

# VWR<sup>®</sup> disposable gloves

01. PPE REGULATION

02. GREEN GLOVE

03. SELECTION GUIDE



# VWR® disposable gloves

We have a  
solution to  
protect your  
health and  
safety

Disposable gloves, commonly made from natural or synthetic rubber, are worn to protect the wearer against harmful environmental influences and/or used by care givers in healthcare to protect themselves and patients from infections.

The VWR range of disposable gloves offers a variety of choices depending on your application and according to the Personal Protective Equipment Directive (EU) 2016/425 and Medical Devices Directive 93/42/EEC.



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# Introduction



## WHAT ARE DISPOSABLE GLOVES?

A disposable glove is a garment commonly made from natural or synthetic rubber that covers the whole hand and is used to protect the wearer against harmful environmental influences and/or used by care givers in healthcare to protect themselves and patients from infections. As the name implies, disposable gloves are designed for single-use only and should be disposed of immediately after use.

## WHAT DOES DOUBLE DONNING MEAN?

The practice of wearing two layers of gloves to provide maximum safety in situations with increased danger of glove failure, e.g. when dealing with particularly aggressive chemicals or high risk patients.

## ARE POWDER-FREE GLOVES COMPLETELY FREE OF PARTICLES?

Due to different manufacturing processes, a minimum amount of powder residues may still be found within powder-free gloves. According to EN 455-3, a glove is considered as being powder-free if residual powder content does not exceed 2,0 mg per glove.

## CHARACTERISTICS OF DISPOSABLE GLOVES

### Material

Most commonly used raw materials for the production of disposable gloves are Natural Rubber latex (NR gloves), Nitrile Butadiene Rubber (NBR gloves) and Poly Vinyl Chloride (PVC) gloves

### Size and shape

Disposable examination and protective gloves are usually available in various sizes between XS and XXL and can be equally worn on the left or on the right hand (ambidextrous shape), whereas surgical gloves are offered in a higher variety of sizes and are anatomically shaped.

### Texture

Gloves are offered in several different textures, from smooth to fingertip or fully textured varieties depending on the application.

### Inner treatment

Disposable gloves can be either powdered or powder-free. Powdered gloves offer the advantage of easier donning even with sweaty hands, while powder-free gloves are more skin friendly as they contain less chemical residues. Powder-free, natural rubber gloves also have a lower water soluble protein content that also enhances the skin friendliness (see allergies). Special manufacturing processes such as synthetic inner coating or chlorination also help make donning easier.

### Colour

Disposable gloves come in various colours depending on both intended use or just personal preference.

### Sterility

Non sterile gloves are mainly used for hygienic purposes or for self-protection, whereas sterile gloves are used for sterile procedures in hospitals or laboratories, where contamination of patients and/or handled materials must be avoided.

# Disposable glove materials

## ADVANTAGES AND DISADVANTAGES

**Natural rubber latex gloves**, commonly referred to as just latex, are very comfortable to wear and traditionally offer the best fit and feel, however, their main disadvantage is that the natural latex proteins can cause, or trigger, allergies either immediately or with continued use.

Synthetic **nitrile** gloves, made of nitrile butadien rubber (NBR), can be used as an alternative for people allergic to natural latex or those who want to prevent an allergy developing.

**Vinyl** gloves are an economical alternative for applications where mechanical stress and barrier protection are of less

importance. The skin friendly material is suitable for users suffering from a latex or chemical allergy. One drawback is that the use of plasticisers, as main component in the production of vinyl gloves, disqualify them from handling fats or fatty foodstuffs.

**General note:** Before using any glove with chemicals, the specific manufacturer's chemical resistance list should be consulted. However, in general, latex offers good resistance against many acids and alkalis, but is permeable to many solvents, while nitriles have enhanced resistance to many chemicals, particularly oils.



Latex	Nitrile	Vinyl
-------	---------	-------



Comfort	••	•	•
Elasticity	••	•	•
Grip/tactility	••	••	•
Tear resistance	••	••	•
Typical material elongation*	800%	600%	300%
Puncture resistance	•	••	•
Chemical resistance	•	••	•
Latex proteins	Present •	Not present •	Not present •
Accelerators	Present •	Present •	Not present •
Plasticisers	Not present •	Not present •	Present •

\*Typical material elongation value in percentage.

••	Highly recommended
•	Recommended
•	Not recommended

# The most important quality indicators for disposable gloves

## FREEDOM FROM HOLES - AQL LEVEL

AQL is a statistical measure of quality assurance that determines how many defective units are allowed in a batch of manufactured products by randomly selecting a certain quantity. The lower the AQL level, the higher the assumed level of quality and personal protection.

For protective gloves applying to complex risks (EN 374) and medical gloves (EN 455), the standard maximum AQL of 1,5 for holes is required in Europe. This is determined by more stringent inspection requirements than an AQL level of 2,5 or 4,0, that is more likely to be used for applications where barrier protection is less crucial.

## TENSILE PROPERTIES – FORCE AT BREAK

Even under extreme conditions disposable examination and protective gloves have to offer maximum safety. Therefore, robustness and tensile strength are of crucial importance. The tensile strength is defined as the force (or load) applied to a defined specimen until it breaks, taking into account thickness and width. The result is expressed in Newton(N)/mm<sup>2</sup> or megapascals (MPa), as the performance parameter of the material used in ASTM standards.

European standards indicate force at break in Newtons. In general, the lower the tensile strength, the easier gloves with the same wall thickness tear if they are subject to pressure or get stuck. The European standard for medical gloves (EN 455) prescribes a Force at Break of median  $\geq 6$  N.

## IT'S THE FORMULATION AND NOT THE WEIGHT THAT COUNTS!

The perceived quality of a glove is often associated with higher weight, which is not necessarily true. Manufacturers often use fillers to increase the glove weight and create a perceived higher level of quality at reduced costs. The moderate use of fillers is tolerable and can improve certain glove properties, whereas the excessive use of fillers can lead to a significant deterioration of glove performance characteristics.

Other factors affecting glove quality include the quality of raw materials, specific formulations/compounding, manufacturing process and quality inspection routines.



# Allergies

## WHAT IS THE ALLERGY POTENTIAL OF DISPOSABLE GLOVES?

Water-soluble proteins, that are extracted from latex gloves by sweat, can cause allergies and are the main cause of allergic reactions towards disposable gloves.

Allergy to natural latex proteins is an immediate type (Type I) allergy. Allergic reactions to the chemicals used in the production process (accelerators or release agents) are called Type IV (delayed) allergies.

## IS THERE A LIMIT TO THE PROTEIN CONTENT OF LATEX GLOVES?

Powder-free gloves undergo an intensive leaching and washing process in order to ensure that the leachable protein level is 'As Low As Reasonably Practicable' (ALARP). However, when using Natural Rubber latex (NR) gloves it is not possible to eliminate exposure to allergic proteins completely, and so there is no defined safe limit.

Consequently, as part of risk-control measures for any glove made from NR it must be clearly indicated on the primary packaging that the glove contains natural rubber latex, plus an additional warning that the product may lead to allergic reactions. Any labelling claims suggesting a lower than usual protein level is not allowed. The lowest allowable protein level that a manufacturer can claim for examination gloves is 50 µg/g in line with regulation EN 455-3.

## CAN A LATEX ALLERGY BE PREVENTED?

A latex allergy can be prevented by using latex-free gloves, such as nitrile or PVC gloves or by using powder-free latex gloves featuring a low protein level. Consistent skincare, including the good drying of hands after washing, and the regular use of lotion, can also help prevent allergies.

# Disposable glove uses

Glove selection should be based on the nature and potential hazard of the substances dealt with, as well as the type of exposure. When working with materials that are harmful to the skin, please always inspect the glove for any holes or tears prior to use. In principle, tests and certificates may only be regarded as general indications, and do not exempt the user from the responsibility of making sure that the glove affords the protection requirements for the intended purpose prior to use.

## IS IT POSSIBLE TO DISINFECT DISPOSABLE GLOVES?

The intended use of a disposable examination or protective glove does not include disinfection of the glove, as depending on the type and formula of disinfectants, they may have a major effect on the glove's physical properties. Studies exist that suggest that some gloves can be disinfected, however, VWR do not recommend this because after disinfection, an intact glove film cannot be guaranteed.

## SELECTION OF GLOVES FOR HANDLING CHEMICALS

Thin, disposable gloves are designed for incidental contact with chemicals, providing a basic barrier and protection, combined

with good tactility and wearing comfort. In general, a higher thickness correlates with higher break through times – but this is only valid for the same material. Nitrile gloves are usually preferred over disposable latex and vinyl gloves because of their enhanced chemical resistance.

VWR single-use protective gloves have been tested in accordance with EN 374-3:2003 "Determination of resistance to permeation by chemicals" and EN 16523-1:2015 "Determination of material resistance to permeation by chemicals".

Please note that the product characteristics are directly dependent on the conditions of use and on the purity of the chemical substances concerned. The chemical resistance has been assessed under laboratory conditions and cannot reflect all actual conditions. When working with materials that are harmful to the skin, please always inspect the glove for any holes or tears prior to use. In principle, tests and certificates may only be regarded as general indications and do not exempt the user from the responsibility of making sure that the glove affords the protection requirements for the intended purpose prior to use.

Please check use carefully as chemical resistance recommendations do not form part of the specifications. Failure to observe this information, in particular with regard to (chemical) resistance, frequency of use and tolerability of the gloves, can result in personal injury and/or material damage. If in of doubt, obtain expert advice before use.

The latest technical datasheets for each product are available at [vwr.com](http://vwr.com)



Level of protection	Maximum recommended contact time (min)
X	Not recommended
A	Splash protection – change glove immediately after contact
Level 1	10
Level 2	30
Level 3	60
Level 4	120
Level 5	240
Level 6	<480

## RECOMMENDATIONS ON CHEMICAL RESISTANCE

Chemicals (synonyms)	CAS No.	VWR Nitrile light 300 mm	VWR Nitrile light 240 mm	VWR Nitrile extra light	VWR Nitrile white	VWR Nitrile Green	VWR Nitrile
Acetic acid (10%)	64-19-7	Level 5	Level 5	Level 3	Level 3	Level 3	n/a
Acetone (2-propanone, methyl ketone)	67-64-1	X	X	X	X	X	X
Acetonitrile (cyanomethane, ethyl nitrile)	75-05-8	X	X	X	X	X	X
Acryl amide (40%)	79-06-1	Level 6	Level 6	Level 6	Level 6	Level 6	Level 6
Ammonium hydroxide (25 %)	1336-21-6	Level 1	Level 1	A	A	n/a	Level 1
Benzalconiumchloride liquid (Quats)	63449-41-2	n/a	n/a	n/a	n/a	n/a	n/a
Chlorhexidindigluconat (0,5 %)	18472-51-0	n/a	n/a	Level 6	Level 6	n/a	n/a
Chloroform (trichlormethan)	67-66-3	X	X	X	X	X	X
Dichlormethan (methylenedichlorid, freon 30)	75-09-2	X	X	X	X	X	X
Diethyl amine (DEA)	109-89-7	X	X	X	X	X	X
Diethyl ether (diethyloxid, ethoxyethane)	60-29-7	X	X	X	X	X	X
Dimethylsulfoxid DMSO (deltan, demasorb)	67-68-5	X	X	X	X	X	X
Ethanol (10%) (ethyl alcohol)	64-17-5	n/a	n/a	n/a	n/a	n/a	n/a
Ethanol (20%) (ethyl alcohol)	64-17-5	Level 6	Level 6	Level 1	Level 1	Level 1	Level 6
Ethanol (70%) (ethyl alcohol)	64-17-5	A	A	X	X	n/a	Level 3
Ethidium bromide (1%) (homidium bromide)	1239-45-8	Level 6	Level 6	Level 6	Level 6	Level 6	Level 6
Ethyl acetate (aceto acid ether)	141-78-6	X	X	X	X	n/a	n/a
Fentanyl Citrate Inj. (100µg/2ml)		n/a	n/a	Level 5	Level 5	n/a	n/a
Formaldehyd (37%) with methanol (10%)	50-00-0	Level 6	Level 6	Level 6	Level 6	Level 6	Level 6
Gasoline (petrol, heavy, 150 - 190°C)	8032-32-4	X	X	X	X	X	X
Glutaraldehyde (5%) (pentan-1,5- dial, glutaral)	111-30-8	Level 6	Level 6	Level 6	Level 6	Level 6	Level 6
Heptane - n	142-82-5	X	X	X	X	n/a	n/a
Hexane - n	110-54-3	A	A	X	X	n/a	n/a
Hydrochloric acid (10%) (muriatic acid, chlorhydric acid)	7647-01-0	n/a	n/a	Level 6	Level 6	Level 6	Level 6
Hydrochloric acid (36%) (muriatic acid, chlorhydric acid)	7647-01-0	n/a	n/a	A	A	n/a	Level 6
Hydrofluoric acid (40%)	7664-39-3	A	A	n/a	n/a	n/a	A
Hydrogen peroxide (30 %)	7722-84-1	Level 6	Level 6	Level 6	Level 6	Level 6	Level 6
Isopropyl alcohol (70%) (2-propanol, IPA)	67-63-0	Level 3	Level 3	A	A	Level 1	Level 6
Methanol (5%) (methyl alcohol)	67-56-1	Level 6	Level 6	n/a	n/a	n/a	n/a
Methanol p.a. (methyl alcohol)	67-56-1	X	X	X	X	n/a	X
Methylmethacrylate (MMA)	80-62-6	n/a	n/a	n/a	n/a	n/a	n/a
Ninhydrin (0,2%)	485-47-2	n/a	n/a	n/a	n/a	n/a	n/a
Nitric acid (10%)	7697-37-2	Level 6	Level 6	Level 6	Level 6	Level 6	Level 6
Nitric acid (36%)	7697-37-2	Level 3	Level 3	n/a	n/a	n/a	n/a
Octenidin (0,1%)	71251-02-0	n/a	n/a	n/a	n/a	n/a	n/a
Phenol (10%)	108-95-2	X	X	X	X	n/a	n/a
Phosphoric acid (85%) (orthophosphoric acid)	7664-38-2	n/a	n/a	n/a	n/a	n/a	n/a
Potassium hydroxide (50%) (caustic potash, lye)	1310-58-3	n/a	n/a	n/a	n/a	n/a	n/a
Povidone iodine (10%)	25655-41-8	n/a	n/a	n/a	n/a	n/a	n/a
Sodium hydroxide (40%) (caustic soda, lye, white caustic)	1310-73-2	Level 6	Level 6	Level 6	Level 6	Level 6	Level 6
Sodium hypochlorite (10%)	7681-52-9	n/a	n/a	n/a	n/a	n/a	n/a
Sulfuric acid (30%) (vitriol)	7664-93-9	n/a	n/a	n/a	n/a	n/a	n/a
Sulfuric acid (96%) (vitriol)	7664-93-9	Level 1	A	A	A	A	A
Toluene (methylbenzol, phenylmethan, toluol)	108-88-3	X	X	X	X	X	X
Trichlorethane (methyltrichloromethane)	71-55-6	X	X	X	X	X	X
Xylene (xylo, dimethylbenzene)	95-47-6	X	X	X	X	X	X



**CAUTION:**  
 Damaged, or gloves that have changed appearance, should be changed immediately!

## WHICH GLOVES CAN BE USED WHEN HANDLING CYTOTOXIC DRUGS?

By their very nature cytotoxic drugs are highly toxic and appropriate hand protection against chemotherapy drug exposure is vital. Gloves should be selected in accordance with the specific type of chemical used.

Using a nitrile examination glove may be a good alternative for the handling of cytotoxic drugs, whereas a surgical glove, made of natural rubber latex, or synthetic polyisoprene latex, is recommended for the preparation of chemotherapy drugs. In any case, gloves using ASTM D-6978-05 to test for resistance against chemotherapy drugs should be chosen. Gloves should always be checked for damage before use, and double donning is recommended to increase protection.

VWR single-use gloves have been tested in accordance with ASTM F 739 'Standard Test Method for Resistance of Protective ASTM D 6978 'Assessment of Resistance of Medical Gloves to Permeation by Chemotherapy Drugs' by independent accredited test institutes.

Permeation level values are based on tests in a laboratory under fixed conditions and do not reflect actual conditions. As a rule, tests and certificates can only be regarded as general information and will not discharge the user from making sure that the glove will correspond to actual protection needs.

### Test results by:

- ARDL Akron Rubber Development Laboratory, Ohio, USA
- ProQares, Rijswijk, Netherlands

Breakthrough Detection Time (BDT) = minutes (min); testing temperature = 23,5 °C/concentration: According instruction leaflet.

## RECOMMENDATIONS ON CHEMICAL RESISTANCE - CYTOTOXICS

Chemotherapy Drug	mg/ml	VWR Nitrile light 300 mm	VWR Nitrile light 240 mm	VWR Nitrile extra light	VWR Nitrile white	VWR Nitrile Green
		Nitrile – NBR	Nitrile – NBR	Nitrile – NBR	Nitrile – NBR	Nitrile – NBR
		BDT	BDT	BDT	BDT	BDT
5-Fluorouracil	50.0	> 240	> 240	> 240	> 240	> 240
Carmustine (BiCNU)	3.3	19	25	14	14	15
Cisplatin	1.0	n/a	> 240	> 240	> 240	> 240
Cyclophosphamide (cytoxan)	20.0	87	> 240	> 240	> 240	> 240
Dacarbazine (DTIC)	10.0	n/a	> 240	> 240	> 240	> 240
Doxorubicin, hydrochloride	2.0	> 240	> 240	> 240	> 240	> 240
Epirubicin	2.0	n/a	n/a	n/a	n/a	n/a
Etoposide	20.0	> 240	> 240	> 240	> 240	> 240
Methotrexate (amethopterin hydrate)	25.0	n/a	> 240	> 240	> 240	> 240
Mitomycin C	0.5	n/a	> 240	> 240	> 240	> 240
Mitoxantrone	2.0	n/a	> 240	> 240	> 240	> 240
Paclitaxel (Taxol)	6.0	> 240	> 240	> 240	> 240	> 240
Thio-Tepa	10.0	30	85	13	13	11
Vincristine	1.0	n/a	> 240	> 240	> 240	> 240

Classification
Suitable if changed before permeation breakthrough
Suitable for longer operations*

\*For reason of precaution it is recommended to change gloves after 2 hours!

# New PPE regulation

In April 2018, a new PPE Regulation (EU) 2016/425 became applicable replacing the existing PPE Directive 89/686/EEC.

In addition, requirements for chemical protective gloves have been revised and a new EN ISO 374-1:2016 has been published which will imply several changes in the testing and labelling of our VWR Collection gloves.

In future, the Declaration of Conformity for PPE-labelled gloves will be accessible on the [vwr.com](http://vwr.com) website and packaging will include a direct link (QR Code) to access the Declaration of Conformity for each product.

## THE NEW EN ISO 374-1:2016 STANDARD FOR CHEMICAL PROTECTIVE GLOVES

The new standard considers three types of chemical protective gloves:

1



**TYPE A GLOVES** - need to achieve at least a permeation level of 2 (longer than 30 minutes) against six of the chemicals listed in EN ISO 374-1. As a minimum, the six tested chemicals will be identified by their code letters under the flask pictogram.



**TYPE B GLOVES** - need to achieve at least a permeation level of 2 (longer than 30 minutes) against at least three of the chemicals listed in EN ISO 374-1. The tested chemicals will be identified by their code letter under the flask pictogram.



**TYPE C GLOVES** - need to achieve at least a permeation level 1 (longer than 10 minutes) against one of the chemicals listed in EN ISO 374-1.

## THE LIST OF CHALLENGE CHEMICALS IN EN ISO 374-1 INCLUDES 6 ADDITIONAL CHEMICALS

2

Code letter	Chemical	CAS no.	Class
A	Methanol	67-56-1	Primary alcohol
B	Acetone	67-64-1	Ketone
C	Acetonitrile	75-05-8	Nitrile compound
D	Dichloromethane	75-09-2	Chlorinated paraffin
E	Carbon disulphide	75-15-0	Organic compound containing sulphur
F	Toluene	108-88-3	Aromatic hydrocarbon
G	Diethylamine	109-89-7	Amine
H	Tetrahydrofuran	109-99-9	Heterocyclic and ether compound
I	Ethyl acetate	141-78-6	Ester
J	n-Heptane	142-82-5	Saturated hydrocarbon
K	Sodium hydroxide (40%)	1310-73-2	Inorganic base
L	Sulphuric acid (96%)	7664-93-9	Inorganic mineral acid
M	Nitric acid (65%)	7697-37-2	Inorganic mineral acid
N	Acetic acid (99%)	64-19-7	Organic acid
O	Ammonium hydroxide (25%)	1336-21-6	Organic base
P	Hydrogen peroxide (30%)	7722-84-1	Peroxide
S	Hydrofluoric acid (40%)	7664-39-3	Inorganic mineral acid
T	Formaldehyde (37%)	50-00-0	Aldehyde

3

### AS A NEWLY ADDED PART TO THE STANDARD SERIES OF CHEMICAL PROTECTIVE GLOVES, EN 374-4 SPECIFIES THE DETERMINATION OF RESISTANCE TO DEGRADATION BY CHEMICALS.

Coming into contact with a chemical can have an impact on the material properties of a protective glove, not only during contact with the chemical, but also subsequently. Degradation testing, therefore, includes the testing of the change of material's properties after exposure to chemicals.



Although EN ISO 374-1 contains no performance requirements for degradation, the EN 374-4 result will need to be included in the user instructions, and is indicated as a percentage degradation.

4

### EN ISO 374-5:2016 IS A NEWLY INTRODUCED STANDARD AND SPECIFIES THE REQUIREMENTS AND TEST METHODS FOR PROTECTIVE GLOVES INTENDED TO PROTECT THE USER AGAINST MICROORGANISMS.



It refers to resistance testing to **penetration of virus, fungi and bacteria**, and relates to the testing standard ISO 16604:2004.

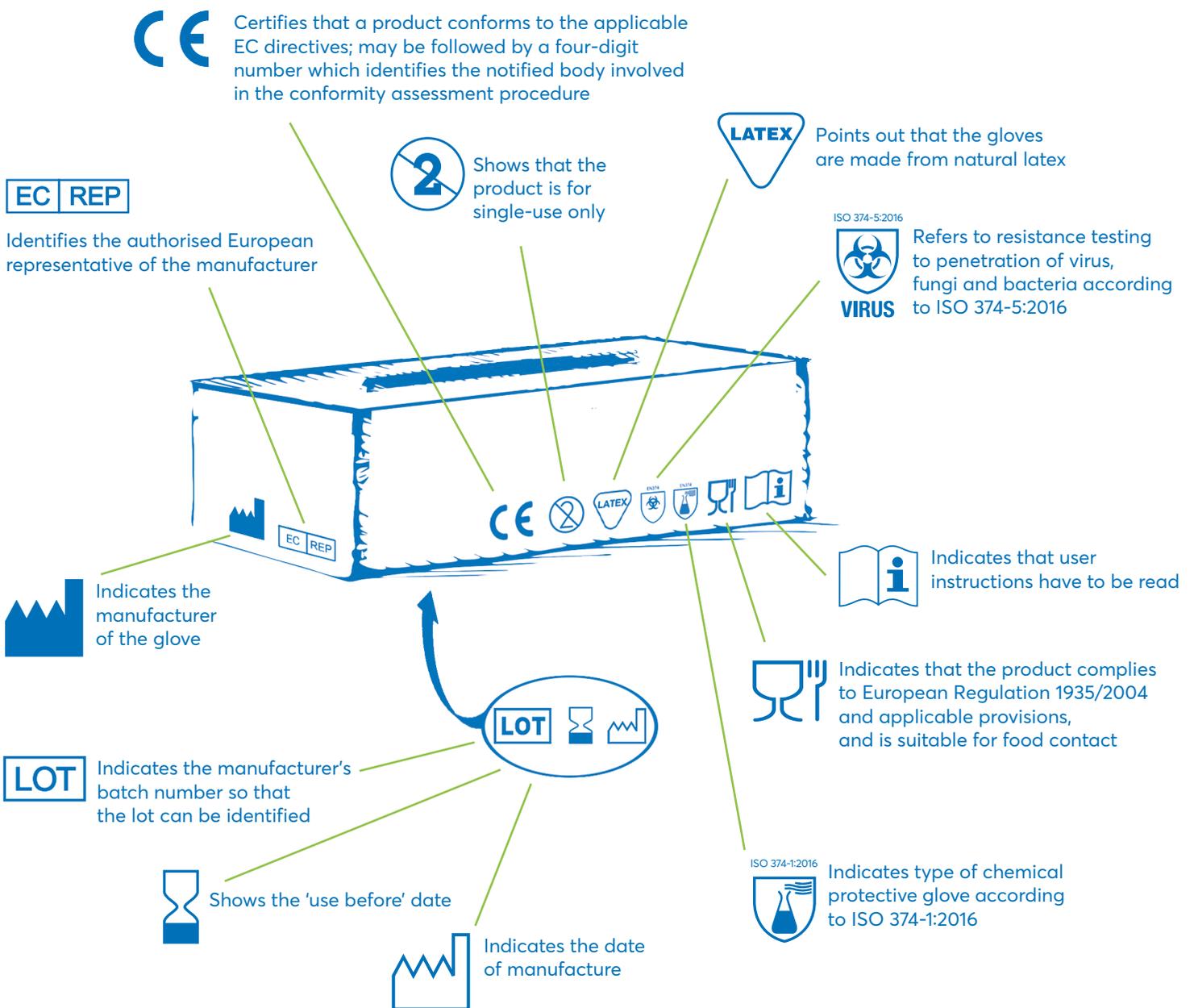
**VWR will continue to test and certify its gloves to the more stringent ASTM standard for microorganisms, which is FDA-approved and also accepted by the PPE Notified Body as part of the EU type examination procedure.**

As such, VWR will continue to label in accordance with the internationally accepted ASTM F1671/F1671M-13 testing standard.

**VWR, together with its trusted Notified Bodies, are jointly working on a transition plan in order to issue new EU type examination certificates and respective Declarations of Conformity in accordance with PPE Regulation (EU) 2016/425. In the course of this process, all Category III marked protective gloves will be tested and certified according to the newest EN ISO 374-1:2016 standard.**



# What do the pictograms and symbols on glove boxes mean?



# New glove generation

This eco-friendly green nitrile\* glove, conserves the earth's resources as well as protecting your hands. An innovative redesign of production methods saves on gas, electricity and CO<sub>2</sub> emissions. So, while you're wearing a glove that is skin-friendly and provides an effective barrier against blood-borne pathogens and viruses, you can be sure that your carbon footprint is also being reduced.

As well as being completely latex-free, the glove is made without any rubber accelerators. This means that the risk of delayed Type-IV hypersensitivity is reduced as there are no residues from commonly known triggers of skin irritation like thiurams, carbamates and thiazoles.

## GO MORE SUSTAINABLY GREEN FOR:

- Skin-friendliness - no chlorine, no natural rubber latex proteins or accelerators
- Synthetic inner coating for fast and easy glove donning
- Ambidextrous with rolled edge
- Textured fingertips provide extra grip for wet or dry applications
- Comfortable and strong glove material is stable and pleasant to wear - even over long periods
- Bright mint-green colour to uplift your mood!

## TECHNICAL SPECIFICATIONS

Single use, non-sterile powder-free glove for use as medical device class I (MD Directive 93/42 EEC) and single-use protective glove for complex risks, category III (Regulation (EU) 2016/425).

**Size/overall length** as per EN 455-2 XS, S, M, L, XL 240 mm

**Wall thickness** measured in double layer in the palm area min. 0,12, Typical 0,14 mm

**Barrier performance** tightness as per EN 455-1 AQL 1.5

**Force at break** as per EN 455-2 specified  $\geq 6$  newton

**Durability** 3 years in original packaging if stored as per ISO 2230

**Standards and labelling** EN 455-1/-2/-3/-4, EN 420, EN ISO 374-1, EN 374-2, EN 16523-1, EN 374-4, EN ISO 374-5, ISO 15223-1

\* Nitrile Butadiene Rubber (NBR)



GOOD FOR  
YOUR HANDS

GOOD FOR  
THE PLANET

Made using 12% LESS water and with a 17% reduction in CO<sub>2</sub> emissions when compared with conventional production processes.

## UNSURE WHICH DISPOSABLE GLOVE TO CHOOSE?

Type	Intended use	Size	Packaging	Thickness (palm) in mm (double measured/ minimum values)	Length in mm	AQL	EN 420	EN ISO 374-1	EN 374-2	EN 16523-1	EN 374-4	EN ISO 374-5	EN 455-1	EN 455-2	EN 455-3	EN 455-4		Permeation data	Cat. No.	
<b>Nitrile disposable gloves</b>																				
<b>Ultra thin White nitrile gloves</b>																				
	Medical applications, food processing and for general applications in non hazardous areas.	XS	200	0,12	240	1,5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	112-4511	
		S	200																112-4512	
		M	200																112-4513	
		L	200																112-4514	
		XL	180																112-4515	
<b>Green nitrile gloves</b>																				
	General laboratory use, food processing, medical examination and cytotoxics handling.	XS	200	0,12	240	1,5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	112-5154	
		S	200																112-5155	
		M	200																112-5156	
		L	200																112-5157	
		XL	180																112-5158	
<b>Nitrile extra light gloves - violet</b>																				
	General laboratory use, chemical splashes, food processing, medical examination, general nursing care and cytotoxics handling.	XS	200	0,12	240	1,5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	112-4193	
		S	200																112-4194	
		M	200																112-4195	
		L	200																112-4196	
		XL	180																112-4197	
<b>Nitrile light gloves - blue</b>																				
	General laboratory use, chemical splashes, food processing, medical examination, general nursing care and cytotoxics handling.	XS	100	0,16	240	1,5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	112-2765	
		S	100																112-2754	
		M	100																112-2755	
		L	100																112-2756	
		XL	90																112-2757	
		XS	100	0,16	300	1,5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	112-2766
		S	100																	112-2767
		M	100																	112-2768
		L	100																	112-2769
		XL	90																	112-2770
<b>Standard nitrile gloves - blue</b>																				
	General laboratory use, chemical splashes, biotechnology, food processing and cytotoxics handling.	S	100	0,22	240	1,5	✓	✓	✓	✓	x	✓	x	x	x	x	x	✓	✓	112-2371
		M	100																	112-2372
		L	100																	112-2373
		XL	90																	112-3101
<b>Latex disposable gloves</b>																				
<b>Latex gloves - natural, powder-free</b>																				
	General laboratory use, chemical splashes, biotechnology, research and clinical labs.	XS	100	0,16	240	1,5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	112-2764	
		S	100																112-2750	
		M	100																112-2751	
		L	100																112-2752	
		XL	90																112-2753	
<b>Latex gloves - natural, powdered</b>																				
	General laboratory use, chemical splashes, biotechnology, research and clinical labs.	S	100	0,16	240	1,5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	112-1565
		M	100																	112-1566
		L	100																	112-1567
		XL	90																	112-1568
<b>Vinyl disposable gloves</b>																				
<b>Vinyl gloves - transparent, powder-free</b>																				
	General use - economical alternative where mechanical stress and barrier protection are of less importance.	S	100	0,13	240	1,5	✓	✓	✓	x	✓	x	✓	✓	✓	x	✓	x	112-2761	
		M	100																112-2762	
		L	100																112-2763	
		XL	90																112-2772	
<b>Vinyl gloves - transparent, powdered</b>																				
	General use - economical alternative where mechanical stress and barrier protection are of less importance.	S	100	0,13	240	1,5	✓	✓	✓	x	✓	x	✓	✓	✓	x	✓	x	112-2758	
		M	100																112-2759	
		L	100																112-2960	
		XL	90																112-2771	



**NITRILE GLOVES, NITRILE GREEN**

These single-use examination and disposable protective gloves are made from nitrile and are developed with sustainability in mind. They are suitable for use in medical applications, food processing and for general lab requirements in non hazardous areas.

- Free from chlorine, natural rubber latex proteins and rubber accelerators, particularly skin friendly for users with latex allergy
- Non sterile, powder-free
- Textured fingertips provide extra grip for wet or dry applications
- Synthetic inner coating for fast and easy glove donning
- Comfortable, strong glove material ensures stability and wearer comfort over long periods of time

Thanks to new sustainable and innovative production methods, you can reduce your eco-footprint while still wearing a glove that is skin friendly, and provides superior barrier protection against blood-borne pathogens and viruses. The production process for these gloves has been redesigned to save gas, electricity and CO<sub>2</sub> emissions.

EN 420, EN ISO 374-1, EN 374-2, EN 16523-1, EN 374-4, EN ISO 374-5, EN 455 1-4; ASTM D6319, ASTM F1671; MDD Class 1; PPE Cat. III

Food contact approved.

Supplied in a practical 200 piece big pack for simplified stock logistics, reduced replacement intervals in the workplace, and less packaging waste.

\* Thickness is double measured, minimum values

Model	Nitrile PF Green
Ambidextrous/hand-specific	Ambidextrous
Disposable/reusable	Disposable
Latex/latex-free	Latex-free
Powdered/powder-free	Powder-free
Finish	Textured fingertips
Cuff style	Rolled
Cuff thickness	0,10 mm*
Finger thickness	0,14 mm*
Palm thickness	0,12 mm*
EN norm	EN 420, EN ISO 374-1, EN 374-2, EN 16523-1, EN 374-4, EN ISO 374-5, EN 455 1-4
Food contact approved	+

Glove size	Colour	Length (mm)	Packed	Pk	Cat. No.
XS	Mint green	240	200/box	200	112-5154
S	Mint green	240	200/box	200	112-5155
M	Mint green	240	200/box	200	112-5156
L	Mint green	240	200/box	200	112-5157
XL	Mint green	240	200/box	180	112-5158



**NITRILE GLOVES, NITRILE WHITE**

These thin, ambidextrous gloves are suitable for use in medical applications, food processing and for general applications in non hazardous areas.

- Non sterile, powder-free, textured fingers
- Very thin: Provide excellent elasticity for good wearer comfort
- Free from phthalates/softeners and allergenic latex proteins; particularly skin friendly for users with latex allergy
- Beaded cuffs for easier donning
- Low thickness and textured fingertips for excellent grip

EN 420, EN ISO 374-1, EN 374-2, EN 16523-1, EN 374-4, EN ISO 374-5, EN 455 1-4; ASTM D6319, ASTM F1671; MDD Class I; PPE Cat. III

Food contact approved.

\* Thickness is double measured, minimum values

Model	Nitrile White
Ambidextrous/hand-specific	Ambidextrous
Disposable/reusable	Disposable
Powdered/powder-free	Powder-free
Finish	Textured fingertips
Cuff style	Beaded
Cuff thickness	0,10 mm*
Finger thickness	0,18 mm*
Palm thickness	0,12 mm*
EN norm	EN 420, EN ISO 374-1, EN 374-2, EN 16523-1, EN 374-4, EN ISO 374-5, EN 455 1-4
Food contact approved	+

Glove size	Colour	Length (mm)	Packed	Pk	Cat. No.
XS	White	240	200/box	200	112-4511
S	White	240	200/box	200	112-4512
M	White	240	200/box	200	112-4513
L	White	240	200/box	200	112-4514
XL	White	240	180/box	180	112-4515

**NITRILE GLOVES, NITRILE EXTRA LIGHT**

These thin, ambidextrous gloves are suitable for use in medical applications, food processing and for general lab requirements in non hazardous areas.

- Non sterile, powder-free, textured fingertips
- Very thin: Provide excellent elasticity for good wearer comfort
- Free from phthalates/softeners and allergenic latex proteins; particularly skin friendly for users with latex allergy
- Beaded cuffs for easier donning
- Low thickness and textured fingertips for excellent grip

EN 420, EN ISO 374-1, EN 374-2, EN 16523-1, EN 374-4, EN ISO 374-5, EN 455 1-4; ASTM D6319, ASTM F1671; MDD Class 1; PPE Cat. III

Food contact approved.

\* Thickness is double measured, minimum values

Model	Nitrile Extra Light
Ambidextrous/hand-specific	Ambidextrous
Disposable/reusable	Disposable
Latex/latex-free	Latex-free
Powdered/powder-free	Powder-free
Cuff style	Beaded
Cuff thickness	0,10 mm*
Finger thickness	0,14 mm*
Palm thickness	0,12 mm*
EN norm	EN 455, EN 374
Food contact approved	+

Glove size	Colour	Length (mm)	Packed	Pk	Cat. No.
XS	Pale purple	240	200/box	200	112-4193
S	Pale purple	240	200/box	200	112-4194
M	Pale purple	240	200/box	200	112-4195
L	Pale purple	240	200/box	200	112-4196
XL	Pale purple	240	180/box	180	112-4197



Gloves, Nitrile light

**NITRILE GLOVES, NITRILE LIGHT**

These light, ambidextrous and durable gloves are ideal for food handling, catering and kitchen work, medical and lab applications and other tasks with complex risks. These thin nitrile gloves are free from phthalates, softeners and allergenic latex proteins.

- Non sterile, powder-free
- Low thickness and textured fingertips for excellent grip
- Particularly skin friendly for users with latex allergy
- Rolled cuffs minimise the risk of tearing

EN 420, EN ISO 374-1, EN 374-2, EN 16523-1, EN 374-4, EN ISO 374-5, EN 455 1-4; ASTM D6319, ASTM F1671; MDD Class I; PPE Cat. III

Food contact approved.

\* Thickness is double measured, minimum values

Model	Nitrile Light (240 mm)	Nitrile Light Long (300 mm)
Ambidextrous/hand-specific		Ambidextrous
Disposable/reusable		Disposable
Latex/latex-free		Latex-free
Powdered/powder-free		Powder-free
Cuff style		Beaded
Cuff thickness	0,12 mm*	0,10 mm*
Finger thickness	0,20 mm*	0,24 mm*
Palm thickness		0,16 mm*
EN norm	EN 420, EN ISO 374-1, EN 374-2, EN 16523-1, EN 374-4, EN ISO 374-5, EN 455 1-4	
Food contact approved	+	

Description	Glove size	Colour	Length (mm)	Packed	Pk	Cat. No.
Nitrile Light	XS	Blue	240	100/box	100	112-2765
Nitrile Light	S	Blue	240	100/box	100	112-2754
Nitrile Light	M	Blue	240	100/box	100	112-2755
Nitrile Light	L	Blue	240	100/box	100	112-2756
Nitrile Light	XL	Blue	240	90/box	90	112-2757
Nitrile Light Long	XS	Blue	300	100/box	100	112-2766
Nitrile Light Long	S	Blue	300	100/box	100	112-2767
Nitrile Light Long	M	Blue	300	100/box	100	112-2768
Nitrile Light Long	L	Blue	300	100/box	100	112-2769
Nitrile Light Long	XL	Blue	300	90/box	90	112-2770



Gloves, Nitrile

### NITRILE GLOVES, NITRILE

For laboratory use in pharmaceutical, industrial and medical applications, and also in the food industry. These ambidextrous gloves provide extra protection, particularly for sensitive skin.

- Non sterile, powder-free, textured finish
- Highly resistant to chemical solvents and fats
- Excellent grip, especially when holding wet objects
- Designed especially for latex allergy sufferers

EN 420, EN ISO 374-1, EN 374-2, EN 16523-1, EN 374-4, EN ISO 374-5, EN 455 1-3; ASTM D6319, ASTM F1671; PPE Cat. III

Food contact approved.

\* Thickness is double measured, minimum values

<b>Model</b>	Nitrile
<b>Ambidextrous/hand-specific</b>	Ambidextrous
<b>Disposable/reusable</b>	Disposable
<b>Latex/latex-free</b>	Latex-free
<b>Powdered/powder-free</b>	Powder-free
<b>Cuff style</b>	Beaded
<b>Cuff thickness</b>	0,20 mm*
<b>Finger thickness</b>	0,30 mm*
<b>Palm thickness</b>	0,22 mm*
<b>EN norm</b>	EN 420, EN ISO 374-1, EN 374-2, EN 16523-1, EN 374-4, EN ISO 374-5, EN 455 1-3
<b>Food contact approved</b>	+

Glove size	Colour	Length (mm)	Packed	Pk	Cat. No.
S	Blue	240	100/box	100	112-2371
M	Blue	240	100/box	100	112-2372
L	Blue	240	100/box	100	112-2373
XL	Blue	240	90/box	90	112-3101



### LATEX GLOVES, LATEX

Single-use, ambidextrous gloves made from natural latex. Suitable for food handling, laboratory and industrial applications with complex risks, and for medical applications.

- Non sterile, powdered and powder-free
- Free from phthalates and softeners
- Textured fingertips for excellent grip
- Rolled cuffs minimise the risk of tearing

EN 420, EN ISO 374-1, EN 374-2, EN 16523-1, EN 374-4, EN ISO 374-5, EN 455 1-4; ASTM D3578 (except stress at 500% elongation), ASTM F1671; MDD Class I; PPE Cat. III

Food contact approved.

\* Thickness is double measured, minimum values.

Model	Latex		
Ambidextrous/hand-specific	Ambidextrous		
Disposable/reusable	Disposable		
Powdered/powder-free	Powdered		Powder-free
Finish	Textured fingertips		
Cuff style	Beaded		
Cuff thickness	0,12 mm*		
Finger thickness	0,20 mm*		
Palm thickness	0,16 mm*		
EN norm	EN 455, EN 374		
Food contact approved	+		

Model	Glove size	Colour	Length (mm)	Packed	Pk	Cat. No.
Powdered	S	Natural	240	100/box	100	112-1565
Powdered	M	Natural	240	100/box	100	112-1566
Powdered	L	Natural	240	100/box	100	112-1567
Powdered	XL	Natural	240	90/box	90	112-1568
Powder-free	XS	Natural	240	100/box	100	112-2764
Powder-free	S	Natural	240	100/box	100	112-2750
Powder-free	M	Natural	240	100/box	100	112-2751
Powder-free	L	Natural	240	100/box	100	112-2752
Powder-free	XL	Natural	240	90/box	90	112-2753



**VINYL GLOVES, VINYL**

Ambidextrous, durable gloves that are ideal for food handling, catering and kitchen work and also low risk medical applications. They are made of vinyl and free from latex proteins and accelerants.

- Non sterile, powdered or powder-free
- Particularly skin friendly for users with latex allergy
- Rolled cuffs minimise the risk of tearing
- Smooth surface

EN 420, EN 455 1-3; ASTM F1671; PPE Cat. I

Food contact approved according to regulation EC 1935/2004 (non fatty food)

\* Thickness is double measured, minimum values

Ambidextrous/hand-specific	Ambidextrous	
Disposable/reusable	Disposable	
Powdered/powder-free	Powdered	Powder-free
Cuff style	Beaded	
Cuff thickness	0,08 mm*	
Finger thickness	0,09 mm*	
Palm thickness	0,13 mm*	
EN norm	EN 455, EN 374-2	
Food contact approved	+	

Model	Glove size	Colour	Length (mm)	Packed	Pk	Cat. No.
Powdered	S	Transparent	240	100/box	100	112-2758
Powdered	M	Transparent	240	100/box	100	112-2759
Powdered	L	Transparent	240	100/box	100	112-2760
Powdered	XL	Transparent	240	90/box	90	112-2771
Powder-free	S	Transparent	240	100/box	100	112-2761
Powder-free	M	Transparent	240	100/box	100	112-2762
Powder-free	L	Transparent	240	100/box	100	112-2763
Powder-free	XL	Transparent	240	90/box	90	112-2772



**WALL MOUNT FOR FOUR GLOVE OR CLOTHING BOXES**

The adjustable holding points provide true flexibility to hold up to four different boxed protective products, and other lab essentials. Ideal for different boxed sizes of gloves, face masks, ear plugs or shoe covers.

- Four holding positions can hold up to four boxes in one holder
- Wall- or door-mountable, mounting parts included
- No restrictions regarding box size: Open ended holding points are able to hold longer and wider boxes
- Easy to clean, with low profile

Type	LxW (mm)	Colour	Pk	Cat. No.
Wall holder, adjustable, up to 4 positions	762x152	White	1	113-8040



**GLOVE BOX HOLDERS**

Holders made from tough, clear acrylic. You can clearly see the size and material of the gloves within.

- Can hold one, two or three glove boxes
- Polyester foam insert for a secure storage
- Strong, attractive, scratch resistant material

Wall-mount screws included.

Description	WxDxH (mm)	Colour	Pk	Cat. No.
Glove box holder, 1 box	141x110x260	Clear	1	113-8041
Glove boxes holder, 2 boxes	295x110x260	Clear	1	113-8042
Glove boxes holder, 3 boxes	295x110x385	Clear	1	113-8043



### GLOVE BOX HOLDERS, MICROBAN®

These wall-mountable glove box holders are made from polystyrene with Microban® additive.

- Microban® additive prevents growth of moulds and bacteria
- High impact polystyrene, resistant to harsh cleaning solutions
- Modular design allows stacking to save space

Suitable for use in labs, cleanrooms, hospitals and microbiological work areas.

Mounting screws included.

Description	WxDxH (mm)	Colour	Pk	Cat. No.
Glove box holder, Microban®	254x156x97	Blue	3	211-0371



211-0343

### GLOVE BOX HOLDERS

Epoxy coated, steel wire racks.

- Available as a single box or three-box holder
- Can hold most major brands of boxed gloves
- Easy mounting onto a wall

Screws are included.

Description	WxDxH (mm)	Pk	Cat. No.
Glove box holder	140x108x208	1	211-0343
Glove boxes (3) holder	250x108x454	1	211-0344



### GLOVE BOX HOLDER

Glove box holder in durable resin to resist harsh cleaning solutions.

- Wall-mountable design for easy use
- Modular design for horizontal stacking of multiple boxes
- Universal fit for many of the major brands

Suitable for use in labs, cleanrooms, hospitals and microbiological working areas.

Mounting screws included.

Description	WxDxH (mm)	Colour	Pk	Cat. No.
Glove boxes holder	254x156x97	White	3	611-3119



### WORKSTATION DISPENSER

This acrylic combination accessory dispenser holds the most commonly used laboratory disposables in one central location. Dispenser stores tubes, tips, gloves, Kimwipes® and Parafilm®.

- Two compartments with hinged lid
- One compartment for wipe boxes and one for tape
- One large compartment for gloves or wipe boxes

Description	WxDxH (mm)	Colour	Pk	Cat. No.
Workstation dispenser	265x137x440	Clear	1	216-2006

# Setting science in motion to create a better world



## AUSTRIA

VWR International GmbH  
Graumannsgasse 7  
1150 Wien  
Tel.: +43 1 97 002 0  
info.at@vwr.com

## BELGIUM

VWR International bvba  
Researchpark Haasrode 2020  
Geldenaaksebaan 464  
3001 Leuven  
Tel.: +32 (0) 16 385 011  
vwr.be@vwr.com

## CZECH REPUBLIC

VWR International s. r. o.  
Veetee Business Park  
Pražská 442  
CZ - 281 67 Stříbrná Skalice  
Tel.: +420 321 570 321  
info.cz@vwr.com

## DENMARK

VWR International A/S  
Tobaksvejnen 21  
2860 Søborg  
Tel.: +45 43 86 87 88  
info.dk@vwr.com

## FINLAND

VWR International Oy  
Valimotie 9  
00380 Helsinki  
Tel.: +358 (0) 9 80 45 51  
info.fi@vwr.com

## FRANCE

VWR International S.A.S.  
Le Périgares – Bâtiment B  
201, rue Carnot  
94126 Fontenay-sous-Bois cedex  
Tel.: 0 825 02 30 30\* (national)  
Tel.: +33 (0) 1 45 14 85 00  
(international)  
info.fr@vwr.com  
\* 0,18 € TTC/min + prix appel

## GERMANY

VWR International GmbH  
Hilpertstraße 20a  
D - 64295 Darmstadt  
Tel.: 0800 702 00 07\* (national)  
Tel.: +49 (0) 6151 3972 0 (international)  
info.de@vwr.com  
\*Freecall

## HUNGARY

VWR International Kft.  
Simon László u. 4.  
4034 Debrecen  
Tel.: +36 52 521130  
info.hu@vwr.com

## IRELAND / NORTHERN IRELAND

VWR International Ltd / VWR  
International (Northern Ireland) Ltd  
Orion Business Campus  
Northwest Business Park  
Ballycoolin  
Dublin 15  
Tel.: +353 (0) 1 88 22 222  
sales.ie@vwr.com

## ITALY

VWR International S.r.l.  
Via San Giusto 85  
20153 Milano (MI)  
Tel.: +39 02 3320311  
info.it@vwr.com

## THE NETHERLANDS

VWR International B.V.  
Postbus 8198  
1005 AD Amsterdam  
Tel.: +31 (0) 20 4808 400  
info.nl@vwr.com

## NORWAY

VWR International AS  
Brynsalleen 4,  
0667 Oslo  
Tel.: +47 22 90 00 00  
info.no@vwr.com

## POLAND

VWR International Sp. z o.o.  
Limkowa 5  
80-175 Gdansk  
Tel.: +48 58 32 38 200  
info.pl@vwr.com

## PORTUGAL

VWR International - Material de  
Laboratório, Lda  
Centro Empresarial de Alfragide  
Rua da Indústria, nº 6  
2610-088 Amadora  
Tel.: +351 21 3600 770  
info.pt@vwr.com

## SPAIN

VWR International Eurolab S.L.  
C/ Tecnología 5-17  
A-7 Llinars Park  
08450 - Llinars del Vallès  
Barcelona  
Tel.: +34 902 222 897  
info.es@vwr.com

## SWEDEN

VWR International AB  
Fagerstagatan 18a  
163 94 Stockholm  
Tel.: +46 (0) 8 621 34 00  
kundservice.se@vwr.com

## SWITZERLAND

VWR International GmbH  
Lerzenstrasse 16/18  
8953 Dietikon  
Tel.: +41 (0) 44 745 13 13  
info.ch@vwr.com

## UK

VWR International Ltd  
Customer Service Centre  
Hunter Boulevard - Magna Park  
Lutterworth  
Leicestershire  
LE17 4XN  
Tel.: +44 (0) 800 22 33 44  
uksales@vwr.com

## CHINA

VWR (Shanghai) Co., Ltd  
Bld.No.1, No.3728 Jinke Rd,  
Pudong New District  
Shanghai, 201203- China  
Tel.: 400 821 8006  
Email: info\_china@vwr.com

## INDIA

VWR Lab Products Private Limited  
No.139. BDA Industrial Suburb,  
6th Main, Tumkur Road, Peenya Post,  
Bangalore, India - 560058  
Tel.: +91 80 28078400  
vwr\_india@vwr.com

## MIDDLE EAST & AFRIKA

VWR International FZ-LLC  
DSP Laboratory Complex  
125, Floor 01  
Dubai, United Arab Emirates  
Tel.: +971 4 5573271  
info.mea@vwr.com

## SINGAPORE

VWR Singapore Pte Ltd  
18 Gul Drive  
Singapore 629468  
Tel.: +65 6505 0760  
sales.sg@vwr.com

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