and metatarsal guards.
	Non-prescription eye protection.
	Prescription eyewear inserts/lenses for full-facepiece respirators.
	Prescription eyewear inserts/lenses for welding and diving helmets.
	Goggles.
	Face shields.
	Laser safety goggles.
	Firefighting PPE (helmet, gloves, boots, proximity suits, full gear).
	Hard hats / Bump Caps
	Hearing protection.
	Welding PPE.
	Items used in medical/laboratory settings to protect from exposure to
-	eovers, etc.).
	Non-specialty gloves:
	 Payment is required if they are PPE, such as for protection from dermatitis, severe cuts/abrasions.
	 Payment is not required if they are only for keeping clean or for cold weather (with no safety or health considerations).
	Rubber sleeves.
	Aluminized gloves.
	Chemical-resistant gloves/aprons/clothing.
	Barrier creams (unless used solely for weather-related protection).
	Rubber insulating gloves.
	Mesh cut-proof gloves, mesh or leather aprons.
	Self Contained Breathing Apparatus, atmosphere-supplying respirators
	(escape only).
	Respirators.

https://www.osha.g ov/OshDoc/Directi ve_pdf/CPL_02-01-050.pdf



OSHA Bloodborne Pathogens Standard

- Does NOT apply to SARS-CoV-2
- However, PPE recommendations are similar

Personal protective equipment will be considered "appropriate" only if it does not permit blood or other potentially infectious materials to pass through to or reach the employee's work clothes... skin, eyes, mouth, or other mucous membranes under normal conditions of use....



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Risk Assessment to Prevent Physical Exposure to Splash, Splatter

- Patient Care
- Clinical Laboratories
- Laundry/Linen
- Waste Removal
- Face Shields
- Eye Protection
- Gloves
- Gowns





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Source: https://www.lhup.edu/~dsimanek/scenario/labman3/eye.htm



Goggles

- No standards for design or performance of face shields for biological hazards
- "Goggles or glasses with side shields"
- ANSI/ISEA Z87.62 will address
- Important to keep fit and comfort in mind
- Disposable or reusable
- Prescription





Face Shields

- No standards for design or performance of face shields for biological hazards
- ANSI/ISEA Z87.62 will address, but only from a manufacturing, performance standard point of view



Steps to Self-Manufacturing Face Shields

 The Face shield was developed in an effort to conserve N95 Face Masks

JOHNS HOPKINS

- If worn appropriately, it can be wiped down and reused.
- The shield protects the N95 and allows it to be reused under right circumstance
- Prototypes were built by 20 corporate supply chain team members
- Through an assembly line, in 6 hours they built 1000 face shields
- Production quantities vary so the quantity was omitted; however the plastic is the rate limiting step to production
- The production is being scaled to solicit volunteers and Medical students to assemble masks over the course of the week

https://www.youtube.co m/watch?v=wAZSYSpct e0&feature=youtu.be



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Improving accessibility & visual cues

Not an Endorsement



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https://www.cdc.gov/hai/pdfs/ppe/PPEslides6-29-04.pdf



Processing Surfaces and Patient Rooms

- Employers should develop site specific cleaning, disinfection, sterilization procedures.
- Use EPA-Registered Disinfectants

- Worker and building occupant protection is essential when cleaning and disinfecting contaminated surfaces
- Closely follow product IFU and SDS, some require additional PPE



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Engineering measures	Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Ensure that eyewash stations and safety showers are close to the workstation location.
Individual protection measures	, such as personal protective equipment
Eye/Face Protection	Tightly fitting safety goggles. Face-shield.
Skin and Body Protection	Rubber or neoprene footwear. Impervious clothing materials such as rubber, neoprene, nitrile or polyvinyl chloride. Wear liquid proof rubber or neoprene gloves. Hydrogen perexit is an ingredient in this product; completely submerge hydrogen peroxide contaminated clothing or other materials in water prior to drying. Residual hydrogen peroxide, if allowed to dry on combustible materials such as paper, fabrics, leather or wood can cause the material to ignite and result in a fire.
Hand Protection	Rubber/latex/neoprene or other suitable chemical resistant gloves. Wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.
Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators: Full face piece respirator with organic vapor/acid gas cartridge or canister. If break-through occurs, use airline supplied or self-contained breathing apparatus with full face piece.
Hygiene measures	Clean water should be available for washing in case of eye or skin contamination. Remove and wash contaminated clothing before re-use. Wash skin prior to eating, drinking, chewin gum or using tobacco. Shower or bathe at the end of working. Launder work clothing separately from regular household laundry.
General information	Protective engineering solutions should be implemented and in use before personal protective equipment is considered.

Information on basic physical and chemical properties

Appearance Clear, colorless liquid **Physical State** Liquid Colorless Color 04-stinging Dungest viscous like



OSHA Hazard Communication Standard

The hazard communication standard, 29 CFR 1910.1200, establishes a worker's right to know about chemicals in the workplace

Employers are required to develop:

- List of all hazardous chemicals in the workplace
- Labels on containers
- Chemical information (safety data sheets)
- Training
- Written program and worker access to information

These rights may be relevant to the cleaning and disinfecting chemicals



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1 Instructi	ons:																	
This spreadsheet is designed to help you track how quickly PPE is being used at your facility.																		
4 To start	enter dates into	Box A below Da	(1 Day 2 Day 3)	etc. You can enter	the date for Day 1	I and drag that cell	to the right to aut	opopulate future (lavs									
5 At the st	art of each day.	letermine how r	any full boxes of	PPE are remainin	ng from the day be	fore. Do this for eac	to the right to due to type of PPE.		10y5.									
6 "Type of	PPE" refers to th	e PPE compone	ts you have in sto	ock. Use the next c	olumn to fill in th	e size or brand if ap	oplicable. Note: A	ditional types or	brands of PPE can b	e added in the "O	ther" Type of PPE s	ection as well.						
7 Make su	re that each box	of PPE has the s	, ame number of in	dividual units. If	they do not, create	e a new type of PPE	category in the ce	IIs that say "Other	".									
8 Enter the	number of full l	oxes of each Ty	pe of PPE_starting	g at Day 1 into the	e yellow cells of Bo	ox A. Note: You do n	ot need data for a	ll 14 days, but at l	east 2 consecutive o	lays of data is ne	eded to calculate a	consumption rate.						
9 The tota	I number of boxe	s of PPE used p	r day will be calc	ulated in Box B. N	Note: This only wor	ks if you have enter	red values for at l	east day 1 and day	/ 2 in Box A.									
10 The aver	age rate of PPE o	onsumption (bu	rn rate) will be ca	Iculated in the pi	ink section.													
11 The num	ber of days wort	h of remaining	upplies will be ca	alculated in Box C	based on the ave	rage consumption r	ate.											
12 Note: if	ou receive a res	upply of PPE do	not add it into the	e calculator, as it	will disrupte the o	alculations. Contin	nue following the	original supply of	PPE entered in Day	L. It is suggested	you start a new cal	culator with the res	upplied PPE.					
13 To skip i	a day, enter the c	ata from the pr	vious day. For ex	ample: If you kno	ow the number of b	ioxes remaining at t	the start of Day 1	and the start of Da	ly 3, but not the star	t of Day 2, you ca	in insert the value f	rom Day 1 into cell	for Day 2 and th	e tool will still wo	rk.			
14 15 Importa	nt: Add your dat-	to Roy A only	o not optor data i	into any other cell	le.													
16 How the	calculator work	: In Box A your	PPE supply from t	the day prior is su	ubtracted from the	current day (Day2	-Dav1) and entere	d in Box B. As add	itional data is adde	ч								
17		in Box A the av	rage consumptio	in rate between ea	ach two day period	d is calculated. The	total number of c	onsumption of PPF	in Box B is used to	- calculate the ave	rage consumption	in the pink section						
18		Then the numb	er of boxes of PPE	entered in Box A	is divided by the c	onsuption rate to c	alculate the num	per of days supply	remaining in Box C.			in the print section.						
19																		
20		How Man	Full Boxes Are Re	emaining at Start	of the Day? Enter I	pelow, by date.												
21	BOX A	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14		Consumption (burn rate)
22 Type of	PPE Size/Br	and XX/XX/20	0 XX/XX/2020	XX/XX/2020	XX/XX/2020	XX/XX/2020	XX/XX/2020	XX/XX/2020	XX/XX/2020	XX/XX/2020	XX/XX/2020	XX/XX/2020	XX/XX/2020	XX/XX/2020	XX/XX/2020		Category	Туре
23 Gown	Size 1		24.5	20	7	7 6.25	5	5	4	3	3						Gown	Size 1
24 Gown	Size 2		50	45													Gown	Size 2
25 Surgical	Mask																Surgical Mask	
26 Gloves	small																Gloves	small
27 Gloves	mediur	1															Gloves	medium
28 Gloves	large																Gloves	large
29 Gloves	extra la	rge															Gloves	extra large
30 Respirat	or North 7	130															Respirator	North 7130
31 Respirat	or 3M 82:	0															Respirator	3M 8210
32 Respirat	or 3M 186	0		-	-			-								_	Respirator	3M 1860
33 Face Shi	eld				-			+								_	Face Shield	
34 Other 1																	Other 1	
35 Other 2																_	Other 2	
27 Othor 4				+	-	+		+								-	Other 4	
38 Other 5				-													Other 5	
39 Other 6																	Other 6	
40 Other 7																	Other 7	
41 Other 8							1										Other 8	
42								- 8										
43	Box B	T 1 1 1																
19		l otal Nun	ber of Boxes Used	l per Day (Calcula	ated)													
44 Type of	PPF Size/Br	and	ber of Boxes Used Day 1 - <u>Day 2</u>	per Day (Calcula Day 2 - Day 3	Day 3 - Day 4	Dav 4 - Dav 5	Day 5 - Day 6	Day 6 - Day 7	Day 7 - Day 8	Day 8 - Day 9	Day 9 - Day 10	Dav 10 - Dav 11	Day 11 - Day 1	2 Day 12 - Day 1	3 Day 13 - Day 14	1 14		

CDC PPE Burn Rate Calculator: <u>https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/burn-calculator.html</u>



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8 Shields Splash F	a Medline Industries	NONES300	SHIELD FACE LI	CS	96	\$98.42	Alternative	96%	Keystone Industri	1983000	SHIELD FACE U		
9 Shields Splash F	a Cardinal Hosp Sc	F1SHIELD50	SHIELD FACE LI	CS	50	\$51.44	Equivalent	100%	Healthmark Indus	18000W100	SHIELD FACE LS	CS	
10 Shields Splash F	a Cardinal Hosp Sc	F1SHIELD50	SHIELD FACE LA	CS	50	\$51.44	Equivalent	100%	Healthmark Indust	16000100	SHIELD FACE LS	BX	
11 Shields Splash F	a Cardinal Hosp Sc	F1SHIELD50	SHIELD FACE LI	US	50	\$51.44	Alternative	96%	Key Surgical	4509	SHIELD FACE L	ВХ	
12													
13													
14													
16	15 *Please note that this is a sampling of the top 3 products by spend, and it does not reference all options available in the marketplace. In addition, this information is subject to change. ECRI strongly encourges that members reach out to their supplier account representatives for the most recent information regarding PPE supply status and their allocated inventory available for purchase. 16												
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25 Exam	Gloves Face Sn	lach Shields	Disinfacting Wines	I Isolation Co	une II IV Solution	oc Docniratore		•					_
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Environmental Health Sciences Worker Training Program

NIEHS COVID-19 Response Training Tool

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International Safety Center EPINet® Exposure Incident Data https://internationalsafetycenter.org/exposure-reports/



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Blood & Body Fluid Exposure Incidents per 100 ADC; EPINet





Blood & Body Fluid Exposure Incident Summary Data; N=34 facilities, EPINet 2018





Blood & Body Fluid Exposure Incident Summary Data; N=34 Facilities, EPINet 2018





Total PPE & Barrier Garment Worn During BBFE Incident; 2018

Which barrier garments were worn at the time of exposure?	% of Total Records	
Single pair of gloves	33.4%	
Double pair of gloves	5%	
Protective Eyewear / Goggles	2.8%	
Eyeglasses (not protective)	- 6.7%-	
Eyeglasses with sideshields	0.6%	
Faceshield	3.0%	
Surgical mask	9.1%	
Surgical gown	0%	
Plastic apron	0.4%	
Labcoat / Scrub Jacket, cloth, (not protective)	0%	
Respirator	0%	
Other	3.0%	

•6.4% Wearing appropriate eye protection