# pure<sup>11</sup>



### **Empfohlene Reinraumklassen**

**ISO** 4|5|6|7|8|9

GMP C D

### Nitril-Handschuhe CELOS Glove 1.10

pure<sup>11</sup>-Nr.: 1105050, Marke: CELOS

#### Eigenschaften

Marke: CELOS

• Handschuhtyp: Dünnfilm

• Länge in cm: 30 cm

• Chemikalienbeständigkeit - Typ: Typ B

Puderfrei

Material: Nitril

• Texturierte Fingerspitzen

Lebensmittelkonformität

Silikonfrei

Vulkanisationsbeschleunigerfrei

Verpackungsform: Beutel

Antistatisch

• AQL (Acceptable Quality Level)-Wert: 1,5

• Chemikalienbeständig gegen Aceton: Level 0 (<10min)

• Chemikalienbeständig gegen Isopropanol (70%): Level 1 (10-30min)

• Im Reinraum hergestellt

• Länge in Inches: 11,8 ln

Latexfrei

• Materialzusammensetzung: Reinmaterial

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# pure<sup>11</sup>

- Oberflächenbeschaffenheit: griffig
- Reißfestigkeit EN 455-2 ASTM in MPa: 20-30
- Rollrand
- Schutz vor Blut und Körpersekreten ISO 16604:2004
- Passform Hand: beidhändig
- Viren-/Mikroorganismenschutz EN ISO 374-5:2016
- Wandstärke Mittelfinger in mm: 0,12 mm

#### Material

Nitril

#### Verpackung

• 1000STK



#### **Produktvarianten**

pure<sup>11</sup>-Nr.: 1105050WHXXL, Nitril-Handschuhe CELOS Glove 1.10

Farbe: Weiß; Größe: XXL / VE: 1000STK

pure<sup>11</sup>-Nr.: 1105050WH3XL, Nitril-Handschuhe CELOS Glove 1.10

Farbe: Weiß; Größe: 3XL / VE: 1000STK

pure<sup>11</sup>-Nr.: 1105050WHL, Nitril-Handschuhe CELOS Glove 1.10

Farbe: Weiß; Größe: L / VE: 1000STK

pure<sup>11</sup>-Nr.: 1105050WHM, Nitril-Handschuhe CELOS Glove 1.10

Farbe: Weiß; Größe: M / VE: 1000STK

pure<sup>11</sup>-Nr.: 1105050WHS, Nitril-Handschuhe CELOS Glove 1.10

Farbe: Weiß; Größe: S / VE: 1000STK

pure<sup>11</sup>-Nr.: 1105050WHXL, Nitril-Handschuhe CELOS Glove 1.10

Farbe: Weiß; Größe: XL / VE: 1000STK

pure<sup>11</sup>-Nr.: 1105050WHXS, Nitril-Handschuhe CELOS Glove 1.10

Farbe: Weiß; Größe: XS / VE: 1000STK

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Parameter	Test method	Result
pH value	DIN EN 420:2010	Measured pH value: 6,4
Dangerous chemicals and micro-organisms	DIN EN 374-1 + A1:2018 DIN EN 374-5:2016	Pass
Air-Leak-Test	DIN EN 374-2:2015	Pass
Water-Leak-Test	DIN EN 374-2:2015	Pass
Permeation	DIN EN 16523-1:2015	See table below
Degradation	DIN EN 374-4:2014	See table below

#### **Performance Parameter**

#### 1. Permeation

Code	Sample 1	Sample 2	Sample 3
	Breakthrough [min]	Breakthrough [min]	Breakthrough [min]
	40	34	39
)	> 480	> 480	> 480
Γ	89	58	36
<	> 480	> 480	> 480
-/-	17	14	16
-/-	34	45	33
-/-	> 480	> 480	> 480
-/-	> 480	> 480	> 480
Γ <b>&lt;</b>	: /- /-	Breakthrough [min]  40 > 480 89 > 480 /- 17 /- 34 /- > 480	Breakthrough [min]  40

#### 2. Degradation

Test chemicals	Code	Degradation [%]	Standard deviation [%]
N-heptane	J	- 40,7	62,9
Hydrogen peroxide	Р	31,6	6,5
Formaldehyde	Т	18,8	36,4
Sodium hydroxide	K	- 24,3	32,4

# **Technical Data**



# Cleanroom Nitrile CELOS® Glove 1.10

Dear Valued Customer,

This data sheet shall give an overview of results for food contact testing of Cleanroom Nitrile CELOS® Glove 1.10. The results below reflect migration testing in according to the test specification § 31 LFGB (German Food and Feed Code).

The product complies with the total migration limit as described. According to the kind and extent of tests performed the test item meets the requirements of the test specification LFGB §31 and is therefore suitable for contact with food-stuff.

Parameter	Test method -Standard	Result
Sensory analysis	DIN 10955:2004	
smell transfer		Pass
transfer of taste		Pass
Overall migration	DIN EN 1186 ff.:2002	See table below
Overall migration, Tenax	DIN EN 1186-13:2002	See table below
Acrylonitril, migration	DIN EN 13130-3:2004	See table below
1,3-Butadiene, migration	DIN CEN / TS 13130-15:2005	See table below
Formaldehyde, content	DIN CEN / TS 13130-232005	See table below
Primary aromatic amines, migration	In-house method - quantification by HPLC-MS/MS	Pass
Metals, Natural or Synthetic Rubber	MS-0022823:2020	Pass
N-Nitrosamines and N-nitrosatable sub-	DIN EN 12868:2017	Pass
Polycyclic aromatic hydrocarbons (PAK)	AfPS GS 2014:01 PAK:2014	Pass



Sensory analysis				
	Contact medium	Pass / Fail		
Smell transfer	Water	Pass		
Transfer of taste	Water	Pass		

The samples comply with the requirements of § 31 Para. 1 LFGB or Article 3 of Regulation (EC) 1935/2004.

#### **Overall migration into Food Simulants**

	Overall Migration (mg/dm²)	Pass / Fail
Acetic Acid 3%	4	Pass
Ethanol 50%	7	Pass
Tenax	<2	Pass

The samples comply with the limit value for products in contact with food according to the Consumer Goods Ordinance or Regulation (EU) No. 10/2011 and any amendments thereto.



#### Migration of Acrylonitril and 1,3 - Butadiene

	Ad	crylonitril	1,3	- Butadiene
Migration Solution	Oil	Acetic Acid 3%	Oil	Acetic Acid 3%
Results (mg/kg)	< 0,005	< 0,005	< 0,01	<0,01
Pass / Fail	Pass	Pass	Pass	Pass

The samples comply with limit value for products in contact with foodstuffs according to the German Commodity Goods Ordinance respectively Regulation (EU) No 10/2011 and amendments.

#### Formaldehyde content

	Result (mg/l)	Pass / Fail
Formaldehyde	< 1	Pass

The samples comply with the requirements according to the recommendation of the BfR part XXI "Commodities based on Natural and Synthetic Rubber".



#### Primary aromatic amines, migration

	Result (mg/kg	Migration solution	Pass / Fail
	food simulant)		
2,5-Dichloraniline	<0,01	Acetic Acid 3 %	Pass
2,4,5-Trichloraniline	<0,01	Acetic Acid 3 %	Pass
4-Chlor-3-methoxyaniline	<0,01	Acetic Acid 3 %	Pass

#### Metals / Natural or Synthetic Rubber

	Category	Result (%)	Pass / Fail	Requirement
Lead	3	< 0,001	Pass	Zinc content:
				Categories 1, 2 and 3 commodities max. 0,003%
				Special Category commodities max. 0,001%
Zinc	3	< 1	Pass	Lead impurities:
				Categories 1, 2 and 3 commodities max. 3.0%
				Special Category commodities max. 1.0%

<sup>\*</sup>Category 1-Materials intended to be put in mouth or materials for toys intended to come into contact and with prolonged contact with the skin (longer than 30 s).

The samples comply with the requirement according to BfR recommendation XXI "Consumer goods based on natural and synthetic rubber".

<sup>\*</sup>Category 2-Materials not covered by category 1 with foreseeable contact to skin for longer than 30 seconds (longer term skin contact) or repeated short term skin contact.

<sup>\*</sup>Category 3-Materials mot covered by category 1 or 2 with foressable contact to skin up to 30 seconds (short term skin contact).

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Parameter	Test method -Standard	Result
Sensory analysis	DIN 10955:2004	Pass
Smell transfer		Pass
Transfer of taste		Pass
Overall migration	DIN EN 1186 ff.:2002	See table below
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Formaldehyde, content	DIN CEN / TS 13130-23:2005	See table below
Primary aromatic amines, migration	In-house method - quantification by HPLC-MS/MS	Pass
Metals, Natural or Synthetic Rubber	MS-0022823:2020	Pass
N-nitrosamines and N-nitrosatable substances	DIN EN 12868:2017	Pass
Polycyclic aromatic hydrocarbons (PAH)	AfPS GS 2014:01 PAK:2014	Pass



# Technical Data



# **Cleanroom Nitrile CELOS® Glove 1.10**

Sensory analysis					
	Contact medium	Pass / Fail			
Smell transfer	Water	Pass			
Transfer of taste	Water	Pass			

The samples comply with the requirements of § 31 Para. 1 LFGB or Article 3 of Regulation (EC) 1935/2004.

#### **Overall migration into Food Simulants**

	Overall Migration (mg/dm²)	Pass / Fail
Acetic Acid 3%	4	Pass
Ethanol 50%	7	Pass
Tenax	<2	Pass

The samples comply with the limit value for products in contact with food according to the Consumer Goods Ordinance or Regulation (EU) No. 10/2011 and any amendments thereto.

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#### Migration of Acrylonitrile and 1,3 - Butadiene

	Acı	rylonitrile	1,3 - But	adiene
Migration Solution	Oil	Acetic Acid 3%	Oil	Acetic Acid 3%
Results (mg/kg)	< 0.005	< 0.005	< 0.01	<0.01
Pass / Fail	Pass	Pass	Pass	Pass

The samples comply with limit value for products in contact with foodstuffs according to the German Commodity Goods Ordinance respectively Regulation (EU) No 10/2011 and amendments.

#### Formaldehyde content

	Result (mg/l)	Pass / Fail
Formaldehyde	< 1	Pass

The samples comply with the requirements according to the recommendation of the BfR part XXI "Commodities based on Natural and Synthetic Rubber".

warranty of any kind. pure<sup>11</sup> does not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information contained.

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pure 11 has made every attempt to ensure the accuracy and reliability of the information provided in this datasheet. However, the information is provided "as is" without



#### Primary aromatic amines, migration

	Result (mg/kg	Migration solution	Pass / Fail
	food simulant)		
2,5-Dichloraniline	<0.01	Acetic Acid 3 %	Pass
2,4,5-Trichloraniline	<0.01	Acetic Acid 3 %	Pass
4-Chlor-3-methoxyaniline	<0.01	Acetic Acid 3 %	Pass

#### **Metals / Natural or Synthetic Rubber**

	Category	Result (%)	Pass / Fail	Requirement
Lead	3	< 0.001	Pass	Lead impurities:
				Categories 1, 2 and 3 commodities max. 0.003%
				Special Category commodities max. 0.001%
Zinc	3	< 1	Pass	Zinc content:
				Categories 1, 2 and 3 commodities max. 3.0%
				Special Category commodities max. 1.0%

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Parameter	Test method	Result
pH value	DIN EN 420:2010	Measured pH value: 6.4
Dangerous chemicals and micro-organisms	DIN EN 374-1 + A1:2018 DIN EN 374-5:2016	Pass
Air-Leak-Test	DIN EN 374-2:2015	Pass
Water-Leak-Test	DIN EN 374-2:2015	Pass
Permeation	DIN EN 16523-1:2015	See table below
Degradation	DIN EN 374-4:2014	See table below

#### **Performance Parameter**

#### 1. Permeation

<b>Test chemicals</b>	Code	Sample 1	Sample 2	Sample 3
		Breakthrough [min]	Breakthrough [min]	Breakthrough [min]
N-heptane	J	40	34	39
Hydrogen peroxide (30 %)	Р	> 480	> 480	> 480
Formaldehyde (37 %)	Т	89	58	36
Sodium hydroxide (40 %)	K	> 480	> 480	> 480
Ethanol (70 %)	-/-	17	14	16
2-Propanol (70 %)	-/-	34	45	33
Hydrochloric acid (30 %)	-/-	> 480	> 480	> 480
Sulfuric acid (50 %)	-/-	> 480	> 480	> 480

#### 2. Degradation

Test chemicals	Code	Degradation [%]	Standard deviation [%]
N-heptane	J	- 40.7	62.9
Hydrogen peroxide	Р	31.6	6.5
Formaldehyde	Т	18.8	36.4
Sodium hydroxide	K	- 24.3	32.4





# **CELOS** Nitrile Glove 1.10











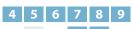
#### **RECOMMENDED CLEANROOM CLASSES**

ISO









**GMP** 

#### **PRODUCT INFORMATION**

MATERIAL 100% pure Nitrile

PROCESS Laundered with 0.2 micron filtered high resistivity DI water and packed in certified cleanroom

APPLICATION Cleanroom glove with best in class fit and for highest cleanliness requirements

LENGTH 300 mm

**CUFF THICKNESS** 0.08 mm (+/-0.02 mm)PALM THICKNESS 0.10 mm (+/-0.02 mm)FINGERTIP THICKNESS 0.13 mm (+/-0.02 mm)

COLOR Natural white

CHEM. PERFORMANCE TYPE B, JKPT, VIRUS



# **CELOS** Nitrile Glove 1.10

#### **PRODUCTS**

PART NUMBER	VARIANT	SIZE	STYLE	INNER PACKAGING	OUTER PACKAGING	QUANTITY PER CASE
1105050	WHXS WHS WHM WHL WHXL WH2XL WH3XL	XS S M L XL 2XL 3XL	Non- sterile	100 pcs/bag	10 bags/OB	1 OB/case







#### **CHARACTERISTICS**

- Personal Protective Equipment Category III
- Glove of newest generation
- Ambidextrous
- Silicone and latex free
- Unique fit and textured fingertips
- Reduced allergy risk
- High tackiness for great grip

- · Cleanroom produced and packaged
- Without plasticizers, phthalates, silicone oil and amide
- · No sulphur, accelerator and zinc added during compounding process
- Significantly lower levels of TiO<sub>2</sub>
- · Higher cleanliness due to no added color pigments

#### PERFORMANCE PARAMETER

		SPECIFICATION	UNIT
Fluoride	F-	< 0.010	μg/cm²
Chloride	Cl-	< 0.300	μg/cm²
Nitrite	NO <sub>2</sub> -	< 0.050	μg/cm²
Bromide	Br	< 0.050	μg/cm²
Nitrate	NO <sub>3</sub> -	< 0.300	μg/cm²
Phosphate	PO <sub>4</sub> <sup>3-</sup>	< 0.050	μg/cm²
Sulphate	SO <sub>4</sub> <sup>2-</sup>	< 0.050	μg/cm²
Sodium	Na <sup>+</sup>	< 0.050	μg/cm²
Calcium	Ca <sup>2+</sup>	< 0.200	μg/cm²
Magnesium	$Mg^{2+}$	< 0.010	μg/cm²
Potassium	K <sup>+</sup>	< 0.050	μg/cm²
Ammonium	NH <sub>4</sub> <sup>+</sup>	< 0.050	μg/cm²

	SPECIFICATION	UNIT
Tensile strength	≥ 18	MPa
Elongation	≥ 500	%
Particle count LPC (> 0.5 μm)	< 1,200	counts/cm <sup>2</sup>
NVR (DI water)	< 3.00	μg/cm²
Silicone oil, amide and DOP	Absent	-
Surface resistivity	< 1011	ohm/sq
Static decay time	< 0.5	seconds
Tribo electric charge	< 20	volts

#### ADDITIONAL IMPORTANT PRODUCT INFORMATION

According to the EN 21420:2020 test, it is confirmed that during the production of CELOS gloves 1105050, none of the following chemicals are introduced into the production prosess, thus reducing allergic reactions.

- · Thiruam disulfide
- Dithiocarbamates
- Mercaptobenzothiazole / MBT derivates
- 1.3 diphenylguanidine
- · Duphenylthiourea, dibuthylthiourea
- Formaldehyde
- Bisphenol A

- Bezoisothiazolinine
- Cethylpiridinium Chloride
- Triphenyl phophite, triphenyl phosphate, tricresyl phosphate
- Abietic acid derivates
- Nickel









Parameter	Test method	Result
pH value	DIN EN 420:2010	Measured pH value: 6.4
Dangerous chemicals and micro-organisms	DIN EN 374-1 + A1:2018 DIN EN 374-5:2016	Pass
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Sensory analysis			
	Contact medium	Pass / Fail	
Smell transfer	Water	Pass	
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	Overall Migration (mg/dm²)	Pass / Fail
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#### Migration of Acrylonitrile and 1,3 - Butadiene

	Ac	rylonitrile	1,3 - Butadiene	
Migration Solution	Oil	Acetic Acid 3%	Oil	Acetic Acid 3%
Results (mg/kg)	< 0.005	< 0.005	< 0.01	<0.01
Pass / Fail	Pass	Pass	Pass	Pass

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#### Formaldehyde content

	Result (mg/l)	Pass / Fail
Formaldehyde	< 1	Pass

The samples comply with the requirements according to the recommendation of the BfR part XXI "Commodities based on Natural and Synthetic Rubber".





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	Result (mg/kg	Migration solution	Pass / Fail
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