



SUITABLE PROTECTIVE GLOVES FOR HANDLING FOOD

Whether for reasons of hygiene or for preventing injuries and damage to the skin – protective gloves are indispensable in many areas of the food industry. Which glove material is best suited for contact with which foods? What should users be aware of? Sempermed shares information on current EU regulations and differences in material.

When it comes to wearing protective gloves, the safety and health of the user is paramount. In the food sector, special attention must be paid to ensuring that products do not become contaminated with harmful substances or substances that affect food quality, throughout the entire food handling chain up to consumption – and especially not from the many hands that process or touch the products. Hence the gloves must protect individuals and products alike. A high level of protection and high quality standards are, therefore, required in this sector.

User tips – pay attention to the following:

- “Food contact” pictogram
- CE protection category and CE marking
- Pictograms or information on European test standards
- AQL level
- Wall thickness
- Blue glove colour (recommended especially in sectors subject to the HACCP standards)
- Correct glove size
- Period of use (max. 1-2 hours)
- Regular changing of gloves
- Intended use (disposable/reusable gloves)
- Instructions for use and EU declaration of conformity from the manufacturer
- Possible allergens or harmful substances in the glove material (latex proteins, accelerators, DOP/DEHP softeners, powder)
- Consistent hand care



EU legislation

Gloves intended to come into contact with food must meet the specific requirements for food handling. Selecting the right protective gloves is easier once you are familiar with the gloves and pay attention to the respective labels.



Framework regulation for food handling

In recent years, the EU has issued regulations in connection with food and gloves. Regulation EC 1935/2004 lays down the general requirements for all materials and articles (e.g., gloves) intended to come into contact with food. It governs, for example, the labelling requirements for the “**glass-and-fork symbol**” (pictogram for food contact), the traceability of materials and items to all levels, the contents of the declaration of conformity and individual actions for 17 particular material groups, which are defined in the specific directives (e.g., Regulation (EU)

10/2011 on plastic materials, which is relevant for the food law assessment of PVC gloves). The main objective of this framework regulation is as follows: *“Materials and articles may not transfer to the food constituents that are harmful to human health, that result in an unacceptable change to the composition of the food, or that affect its organoleptic properties (e.g., smell, taste, colour) in any quantity under normal conditions of use.”*

Regulations for plastic materials intended for food contact

Regulation (EU) 10/2011, which replaces the special Directive 2002/72/EC, applies to articles made of plastic materials (e.g., vinyl gloves) that come into contact with food. Migration testing must be conducted to determine whether and how much plastic components are transferred to food upon contact. According to the migration limit, a plastic glove, for example, may not transfer more than 10 mg of substances/dm² from its surface to a food product. This “overall migration limit protects against an unacceptable modification to the food” ((EU) 10/2011). The migration tests must be conducted using food simulants, which are defined precisely – depending on the chemical properties of the food for which contact suitability is to be tested:

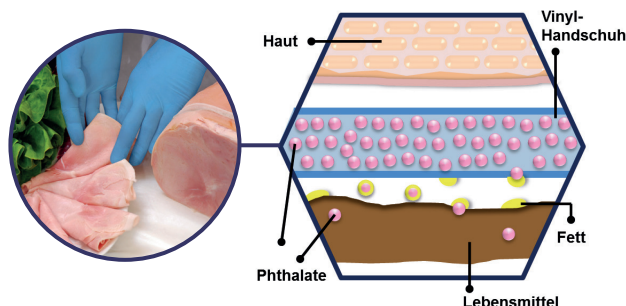
Flood types	Test using food simulant
Aqueous food	A (10% ethanol by volume)
Acidic food	B (3% acetic acid by weight)
Alcoholic food	C (20% ethanol by volume)
Fatty food	D1 (50% ethanol by volume) D2 (vegetable oil)
Dry food	E (MPPO, Tenax)

The test method as stipulated in Directive 82/711/EEC may still be used to determine the overall and specific migration until 31/12/2015. Starting on 1/1/2016, the rules for migration testing will follow Regulation 10/2011.

Regulation 10/2011 restricts the use of plastic material that is intended for food contact and contains certain additives (e.g., softeners of the phthalate group). For example, vinyl gloves containing phthalates may come into contact only with fat-free foods – and if they comply with all restrictions of the regulation (e.g. specific migration limits). Fatty food means food for which food simulants D1 and D2 are used for the migration testing.

Background of softeners in vinyl gloves

Softeners are used to make the inherently hard and brittle PVC materials usable for gloves. These softeners give the PVC rubber-like properties. The most commonly used softeners belong to the group of phthalates whose liposolubility allows them to be easily released from glove material.



Phthalates are not harmful in the short term. Some of them can, however, cause health damage after extended accumulation in the human body. Therefore, the EU has put some of the phthalates (e.g., DOP, dioctyl phthalate = DEHP, bis(2-ethylhexyl) phthalate) on the list of substances of very high concern (SVHC list).

What is the HACCP concept?

This concept for comprehensive hazard analysis and the identification of control points is the core of the regulations for food hygiene and is intended to ensure that foods are harmless and safe to consume. The abbreviation stands for **H**azard **A**nalysis and **C**ritical **C**ontrol **P**.

The **HACCP concept** follows the precautionary principle. Not only is the safety of the end product monitored, all the risks throughout the food processing chain are systematically documented and analysed, and precautionary measures established.

CE Simple Category I gloves (general purpose gloves) may be certified by the manufacturer and have the CE marking. Category II gloves are intended, for example, to provide good cut resistance and must be certified by an accredited test centre, which issues the CE marking and must be included in the instructions for use. Category III gloves are designed to protect against deadly hazards or lasting injury (e.g., when handling chemicals) and must also be certified by an accredited test centre and indicated on the package.

In addition, the manufacturer must maintain a quality management system, which is controlled by the test centre. These gloves will have the CE marking with the ID number of the test institute. The CE marking is mandatory for all PPE. EU declarations of conformity and technical documents must be provided; also ask for a certificate of conformity for food regulatory safety.

The CE marking is not a mark of safety, but an administrative symbol for the market supervisory authorities, which can assume that products with the CE symbol meet the applicable EU safety regulations.

Personal protective equipment (PPE) directive

Directive 89/686/EEC specifies the basic requirements that are demanded of PPE to protect the health and guarantee the safety of the user (e.g., protection level, tolerability, comfort, and effectiveness of the PPE). Gloves are categorized into three groups:

- Category I:** Protection against minimal risks
- Category II:** Protection against moderate risks
- Category III:** Protection against complex risks

Glove materials

Today's glove product range is so comprehensive that it may seem hard to choose the right gloves. Gloves should basically be selected **according to the nature of the activity and food involved**. Most brand manu-



facturers provide examples of recommended areas of application in their glove brochures. The individual health of the user must also be taken into account, for example, whether someone might be sensitive/allergic to latex proteins or other substances in gloves, such as accelerators.

Here is a brief summary of a few of the most important advantages and disadvantages of various glove materials intended to come into contact with food:

NATURAL LATEX



- Excellent elasticity and tear resistance
- Very comfortable to wear
- Resistant against aqueous solutions, numerous acids, and bases*
- Good cold-temperature flexibility (remains flexible even in cold environments)



- Less/slightly resistant to fats and oils
- Poor resistance to aging, weather, and heat
- Can trigger allergies

NITRILE



- Very good mechanical resistance
- Very good resistance to fats, oils, and numerous chemicals
- Long breakdown time
- Good elasticity

VINYL



- Free of latex proteins and accelerators, making it very skin-friendly
- Good resistance to aging and weather



- Low mechanical resistance
- Embrittlement upon release of softeners
- Expansion from agents containing chloride

* See chemical resistance list for more information (www.sempermed.com)

Favourite in skin friendliness and safety: nitrile

Nitrile gloves definitely have the best price-performance ratio in the food sector. They do not contain any latex proteins, softeners, or accelerators and have excellent resistance against mechanical and (bio-) chemical risks. Also very important to mention are the current technical advances that were achieved with the robust material nitrile in regard to wear comfort: Sempermed's new nitrile generation is already so thin, soft, and flexible that it is hard to distinguish the gloves from the legendary latex properties.

Importance of blue-coloured gloves

The key to food hygiene is the **HACCP** concept (**H**azard **A**nalysis and **C**ritical **C**ontrol **P**oints), which follows the precautionary principle. Not only is the safety of the end product monitored, all the risks throughout the food processing chain are documented and analyzed, and preventative actions established.




An example of this **precautionary principle** is the **blue colour of gloves**: since there is a risk of parts of or even whole gloves possibly being lost when foods are being processed, protective gloves worn when handling foods are coloured blue. This is a colour that is not found in foods and so is immediately identifiable, thereby eliminating any risk of contamination.

You can find an overview of our current range of protective gloves for the food sector at www.sempermed.com or by following the QR code. All protective gloves in the Sempermed product range are of a very high quality, have been tested in accordance with the applicable standards, and, when so labelled, are suitable for handling food. Trust the mark of quality from one of the leading glove experts with Austrian know-how.



RECOMMENDATIONS ON FOOD HANDLING SUITABILITY OF **semperguard®**  DISPOSABLE PROTECTIVE GLOVES

		LATEX	NITRILE	VINYL
				
	AQUEOUS FOOD Eggs, honey, etc.	●	●	●
	RAW VEGETABLES Lettuce, vegetables, etc.	●	●	●
	ALCOHOLIC BEVERAGES Beer, wine, spirits, etc.	●	●	●
	MEAT, SAUSAGE	●	●	●
	FISH, SHELLFISH	●	●	●
	FATS Butter, margarine, cheese, milk, oils, etc.	●	●	●
	BAKED GOODS Bread, pastries, etc.	●	●	●

- **Suitable** → full contact and extended work activities with the respective food
- **Partially suitable** → can be used for short partial contact
- **Not suitable/not recommended**

IMPORTANT NOTE: Please contact your Semperguard distributor if you have individual questions, or send us a request at www.sempermed.com. In case of doubt, obtain expert advice before use. The information and classification correspond to the latest status at printing. Subject to mistakes, printing errors and amendments. **CAUTION:** Natural latex can cause allergic reactions, including anaphylactic shock.

CONTACT US!

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