



Exam Glove Conservation Guide



Medline quality standard

When choosing the right examination glove for protection against viruses or against microorganisms, it is important to identify which regulatory standards should apply:

- EN 455 part 1, 2, 3 and 4
- PPE certification Class 3 for high-risk environments
- Resistance to chemo drugs in accordance with ASTM-D697805
- Resistance to chemicals in accordance with EN 16523/1
- Tested for viral penetration in accordance with EN 374
- Manufactured in accordance with ISO 13485
- AQL of 1.0, reducing the risk of cross-contamination by 30%.

Pandemic market situation

Due to COVID-19, the exam gloves market has been heavily disrupted, causing a supply shortage of NBR, the raw material for nitrile gloves.



Constrained supply

- Shortage of raw materials and manufacturing components
- Factories at risk of COVID-19 outbreaks
- New production line set-up: expensive and time-consuming (up to 24 months)



Increased demand

- Increased need for PPE in healthcare settings and other industries
- Governments and healthcare institutions stockpiling PPE materials
- New customer segments in need of PPE developing



Impact of supply-demand imbalance

- Escalating costs
- Increase in fraudulent offers
- Port congestion: lack of vessel space and low availability of empty shipping containers

Substitution recommendations

In areas where exposure to harsh chemicals or bodily fluids is limited, you can possibly conserve nitrile gloves by using other materials such as vinyl or latex (outside of intensive or critical care departments).

Exam glove materials

	Nitrile	Vinyl	Latex
Material	Synthetic rubber (NBR)	PVC petroleum-based film	Natural rubber
Strength			
Flexibility and comfort			
Tactile sensitivity			
Indications	Excellent for those with latex allergies	Excellent for those with allergies to latex and chemical accelerators	DO NOT use with latex allergies

Excellent Very good Medium

Benefits of substituting nitrile with vinyl

- Vinyl may not have the same raw material constraints as nitrile; therefore, these gloves might be more readily available in times of crisis.
- Vinyl gloves can be used as a protective barrier for routine tasks that do not require the use of or exposure to hazardous chemicals and drugs.
- These gloves can help relieve the supply constraint and pressure on nitrile gloves, ensuring a higher availability of these gloves in the departments where they are a necessity.



Gloves by department

Below you can find an overview of glove usage per department.

Direct patient care departments

Clinicians or users in direct patient care departments require gloves that can withstand an environment with higher demands, and they need protection against strong, hazardous drugs or chemicals. These departments should be prioritised for receiving nitrile gloves, but in crisis situations, vinyl and latex can be supplemented in high-usage areas.

	ICU	CCU	ED	Operating theatre	Med-surg	L&D	Phlebotomy	Oncology
Nitrile								
Vinyl								
Latex								

Key: ICU (intensive care unit); CCU (critical care unit); ED (emergency department); med-surg (medical-surgical); L&D (labour and delivery)

Indirect or no patient care departments

Clinicians or users in indirect or no patient care departments such as EVS, transport, food service and general administration can use alternate glove materials in crisis situations. Departments such as laboratory and pharmacy should prioritise nitrile due to their need for hazardous drug or chemical protection.

	Lab	Pharmacy	EVS	SPD/CS	Food service	Transport	Admin.
Nitrile							
Vinyl							
Latex							

Key: Lab (laboratory); EVS (environmental services (cleaning etc.)); SPD/CS (sterile processing departments/central sterile); admin. (administration (lobby, check-in area etc.))

Recommended Able to use Not recommended

Disinfection of gloves

Extending the lifespan of single-use nitrile gloves

Although it is not recommended outside of crisis situations, Medline has conducted tests to investigate the performance of nitrile exam gloves after exposure to a 0.5% chlorine bleach solution:

- Both vinyl and nitrile gloves can withstand a wide range of chemicals, including 10 – 13% sodium hypochlorite for longer than 480 minutes (8 hours) without chemical permeation.
- Nitrile exam gloves still meet force at break standards per EN 455-2 after exposure to 0.5% bleach solution for 30 minutes, 2 hours (120 minutes) and 8 hours (480 minutes).

Medline nitrile examination gloves do not lose their durability and integrity after repeated exposure to a 0.5% chlorine bleach solution for disinfection.¹

Disinfection benefit for exam glove usage (% increase in usage) per department (when using a 0.5% chlorine bleach solution)

	Department	Normal glove usage	Glove usage: COVID-19	Glove usage: disinfection	Bleach recommended?
Nitrile examination gloves	Med-surg/ floor beds	40%	35%	35%	No
	EVS/ housekeeping	15%	25%	9%	Yes
	ED	10%	10%	10%	No
	ICU	10%	40%	40%	Yes
	Phlebotomy	10%	10%	4%	Yes
	Oncology	5%	4%	4%	No
	Operating theatre	5%	4%	4%	No
	All others	5%	4%	4%	No



Recommended



Not recommended



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¹Medline Industries, Inc. (2020). Performance Evaluation of Nitrile Exam Gloves after 0.5% Chlorine Solution Exposure. Mundelein, IL: Medline Industries Inc.

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