

CHEMOTHERAPY-QUALIFIED
Personal Protective Equipment



PERSONAL PROTECTIVE EQUIPMENT **WHEN WORKING WITH CHEMOTHERAPY DRUGS**



HALYARD OFFERS CHEMOTHERAPY-QUALIFIED PERSONAL PROTECTIVE EQUIPMENT



THE USE OF PPE IS RECOMMENDED FOR THE SAFE HANDLING OF CYTOTOXIC AND HAZARDOUS DRUGS.^{1,2,4}

Permeation Resistance Guide to Chemotherapy Drugs

There are many opportunities for healthcare worker exposure to cytotoxic drugs, which can result in organ damage, impaired fertility, fetal malformation, and cancer. That's why it's so important to provide proper personal protective equipment (PPE) not only to those who prepare or administer chemotherapy drugs, but also to anyone who handles patient excreta, cleans up spills or disposes of materials and equipment that have been in contact with these drugs.

Guidelines published by the Oncology Nursing Society (ONS), American Society of Health System Pharmacists (ASHP), the Occupational Safety and Health Administration (OSHA), and the National Institute for Occupational Safety and Health (NIOSH) provide specific recommendations for type and duration of use of chemotherapy PPE, to offer optimum protection.

Based on these guidelines, HALYARD* has prepared this brochure to assist you in selecting appropriate PPE for those who work with, or around, chemotherapy drugs.



NITRILE EXAM GLOVES

HALYARD* Nitrile Exam Gloves provide three levels of protection when working with chemotherapy drugs. These gloves meet or exceed OSHA, ASHP and ONS recommendations for gloves used in chemotherapy. In addition, they have been tested against the ASTM standard that provides exam glove specific criteria for exam gloves used in chemotherapy (ASTM D6978-05 "Standard Practice for Assessment of Resistance of Medical Gloves to Permeation by Chemotherapy Drugs").

GOWN PROTECTION

HALYARD* Impervious Procedure Gowns are disposable, long-sleeved, open-back, lint-free gown made of polypropylene, with a poly-ethylene coating and knit cuffs. These gowns meet OSHA, ASHP and ONS recommendations for gowns used in chemotherapy. They also meet liquid barrier performance standards, including penetration by blood (ASTM F 1670) and blood-borne pathogens (ASTM F 1671).

FACIAL PROTECTION

HALYARD* FLUIDSHIELD* N95 Particulate Filter Respirator Masks are NIOSH approved and are designed to provide an effective facial fit as required for proper respiratory protection against uncontrolled aerosolization of certain airborne pathogens. They are pouch-style, with four-layer construction that provides protection, breathability, and a soft inner facing; and they're 100% Natural Rubber Latex-Free.



HALYARD* Full-Length Face Shield, is equipped with a foam band and headband. It's 100% Natural Rubber Latex-Free and can be worn with or without glasses or goggles, for protection against splashing or spraying of hazardous drugs.

Facial Protection Guidelines^B

Usage

Eye and face protection should be worn whenever there is a possibility of exposure from splashing or uncontrolled aerosolization.

Type

- For splashing or spraying, select a face shield.
- For aerosolization, select a NIOSH-approved respirator.

GOWN GUIDELINES

Usage

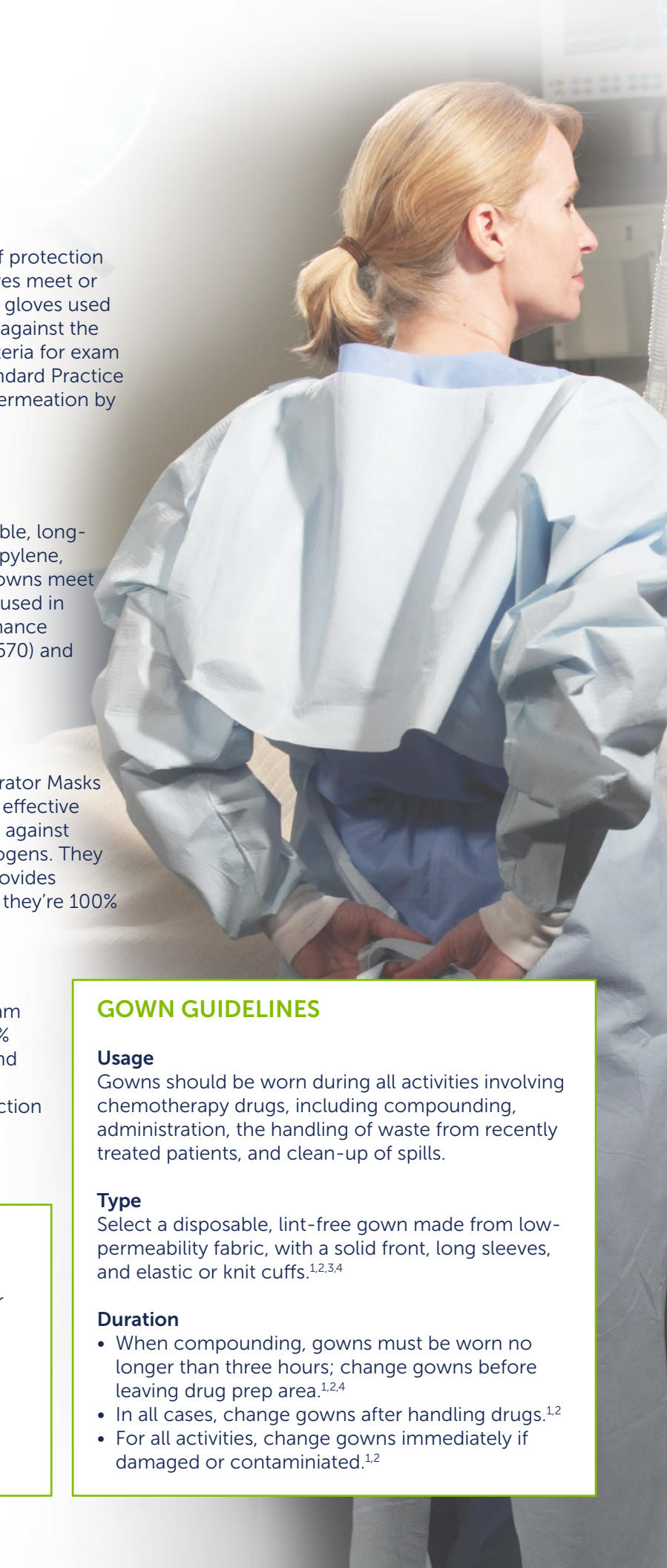
Gowns should be worn during all activities involving chemotherapy drugs, including compounding, administration, the handling of waste from recently treated patients, and clean-up of spills.

Type

Select a disposable, lint-free gown made from low-permeability fabric, with a solid front, long sleeves, and elastic or knit cuffs.^{1,2,3,4}

Duration

- When compounding, gowns must be worn no longer than three hours; change gowns before leaving drug prep area.^{1,2,4}
- In all cases, change gowns after handling drugs.^{1,2}
- For all activities, change gowns immediately if damaged or contaminated.^{1,2}



HALYARD* Nitrile Exam Gloves provide three levels of protection when working with chemotherapy drugs.

PURPLE NITRILE-XTRA* Exam Gloves (Sterile/Non-sterile)

<p>Maximum Protection Basic & Enhanced Protection plus these Chemicals</p>	<p>Carmustine (3.3 mg/ml) ThioTEPA (10.0 mg/ml)</p>	<p>Breakthrough detected in 30.7 minutes No breakthrough to 240 minutes</p>
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PURPLE NITRILE* Exam Gloves (Sterile/Non-sterile)

<p>Enhanced Protection Basic Protection plus these Chemicals</p>	<p>Bleomycin sulfate (15 mg/ml) Busulfan (6 mg/ml) Carboplatin (10 mg/ml) Cytarabine HCl (100 mg/ml) Daunorubicin HCl (5.0 mg/ml) Epirubicin (Ellence) (2 mg/ml) Fludarabine (25 mg/ml) Gemcitabine HCl (38.0mg/ml) Idarubicin HCl (1.0mg/ml) Irinotecan HCl (20.0 mg/ml) Mechlorethamine HCl (1.0 mg/ml) Melphalan (5 mg/ml) Methotrexate (25 mg/ml) Mitomycin-C (0.5 mg/ml) Rituximab (10 mg/ml) Trisenox (0.1 mg/ml)</p>	<p>No breakthrough to 240 minutes</p>
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STERLING* and STERLING XTRA* Nitrile Exam Gloves (Non-sterile)

<p>Basic Protection</p>	<p>Cisplatin (1.0 mg/ml) Cyclophosphamide (20.0 mg/ml) Dacarbazine (10 mg/ml) Docetaxel (10.0 mg/ml) Doxorubicin HCl (2.0 mg/ml) Etoposide (20.0 mg/ml) Fluorouracil (50.0 mg/ml) Mitoxantrone (2.0 mg/ml) Paclitaxel (6.0 mg/ml) Vincristine Sulfate (1.0 mg/ml) Ifosfamide (50.0 mg/ml)</p>	<p>No breakthrough to 240 minutes</p>
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GLOVE GUIDELINES

Usage

Gloves should be worn for all activities involving chemotherapy drugs, including compounding, administration, the handling of waste from recently treated patients, and clean-up of spills.

Type

Select disposable, chemotherapy-qualified, powder-free gloves that extend over the gown cuffs.^{1,2,3,4}

- If double-gloving, one pair should be worn under the gown cuff and the other worn over the gown cuff.
- If single-gloving, the gloves should be worn over the gown cuff.

Duration

- When compounding, change gloves every 30 minutes.^A
- For all other activities, change gloves after each use or 30 minutes of wear.¹
- For all activities, change gloves immediately when damaged or contaminated.^{1,2,3}

Testing per ASTM D6978-05 "Standard Practice for Assessment of Resistance of Medical Gloves to Permeation by Chemotherapy Drugs"



HALYARD* PROCEDURE GOWN TESTED FOR USE WITH CHEMOTHERAPY DRUGS

Material: Polypropylene, with polyethylene coating and knit cuffs, Latex-Free

Item	Description	Size	Packaging
69606	Knit Cuffs, Blue, Open Back	Universal	10 Gowns/Bag 10 Bags/Case
37284	Knit Cuffs, Blue, Open Back	XX-Large	10 Gowns/Bag 10 Bags/Case

FLUIDSHIELD* N95 PARTICULATE FILTER RESPIRATOR MASKS

Material: 4-layer protective construction and breathable film, Latex-Free **NIOSH Approved:** Yes, **PFE:** ≥99%, **BFE:** ≥99%

Item	Description	Size	Packaging
46727	N95 Respirator Mask	Regular	35 Eaches/Box 6 Boxes/Case
46827	N95 Respirator Mask	Small	35 Eaches/Box 6 Boxes/Case
46767	N95 Respirator Mask with Safety Seal	Regular	35 Eaches/Box 6 Boxes/Case
46867	N95 Respirator Mask with Safety Seal	Small	35 Eaches/Box 6 Boxes/Case

HALYARD* FULL-LENGTH FACE SHIELD

Material: Polyester film, Latex-Free

Item	Description	Size	Packaging
41204	Full-Length Face Shield		40 Eaches/Case

PURPLE NITRILE* EXAM GLOVES - 9.5"

Material: Nitrile, Powder-Free, **Thickness Fingertip:** (.15 mm 5.9 mil), **Length:** 9.5" 242 mm

Item	Description	Size	Packaging
55080	PURPLE NITRILE* Powder-Free Exam Gloves	X-Small	100 eaches/box 10 boxes/case
55081	PURPLE NITRILE* Powder-Free Exam Gloves	Small	100 eaches/box 10 boxes/case
55082	PURPLE NITRILE* Powder-Free Exam Gloves	Medium	100 eaches/box 10 boxes/case
55083	PURPLE NITRILE* Powder-Free Exam Gloves	Large	100 eaches/box 10 boxes/case
55084	PURPLE NITRILE* Powder-Free Exam Gloves	X-Large	90 eaches/box 10 boxes/case

STERLING* NITRILE EXAM GLOVES - 9.5"

Material: Nitrile, Powder-Free, **Thickness Fingertip:** (.09 mm 3.5 mil), **Length:** 9.5" 242 mm

Item	Description	Size	Packaging
50705	STERLING* Nitrile Powder-Free Exam Gloves	X-Small	200 eaches/box 10 boxes/case
50706	STERLING* Nitrile Powder-Free Exam Gloves	Small	200 eaches/box 10 boxes/case
50707	STERLING* Nitrile Powder-Free Exam Gloves	Medium	200 eaches/box 10 boxes/case
50708	STERLING* Nitrile Powder-Free Exam Gloves	Large	200 eaches/box 10 boxes/case
50709	STERLING* Nitrile Powder-Free Exam Gloves	X-Large	170 eaches/box 10 boxes/case

PURPLE NITRILE-XTRA* Sterile Pairs Exam Gloves - 12"

Material: Nitrile, Powder-Free, **Thickness Fingertip:** (.15 mm 5.9 mil) **Length:** 12" 305 mm

Item	Description	Size	Packaging
14259	PURPLE NITRILE-XTRA* Sterile Pairs Exam Gloves	X-Small	50 pairs/box 4 boxes/case
14260	PURPLE NITRILE-XTRA* Sterile Pairs Exam Gloves	Small	50 pairs/box 4 boxes/case
14261	PURPLE NITRILE-XTRA* Sterile Pairs Exam Gloves	Medium	50 pairs/box 4 boxes/case
14262	PURPLE NITRILE-XTRA* Sterile Pairs Exam Gloves	Large	50 pairs/box 4 boxes/case
14263	PURPLE NITRILE-XTRA* Sterile Pairs Exam Gloves	X-Large	50 pairs/box 4 boxes/case

PURPLE NITRILE-XTRA* EXAM GLOVES - 12"

Material: Nitrile, Powder-Free, **Thickness Fingertip:** (.15 mm 5.9 mil), **Length:** 12" 305 mm

Item	Description	Size	Packaging
55090	PURPLE NITRILE-XTRA* Powder-Free Exam Gloves	X-Small	50 eaches/box 10 boxes/case
50601	PURPLE NITRILE-XTRA* Powder-Free Exam Gloves	Small	50 eaches/box 10 boxes/case
50602	PURPLE NITRILE-XTRA* Powder-Free Exam Gloves	Medium	50 eaches/box 10 boxes/case
50603	PURPLE NITRILE-XTRA* Powder-Free Exam Gloves	Large	50 eaches/box 10 boxes/case
50604	PURPLE NITRILE-XTRA* Powder-Free Exam Gloves	X-Large	50 eaches/box 10 boxes/case

STERLING NITRILE-XTRA* EXAM GLOVES - 12"

Material: Nitrile, Powder-Free, **Thickness Fingertip:** (.09 mm 3.5 mil), **Length:** 12" 305 mm

Item	Description	Size	Packaging
53137	STERLING-XTRA* Nitrile Powder-Free Exam Gloves	X-Small	100 eaches/box 10 boxes/case
53138	STERLING-XTRA* Nitrile Powder-Free Exam Gloves	Small	100 eaches/box 10 boxes/case
53139	STERLING-XTRA* Nitrile Powder-Free Exam Gloves	Medium	100 eaches/box 10 boxes/case
53140	STERLING-XTRA* Nitrile Powder-Free Exam Gloves	Large	100 eaches/box 10 boxes/case
53141	STERLING-XTRA* Nitrile Powder-Free Exam Gloves	X-Large	100 eaches/box 10 boxes/case

PURPLE NITRILE-XTRA* Sterile Pairs Exam Gloves - 12"

Material: Nitrile, Powder-Free, **Thickness Fingertip:** (.15 mm 5.9 mil) **Length:** 12" 305 mm

Item	Description	Size	Packaging
14259	PURPLE NITRILE-XTRA* Sterile Pairs Exam Gloves	X-Small	50 pairs/box 4 boxes/case
14260	PURPLE NITRILE-XTRA* Sterile Pairs Exam Gloves	Small	50 pairs/box 4 boxes/case
14261	PURPLE NITRILE-XTRA* Sterile Pairs Exam Gloves	Medium	50 pairs/box 4 boxes/case
14262	PURPLE NITRILE-XTRA* Sterile Pairs Exam Gloves	Large	50 pairs/box 4 boxes/case
14263	PURPLE NITRILE-XTRA* Sterile Pairs Exam Gloves	X-Large	50 pairs/box 4 boxes/case

For more information, please visit:

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- 1 Oncology Nursing Society (ONS): Chemotherapy and Biotherapy Guidelines and Recommendations for Practice 2005.
- 2 American Society of Health-System Pharmacists (ASHP): Guidelines on Handling Hazardous Drugs. Am J. Health-Syst Pharm 2006; 63:1172-93.
- 3 Occupational Safety and Administration (OSHA): Controlling Occupational Exposure to Hazardous Drugs.
- 4 National Institute for Occupational Safety and Health (NIOSH): Preventing Occupational Exposure to Antineoplastic and Other Hazardous Drugs in Health Care Settings, September 2004-165.
- 5 ASTM International: Standard Practice for Assessment of Resistance of Medical Gloves to Permeation by Chemotherapy Drugs, April 2005.

- A OSHA recommends changing gloves every hour when working with cytotoxic drugs.
B No established chemotherapy standards exist for facial protection relating to duration of wear.
= When wearing protective apparel during contact with other chemicals and reagents, users should always review the corresponding material safety data sheets to determine the required level of protection the apparel should provide.
== It is also important to note that resistance to permeation is the only Governmental requirement for making a claim that gloves can be used with chemotherapy drugs. It is up to each facility to review guidelines published by professional association in establishing their own chemotherapy and general hazardous drug glove usage policy.

www.halyardhealth.com



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