

**APPENDIX G**

**510(K) SUMMARY**  
**SUMMARY OF THE SAFETY AND EFFECTIVENESS FOR SMART SHIELD**  
**POWDER FREE COLORED NITRILE EXAMINATION GLOVES WITH BUBBLE GUM**  
**SCENT**

**Contact person :** Ong Lay Mau

This summary of safety and effectiveness information is being submitted in accordance with the requirements of SMDA 1990.

**Device Information:**

- Trade Name - SMART SHIELD™ POWDER FREE COLORED NITRILE EXAMINATION GLOVES WITH BUBBLE GUM SCENT
- Common Name - Exam gloves
- Classification Name - Patient examination glove (per 21 CFR 880.6250)
- Classification Information - Class I, 80 LZA - Nitrile patient examination glove, Powder free Meets all requirements of the ASTM Draft Standard Specification for Nitrile Examination Gloves for Medical Application.

**Device Description:**

Class I Nitrile patient examination gloves 80LZA, powder free and meeting all the requirements of the ASTM Draft Standard Specification for Nitrile Examination Gloves for Medical Application.

**Intended Use of Device:**

A medical glove to be worn on the hand of the health care and similar personnel to prevent contamination between health care personnel and patient.

**Technological Characteristics of Device:**

**1. Dimension**

DIMENSION	ASTM D3578-95	ROYAL SHIELD
Small	80 mm +/- 10mm	80 - 85 mm
Medium	90 mm +/- 10mm	90 - 97 mm
Medium-Large	100mm +/- 10mm	105 - 110 mm
Large	111mm +/- 10mm	111 - 114 mm
Length	230 mm minimum for all sizes	240mm min. for all sizes
Thickness - Finger	0.08mm minimum	0.08 mm min.
Palm	0.08mm minimum	0.08 mm min.

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**2. Physical Properties**

TESTS	TENSILE STRENGTH			ULTIMATE ELONGATION		
	ASTM D 3578-95	ASTM DRAFT NITRILE	SHIELD GLOVES MFR'S	ASTM D 3578-95	ASTM DRAFT NITRILE	SHIELD GLOVES MFR'S
BEFORE AGING	<b>14.0 MPa</b>	12.5 MPa	<b>18.0 MPa</b>	<u>700%</u>	<u>500%</u>	<u>600%</u>
AFTER AGING 22 HRS @ 100°C	<b>14.0 MPa</b>	12.5 MPa	<b>16.0 MPa</b>	<b>500%</b>	<b>400%</b>	<b>500%</b>

Our Smart Shield™ Powder free, Colored Nitrile Gloves with Bubble Gum Scent meets all the current ASTM D 6319-99 standards for Nitrile Examination Gloves.

**3. Water Tight Test**

Using the FDA specified 1,000 ml water leak test, 200 pieces of each size of the gloves were tested following G1 single sampling plan and our results are as given below:

BATCH #	SIZE	SAMPLE SIZE	LEAK STATUS	NUMBER LEAKED
9904071315	Small	200	Yes	4
9904061313	Medium	200	Yes	1
9904061313	M-Large	200	Yes	2
9904061313	Large	200	Yes	3

The above meets the FDA Water Leak Test Requirements.

**4. Biocompatibility**

The test results below shows that the gloves meet FDA biocompatibility requirements:

BIOCOMPATIBILITY TESTS	RESULTS
Primary Dermal Irritation Test	Passes
Skin Sensitization Study	Passes

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**5. Total Residual Powder Content & Presence of Cornstarch**

TESTS	FDA INTERNAL REQUIREMENTS	SHIELD GLOVES MFR'S
RESIDUAL POWDER CONTENT <b>ASTM D 6124</b>	NOT EXCEEDING 2 Mg PER GLOVE	RANGE:1.4-1.9 Mg/ GLOVE MEAN :1.7 Mg PER GLOVE
CORNSTARCH PRESENCE <b>(IODINE TEST)</b>	NEGATIVE	NEGATIVE

The glove conforms to FDA's proposed requirement not to exceed 2 mg/glove of total powder residue (using ASTM D 6124 Method for Residual Powder on Medical Gloves) and negative Iodine test.

**CONCLUSION:-**

It is concluded that the Smart Shield™ Powder Free, Colored Nitrile with Bubblegum scent gloves meet:-

- ASTM D 3578-95 specifications.
- FDA proposed requirement not to exceed 2 mg/glove of total powder residue per ASTM D 6124.
- ASTM D 5151-90 Test Method for Detection of Holes in Medical Gloves
- the FDA Water Leak Test requirements per ASTM D 5151.



Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

JUN 23 1999

Shield Gloves Manufacturer (M) Sdn. Bhd.  
c/o Mr. E.J. Smith  
Smith Associates  
P.O. Box 4341  
Crofton, Maryland 21114

Re: K991744  
Trade Name: SMART SHIELD™ Powder-Free Blue Nitrile  
Examination Glove with Bubble Gum Scent  
Regulatory Class: I  
Product Code: LZA  
Dated: May 10, 1999  
Received: May 21, 1999

Dear Mr. Smith:

We have reviewed your Section 510(k) notification of intent to market the device referenced above and we have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to 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). You may, therefore, market the device, subject to the general controls provisions of the Act. 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.

If your device is classified (see above) into either class II (Special Controls) or class III (Pre-market Approval), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 895. A substantially equivalent determination assumes compliance with the Good Manufacturing Practice for Medical Devices: General (GMP) regulation (21 CFR Part 820) and that, through periodic GMP inspections, the Food and Drug Administration (FDA) will verify such assumptions. Failure to comply with the GMP regulation may result in regulatory action. In addition, FDA may publish further announcements concerning your device in the Federal Register.

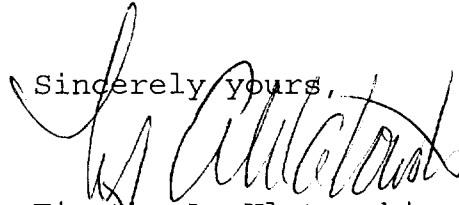
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Please note: this response to your premarket notification submission does not affect any obligation you might have under sections 531 through 542 of the Act for devices under the Electronic Product Radiation Control provisions, or other Federal laws or regulations.

This letter will allow you to begin marketing your device as described in your 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801 and additionally 809.10 for in vitro diagnostic devices), please contact the Office of Compliance at (301) 594-4692. Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR 807.97). Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its internet address "<http://www.fda.gov/cdrh/dsmamain.html>".

Sincerely yours,



Timothy A. Ulatowski  
Director  
Division of Dental, Infection Control,  
and General Hospital Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

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**INDICATIONS FOR USE STATEMENT**

Applicant: Shield Gloves Manufacturer (M) Sdn Bhd.

510K Number:

Device Name: SMART SHIELD™ Powder Free Colored Nitrile Examination Gloves  
With Bubblegum Scent

Indications For Use :

This is a medical glove to be worn on the hand of health care and similar personnel to prevent contamination between health care personnel and the patient.

.....  
Concurrence of CDRH Office of Device Evaluation (ODE)

Prescription Use .....

OR

Over-The-Counter... X.....

Per 21 CFR 801.109

*Chin S. Lim*  
**(Division Sign-Off)**  
**Division of Dental, Infection Control,**  
**and General Hospital Devices**  
510(k) Number K991744