

January 19, 2022

Showa Best Glove, Inc. Jeffrey Richardson Director of Operations 579 Edison Street Menlo, Georgia 30731

Re: K211003

Trade/Device Name: SHOWA® Blue Nitrile Powder Free Medical Examination Glove Regulation Number: 21 CFR 880.6250 Regulation Name: Non-Powdered Patient Examination Glove Regulatory Class: Class I, reserved Product Code: LZA, LZC Dated: December 8, 2021 Received: December 9, 2021

Dear Jeffrey Richardson:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. Although this letter refers to your product as a device, please be aware that some cleared products may instead be combination products. The 510(k) Premarket Notification Database located at https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm identifies combination product submissions. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part

801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803) for devices or postmarketing safety reporting (21 CFR 4, Subpart B) for combination products (see https://www.fda.gov/combination-products/guidance-regulatory-information/postmarketing-safety-reporting-combination-products); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820) for devices or current good manufacturing practices (21 CFR 4, Subpart A) for combination products; and, if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <u>https://www.fda.gov/medical-devices/medical-device-safety/medical-device-reporting-mdr-how-report-medical-device-problems</u>.

For comprehensive regulatory information about medical devices and radiation-emitting products, including information about labeling regulations, please see Device Advice (<u>https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance</u>) and CDRH Learn (<u>https://www.fda.gov/training-and-continuing-education/cdrh-learn</u>). Additionally, you may contact the Division of Industry and Consumer Education (DICE) to ask a question about a specific regulatory topic. See the DICE website (<u>https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/contact-us-division-industry-and-consumer-education-dice</u>) for more information or contact DICE by email (<u>DICE@fda.hhs.gov</u>) or phone (1-800-638-2041 or 301-796-7100).

Sincerely,

Clarence W. Murray, III, PhD Assistant Director DHT4B: Division of Infection Control and Plastic Surgery Devices OHT4: Office of Surgical and Infection Control Devices Office of Product Evaluation and Quality Center for Devices and Radiological Health

Enclosure

Indications for Use

510(k) Number (*if known*) K211003

Device Name

SHOWA®Blue Nitrile Powder Free Medical Examination Glove

Indications for Use (Describe)

A patient examination glove is a disposable device intended for medical purposes that is worn on the examiner's hands or fingers to prevent contamination between patient and examiner.

These gloves were tested for use with chemotherapy drugs in accordance with ASTM D6978-05 Standard Practice for Assessment of Medical Glove to Permeation by chemotherapy drugs.

Chemotherapy Drugs and Concentration Minimum breakthrough detection time (Min) µg/cm²/min Chemotherapy Drug and concentration Minimum Breakthrough, detection time in minutes, minutes 1) Blenoxane (15.0 mg/ml) 15,000 ppm >240 minutes 2) Busulfan (6.0 mg/ml) 6,000 ppm >240 minutes 3) Carboplatin (10.0 mg/ml) 10,000 ppm >240 minutes 4) Carmustine (3.3 mg/ml) 3,300 ppm 73.7 minutes 5) Cisplatin (1.0 mg/ml) 1,000 ppm >240 minutes 6) Cyclophosphamide (20.0 mg/ml) 20,000 ppm >240 minutes 7) Cytarabine (100.0 mg/ml) 100,000 ppm >240 minutes 8) Dacarbazine (10.0 mg/ml) 10,000 ppm >240 minutes 9) Daunorubicin HCl (5.0 mg/ml) 5,000 ppm >240 minutes 10) Docetaxel (10.0 mg/ml) 10,000 ppm >240 minutes 11) Doxorubicin HCl (2.0 mg/ml) 2,000 ppm >240 minutes 12) Epirubicin HCl (2.0 mg/ml) 2,000 ppm >240 minutes 13) Etoposide (20.0 mg/ml) 20,000 ppm >240 minutes 14) Fludarabine (25.0 mg/ml) 25.000 ppm >240 minutes 15) Fluorouracil (50.0 mg/ml 50,000 ppm >240 minutes 16) Gemcitabine (38.0 mg/ml) 38,000 ppm >240 minutes 17) Idarubicin HCl (1.0 mg/ml) 1,000 ppm >240 minutes 18) Ifosfamide (50.0 mg/ml) 50,000 ppm >240 minutes 19) Irinotecan (20.0 mg/ml) 20,000 ppm >240 minutes 20) Mechlorethamine HCl (1.0 mg/ml) 1,000 ppm >240 minutes 21) Melphalan (5.0 mg/ml) 5,000 ppm >240 minutes 22) Methotrexate (25.0 mg/ml) 25,000 ppm >240 minutes 23) Mitomycin C (0.5 mg/ml) 500 ppm >240 minutes 24) Mitoxantrone (2.0 mg/ml) 2,000 ppm >240 minutes 25) Paclitaxel (6.0 mg/ml) 6,000 ppm >240 minutes 26) Rituximab (10.0 mg/ml) 10,000 ppm >240 minutes 27) ThioTepa (10.0 mg/ml)10,000 ppm 25.4 minutes 28) Trisenox (1.0 mg/ml) 1,000 ppm >240 minutes 29) Vincristine Sulfate (1.0 mg/ml) 1,000 ppm >240 minutes The maximum testing time is 240 minutes. Warning: Do not use with Carmustine or ThioTepa.

Type of Use (Select one or both, as applicable)

Prescription Use (Part 21 CFR 801 Subpart D)

Over-The-Counter Use (21 CFR 801 Subpart C)

CONTINUE ON A SEPARATE PAGE IF NEEDED.

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510(k) Summary K211003 DATE OF PREPARATION: January 14, 2022

I. SUBMITTER

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II. OFFICIAL CORRESPONDENCE/CONTACT PERSON

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III. 510(K) PREPARER

Brian Moseley Showa Best Glove, Inc. 579 Edison Street Menlo, GA 30731 Tel: 706-862-6752 Fax: 706-862-2660 Email: Bmoseley@showagroup.com

IV.PROPOSED DEVICE

Trade Name/Proprietary Name: SHOWA® Blue Nitrile Powder Free Medical Examination Glove Common or Usual Name: Nitrile Patient Examination Glove Classification Name: Patient Examination Glove Regulation: 21 CFR 880.6250 Device Classification: Class: I Product Code: LZA, LZC

V. PREDICATE DEVICE

Device Classification Name: Polymer Patient Examination Glove 510(k) Number: K200581 Product Code: LZA, LZC Applicant: Hartelega NGC SDN.BHD. Kawasan Perindustrian Tanjung Sepang, MY 43900

VI.DEVICE DESCRIPTION

The SHOWA® Blue Nitrile Powder Free Medical Examination Glove is a single use, disposable device made from a Nitrile Butadiene Rubber, blue in color, powder free and non-sterile (per 21 CFR Part 880.6250, class I). The device meets all the specifications in ASTM D6319-10, Standard specification for Nitrile Examination Gloves. Additionally, the gloves have been tested for biocompatibility and permeability to chemotherapy drugs.

The SHOWA® Blue Nitrile Powder Free Medical Examination Glove is designed to be used for medical purposes to be worn on the examiner's hands or fingers to prevent contamination between the patient and the examiner (product code LZA). In addition, these gloves were tested for use with chemotherapy drugs (product code LZC) in accordance with ASTM D6978-05 Standard Practice for Assessment of Medical Glove to Permeation by chemotherapy drugs.

VII. INDICATIONS FOR USE

A patient examination glove is a disposable device intended for medical purposes that is worn on the examiner's hands or fingers to prevent contamination between patient and examiner.

These gloves were tested for use with chemotherapy drugs in accordance with ASTM D6978-05 Standard Practice for Assessment of Medical Glove to Permeation by chemotherapy drugs.

Chemotherapy Drug and concentration	Minimum Breakthrough, detection time in minutes, minutes
1) Blenoxane (15.0 mg/ml) 15,000 ppm	>240
2) Busulfan (6.0 mg/ml) 6,000 ppm	>240
3) Carboplatin (10.0 mg/ml) 10,000 ppm	>240
4) Carmustine (3.3 mg/ml) 3,300 ppm	73.7
5) Cisplatin (1.0 mg/ml) 1,000 ppm	>240
6) Cyclophosphamide (20.0 mg/ml) 20,000 ppm	>240
7) Cytarabine (100.0 mg/ml) 100,000 ppm	>240
8) Dacarbazine (10.0 mg/ml) 10,000 ppm	>240
9) Daunorubicin HCI (5.0 mg/ml) 5,000 ppm	>240
10) Docetaxel (10.0 mg/ml) 10,000 ppm	>240
11)Doxorubicin HCI (2.0 mg/ml) 2,000 ppm	>240
12) Epirubicin HCI (2.0 mg/ml) 2,000 ppm	>240
13) Etoposide (20.0 mg/ml) 20,000 ppm	>240
14) Fludarabine (25.0 mg/ml) 25,000 ppm	>240

15) Fluorouracil (50.0 mg/ml 50,000 ppm	>240
16) Gemcitabine (38.0 mg/ml) 38,000 ppm	>240
17) Idarubicin HCI (1.0 mg/ml) 1,000 ppm	>240
18) Ifosfamide (50.0 mg/ml) 50,000 ppm	>240

19) Irinotecan (20.0 mg/ml) 20,000 ppm	>240
20) Mechlorethamine HCI (1.0 mg/ml) 1,000 ppm	>240
21) Melphalan (5.0 mg/ml) 5,000 ppm	>240
22) Methotrexate (25.0 mg/ml) 25,000 ppm	>240
23) Mitomycin C (0.5 mg/ml) 500 ppm	>240
24) Mitoxantrone (2.0 mg/ml) 2,000 ppm	>240
25) Paclitaxel (6.0 mg/ml) 6,000 ppm	>240
26) Rituximab (10.0 mg/ml) 10,000 ppm	>240
27) ThioTepa (10.0 mg/ml)10,000 ppm	25.4
28) Trisenox (1.0 mg/ml) 1,000 ppm	>240
29) Vincristine Sulfate (1.0 mg/ml) 1,000 ppm	>240

The maximum testing time is 240 minutes. Warning: Do not use with Carmustine or ThioTepa.

VIII. COMPARISON OF TECHNOLOGICAL CHARACTERISTICS

	Proposed Dev	/ice	Predicate Dev	/ice	
Characteristics	SHOWA® Blue Nitrile Pow	der Free Medical	Polymer Patient Exami	nation Glove	Comparison
	Examination Glove	K211003	510(k) Number K	200581	
Device Description/ Regulation Number	Patient examination glove 21 CFR § 880.6250		Patient examination glo 880.6250	ove 21 CFR §	Same
Product Code	LZA, LZC		LZA, LZC, QI	DO	Similar
Indications for Use	A patient examination glove is a disposable device intended for medical purposes that is worn on the examiner's hands or fingers to prevent contamination between patient and examiner. These gloves were tested for use with chemotherapy drugs in accordance with ASTM D6978-05 Standard Practice for Assessment of Medical Glove to Permeation by chemotherapy drugs.	Minimum Breakthrough, detection time in minutes, minutes	Biodegradable Nitrite Pow Examination Gloves Tester Chemotherapy Drugs and Citrate (Blue) is a non-ster device intended for medica is worn on the examiner's contamination between par examiner. It is also tested against Chemotherapy Dru Fentanyl Citrate, These gli tested for use with chemotian and Fentanyl Citrate as per D6978-05 (Reapproved 20 Practice for Assessment of Gloves to Permeation by 0 Drugs. Chemotherapy Drug and Concentration	der Free ed for Use with Fentanyl rile disposable al purpose that hand to prevent titient and to be used ugs and oves were therapy drugs er ASTM D13) Standard f Medical	Similar
	Chemotherapy Drugs and Concentration 1) Blenoxane (15.0 mg/ml)	>240 minutes	Carmustine (3.3 mg/ml) Cisplatin (1.0 mg/ml) Cyclophosphamide (20.0	Minutes 21.4 >240 >240	
	15,000 ppm	- 240 111110163	mg/ml) Dacarbazine (10.0 mg/ml)	>240	
	2) Busulfan (6.0 mg/ml) 6,000 ppm	>240 minutes	Doxorubicin Hydrochloride (2.0 mg/ml)	>240	
	3) Carbopiatin (10.0 mg/mi)	>240 minutes	Etoposide (20.0 mg/ml)	>240	
	10,000 ppm 4) Carmustine (3.3 mg/ml)	73.7 minutes	Fluorouracil (50.0 mg/ml)	>240	
	3,300 ppm	10.7 minutos	Methotrexate (25.0 mg/ml)	>240	

5) Cisplatin (1.0 mg/ml) 1,000	>240 minutes	111			1
ppm			Paclitaxel (6.0 mg/ml)	>240	
6) Cyclophosphamide (20.0	>240 minutes		Thiotepa (10.0 mg/ml)	67.2	
mg/mll) 20,000 ppm			Vincristine Sulfate (1.0	>240	
7) Cytarabine (100.0 mg/ml)	>240 minutes	1 -	mg/ml) Azacytidine (25.0 mg/ml)	>240	
	•		/ ((2.0	

	100 000 ppm		Carboniatin (10.0 mg/ml)	>240	
	100,000 ppm 8) Dacarbazine (10.0 mg/ml)	>240 minutes	Carboplatin (10.0 mg/ml) Docetaxel (10 mg/ml)	>240	
	10,000 ppm	>240 minutes	Epirubicin (2.0 mg/ml)	>240	
	9) Daunorubicin HCI (5.0	>240 minutes	Gemcitabine (38 nig/ml)	>240	
	mg/ml) 5,000 ppm		Ifosfamide {50 mg/ml)	>240	
	10) Docetaxel (10.0 mg/ml)	>240 minutes	Irinotecan (20 mg/ml)	>240	
	10,000 ppm		Mitoxantrone (2.0 mg/ml)	>240	
	11) Doxorubicin HCI (2.0	>240 minutes	Oncovin (I.0 mg/ml)	>240	
	mg/ml) 2,000 ppm 12) Epirubicin HCI (2.0 mg/ml)	>240 minutes	Oxaliplatin (5 mg/ml)	>240	
	2,000 ppm	>240 minutes	Vinorelbine (] 0 mg/ml)	>240	
	13) Etoposide (20.0 mg/ml)	>240 minutes	Please note that Carmust		
	20,000 ppm	2.10.1111000	Thiotepa have extremely		
	14) Fludarabine (25.0 mg/ml)	>240 minutes	times of 21.4 minutes and	d 67.2 minutes	
	25,000 ppm		respectively.		
	15) Fluorouracil (50.0 mg/ml 50,000 ppm	>240 minutes	Warning: Do not use with	Carmustine	
	16) Gemcitabine (38.0 mg/ml) 38,000 ppm	>240 minutes	Fentanyl Citrate and	Minimum	
	17) Idarubicin HCI (1.0 mg/ml) 1,000 ppm	>240 minutes	Concentration	Breakthrough Detection Time	
	18) Ifosfamide (50.0 mg/ml)	>240 minutes	Fentanyl Citrate Injection	in Minutes >240	
	50,000 ppm 19) Irinotecan (20.0 mg/ml)	>240 minutes	(100 mcg/2ml)		
	20,000 ppm				
	20) Mechlorethamine HCI (1.0 mg/ml) 1,000 ppm	>240 minutes			
	21) Melphalan (5.0 mg/ml) 5,000 ppm	>240 minutes			
	22) Methotrexate (25.0 mg/ml) 25,000 ppm	>240 minutes			
	23) Mitomycin C (0.5 mg/ml)	>240 minutes			
	500 ppm 24) Mitoxantrone (2.0 mg/ml)	>240 minutes			
	2,000 ppm 25) Paclitaxel (6.0 mg/ml) 6,000	>240 minutes			
	ppm 26) Rituximab (10.0 mg/ml)	>240 minutes			
	10,000 ppm 27) ThioTepa (10.0	25.4 minutes			
	mg/ml)10,000 ppm	5 0 40 mil 1			
	28) Trisenox (1.0 mg/ml) 1,000	>240 minutes			
	ppm 29) Vincristine Sulfate (1.0	>240 minutes			
	mg/ml) 1,000 ppm	21011111000			
	The maximum testing time is 240 mi	nutes.	1		
	Warning: Do not use with Carmustin				-
Material Use	Nitrile		Nitrile		Same
Color	Blue		Blue		Same
Sterility	Non-Sterile		Non-Steril	e	Same
Dimensions	Meets ASTM D63	319-10	Meets ASTM D6	6319-10	Same
Physical	Meets ASTM D63	319-10	Meets ASTM D6		Same
Properties					
Freedom from					
Holes	AQL 2.5 Inspection Meets		AQL 2.5 Inspection Meet	s ASTM D5151-	Same
(D 5151)			06		Same
Residual Powder (D 6124)	Meets ASTM D6 ²	124-06	Meets ASTM D6	6124-06	Same
Biocompatibility test – Primary Skin Irritation Test (ISO 10993-10)	Under the conditions of th primary skin irri		Under the conditions of primary skin ir		Same

Biocompatibility test – Dermal Sensitization Assay (ISO 10993-10)	Under conditions of the study, not a contact sensitizer	Under conditions of the study, not a contact sensitizer	Same
Biocompatibility	Under conditions of the ISO Acute Systemic	Under conditions of the ISO Acute	Same
test – Acute	Injection test, not toxic	Systemic Injection test, not toxic	

systemic toxicity Study (ISO 10993-11)	
Resistance against Chemotherapy Drugs Standards Practice for Assessment of resistance of 	 Cisplatin (1.0 mg/ml) Cyclophosphamide (20.0 mg/ml) Dacarbazine (10.0 mg/ml) Doxorubicin Hydrochloride (2.0 mg/ml) Etoposide (20.0 mg/ml) Fluorouracil (50.0 mg/ml) Methotrexate (25.0 mg/ml) Mitomycin C (0.5 mg/ml) Paclitaxel (6.0 mg/ml) Vincristine Sulfate (1.0 mg/ml) Azacytidine (25.0 mg/ml) Docetaxel (10 mg/ml) Docetaxel (10 mg/ml) Epirubicin (2.0 mg/ml) Gemcitabine (38 mg/ml) Ifosfamide {50 mg/ml} Irinotecan (20 mg/ml) Oncovin (1.0 mg/ml) Oxaliplatin (5 mg/ml) Vinorelbine (10 mg/ml) Fentanyl Citrate (100 mcg/2ml) Breakthrough at 21.4 min. Carmustine (3.3 mg/ml)

IX. SUMMARY OF NONCLINICAL TESTING

Test Method	Purpose	Acceptance Criteria	Results
ASTM D6319-10	Demonstrate accurate sizing	DimensionsOverall Length (mm) =220 mm (sizes XS - S) and230 mm (sixes M - XL)Width (\pm 10 mm)Size XS = 70 mm Size S = 80 mm Size M = 95 mmSize L = 110 mm Size XL = 120 mmThickness at Palm (mm) = 0.05 min.Thickness at Finger Tip (mm) = 0.05 min.	Pass

	Demonstrate tensile	Before Aging (D 412): Tensile Strength (MPa) = 14 min Ultimate Elongation (%) = 500 min.	Pass
ASTM D6319-10	conforming properties	After Aging (D 573) (70 ^o C ± 2°C for 166 hrs ± 2 hrs.): Tensile Strength (MPa) = 14 min Ultimate Elongation (%) = 400 min	Fass

ASTM D6319-10	Demonstrate glove integrity	Freedom from Holes (D 5151) AQL 2.5 Inspection Level G-1	Pass
ASTM D6319-10	Demonstrate biocompatibility: Residual powder	Residual Powder (D 6124) ≤ 2.0 mg/pc	Pass
Primary Skin Irritation Test ISO 10993-10	Demonstrate biocompatibility: Skin irritation	Under the conditions of the study, Not a primary skin irritant.	Pass
Dermal Sensitization Assay ISO 10993-10	Demonstrate biocompatibility: Skin sensitivity	Under the conditions of the study, Not a contact sensitizer.	Pass
Acute Systemic toxicity Study ISO 10993-11	Demonstrate biocompatibility: acute systemic toxicity	Under conditions of the ISO Acute Systemic Injection test, not toxic	Pass
Open box testing AAMI 11737-1	Demonstrate acceptable open box bioburden	Acceptable bioburden levels after 30 days open box	Pass

X. SUMMARY OF CLINICAL TESTING

No clinical testing was performed.

XI. CONCLUSION

The conclusions drawn from the non-clinical testing demonstrates that the SHOWA® Blue Nitrile Powder Free Medical Examination Glove is as safe, as effective, and performs as well or better than the legally marketed device (K200581).