EN ISO 374:2016 STANDARDS

PROTECTIVE GLOVES AGAINST CHEMICALS AND MICRO-ORGANISMS.

UNDERSTANDING THE NEW EN ISO 374:2016 STANDARDS

The new EN ISO 374 standard refines the required capabilities for gloves that protect workers whose hands are subject to chemical and/or micro-organism exposure.

The standard EN 374 has several parts and the following are relevant for chemical protective gloves:

1. EN ISO 374-1:2016: Protective gloves against dangerous chemicals and micro-organisms —Part 1: Terminology and performance requirements for chemical risks

OLD

EN ISO 374:2003

- Gloves protecting from chemicals and micro-organisms.
- Assumption of protection againsts micro-organisms.
- 12" test chemicals.
- Beaker for " waterproof protective gloves with limited protection against chemcals.
- Pictogram of conical flask with atleast 3 letters for test chemicals.

NEW

EN ISO 374:2016

- Gloves protecting from dangerous chemicals and micro-organisms.
- Removal of reference to micro-organisms in the text.
- Number of test chemicals increased 12 to 18.
- Beaker no longer used.
- Gloves classified as Type A, B or C.
- Change of labelling on the product; pictogram of conical flask with differing number of the letters for test chemicals per type.

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Increased the number of test chemicals, added 6 new to the list of hazardous compounds.

	Code letter	Chemical	Cas number	Category
OLD	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 disulfide	75-15-0	Sulphur containing organic compound
	F	Toluen	108-88-3	Aromatic hydrocarbon
	G	Diethylamine	109-89-7	Amine
	H	Tetrahydrofuran	109-99-9	Heterocyclic and ethereal compound
	I	Ethyl acetate	141-78-6	Ester
	J	n-Heptan	142-85-5	Saturated hydrocarbon
	K	Sodium hydroxide 40%	1310-73-2	Inorganic base
	L	Sulfuric acid 96%	7664-93-9	Inorganic mineral acid
NEW	**M**	**Nitric acid 65%**	**7697-37-2**	**Inorganic mineral acid, oxidising**
	N	**Acetic acid 99%**	**64-19-7**	**Organic Acid**
	O	**Ammonia 25%**	**1336-21-6**	**Organic Base**
	P	**Hydrogen peroxide 30%**	**7722-84-1**	**Peroxide**
	Q	**Hydroflouric acid 40%**	**7664-39-3**	**Inorganic mineral acid**
	R	**Formaldehyde 37%**	**50-00-0**	**Aldehyde**

New Markings and the Glove Types

OLD

EN 374:2003

A K L

EN 374:2003

NEW

EN ISO 374-1:2016 TYPE A

J K L M N O

Type A
Permeation resistance of at least 30 minutes each for at least 6 test chemicals.

EN ISO 374-1:2016 TYPE B

J K L

Type B
Permeation resistance of at least 30 minutes each for at least 3 test chemicals.

EN ISO 374-1:2016 TYPE C

Type C
Permeation resistance of at least 10 minutes for at least 1 test chemical.

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2. EN 374-2:2014: Protective gloves against dangerous chemicals and micro-organisms — Part 2: Determination of resistance to penetration
There are no significant changes.

3. EN 374-3:2003: Protective gloves against chemicals and micro-organisms – Part 3: Determination of resistance to permeation by chemicals

This standard has been removed and replaced by **EN 16523-1:2015, Determination of material resistance to permeation by chemicals — Part 1: Permeation by liquid chemical under conditions of continuous contact,** in the Official Journal after harmonisation. There is no significant effect on the test method.

4. EN 374-4:2013: Protective gloves against chemicals and micro-organisms — Part 4: Determination of resistance to degradation by chemicals
This part is new and takes into account the effect of degradation (change of glove material) by the chemical. Degradation can cause brittleness, swelling or shrinkage of the polymer material, for example. This is equivalent to a changing barrier function against the chemical.

This standard now creates a standardised measurement method for degradation for the first time.

5. EN ISO 374-5:2016: Protective gloves against dangerous chemicals and micro-organisms – Part 5: Terminology and performance requirements for micro-organisms risks

Gloves must pass the penetration resistance test in accordance with standard EN 374-2: 2014.
The possibility of claiming protection against viruses was added, if the glove passes ISO 16604: 2004 (method B) test.

EN ISO 374-5

For gloves offering protection against bacteria and fungi.

EN ISO 374-5:2016

VIRUS

For gloves protecting against bacteria, fungi and viruses.

Users will only notice the application of the changes to EN 374 on the marking of the protective glove. From a user perspective, the standard is mainly used for product comparison and also offers security that the product has undergone standardized certification.

Application consulting with the manufacturer is still very important. The specific requirements for protection must be identified as part of a risk assessment of the actual activities in the workplaces and must take the specific working conditions into account. The user or the responsible occupational safety experts should define the individual requirements and ask the manufacturer for the specific protective performance of the protective gloves.