

CERTIFIED STATEMENT FOR REPORT APPLUS Ref. 20-23509-1908

ON THE MEASURES OF RESPIRABILITY IN FFP2 MASKS

At Sant Quirze del Vallès, on 4th January 2021

I, Ms. Vanesa Martínez Chamorro, CEO of CARINSA group, hereby

CERTIFY

that the following content faithfully reflects the contents of the report authored by APPLUS LABORATORIES with reference 20-23509-1908 in October 2020, regarding assays of respiration of FFP2 masks treated with CARIN4MASK aromatizing spray. The assays were ordered by the company to ensure the safety of the application of the product on such type of protective masks.



Signed,

Ms. Vanesa Martínez Chamorro

CEO

CARINSA GROUP

REPORT

Date of assays: October 2020

Objective: To check how the application of an aromatizer on the inner side of FFP2-type masks affects the assay of Resistance to Respiration, according to the norm UNE-EN 149:2001+A1:2010 (Respiratory Protection Devices. Filtrating masks with protection against particulates. Requirements, assays, market).

Identification of the Samples

Product received: Mask. Personal Protective Equipment (PPE).

Brand: KN95

Number of samples: 6

Internal reference of product: 20/1908

Bellaterra: 20th October 2020

Expedient number: 20-23509-1908

Reference of applicant: CARINSA GROUP

RESULTS

Assay on Resistance to Respiration

The assays have been performed with the as-received samples, which were 3 spray pulses at a 10-cm distance* with P.L AROMATIZANTE M LIMON CPCL11428 (lemon).

The resulting values of the Resistance to Respiration have been obtained following sections 7.16 and 8.9 of the norm UNE-EN 149:2001+A1:2010. The values for the Maximum Allowed Resistance are classified in the following table:

Mask type	Maximum Allowed Resistance (mbar /Pa)		
	Inhalation		Exhalation
	30 l/min	95 l/min	160 l/min
FFP1	0,6/60	2,1/210	3,0/300
FFP2	0,7/70	2,4/240	3,0/300
FFP3	1,0/100	3,0/300	3,0/300

OBTAINED RESULTS

The Resistance to Respiration measurements were made on FFP2 masks without the application of the aromatizer (sample nr.1) and with the application of the aromatizer (sample nr.2).

The results are shown in the table below:

Assay	FFP2 (EN149)	Sample nr.1 without aromatizer	Sample nr.2 with standard aromatizer
Resistance to respiration	Required		
Resistance to exhalation	≤300 Pa	298 Pa	73 Pa
Resistance to inhalation	≤70 Pa	58 Pa	13 Pa
	≤240 Pa	174 Pa	41 Pa

*Note that this is a three-fold excess with respect to the recommended application of CARIN4MASK, where just 1 pulse is enough to obtain the desired effect.