

Eppendorf Certificate

General Certificate of Quality for epT.I.P.S.^{®*}, Combitips[®] advanced, ViscoTip[®], Eppendorf Tubes^{®*,*1}, Eppendorf Plates^{®*,*1}, UVette[®]

STATEMENT ON NITROSAMINE

N-nitrosodimethylamine (NDMA) and N-nitrosodiethylamine (NDEA) are classified as potential human carcinogens, that have been found in human medicinal products. Hence in accordance with Article 5(3) of Regulation (EC) No 726/2004 the EMEA published an Assessment report EMA/369136/2020 regarding the detection, management, and prevention of presence of N-nitrosamines in medicinal products for human use.

One possible root cause is that N-nitrosamine impurities can be carried over during the manufacturing process when using already contaminated equipment. Therefore, Eppendorf performed an additional risk evaluation with focus on N-nitrosamine potentially included in Eppendorf Consumables. As a result, Eppendorf confirms as manufacturer of Laboratory Consumables the following:

There is no risk of formation of nitrosamines during the manufacturing process:

- Eppendorf Consumables are made of virgin polypropylene, polyethylene, polycarbonate of highest purity and quality. Material suppliers do not use or intentionally incorporate Nitrosamine as specified in the absence of substances list.
- No reagents, solvents, or catalysts that could be a possible source of nitrosamines are used in the manufacturing process of Eppendorf Consumables.
- No packaging material/printing ink that could be a possible source of nitrosamines are used in the manufacturing process of Eppendorf Consumables.

There is no risk of contamination with nitrosamines during the cleaning process of product-contacting parts

- No cleaning agents based on quaternary ammonium salts are used for cleaning process equipment.

Hamburg, September 2023

* applies also to the SafeCode variants

*¹ applies also to the BioBased variants



Joana Tziolis
Product Life Cycle Manager
Division Consumables



Monika Schneider
Vice President Global Quality Management &
Regulatory Affairs

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ISO 9001
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ISO 13485
Certified

ISO 14001
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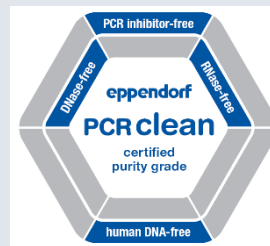
Certificate of Purity – PCR clean

This package contains a high-quality consumable manufactured under the PCR clean Eppendorf Purity Standard.

The Eppendorf PCR clean consumables are produced in a controlled environment according to ISO class 8 of ISO 14644-1. For this product Eppendorf certifies the following [*]:

Free of detectable

- Human DNA
- DNase
- RNase
- PCR inhibitors



[*] Filtertips are additionally sterile & free of pyrogens, UVettes are free of protein.

These parameters are continuously monitored by an independent certified laboratory. Eppendorf guarantees the conformity within the following limits:

Human DNA	< 2 pg
DNase	< 1.0 x 10 ⁻⁷ Kunitz units
RNase	< 1.0 x 10 ⁻⁹ Kunitz units
PCR inhibitors	fewer than 10 targets amplifiable

Quality control and subsequent certification are done by an independent laboratory. Lot-related certificates are available on request or on the Internet at <http://www.eppendorf.com/lot-certificates>.

The certification comprises the following tests:

Human DNA Contamination Test

A PCR master mix is prepared using the QuantiTect® SYBR® Green PCR Kit (QIAGEN®) and primer for the detection of human DNA. The primers amplify a 294 bp fragment present in more than 1x10⁵ copies per human cell. The master mix (20 µL) is added to 5 positive control vessels containing known amounts of human DNA (32, 16, 8, 4 and 2 pg in 5 µL H₂O) plus a negative control (10 µL DNA-free H₂O).

15 samples are rinsed one after another with DNA-free water. 10 µL of this solution are added to 20 µL master mix. PCR is done for 30 cycles.

The emittance of SYBR Green-induced fluorescence is detected in samples and controls. For the samples to pass certification, no fluorescence must be found.

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DNase Test

15 samples are rinsed one after another with DNA-free water. 17 μL of these solutions are mixed with 3 μL DNase buffer containing 100 bp DNA ladder in a DNase-free tube. A positive control is spiked with DNase, a negative control contains DNA-free water. All tubes are incubated for 24 h at 37 °C.

The DNA is analyzed by fluorescence measurement. For samples to pass certification, the relative intensities of the DNA pattern of the samples must correspond to the negative control.

RNase Test

15 samples are rinsed one after another with RNA-free water. 17 μL of these solutions are mixed with 3 μL RNase buffer containing 100 bp RNA ladder in a RNase-free tube. A positive control is spiked with RNase, a negative control contains RNA-free water. All vessels are incubated for 24 h at 37 °C.

The RNA is analyzed by agarose gel electrophoresis. RNase contamination is indicated by degradation of the RNA ladder. For samples to pass certification, the relative intensities of the RNA pattern of the samples must correspond to the negative control.

PCR Inhibitor Test

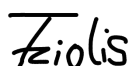
A PCR master mix is prepared using the QuantiTect SYBR Green PCR Kit (QIAGEN®), primer for the detection of human DNA and 16 pg human DNA. The primers amplify a 294 bp fragment present in more than 10^5 copies per human cell.

15 samples are rinsed one after another with DNA-free water. 10 μL of this solution are added to 15 μL master mix plus 16 pg human DNA. PCR is done for 30 cycles.

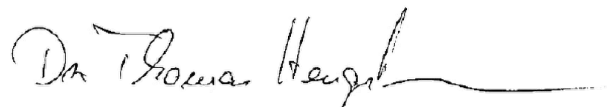
The emittance of SYBR Green-induced fluorescence is detected in samples and controls. For the samples to pass certification, the CT values of the samples are compared with the positive control (containing 16 pg human DNA). The difference of the CT value between the samples and the control must be in range of +/- 2 cycles.

Hamburg, June 2024

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Certificate of Quality Eppendorf Laboratory Consumables

STATEMENT ON BSE/TSE

As a leading manufacturer of biotech products, Eppendorf uses PP (polypropylene), PC (polycarbonate), PS (polystyrene), and PE (polyethylene) granulates specifically suited for laboratory applications and the manufacturing process of laboratory consumables. PP, PC, PS, and PE granulates may contain small amounts of materials derived from animals.

Eppendorf only works with granulate suppliers who guarantee that their animal components derive exclusively from countries without BSE (bovine spongiform encephalopathy) occurrences. Risk materials are not used. Thus, the requirements of the EU Regulation 1326/2001 and Commission Decision 2001/2/EC amending Decision 2000/418/EC regulating the use of materials presenting risks regarding transmissible spongiform encephalopathies (TSE) are fulfilled.

The granulate production includes – depending on the process – hydrolysis, esterification, or hydrogenation steps in different variations. The common features of these steps include processing conditions with temperatures above 235°C and pressures above 3,000 kPa with retention times up to several hours. The final product is obtained through fractionation, neutralization, and purification. The subsequent extrusion (for the production of granulate) takes place at minimum 200°C for several minutes.

Thus, the production chain of raw materials by far exceeds the stringent requirement of 200°C for 20 minutes (Annex VI, chapter III of EU Regulation 1774/2002, in EU Directives 2000/6/EC and 1999/82/EC, referring to Document EMEA/410/01-Final, latest version: Rev. 3 – 05.03.2011, and in the Report WHO/CDS/VPH/95.145). Any virus, bacterium, or substance causing immunological diseases (TSE, BSE, CJD) is destroyed.

Eppendorf states that the materials and laboratory consumables are to be considered safe with respect to BSE and TSE transmission when used in consumer applications.

This certificate applies to the following Eppendorf Laboratory Consumables:

Pipette tips	epT.I.P.S. ^{®*1} epT.I.P.S. [®] 384 epT.I.P.S. [®] Long epT.I.P.S. [®] Motion ep Dualfilter T.I.P.S. ^{®*1} ep Dualfilter T.I.P.S. [®] 384 ep Dualfilter T.I.P.S. [®] SealMax ^{®*1} GELoader [®] Microloader Eppendorf Serological Pipets
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*1 applies also to the BioBased variants

Eppendorf Certificate

Positive displacement tips

Mastertip®
Varitips®
Combitips® advanced incl. adapters
ViscoTip®

Eppendorf Tubes®

Eppendorf Tubes® 3810X/ Flex-Tube®
Eppendorf Safe-Lock Tubes*
Eppendorf DNA LoBind®/ Protein LoBind® Tubes,
Eppendorf Tubes® 5 mL*, *1 incl. adapters
Eppendorf Conical Tubes 15 mL*, *1, 50 mL*, *1, SnapTec® 50
Eppendorf Conical Tubes 25 mL*¹ incl. adapters

Eppendorf Plates®

Eppendorf Microplates*
Eppendorf Deepwell Plates*
Eppendorf DNA LoBind®/ Protein LoBind® Plates
Eppendorf Assay/Reader Microplates

PCR Consumables

Eppendorf twin.tec® PCR Plates*,*¹
Eppendorf twin.tec® PCR Plates LoBind®*¹
Eppendorf twin.tec® *microbiology* PCR Plates
Eppendorf twin.tec® *real-time* PCR Plates
PCR Tube Strips
Fast PCR Tube Strips
real-time PCR Tube Strips
PCR Cap Strips
PCR Tubes
PCR Films & Foils

Cell Culture Consumables

Eppendorf Cell Culture Dishes
Eppendorf Cell Culture Plates
Eppendorf Cell Culture Flasks
Eppendorf Cell Imaging Dishes
Eppendorf Cell Imaging Plates
CCCadvanced®
Cell Imaging Slides & Coverglasses

Cuvettes

UVette®
Vis Cuvette

Sample Handling Consumables

Wide-neck bottles

*applies also to the SafeCode variants

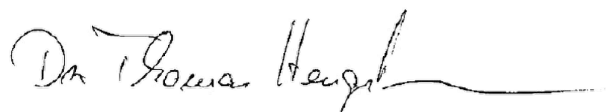
*¹applies also to the BioBased variants

Hamburg, February 2024

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Eppendorf®, the Eppendorf Brand Design, epT.I.P.S.®, ep Dualfilter T.I.P.S.®, GELoader®, Mastertip®, Varitips®, CCCadvanced®, Combitips®, ViscoTip®, Eppendorf Tubes®, Flex-Tube®, Eppendorf twin.tec®, LoBind®, LoRetention®, SnapTec®, SealMax® and UVette® are registered trademarks of Eppendorf SE, Germany.
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Eppendorf Certificate

General Quality Certificate for epT.I.P.S.^{®*1}, Combitips[®] advanced, ViscoTip[®], Eppendorf Tubes^{®*,*1}, Eppendorf Plates^{®*,*1}, UVette[®]

Eppendorf certifies that all consumables have been manufactured in accordance with established manufacturing guidelines and product specifications. The products conform to all Eppendorf quality requirements. Controlled environment with restrictive handling procedures avoids direct human contact with the products.

ISO Certification

The Eppendorf Quality Management System is certified according to ISO 9001:2015-09, ISO 13485:2016-03, and ISO 14001:2015-09.

Materials

All products are produced with materials such as virgin polypropylene, polyethylene, polycarbonate, polystyrene, or UV-transparent plastic. No recycled materials are used. Our material suppliers do not use or intentionally incorporate the following agents into the materials Eppendorf uses for production:

- Slip agents (including oleamide, erucamide, stearamide)
- Biocides (including di(2-hydroxyethyl)methyl dodecyl ammonium salts (DIHEMDA))
- Plasticizers (softeners/phthalates)
- Melamine
- Silicone
- Latex

During production, no slip agents, biocides, or plasticizers are used. Colorants are free of biological material, free of heavy metals, and free of melamine. Eppendorf confirms that all plastic materials fulfil the requirements as described in the current version of the FDA, CFR, Title 21 (Food and Drugs) in chapter 178.2010 “Antioxidants and Stabilizers for Polymers” and chapter 177.1520 (a)(1), (b) and (c)1.1 “Olefin polymers” regarding substances used for manufacturing of materials and articles or components of articles intended to come into contact with food. Eppendorf does not use any silicone or latex for manufacturing or packaging.

Production

Products are produced in a controlled environment according to ISO class 8 of ISO 14644-1.

* applies also to the SafeCode variants

*¹ applies also to the BioBased variants

Eppendorf Certificate

Quality Assurance/Quality Control

Functional Testing

Products undergo continuous quality controls regarding function, tightness, precision, and reproducibility. Dimensional checks, testing of precision and accuracy, resistance to high centrifugational forces, vapor tightness, flow properties, leak tightness, transparency, etc. are part of Eppendorf Quality Assurance Standards.

Sterility

Sterile products are sterilized by irradiation according to DIN EN ISO 11137. Each lot of sterilized products is certified by an independent, ISO/IEC 17025-accredited laboratory.

Purity Grade Testing

Purity criteria of the purity grades “Biopur®”, “Sterile”, “PCR clean” and “Protein-free” are tested and certified lot-specific by an independent, ISO/IEC 17025-accredited laboratory. Biological testing procedures ensure that the certified Eppendorf consumables are free from specific detectable contaminants.

Lot-specific purity certificates can be downloaded at www.eppendorf.com/certificates.

Traceability

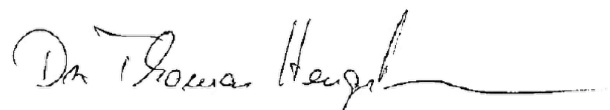
All products are fully traceable by lot number.

Hamburg, April 2024

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Eppendorf Certificate

Certificate of Purity - sterile

This package contains a high-quality consumable manufactured under the sterile Eppendorf Purity Standard.

The Eppendorf sterile consumables are produced in a controlled environment according to ISO class 8 of ISO 14644-1.

For this product Eppendorf certifies the following:

- > sterile
- > pyrogen-free



Quality control and subsequent certification is done by an independent laboratory accredited to ISO 17025. Eppendorf guarantees the conformity within the following limits:

Sterility	in accordance with USP, Ph. Eur. 2.6.12
Pyrogens (Endotoxins)	< 0.001 EU/mL (tested according to Ph. Eur. 2.6.14 (LAL test))

Lot-specific certificates are available on request or on the internet at www.eppendorf.com/lot-certificates.

Hamburg, April 2024

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Eppendorf Certificate

Certificate of Quality Eppendorf Laboratory Consumables

STATEMENT ON PER- AND POLYFLUORINATED ALKYL SUBSTANCES (PFAS)

Eppendorf states that the materials and laboratory consumables listed below are safe with respect to per- and polyfluorinated alkyl substances (PFAS) transmission when used in laboratory applications.

PFAS are industrial chemicals that are used in numerous industrial processes, and consumer products due to their special technical properties.

Some PFAS are already considered substances of very high concern (SVHC) under REACH because they are very persistent in the environment, accumulate in organisms, and can be harmful to humans. Epidemiological studies have shown effects on the thyroid, immune system and reproduction at very low dose levels.

Eppendorf only works with granulate suppliers who guarantee according to their Absence of Substances List that their raw materials are free of PFAS.

This certificate applies to the following Eppendorf Laboratory Consumables:

Pipette tips	epT.I.P.S.® *1 epT.I.P.S.® 384 epT.I.P.S.® Long epT.I.P.S.® Motion ep Dualfilter T.I.P.S.® *1 ep Dualfilter T.I.P.S.® 384 ep Dualfilter T.I.P.S.® SealMax® *1 GELoader® Microloader Eppendorf Serological Pipets
Positive displacement tips	Mastertip® Varitips® Combitips® advanced incl. adapters ViscoTip®
Eppendorf Tubes®	Eppendorf Tubes® 3810X/ Flex-Tube® Eppendorf Safe-Lock Tubes* Eppendorf DNA LoBind®/ Protein LoBind® Tubes, Eppendorf Tubes® 5 mL*.*1 incl. adapters Eppendorf Conical Tubes 15 mL*.*1, 50 mL*.*1, SnapTec® 50 Eppendorf Conical Tubes 25 mL*1 incl. adapters

* applies also to the SafeCode variants

*1 applies also to the BioBased variants

Eppendorf Certificate

Eppendorf Plates®	Eppendorf Microplates* Eppendorf Deepwell Plates* Eppendorf DNA LoBind®/ Protein LoBind® Plates Eppendorf Assay/Reader Microplates
PCR Consumables	Eppendorf twin.tec® PCR Plates*.*1 Eppendorf twin.tec® PCR Plates LoBind®*1 Eppendorf twin.tec® <i>microbiology</i> PCR Plates Eppendorf twin.tec® <i>real-time</i> PCR Plates PCR Tube Strips Fast PCR Tube Strips <i>real-time</i> PCR Tube Strips PCR Cap Strips PCR Tubes PCR Films & Foils
Cuvettes	UVette® Vis Cuvette
Sample Handling Consumables	wide-neck bottles

* applies also to the SafeCode variants

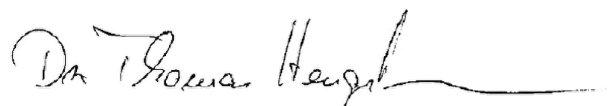
*1 applies also to the BioBased variants

Hamburg, February 2024

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Eppendorf Certificate

Certificate of Quality – Quality Assurance of epT.I.P.S.^{®*}, epT.I.P.S.[®] 384, ep Dualfilter T.I.P.S.^{®*}, ep Dualfilter T.I.P.S.[®] 384 and ep Dualfilter T.I.P.S.[®] SealMax*

All epT.I.P.S. pipette tips and all ep Dualfilter T.I.P.S. filter tips are single-use plastic tips which, in combination with all Eppendorf manual and electronic air-cushion pipettes, form a perfectly functioning pipetting system.

Quality Assurance

Eppendorf confirms that all data for random error and systematic error according to EN ISO 8655 of Eppendorf pipettes are valid only when original Eppendorf pipette tips are used.

All variants of epT.I.P.S. pipette tips and ep Dualfilter T.I.P.S. filter tips are produced in a controlled environment according to ISO class 8 of ISO 14644-1 and are subject to regular quality inspections within a statistical process control.

The Eppendorf Quality Management System is certified according to the international standards ISO 9001, ISO 13485, and ISO 14001.

Composition

epT.I.P.S. pipette tips and ep Dualfilter T.I.P.S. filter tips are made of virgin polypropylene of highest purity and quality. Our material suppliers do not use or intentionally incorporate the following agents into the materials Eppendorf uses for the production of pipette tips:

- Slip agents (including oleamide, erucamide, stearamide)
- Biocides (including di(2-hydroxyethyl)methyl dodecyl ammonium salts (DiHEMDA))
- Plasticizers (softeners/phthalates)

* applies also to the BioBased variants

Eppendorf Certificate

The raw materials used for epT.I.P.S.[®] pipette tips and ep Dualfilter T.I.P.S.[®] filter tips fulfill the requirements as described in the current version of the FDA, CFR, Title 21 (Food and Drugs) in chapter 178.2010 “Antioxidants and Stabilizers for Polymers” and chapter 177.1520 (a)(1), (b) and (c)1.1 “Olefin polymers” regarding substances used for manufacturing of materials and articles or components of articles intended to come into contact with food.

All resin material is tested, qualified, and shows non-toxic biocompatibility according to the Standards USP Class VI Chapter 88, USP 661.1., EP 3.1.3, EP 3.1.6, and ISO 10993-4, ISO 10993-5, ISO 10993-10, ISO 10993-11.

epT.I.P.S.[®] pipette tips and ep Dualfilter T.I.P.S.[®] filter tips and all product components do not contain:

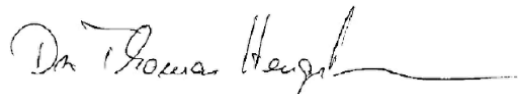
- Metallic dyes
- Latex
- Glucan
- Cellulose

Hamburg, April 2024

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