



Certificate CN19/41065, continued

Crow [REDACTED] ne

Products Fty., Ltd.

Also trading as Crow [REDACTED] Co., Ltd.

Directive 93/42/EEC

on medical devices, Annex V

Restricted to the aspects of manufacture concerned with securing and
maintaining sterile conditions

Issue 1

Detailed scope

**Sterile Surgical Kits (Surgical Gown used to protect the patient
from contamination and also to protect the hospital staff,
Surgical Drape, Face Mask, Cap used to protect the patient
from contamination and also to protect the hospital staff)**

Additional facilities

**Changhang Building Rm.1805 18/F, No. 69, Yanjiang Avenue,
Wuhan City, Hubei Province, 430021, P.R.China**

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EC Certificate Production Quality Assurance System: Certificate CN19/41065

The management system of

**Crow [REDACTED] iene
Products Fty., Ltd.**

Also trading as Crow [REDACTED] Co., Ltd.

Cheng [REDACTED] District,
Wuhan City, Hubei Province, 43 [REDACTED] China

has been assessed and certified as meeting the requirements of

Directive 93/42/EEC

on medical devices, Annex V

**Restricted to the aspects of manufacture concerned with securing and
maintaining sterile conditions**

For the following products

The scope of registration appears on page 2 of this certificate.

This certificate is valid from 16 December 2019 until 19 July 2022
and remains valid subject to satisfactory surveillance audits.

Issue 1. Certified since 24 November 2015
and first certified by SGS Belgium NV since 16 December 2019

Certification is based on reports numbered CN/SZH/ - 8618

This is a multi-site certification.

Additional site details are listed on subsequent pages.

Authorised by

Pieter Weterings
Certification Manager

SGS Belgium NV, Notified Body 1639

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LPMD5008 - Certificate CE1639 Annex V, EN rev. 01

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Certificate CN14/21395

The management system of
Crow [REDACTED] iene
Products Fty., Ltd.
Also trading as Crow [REDACTED] Co., Ltd.
Cheng [REDACTED] District,
Wuhan City, Hubei Province, [REDACTED] R. China
has been assessed and certified as meeting the requirements of



ISO 13485:2016
EN ISO 13485:2016

For the following activities

The scope of registration appears on page 2 of this certificate.

This certificate is valid from 09 April 2018 until 21 October 2020
and remains valid subject to satisfactory surveillance audits.
Re certification audit due before 25 April 2020
Issue 4. Certified since 22 October 2014

This is a multi-site certification.
Additional site details are listed on the subsequent page.

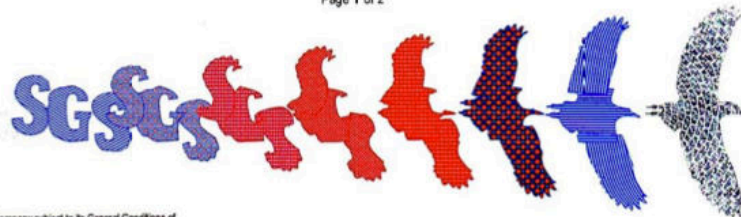
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HC SGS 13485 2016 0118 M2

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Certificate CN14/21395, continued



Crow [REDACTED] iene

Products Fty., Ltd.

Also trading as Crow [REDACTED] b., Ltd.

ISO 13485:2016
EN ISO 13485:2016



Issue 4

Detailed scope

Manufacture of sterile and non sterile nonwoven medical devices:
Surgical Gowns, Surgical drapes, Face masks, Caps, Overalls, Shoe
covers, Sleeves, Head covers, Table Cover, Isolation gown, Air-laid
paper, Surgical kits (surgical gown, surgical drape, face mask, cap)

Additional facilities

Changhang Building Rm.1805 18/F, No. 69, Yanjiang Avenue,
Wuhan City, Hubei Province, 430021, P.R. China



0005

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Page 2 of 2



Sponsor:
Crow [redacted] ene Products Fty. Ltd.
Cheng [redacted]
Xinzhou District
Wuhan, Hubei, 431400
CHINA

Bacterial Filtration Efficiency (BFE) and Differential Pressure (Delta P) Final Report

Test Article: CNMB001
Purchase Order: Q-52955-V9F7P7
Study Number: 956725-S01
Study Received Date: 04 Apr 2017
Test Procedure(s): Standard Test Protocol (STP) Number: 801-STP0004 Rev 14

Summary: The BFE test is performed to determine the filtration efficiency of test articles by comparing the bacterial control counts upstream of the test article to the bacterial counts downstream. A suspension of *Staphylococcus aureus* was aerosolized using a nebulizer and delivered to the test article at a constant flow rate and fixed air pressure. The challenge delivery was maintained at $1.7 - 2.7 \times 10^3$ colony forming units (CFU) with a mean particle size (MPS) of $3.0 \pm 0.3 \mu\text{m}$. The aerosols were drawn through a six-stage, viable particle, Andersen sampler for collection. This test method complies with ASTM F2101-14 and EN 14683:2014, Annex B.

The Delta P test is performed to determine the breathability of test articles by measuring the differential air pressure on either side of the test article using a manometer, at a constant flow rate. The Delta P test was designed to comply with MIL-M-36954C, Section 4.4.1.2 and complies with EN 14683:2014, Annex C.

All test method acceptance criteria were met. Testing was performed in compliance with US FDA good manufacturing practice (GMP) regulations 21 CFR Parts 210, 211 and 820.

Test Side: Either
BFE Test Area: $\sim 40 \text{ cm}^2$
BFE Flow Rate: 28.3 Liters per minute (L/min)
Delta P Flow Rate: 8 L/min
Conditioning Parameters: $85 \pm 5\%$ relative humidity (RH) and $21 \pm 5^\circ\text{C}$ for a minimum of 4 hours
Positive Control Average: 1.8×10^3 CFU
Negative Monitor Count: <1 CFU
MPS: $3.1 \mu\text{m}$

Study Director

Trang T. Truong, B.S.



956725-S01

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14 Apr 2017
Study Completion Date

myf

801-FRT0004-0001 Rev 16
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Study Number 956725-S01
Bacterial Filtration Efficiency (BFE)
and Differential Pressure (Delta P) Final Report

Results:

Test Article Number	Percent BFE (%)	Delta P (mm H ₂ O/cm ²)	Delta P (Pa/cm ²)
1	99.0	1.7	17.1
2	99.4	1.5	15.0
3	99.2	1.6	15.6
4	99.0	1.6	15.8
5	99.1	1.6	16.1

The filtration efficiency percentages were calculated using the following equation:

$$\% BFE = \frac{C - T}{C} \times 100$$

C = Positive control average

T = Plate count total recovered downstream of the test article

Note: The plate count total is available upon request



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[Redacted] Co. Ltd.,
Chengdu District
Wuhan, Hubei Province, 431400
CHINA

Latex Particle Challenge Final Report

Test Article: ZSTS001
Purchase Order: ZSTS001
Study Number: 999136-S01
Study Received Date: 27 Oct 2017
Testing Facility: Nelson Laboratories, LLC, a Business Unit of Sterigenics International
6280 S. Redwood Rd.
Salt Lake City, UT 84123 U.S.A.
Test Procedure(s): Standard Test Protocol (STP) Number: STP0005 Rev 05
Deviation(s): None

Summary: This procedure was performed to evaluate the non-viable particle filtration efficiency (PFE) of the test article. Monodispersed polystyrene latex spheres (PSL) were nebulized, dried, and passed through the test article. The particles that passed through the test article were enumerated using a laser particle counter.

Three one-minute counts were performed, with the test article in the system, and the results averaged. Three one-minute control counts were performed, without a test article in the system, before and after each test article and the counts were averaged. Control counts were performed to determine the average number of particles delivered to the test article. The filtration efficiency was calculated using the average number of particles penetrating the test article compared to the average of the control values.

The procedure employed the basic particle filtration method described in ASTM F2299, with some exceptions; notably the procedure incorporated a non-neutralized challenge. In real use, particles carry a charge, thus this challenge represents a more natural state. The non-neutralized aerosol is also specified in the FDA guidance document on surgical face masks. All test method acceptance criteria were met. Testing was performed in compliance with US FDA good manufacturing practice (GMP) regulations 21 CFR Parts 210, 211 and 820.

Test Side: Inside
Area Tested: 91.5 cm²
Particle Size: 0.1 µm
Laboratory Conditions: 21°C, 28% relative humidity (RH) at 0734; 21°C, 29% RH at 0945
Average Filtration Efficiency: 99.80%
Standard Deviation: 0.031



Study Director

Brandon L. Williams

08 Nov 2017
Study Completion Date



999136-S01

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bam

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Results:

Test Article Number	Average Test Article Counts	Average Control Counts	Filtration Efficiency (%)
1	29	13,984	99.79
2	25	13,348	99.81
3	33	13,160	99.75
4	21	12,922	99.83
5	28	13,459	99.79



Sponsor:
Wuhan [redacted] Co. Ltd.,
Cheng [redacted] District
Wuhan, Hubei Province, 431400
CHINA

Synthetic Blood Penetration Resistance Final Report

Test Article: ZSTS001
Purchase Order: ZSTS001
Study Number: 998110-S01
Study Received Date: 23 Oct 2017
Testing Facility: Nelson Laboratories, LLC, a Business Unit of Sterigenics International
6280 S. Redwood Rd.
Salt Lake City, UT 84123 U.S.A.
Test Procedure(s): Standard Test Protocol (STP) Number: STP0012 Rev 08
Deviation(s): None

Summary: This procedure was performed to evaluate surgical facemasks and other types of protective clothing materials designed to protect against fluid penetration. The purpose of this procedure is to simulate an arterial spray and evaluate the effectiveness of the test article in protecting the user from possible exposure to blood and other body fluids. The distance from the target area surface to the tip of the cannula is 30.5 cm. A test volume of 2 mL of synthetic blood was employed using the targeting plate method.

This test method was designed to comply with ASTM F1862 and ISO 22609 (as referenced in EN 14683:2014 and AS4381:2015) with the following exception: ISO 22609 requires testing to be performed in an environment with a temperature of $21 \pm 5^\circ\text{C}$ and a relative humidity of $85 \pm 10\%$. Instead, testing was performed at ambient conditions within one minute of removal from the environmental chamber held at those parameters.

All test method acceptance criteria were met. Testing was performed in compliance with US FDA good manufacturing practice (GMP) regulations 21 CFR Parts 210, 211 and 820.

Number of Test Articles Tested: 32
Number of Test Articles Passed: 30
Test Side: Outside
Pre-Conditioning: Minimum of 4 hours at $21 \pm 5^\circ\text{C}$ and $85 \pm 5\%$ relative humidity (RH)
Test Conditions: 21.0°C and 24% RH

Results: Per ASTM F1862 and ISO 22609, an acceptable quality limit of 4.0% is met for a normal single sampling plan when ≥ 29 of 32 test articles show passing results.

Test Pressure: 120 mmHg (16.0 kPa)

Test Article Number	Synthetic Blood Penetration
1-17, 20-32	None Seen
18, 19	Yes


Study Director
Brandon L. Williams


Study Completion Date



998110-S01

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FRT0012-0002 Rev 10

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