





EN374-2

Test Report No. 7191242274-EEC20/01-LDY dated 11 Sep 2020

Note: This report is issued subject to the Testing and Certification Regulations of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.

TUV SUD

PSB Singapore

Add value.

Inspire trust.

SUBJECT:

Testing of Examination Gloves submitted by Nathan Trading Co., Ltd on 08 Jul 2020.

TESTED FOR:

Nathan Trading Co., Ltd 58 Moo 12 Palan Sub-district, Nathan District, Ubon Ratchathani, 34170, Thailand.

TEST DATE:

01 Sep 2020

DESCRIPTION OF SAMPLES:

S/N	Product Description	Brand/ Model	Size	Colour	Lot No.	Expiry date	Sample received (pieces)	Manufacturer/ Distributor
1	Nitrile Examination Gloves Non-Sterile Powder Free	Lydus	Ом	Blue	MG202006261	May 2023	400	Nathan Trading Co., Ltd.

METHOD OF TEST:

The test was conducted in accordance with the following test standard:

BS EN ISO 374-2:2019 Protective gloves against dangerous chemicals and micro-organisms – Part 2: Determination of resistance to penetration

TÜV SÜD PSB

Laboratory: TÜV SÜD PSB Pte. Ltd. No.1 Science Park Drive Singapore 118221 Phone : +65-6885 1333 Fax : +65-6776 8670 E-mail: enquiries@tuvsud.com https://www.tuvsud.com/en-sg Co. Reg : 199002667R Regional Head Office: TÜV SÜD Asia Pacific Pte. Ltd. 1 Science Park Drive, #02-01 Singapore 118221

Page 1 of 3









EN374-2

Test Report No. 7191242274-EEC20/01-LDY dated 11 Sep 2020



RESULTS:

Sample: Nitrile Examination Gloves Non-Sterile Powder Free, Lydus, Blue, Size M

Tests	Number of specimens tested (pieces)	Specification	Results	Inferred Result
Air Leak Test Water Leak Test	4 4	Shall not leak	No leakage No leakage	Complied

Wong Bee Hui Product Manager

Medical Health Services (NAM)

APPENDIX:



Photo: Nitrile Examination Gloves Non-Sterile Powder Free, Lydus, Blue, Size M







EN374-2

Test Report No. 7191242274-EEC20/01-LDY dated 11 Sep 2020



Please note that this Report is issued under the following terms:

- 1. This report applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results are not used to indicate or imply that they are applicable to other similar items. In addition, such results must not be used to indicate or imply that TÜV SÜD PSB approves, recommends or endorses the manufacturer, supplier or user of such product/equipment, or that TÜV SUD PSB in any way "guarantees" the later performance of the product/equipment. Unless otherwise stated in this report, no tests were conducted to determine long term effects of using the specific product/equipment.
- The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client, TÜV SÜD PSB therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.
- 3. Nothing in this report shall be interpreted to mean that TUV SÜD PSB has verified or ascertained any endorsement or marks from any other testing authority or bodies that may be found on that sample.
- This report shall not be reproduced wholly on in parts and no reference shall be made by the Client to TÜV SÜD PSB or to the report of results furnished by TÜV SÜD PSB in any advertisements or sales promotion.
- Unless otherwise stated, the tests were carried out in TÜV SÜD PSB Pte Ltd, No 1 Science Park Drive Singapore 118221
- The tests carried out by TUV SUD PSB and this report are subject to TUV SUD PSB's General Terms and Conditions of Business and the Testing and Certification Regulations of the TÜV SÜD Group

Effective 01 September 2020 TOUS CLOWES

Page 3 of 3









EN374-3 (EN 16523-1)

TEST REPORT: 7191247102-CHM20-01-TSL

Date: 09 NOV 2020 Tel: +65 68851312 Fax: +65 67784301

Client's Ref: 5394620 Email: zhou.xiao@tuvsud.com

Note: This report is issued subject to the Testing and Certification Regulations of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.

SUBJECT

GLOVES LYDUS GL Determination of Glove Resistance to Permeation by 40% Sodium Hydroxide

CLIENT

Nathan Trading Co., Ltd. 58 Moo 12 Palan Sub-district, Nathan District, Ubon Ratchathani, 34170, Thailand

SAMPLE SUBMISSION DATE

12 Oct 2020

DESCRIPTION OF SAMPLE

One packet of glove sample labeled as follows was received.

S/N	Product Description	Brand/ Model	Size	Colour	Lot No.	Expiry date	Sample received (pieces)	Manufacturer/ Distributor
1	Nitrile Examination Gloves Non-Sterile Powder Free	Lydus	M	Blue	MG202006261	May 2023	400	Nathan Trading Co., Ltd.
137	24	ONS		Ì				OVE
4	25	3		F			المار	CIL
	4						700	
		- 63		_		1		
OATE O	F ANALYSIS					,5	~	
	F ANALYSIS 020 – 09 Nov 2	020			1501	JES.		



DATE OF ANALYSIS



TÜV SÜD PSB Pte. Ltd. No.1 Science Park Drive Singapore 118221

Phone: +65-6885 1333 Fax: +65-6776 8670 E-mail: enquiries@tuvsud.com www.tuvsud.com/en-sg Co. Reg: 199002667R

Regional Head Office: TOV SOD Asia Pacific Pte. Ltd. 1 Science Park Drive, #02-01 Singapore 118221

Page 1 of 4

PSB Singapore

Inspire trust Add value.









CERTIFIED **EN374-3** (EN 16523-1)

TEST REPORT: 7191247102-CHM20-01-TSL

09 NOV 2020



METHOD OF TEST

Determination of material resistance to permeation by chemicals: By EN 16523-1:2015

- The palm area of the glove sample was mounted between two halves of a test cell. The test cell consisted
 of a two-compartment cell with 40% Sodium Hydroxide on glove's normal outside surface and Ultrapure
 Water on the glove's normal inside surface. Testing were carried out at ambient temperature
 (23°C ± 2°C).
- 2. The collecting medium were sampled and analysed for 40% Sodium Hydroxide at 10 min (class 1), 30 min (class 2), 60 min (class 3), 120 min (class 4), 240 min (class 5) and 480 min (class 6).
- The extracts were then analysed by Ion Chromatography. The results were used to calculate the permeation rate of 40% Sodium Hydroxide through the glove material. Based on the result, the minimum rate of sampling was determined.
- The tests were repeated at 10 min, 30min, 60min, 120min, 240min and 480 mins.
- 5. The extracts were then analysed by Ion Chromatography for the Normalised Permeation Rate.
- 6. A blank test was carried out exactly with the same procedure except Ultrapure Water was used.

Table 1: Classification of Glove Levels According to Breakthrough Time (EN ISO 374-1:2016/A1:2018)

Breakthrough Time (mins) *	Types of Level
> 10	Class 1
> 30	Class 2
> 60	Class 3
> 120	Class 4
> 240	Class 5
480	Class 6

^{*} The breakthrough time is deemed to have occurred when the analytical equipment detects a permeation rate of 1 μg/cm²/min.



TOUSGLON







EN374-3 (EN 16523-1)

TEST REPORT: 7191247102-CHM20-01-TSL

09 NOV 2020



RESULTS

1. Determination of resistance to permeation by 40% Sodium Hydroxide

Table 2 : Normalised Breakthrough Results for "Nitrile Examination Gloves Non-Sterile Powder Free Lot No: MG202006261" in 40% Sodium Hydroxide

40% Sodium Hydroxide									
Sample	Sample Location on Palm Area	Normalised Breakthrough Time (mins)	Mean Breakthrough Time (mins)	Lowest Value (mins)	Level				
Nitrile Examination	1	>480							
Gloves on-Sterile Powder Free,	2	>480	>480	>480	6				
Lot No.: MG202006261	3	>480	07						

- Chemical transfer referred to the quantity of chemical which had passed through per cm² of glove sample at the termination of the test.
- 2) The thickness of the glove was 0.07 mm.

3) No color change was observed on the glove test specimen after the test.

According to Table 2, the breakthrough time for "Nitrile Examination Gloves Non-Sterile Powder Free, Lot No: MG202006261" occurred after 480 mins. It was concluded that the sample belonged to class 6.

MS TAN SER LING

TECHNICAL EXECUTIVE

DR XIAO ZHOU

PRODUCT MANAGER
MICROCONTAMINATION DIAGNOSIS

CHEMICAL & MATERIALS













CERTIFIED EN374-3 (EN 16523-1)

TEST REPORT: 7191247102-CHM20-01-TSL

09 NOV 2020



Please note that this Report is issued under the following terms

- This report applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results are not used to indicate
 or imply that they are applicable to other similar items. In addition, such results must not be used to indicate or imply that TÜV SÜD PSB approves, recommends or endorses the manufacturer, supplier or user of such product/equipment, or that TÜV SÜD PSB in any way guarantees" the later performance of the product/equipment. Unless otherwise stated in this report, no tests were conducted to determine long term effects of using the specific product/equipment.
- 2. The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client, TÜV SÜD PSB therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.
- Nothing in this report shall be interpreted to mean that TÜV SÜD PSB has verified or ascertained any endorsement or marks from any other testing authority or bodies that may be found on that sample.
- This report shall not be reproduced wholly or in parts and no reference shall be made by the Client to TÜV SÜD PSB or to the report or results furnished by TÜV SÜD PSB in any advertisements or sales promotion.
- Unless otherwise stated, the tests were carried out in TÜV SÜD PSB Pte Ltd, No.1 Science Park Drive Singapore 118221.
- The tests carried out by TÜV SÜD PSB and this report are subject to TÜV SÜD PSB's General Terms and Conditions of Business and the Testing and Certification Regulations of the TÜV SÜD Group.

Effective 01 September 2020

LYDUS GLOVES LYDUS



Page 4 of 4









EN374-3 (EN 16523-1)

TEST REPORT: 7191247102-CHM20-02-TSL

Tel: +65 68851312 Fax: +65 67784301 Date: 09 NOV 2020

Client's Ref: 5394620 Email: zhou.xiao@tuvsud.com

Note: This report is issued subject to the Testing and Certification Regulations of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.

SUBJECT

GLOVES LYDUS CI Determination of Glove Resistance to Permeation by 30% Hydrogen Peroxide

CLIENT

Nathan Trading Co., Ltd. 58 Moo 12 Palan Sub-district Nathan District, Ubon Ratchathani 34170, Thailand

SAMPLE SUBMISSION DATE

12 Oct 2020

DESCRIPTION OF SAMPLE

One packet of glove sample labeled as follows was received.

S/N	Product Description	Brand/ Model	Size	Colour	Lot No.	Expiry date	Sample received (pieces)	Manufacturer/ Distributor
1	Nitrile Examination Gloves Non-Sterile Powder Free	Lydus	(S)	Blue	MG202006261	May 2023	400	Nathan Trading Co., Ltd.
		S	2					20
	A STATE OF THE PARTY OF THE PAR							101/
•	3						ave	Gv.
	114						100	
ATE	OF ANALYSIS						1	
O	OF ANALYSIS t 2020 - 09 Nov 2020	0				19		
O		0			Ô	KS		
4 Oc		0			SGLO	JES \		



DATE OF ANALYSIS



TOV SOD PSB Pte. Ltd. No.1 Science Park Drive Singapore 118221

Phone: +65-6885 1333 Fax: +65-6776 8670 Fax: +65-6776 8670 E-mail: enquiries@tuvsud.com www.tuvsud.com/en-sg Co. Reg: 199002667R

Regional Head Office: TÜV SÜD Asia Pacific Pte. Ltd. 1 Science Park Drive, #02-01 Singapore 118221

Page 1 of 4

PSB Singapore

Add value. Inspire trust.









CERTIFIED EN374-3

(EN 16523-1)

TEST REPORT: 7191247102-CHM20-02-TSL

09 NOV 2020



METHOD OF TEST

Determination of material resistance to permeation by chemicals: By EN 16523-1:2015

- The palm area of the glove sample was mounted between two halves of a test cell. The test cell consisted
 of a two-compartment cell with 30% Hydrogen Peroxide on glove's normal outside surface and Ultrapure
 Water on the glove's normal inside surface. Testing were carried out at ambient temperature
 (23°C ± 2°C).
- The collecting medium were sampled and analysed for 30% Hydrogen Peroxide at 10 min (class 1), 30 min (class 2), 60 min (class 3), 120 min (class 4), 240 min (class 5) and 480 min (class 6).
- The extracts were then analysed by UV Spectrophotometer. The results were used to calculate the permeation rate of 30% Hydrogen Peroxide through the glove material. Based on the result, the minimum rate of sampling was determined.
- The tests were repeated at 10 min, 30min and the sampling interval of 150 secs and collected until 60 min.
- 5. The extracts were then analysed by UV Spectrophotometer for the Normalised Permeation Rate.
- 6. A blank test was carried out exactly with the same procedure except Ultrapure Water was used.

Table 1 : Classification of Glove Levels According to Breakthrough Time (EN ISO 374-1:2016/A1:2018)

mins) Ty	pes of Level
K	Class 1
CITID A	Class 2
300	Class 3
	Class 4
	Class 5
	Class 6

^{*} The breakthrough time is deemed to have occurred when the analytical equipment detects a permeation rate of 1 µg/cm²/min.









EN374-3 (EN 16523-1)

TEST REPORT: 7191247102-CHM20-02-TSL

09 NOV 2020



RESULTS

1. Determination of resistance to permeation by 30% Hydrogen Peroxide

Table 2 : Normalised Breakthrough Results for "Nitrile Examination Gloves Non-Sterile Powder Free Lot No: MG202006261" in 30% Hydrogen Peroxide

NE	30% Hydrogen Peroxide									
Sample	Sample Location on Palm Area	Normalised Breakthrough Time (mins)	Mean Breakthrough Time (mins)	Lowest Value (mins)	Level					
Nitrile Examination	1	31		~						
Gloves Non-Sterile Powder Free,	2	31	31	31	2					
Lot No.: MG202006261	3	31	07							

- Chemical transfer referred to the quantity of chemical which had passed through per cm² of glove sample at the termination of the test.
- The thickness of the glove was 0.07 mm.
- 3) No color change was observed on the glove test specimen after the test.

According to Table 2, the breakthrough time for "Nitrile Examination Gloves Non-Sterile Powder Free, Lot No: MG202006261" occurred after 30 mins . It was concluded that the sample belonged to class 2.

MS TAN SER LING

TECHNICAL EXECUTIVE

DR XIAO ZHOU

HOUSELOVES

PRODUCT MANAGER
MICROCONTAMINATION DIAGNOSIS

CHEMICAL & MATERIALS











CERTIFIED EN374-3 (EN 16523-1)

TEST REPORT: 7191247102-CHM20-02-TSL

09 NOV 2020



Please note that this Report is issued under the following ter

- This report applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results are not used to indicate
 or imply that they are applicable to other similar items. In addition, such results must not be used to indicate or imply that TÜV SÜD PSB approves, recommends or endorses the manufacturer, supplier or user of such product/equipment, or that TÜV SÜD PSB in any way guarantees" the later performance of the product/equipment. Unless otherwise stated in this report, no tests were conducted to determine long term effects of using the specific product/equipment.
- 2. The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client, TÜV SÜD PSB therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.
- Nothing in this report shall be interpreted to mean that TÜV SÜD PSB has verified or ascertained any endorsement or marks from any other testing authority or bodies that may be found on that sample.
- This report shall not be reproduced wholly or in parts and no reference shall be made by the Client to TÜV SÜD PSB or to the report or results furnished by TÜV SÜD PSB in any advertisements or sales promotion.
- Unless otherwise stated, the tests were carried out in TÜV SÜD PSB Pte Ltd, No.1 Science Park Drive Singapore 118221.
- The tests carried out by TÜV SÜD PSB and this report are subject to TÜV SÜD PSB's General Terms and Conditions of Business and the Testing and Certification Regulations of the TÜV SÜD Group.

Effective 01 September 2020

LYDUS GLOVES LYDUS



Page 4 of 4









EN374-3 (EN 16523-1)

TEST REPORT: 7191247102-CHM20-03-TSL

Tel: +65 68851312 Fax: +65 67784301 Date: 09 NOV 2020

Client's Ref: 5394620 Email: zhou.xiao@tuvsud.com

Note: This report is issued subject to the Testing and Certification Regulations of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.

SUBJECT

GLOVES LYDUS CI Determination of Glove Resistance to Permeation by 37% Formaldehyde

CLIENT

Nathan Trading Co., Ltd. 58 Moo 12 Palan Sub-district Nathan District, Ubon Ratchathani 34170, Thailand

SAMPLE SUBMISSION DATE

12 Oct 2020

DESCRIPTION OF SAMPLE

One packet of glove sample labeled as follows was received.

S/N	Product Description	Brand/ Model	Size	Colour	Lot No.	Expiry date	Sample received (pieces)	Manufacturer/ Distributor
1	Nitrile Examination Gloves Non-Sterile Powder Free	Lydus	S	Blue	MG202006261	May 2023	400	Nathan Trading Co., Ltd.
		5	2		A			K.
	The same							10/1
	4						15	O [*]
ATE	OF ANALYSIS						YOUS	S
0	OF ANALYSIS t 2020 – 09 Nov 202	0				45	HOUS	
4 Oc		0			SOLO	JES .	YOUS	

DATE OF ANALYSIS

TOV SOD PSB Pte. Ltd. No.1 Science Park Drive Singapore 118221

Phone: +65-6885 1333 Fax: +65-6776 8670 Fax: +65-6776 8670 E-mail: enquiries@tuvsud.com www.tuvsud.com/en-sg Co. Reg: 199002667R

Regional Head Office: TÜV SÜD Asia Pacific Pte. Ltd. 1 Science Park Drive, #02-01 Singapore 118221

Page 1 of 4

PSB Singapore

Add value. Add value. Inspire trust.









CERTIFIED **EN374-3** (EN 16523-1)

TEST REPORT: 7191247102-CHM20-03-TSL

09 NOV 2020



METHOD OF TEST

Determination of material resistance to permeation by chemicals: By EN 16523-1:2015

- The palm area of the glove sample was mounted between two halves of a test cell. The test cell consisted
 of a two-compartment cell with 37% Formaldehyde on glove's normal outside surface and Ultrapure Water
 on the glove's normal inside surface. Testing were carried out at ambient temperature
 (23°C ± 2°C).
- 2. The collecting medium were sampled and analysed for 37% Formaldehyde at 10 min. (class 1), 30 min. (class 2), 60 min. (class 3), 120 min. (class 4), 240 min. (class 5) and 480 min. (class 6).
- The extracts were then analysed by UV Spectrophotometer. The results were used to calculate the permeation rate of 37% Formaldehyde through the glove material. Based on the result, the minimum rate of sampling was determined.
- The tests were repeated at 10 min, 30 min, 60min and the sampling interval of 6 min and collected until 120 min.
- 5. The extracts were then analysed by UV Spectrophotometer for the Normalised Permeation Rate.
- 6. A blank test was carried out exactly with the same procedure except Ultrapure Water was used.

Table 1 : Classification of Glove Levels According to Breakthrough Time (EN ISO 374-1:2016/A1:2018)

Breakthrough Time (mins)	Types of Level
> 10	Class 1
> 30	Class 2
> 60	Class 3
> 120	Class 4
> 240	Class 5
> 480	Class 6

^{*} The breakthrough time is deemed to have occurred when the analytical equipment detects a permeation rate of 1 µg/cm²/min.



ADISCHO







EN374-3 (EN 16523-1)

TEST REPORT: 7191247102-CHM20-03-TSL

09 NOV 2020



RESULTS

1. Determination of resistance to permeation by 37% Formaldehyde

Table 2 : Normalised Breakthrough Results for "Nitrile Examination Gloves Non-Sterile Powder Free Lot No: MG202006261" in 37% Formaldehyde

NE	37% Formaldehyde									
Sample	Sample Location on Palm Area	Normalised Breakthrough Time (mins)	Mean Breakthrough Time (mins)	Lowest Value (mins)	Level					
Nitrile Examination	1	61		~						
Gloves Non-Sterile Powder Free,	2	63	62	61	3					
Lot No.: MG202006261	3	63	07							

- Chemical transfer referred to the quantity of chemical which had passed through per cm² of glove sample at the termination of the test.
- The thickness of the glove was 0.07 mm.
- 3) Slight color change was observed on the glove test specimen after the test.

According to Table 2, the breakthrough time for "Nitrile Examination Gloves Non-Sterile Powder Free, Lot No: MG202006261" occurred after 60 mins . It was concluded that the sample belonged to class 3.

MS TAN SER LING

TECHNICAL EXECUTIVE

DR XIAO ZHOU

PRODUCT MANAGER
MICROCONTAMINATION DIAGNOSIS

CHEMICAL & MATERIALS





HOUSELOVES







CERTIFIED EN374-3 (EN 16523-1)

TEST REPORT: 7191247102-CHM20-03-TSL

09 NOV 2020



Please note that this Report is issued under the following ter

- This report applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results are not used to indicate
 or imply that they are applicable to other similar items. In addition, such results must not be used to indicate or imply that TÜV SÜD PSB approves, recommends or endorses the manufacturer, supplier or user of such product/equipment, or that TÜV SÜD PSB in any way guarantees" the later performance of the product/equipment. Unless otherwise stated in this report, no tests were conducted to determine long term effects of using the specific product/equipment.
- 2. The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client, TÜV SÜD PSB therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.
- Nothing in this report shall be interpreted to mean that TÜV SÜD PSB has verified or ascertained any endorsement or marks from any other testing authority or bodies that may be found on that sample.
- This report shall not be reproduced wholly or in parts and no reference shall be made by the Client to TÜV SÜD PSB or to the report or results furnished by TÜV SÜD PSB in any advertisements or sales promotion.
- Unless otherwise stated, the tests were carried out in TÜV SÜD PSB Pte Ltd, No.1 Science Park Drive Singapore 118221.
- The tests carried out by TÜV SÜD PSB and this report are subject to TÜV SÜD PSB's General Terms and Conditions of Business and the Testing and Certification Regulations of the TÜV SÜD Group.

Effective 01 September 2020

LYDUS GLOVES LYDUS



Page 4 of 4









CERTIFIED EN374-4

Test Report No. 7191244724-EEC20-WBH dated 28 Sep 2020

Note: This report is issued subject to the Testing and Certification Regulations of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.

PSB Singapore

Add value. Inspire trust

SUBJECT:

Testing of Gloves submitted by Nathan Trading Co., Ltd. on 08 Jul 2020.

TESTED FOR:

Nathan Trading Co., Ltd. 58 Moo 12 Palan Sub-district, Nathan District, Ubon Ratchathani, 34170, Thailand.

TEST DATE:

23 Sep 2020

DESCRIPTION OF SAMPLES:

S/N	Product Description	Brand/ Model	Size	Colour	Lot No.	Expiry date	Sample received (pieces)	Manufacturer/ Distributor
1	Nitrile Examination Gloves Non-Sterile	Lydus	M	Blue	MG202006261	May 2023	400	Nathan Trading Co., Ltd.

METHOD OF TEST:

The tests were conducted in accordance with the following test standards:

BS EN ISO 374-4:2019 Protective gloves against dangerous chemicals and micro-organisms Part 4. Determination of resistance to degradation by chemicals

Laboratory: TÜV SÜD PSB Pte. Ltd. No.1 Science Park Drive Singapore 118221

Phone: +65-6885 1333
Fax: +65-6776 8670
E-mail: enquiries@tuvsud.com
https://www.tuvsud.com/en-sg
Co. Reg: 199002667R

Regional Head Office: TÜV SÜD Asia Pacific Pte. Ltd. 1 Science Park Drive, #02-01 Singapore 118221

Page 1 of 3









CERTIFIED EN374-4

Test Report No. 7191244724-EEC20-WBH dated 28 Sep 2020



RESULTS:

Table: Results for resistance to degradation by chemicals

Sample: Nitrile Examination Gloves Non-Sterile Powder Free, Lydus, Blue, Size M

		CDegradation Results (%)						
S/N	Tested Chemicals	Glove 1	Glove 2	Glove 3	Average	Standard Deviation		
1	30% Hydrogen Peroxide	35.5	35.3	31.0	34.0	2.5		
2	37% Formaldehyde	-16.2	-7.9	-25.8	-16.6	9.0		
3	40% Sodium Hydroxide	-96.8	-87.5	-80.1	-88.1	8.4		

REMARKS:

- The degradation (DR) shall be determined for each chemical claimed in the marking and reported in the user instruction.
- The test specimens are 3 gloves and 6 specimens will be out from each glove. For each glove, 3 specimens will be exposed to the tested chemical and 3 specimens will be unexposed. After prepare the specimens, and exposed to tested chemical for 1 hour, puncture the specimen and record the peak force required.
- Positive values: The material has become weaker after chemical exposure.
 Negative values: The material has become harder after chemical exposure.

Yeo Poh Kwang Higher Associate Engineer Wong Bee Hui Product Manager Medical Health Services (NAM)

APPENDIX:



Photo: Nitrile Examination Gloves Non-Sterile Powder Free, Lydus, Blue, Size M







CERTIFIED EN374-4

Test Report No. 7191244724-EEC20-WBH dated 28 Sep 2020



Please note that this Report is issued under the following terms:

- 1. This report applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results are not used to indicate or imply that they are applicable to other similar items. In addition, such results must not be used to indicate or imply that TÜV SÜD PSB approves, recommends or endorses the manufacturer, supplier or user of such product/equipment, or that TÜV SÜD PSB in any way "guarantees" the later performance of the product/equipment. Unless otherwise stated in this report, no tests were conducted to determine long term effects of using the specific product/equipment.
- The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client. TÜV SÜD PSB therefore assumes no
 responsibility for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information
 supplied.
- Nothing in this report shall be interpreted to mean that TÜV SÜD PSB has verified or ascertained any endorsement or marks from any other testing authority or bodies that may be found on that sample.
- This report shall not be reproduced wholly or in parts and no reference shall be made by the Client to TÜV SÜD PSB or to the report or results furnished by TÜV SÜD PSB in any advertisements or sales promotion.
- 5. Unless otherwise stated, the tests were carried out in TÜV SÜD PSB Pte Ltd, No.1 Science Park Drive Singapore 118221.
- The tests carried out by TÜV SÜD PSB and this report are subject to TÜV SÜD PSB's General Terms and Conditions of Business and the Testing and Certification Regulations of the TÜV SÜD Group.

This clowes when a second seco







ISO 16604 (EN374-5)

TEST REPORT: 7191242274-CHM20-03-RC

Date: 15 SEP 2020 Tel: +65 68851345 Fax: +65 67784301

Client's Ref: Email: Randy.CHIN@tuvsud.com

Note: This report is issued subject to the Testing and Certification Regulations of the TOV SUD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.



SUBJECT

Bacteriophage Penetration Test

Add value. Inspire trust.

CLIENT

Nathan Trading Co., Ltd 58 Moo 12 Palan Sub-district, Nathan District, Ubon Ratchathani, 34170, Thailand.

SAMPLE SUBMISSION DATE / TEST DATE

08 Jul 2020 / 09 Sep 2020

DESCRIPTION OF SAMPLE

One sample of gloves was received.

S/N	Product Description	Brand/ Model	Size	Colour	Lot No.	Expiry date	Sample received (pieces)	Manufacturer/ Distributor
1	Nitrile Examination Gloves Non-Sterile Powder Free	Lydus	М	Blue	MG202006261	May 2023	400	Nathan Trading Co., Ltd.



Laboratory: TÜV SÜD PSB Pte. Ltd. No.1 Science Park Drive Singapore 118221 Phone : +65-6885 1333 Fax : +65-6776 8670 E-mail: enquiries@tuvsud.com www.tuvsud.com/en-sg Co. Reg : 199002667R

Regional Head Office: TÜV SÜD Asia Pacific Pte. Ltd. 1 Science Park Drive, #02-01 Singapore 118221

Page 1 of 4









ISO 16604 (EN374-5)

TEST REPORT: 7191242274-CHM20-03-RC

15 SEP 2020



DESCRIPTION OF SAMPLE (cont'd)



Figure 1: Photograph of Nitrile Examination Gloves Non-Sterile Powder Free (Lot No. MG202006261)

METHOD OF TEST

ISO 16604 : 2004, "Clothing for protection against contact with blood and body fluids – Determination of resistance of protective clothing materials to penetration by blood-borne pathogens – Test method using Phi-X174 bacteriophage"

Time and Pressure Protocols: Procedure B

Retaining Screen: Metal square mesh screen

Test specimens:

- Dimensions of 75 mm square were cut from the palm and back area of the gloves for the tests.

Average thickness of test specimen: 0.05 mm

Average mass per unit area of test specimen: 90.67 grams per square metre

Tests were performed in triplicates.

Page 2 of 4









PSB Singapore

CERTIFIED

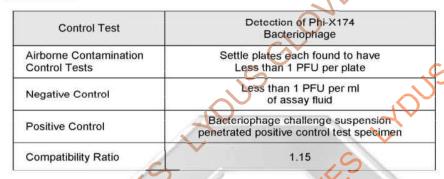
ISO 16604 (EN374-5)

TEST REPORT: 7191242274-CHM20-03-RC

15 SEP 2020

RESULTS

Control Tests



Test Specimens

Product Name

: Nitrile Examination Gloves Non-Sterile Powder Free

Lot No.

MG202006261

Test Specimens (Triplicates)	Starting Bacteriophage challenge Titer (PFU/ml)	Ending Bacteriophage challenge Titer (PFU/ml)	Detection of Phi-X174 Bacteriophage in assay fluid from the surface of sample (PFU/ml)	Specification	Pass / Fail
#1	4,	270 000 000	Less than 1		Pass
#2	280 000 000	260 000 000	Less than 1	< 1 PFU/ml	Pass
#3		270 000 000	Less than 1		Pass

Notes:

PFU Plaque Forming Unit

MS GERMAINE KHONG ZHI YU
TECHNICAL EXECUTIVE

MR RANDY CHIN KOK FEI PRODUCT MANAGER MICROBIOLOGY CHEMICAL & MATERIALS

Page 3 of 4









ISO 16604 (EN374-5)

TEST REPORT: 7191242274-CHM20-03-RC

15 SEP 2020

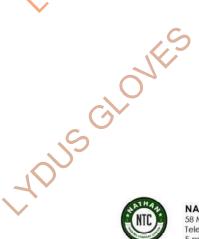


Please note that this Report is issued under the following terms:

- 1. This report applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results are not used to indicate or imply that they are applicable to other similar items. In addition, such results must not be used to indicate or imply that TÜV SÜD PSB approves, recommends or endorses the manufacturer, supplier or user of such product/equipment, or that TÜV SÜD PSB in any way "guarantees" the later performance of the product/equipment. Unless otherwise stated in this report, no tests were conducted to determine long term effects of using the specific product/equipment.
- The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client. TÜV SÜD PSB therefore assumes no responsibility
 for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.
- Nothing in this report shall be interpreted to mean that TÜV SÜD PSB has verified or ascertained any endorsement or marks from any other testing authority or bodies that may be found on that sample.
- This report shall not be reproduced wholly or in parts and no reference shall be made by the Client to TÜV SÜD PSB or to the report or results
 furnished by TÜV SÜD PSB in any advertisements or sales promotion.
- 5. Unless otherwise stated, the tests were carried out in TÜV SÜD PSB Pte Ltd, No.1 Science Park Drive Singapore 118221
- 6. The tests carried out by TÜV SÜD PSB and this report are subject to TÜV SÜD PSB's General Terms and Conditions of Business and the Testing and Certification Regulations of the TÜV SÜD Group.

Effective 01 September 2020

Page 4 of 4









ISO 16604 (EN374-5)

TEST REPORT: 7191242274-CHM20-03-RC

Date: 15 SEP 2020 Tel: +65 68851345 Fax: +65 67784301

Client's Ref: Email: Randy.CHIN@tuvsud.com

Note: This report is issued subject to the Testing and Certification Regulations of the TOV SUD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.



SUBJECT

Bacteriophage Penetration Test

Add value. Inspire trust.

CLIENT

Nathan Trading Co., Ltd 58 Moo 12 Palan Sub-district, Nathan District, Ubon Ratchathani, 34170, Thailand.

SAMPLE SUBMISSION DATE / TEST DATE

08 Jul 2020 / 09 Sep 2020

DESCRIPTION OF SAMPLE

One sample of gloves was received.

S/N	Product Description	Brand/ Model	Size	Colour	Lot No.	Expiry date	Sample received (pieces)	Manufacturer/ Distributor
1	Nitrile Examination Gloves Non-Sterile Powder Free	Lydus	М	Blue	MG202006261	May 2023	400	Nathan Trading Co., Ltd.



Laboratory: TÜV SÜD PSB Pte. Ltd. No.1 Science Park Drive Singapore 118221 Phone : +65-6885 1333 Fax : +65-6776 8670 E-mail: enquiries@tuvsud.com www.tuvsud.com/en-sg Co. Reg : 199002667R

Regional Head Office: TÜV SÜD Asia Pacific Pte. Ltd. 1 Science Park Drive, #02-01 Singapore 118221

Page 1 of 4









ISO 16604 (EN374-5)

TEST REPORT: 7191242274-CHM20-03-RC

15 SEP 2020



DESCRIPTION OF SAMPLE (cont'd)



Figure 1: Photograph of Nitrile Examination Gloves Non-Sterile Powder Free (Lot No. MG202006261)

METHOD OF TEST

ISO 16604 : 2004, "Clothing for protection against contact with blood and body fluids – Determination of resistance of protective clothing materials to penetration by blood-borne pathogens – Test method using Phi-X174 bacteriophage"

Time and Pressure Protocols: Procedure B

Retaining Screen: Metal square mesh screen

Test specimens:

- Dimensions of 75 mm square were cut from the palm and back area of the gloves for the tests.

Average thickness of test specimen: 0.05 mm

Average mass per unit area of test specimen: 90.67 grams per square metre

Tests were performed in triplicates.

Page 2 of 4









PSB Singapore

CERTIFIED

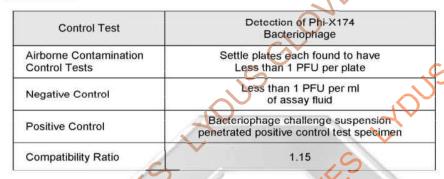
ISO 16604 (EN374-5)

TEST REPORT: 7191242274-CHM20-03-RC

15 SEP 2020

RESULTS

Control Tests



Test Specimens

Product Name

: Nitrile Examination Gloves Non-Sterile Powder Free

Lot No.

MG202006261

Test Specimens (Triplicates)	Starting Bacteriophage challenge Titer (PFU/ml)	Ending Bacteriophage challenge Titer (PFU/ml)	Detection of Phi-X174 Bacteriophage in assay fluid from the surface of sample (PFU/ml)	Specification	Pass / Fail
#1	4,	270 000 000	Less than 1		Pass
#2	280 000 000	260 000 000	Less than 1	< 1 PFU/ml	Pass
#3		270 000 000	Less than 1		Pass

Notes:

PFU Plaque Forming Unit

MS GERMAINE KHONG ZHI YU
TECHNICAL EXECUTIVE

MR RANDY CHIN KOK FEI PRODUCT MANAGER MICROBIOLOGY CHEMICAL & MATERIALS

Page 3 of 4









ISO 16604 (EN374-5)

TEST REPORT: 7191242274-CHM20-03-RC

15 SEP 2020

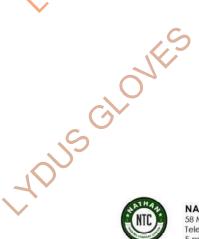


Please note that this Report is issued under the following terms:

- 1. This report applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results are not used to indicate or imply that they are applicable to other similar items. In addition, such results must not be used to indicate or imply that TÜV SÜD PSB approves, recommends or endorses the manufacturer, supplier or user of such product/equipment, or that TÜV SÜD PSB in any way "guarantees" the later performance of the product/equipment. Unless otherwise stated in this report, no tests were conducted to determine long term effects of using the specific product/equipment.
- The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client. TÜV SÜD PSB therefore assumes no responsibility
 for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.
- Nothing in this report shall be interpreted to mean that TÜV SÜD PSB has verified or ascertained any endorsement or marks from any other testing authority or bodies that may be found on that sample.
- This report shall not be reproduced wholly or in parts and no reference shall be made by the Client to TÜV SÜD PSB or to the report or results
 furnished by TÜV SÜD PSB in any advertisements or sales promotion.
- 5. Unless otherwise stated, the tests were carried out in TÜV SÜD PSB Pte Ltd, No.1 Science Park Drive Singapore 118221
- 6. The tests carried out by TÜV SÜD PSB and this report are subject to TÜV SÜD PSB's General Terms and Conditions of Business and the Testing and Certification Regulations of the TÜV SÜD Group.

Effective 01 September 2020

Page 4 of 4











BS EN ISO 21420

(Replaced EN420)

Test Report No. 7191242274-EEC20/02-LDY dated 09 Sep 2020

Note: This report is issued subject to the Testing and Certification Regulations of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.

JS GLOVES PSB Singapore

SUBJECT:

Testing of Examination Gloves submitted by Nathan Trading Co., Ltd on 08 Jul 2020

Add value. Inspire trust.

TESTED FOR:

Nathan Trading Co., Ltd 58 Moo 12 Palan Sub-district, Nathan District, Ubon Ratchathani, 34170, Thailand.

TEST DATE:

01 Sep 2020 to 09 Sep 2020

DESCRIPTION OF SAMPLES:

S/N	Product Description	Brand/ Model	Size	Colour	Lot No.	Expiry date	Sample received (pieces)	Manufacturer/ Distributor
1	Nitrile Examination Gloves Non-Sterile Powder Free	Lydus	М	Blue	MG202006261	May 2023	400	Nathan Trading Co., Ltd.

METHOD OF TEST:

The test was conducted in accordance with the following test standard:

BS EN SO 21420-2020 Protective gloves - General requirements and test methods

- Clause 4.2c Determination of pH value
- Clause 5.1 Sizing and measurement of gloves
- Clause 5.2 Dexterity



Laboratory: TÜV SÜD PSB Pte. Ltd. No.1 Science Park Orive Singapore 118221

Phone: +65-6885 1333 +65-6776 8670 Fax: E-mail: enquiries@tuvsud.com https://www.tuvsud.com/en-sg Co. Reg : 199002667R

Regional Head Office: TÜV SÜD Asia Pacific Pte. Ltd. 1 Science Park Drive, #02-01 Singapore 118221

Page 1 of 3









BS EN ISO 21420

(Replaced EN420)

Test Report No. 7191242274-EEC20/02-LDY dated 09 Sep 2020



RESULTS:

Sample: Nitrile Examination Gloves Non-Sterile Powder Free, Lydus Blue, Size M

Tests	BS EN ISO 2142	0-2020 Requirements	Results	Inferred Results
I. Determination of pH Value, pH value	> 3.5	and < 9.5	8.9	Passed
II. Sizing and measurement of gloves, length of glove (mm)	,5	Q*	240	See remark 1
III. Dexterity, level of performance	Level of performance	Smallest pin diameter fulfilling test conditions (mm) 11 9.5 8 6.5	5	See remark 2

REMARKS:

- 1. Sizes of gloves are defined with respect to the sizes of the hands they are to fit. If required for specific use (for examples, gloves for welders and firefighters), the minimum glove length shall be defined in the relevant specific standards. Three gloves were tested and minimum result was reported.
- 2. For Dexterity test, a glove should allow as much dexterity as possible given its purpose. Four gloves were tested and smallest performance level was reported.

Lee Bally

Engineer

Wong Bee Hui **Product Manager**

Medical Health Services (NAM)



Photo: Nitrile Examination Gloves Non-Sterile Powder Free, Lydus, Blue, Size M









BS EN ISO 21420

(Replaced EN420)

Test Report No. 7191242274-EEC20/02-LDY dated 09 Sep 2020

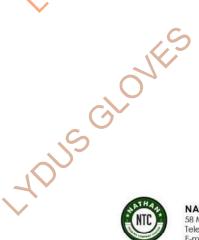


Please note that this Report is issued under the following terms :

- 1. This report applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results are not used to indicate or imply that they are applicable to other similar items. In addition, such results must not be used to indicate or imply that TÜV SÜD PSB approves, recommends or endorses the manufacturer, supplier of user of such product/equipment, or that TÜV SÜD PSB in any way "guarantees" the later performance of the product/equipment. Unless otherwise stated in this report, no tests were conducted to determine long term effects of using the specific product/equipment.
- The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client. TÜV SÜD PSB therefore assumes no
 responsibility for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information
 supplied.
- Nothing in this report shall be interpreted to mean that TÜV SÜD PSB has verified or ascertained any endorsement or marks from any other testing authority or bodies that may be found on that sample.
- This report shall not be reproduced wholly or in parts and no reference shall be made by the Client to TÜV SÜD PSB or to the report or results furnished by TÜV SÜD PSB in any advertisements or sales promotion.
- 5. Unless otherwise stated, the tests were carried out in TÜV SÜD PSB Pte Ltd, No.1 Science Park Drive Singapore 118221.
- The tests carried out by TUV SUD PSB and this report are subject to TUV SUD PSB's General Terms and Conditions of Business and the Testing and Certification Regulations of the TUV SUD Group.

Effective 01 September 2020











CERTIFIED EN455

Test Report No. 7191240266-EEC20/02-WBH_CR1 (re-issue dated: 13 Aug 2020) dated 30 Jul 2020

Note: This report is issued subject to the Testing and Certification Regulations of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.



PSB Singapore

Add value.

Inspire trust.

SUBJECT:

Testing of Examination Gloves submitted by Nathan Trading Co., td on 08 Jul 2020.

TESTED FOR:

Nathan Trading Co., Ltd 58 Moo 12 Palan Sub-district, Nathan District, Ubon Ratchathani, 34170, Thailand.

TEST DATE:

08 Jul 2020 to 30 Jul 2020

DESCRIPTION OF SAMPLES:

S/N	Product Description	Brand/ Model	Size	Colour	Lot No.	Expiry date	Sample received (pieces)	Manufacturer/ Distributor
10	Nitrile Examination Gloves Non-Sterile Powder Free	Lydus	М	Blue	MG202006261	May 2023	400	Nathan Trading Co., Ltd.

Lot size as specified by client: 35,001 pcs to 150,000 pcs

METHOD OF TEST:

The tests were conducted in accordance with the following standards as requested by client:

- EN 455-1:2020 Medical gloves for single use Part 1: Requirements and testing for freedom from holes
- 2. EN 455-2:2015 Medical gloves for single use Part 2: Requirements and testing for physical properties
 - -Clause 4 Dimensions
 - -Clause 5 Strength
- EN 455-3:2015 Medical glove for single use Part 3: Requirements and testing for biological evaluation -Clause 4.4 Powder-peogloves



Laboratory: TÜV SÜD PSB P __letd. No.1 Science Park Drive Singapore 11 2121 Phone: +65-6885 1333 Fax: +65-6776 8670

E-mail: enquiries@tuv-sud-psb.sg www.tuv-sud-psb.sg Co. Reg : 199002667R Regional Head Office: TÜV SÜD Asia Pacific Pte. Ltd. 1 Science Park Drive, #02-01 Singapore 118221

Page 1 of 4









CERTIFIED EN455

Test Report No. 7191240266-EEC20/02-WBH_CR1 (re-issue dated: 13 Aug 2020) dated 30 Jul 2020



RESULTS:

Sample: Nitrile Examination Gloves Non-Sterile Powder Free, Lydus, Lot No. MG202006261, Size M

Table 1: Results for EN 455-1:2020

Clause	Tests	Requirements	No. of non-compliers allowed (pieces)	Number tested (pieces)	Actual no. of non- compliers found (pieces)	Inferred results
4 5	Freedom from holes	Shall not leak	7	200	1	Passed

Table 2: Results for EN 455-2:2015 Clauses 4-5

			I Missanhara	r ·	
Clause	Tests 5	Requirements (Median)	Number tested (pieces)	Results (Median)	Inferred results
4	Dimensions a) Length (mm)	For size M: ≥ 240	13	240	Passed
4	b) Width (mm)	For size M: 90 ± 10	13	92	Passed
5	Strength a) Force at break (N)	For rubber examination gloves: ≥ 6.0	13	10.7	Passed
	b) Force at break after challenge testing (N) 7 days at (70±2)°C	For rubber examination gloves: ≥ 6.0	13	10.7	Passed

Table 4: Results for EN 455-3:2015 Clauses 4.4

Clause	Tests	Requirements	Results / Remarks	Inferred results
4.4 5.2	Powder- free gloves	For powder-free gloves: The total quantity of powder residues shall not exceed 2 mg per glove.	0.80 mg per glove	Passed

AMENDMENT:

The following amendment was made on 13 Aug 2020:

The size of glove was changed to M as per letter NTC 2020081301 submitted by client.

Yeo Poh Kwang Associate Engineer

Wong Bee Hui Product Manager Medical Health Services (NAM)









CERTIFIED EN455

Test Report No. 7191240266-EEC20/02-WBH CR1 (re-issue dated: 13 Aug 2020) dated 30 Jul 2020



APPENDIX:



Photo: Nitrile Examination Gloves Non-Sterile Powder Free, Lydus, Lot No. MG202006261, Size M



Page 3 of 4









CERTIFIED EN455

Test Report No. 7191240266-EEC20/02-WBH CR1 (re-issue dated: 13 Aug 2020) dated 30 Jul 2020



Please note that this Report is issued under the following terms:

- This report applies to the sample of the specific product/equipment given at the time of its testing/calibration. The results are not used to indicate or imply that they are applicable to other similar items. In addition, such results must not be used to indicate or imply that TÜV SÜD PSB approves, recommends or endorses the manufacturer, supplier or user of such product/equipment, or that TÜV SÜD PSB in any way "guarantees" the later performance of the product/equipment. Unless otherwise stated in this report, no tests were conducted to determine long term effects of using the specific product/equipment.
- The sample/s mentioned in this report is/are submitted/supplied/manufactured by the Client. TÜV SÜD PSB therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.
- Nothing in this report shall be interpreted to mean that TÜV SÜD PSB has verified or ascertained any endorsement or marks from any other testing authority or bodies that may be found on that sample.
- This report shall not be reproduced wholly or in parts and no reference shall be made by the Client to TÜV SÜD PSB or to the report or results furnished by TÜV SÜD PSB in any advertisements or sales promotion.
- Unless otherwise stated, the tests were carried out in TÜV SÜD PSB Pte Ltd, No.1 Science Park Drive Singapore 118221.

NSCLO TOUSGLO

Page 4 of 4



