Name	Title	Signature	Date
Aharon Cohen	TARYAG Labs, CEO		07.04.2020
Rita Eisenberg	TARYAG Labs, Laboratories Manager	Rita Eisenberg, Phd- Head of Laboratories Digitally signed by Rita Eisenberg, Phd- Head of Laboratories Date: 2020.04.07 16:05:43 +03'00'	07.04.2020
Malki Epel	TARYAG Labs, VP QA and RA		07.04.2020
Liat Goldhammer	Sonovia, CTO		07.04.2020

Revision traceability:

Date	Revision	Author	Change description
NA	01	Rita Eisenberg	Initial release

1. General:

1.1. Testing laboratory:
TARYAG Labs Ltd.
14 Ha'Ilan St.
Or-Akiva 365101
Israel.

1.2. Sponsor:
Sonovia
1 Ha'Bonim St.
Ramat -Gan

1.3. TARYAG Labs has been accredited by ISRAC for ISO 17025:2017.

2. Objectives:

2.1. The purpose of this report is to summarize the results for determination of percent penetration of 5 µm particles through the textile materials.

3. Responsibilities:

3.1. The Testing laboratory is responsible for the following:

3.1.1. Maintain a quality system with compliance to the ISO 17025.

3.2. Sponsor responsibilities:

3.2.1. Review of all commissioning qualification documents for release of this protocol.

3.2.2. Review of all operational qualification documents for release of validation.

3.2.3. Verification of conformance with product specifications.

4. Standards and regulatory requirements:

4.1. EN 14683:2019 Medical face masks- Requirements and test methods

4.2. ASTM F2299/F2299M- Determining the initial efficiency of materials used in medical masks to penetration by particulates using latex spheres

5. List of applicable documents:

5.1. WI-L 015 Microbial barrier

6. Equipment and Materials

6.1. Microbial barrier system

6.2. Polystyrene latex particles (PLS) of 5.0 µm

6.3. Particle counter

6.4. Ultra-pure water

7. Test Procedures

7.1. General

7.1.1. The test was performed based on TARYAG-Labs specific procedures.

7.1.2. The parameters of TARYAG-Labs specific procedures may not correlate directly to the parameters required in EN 14683:2019 and ASTM F2299/F2299M standards.

7.2. Filtration efficiency (%)

7.2.1. Procedure

7.2.1.1. The material was strengthened and was placed into the sample holder (10 X 10 cm).

7.2.1.2. Test specimen included all layers of the mask in the order in which they are placed in the complete mask (Table 1); a). Direction that simulating 'exhalation' b). Direction that simulating 'breathing'.

7.2.1.3. In order to determine the efficiency of the tested textile materials, polystyrene particles, with a mean size of 5 µm, were delivered through the material and the % penetration was calculated (based on procedure defined in WI-L 015).

7.2.1.4. The material creates a filter in the measurement cell and split it into the contaminated side and the clean side. The particles flow direction is from the contaminated to the clean measurement cell side.

7.2.1.5. The flow rate of the inlet air was 28 L/min and the pressure differential was 10 Pa.

7.2.1.6. Percent (%) penetration of polystyrene particles, with a mean size of 5 µm calculated according to the following formula:

$$\%\ Penetration\ 5\mu m\ particles = \frac{Count\ of\ 5\mu m\ particles\ penetrated\ through\ the\ mask}{Count\ of\ 5\mu m\ particles\ used\ for\ mask\ contamination}$$

7.2.1.6 Filtration efficiency (%) results (Tables 1):

	Group B- Masks	
	'Exhalation'	Breathing'
	2.3	0.5
	1.3	0.8
	0.7	0.7
	0.9	1.1
AVG	1.3	0.8
STDEV	0.7	0.2
MAX	2.3	1.1
MIN	0.7	0.5

11 Documentation and Archiving

11.3 Original signed protocol will be kept at the sponsor and a copy of original will be kept at TRYAG Labs.

11.4 Validation raw data will be archive at TRYAG Labs in accordance with TARYAG Labs requirements for 7 years.

12 Appendixes

14.1 NA