「 “NoGerm” General Purpose Disinfectant (“諾必淨”一般醫療器材用消毒劑)」 Skin Sensitization Test (Guinea Pig Maximisation Test (GPMT))

Final Report

Study Number: TW025-23071L01

Sponsor Name: Nanoplus Life Biomedical Technology Co., Ltd

Address: 9 F., No. 179, Sec. 2, Tiding Blvd., Neihu Dist., Taipei City 114735, Taiwan (R.O.C.)

Test Facility: Chang Bing Show Chwan Memorial Hospital Animal Center (CBSCMHAC)

Address: No. 6, Lugong Rd., Lukang Township, Changhua County 505, Taiwan (R.O.C.)

Test Facility Approval

Quality Assurance Auditor

Chia Yun Tsai

Signer Name: Chia-Yun Tsai, MS

May 31, 2024

Date

Study Director

Wei-Jen Hsu

Signer Name: Wei-Jen Hsu, BS

May 31, 2024

Date

Facility Manager

Chi-Jung Yeh

Signer Name: Chi-Jung Yeh, MT

May 31, 2024

Date

Good Laboratory Compliance Statement

This study was conducted in compliance with the Organisation for Economic Co-operation and Development (OECD) -Principles of Good Laboratory Practice (GLP) and Taiwan Food and Drug Administration - Good Laboratory Practice for Nonclinical Laboratory Studies.

The laboratory is exempt from the following provisions: Sections 6.2.2, 6.2.3, 6.2.4, 6.2.5 in Taiwan Food and Drug Administration -Good Laboratory Practice for Nonclinical Laboratory Studies and The Organization for Economic Co-operation and Development (OECD) -Principles of Good Laboratory Practice (GLP). Characterization and verification of the test item identity, strength, purity, stability, composition, method of synthesis, fabrication, derivation or other characteristics provided from sponsor, which are the responsibility of the sponsor.

Study Director

Wei-Jen Hsu

Signer Name: Wei-Jen Hsu, BS

May 31, 2024

Date

Quality Assurance Statement

Study Number TW025-23071L01

Study Name 「"NoGerm" General Purpose Disinfectant ("諾必淨" 一般醫療器材用消毒劑)」Skin Sensitisation Test (Guinea Pig Maximisation Test (GPMT))

This study has been divided into several phases for inspection. Using a random sampling approach, each of these phases was monitored by quality assurance representative over a series of inspections. Related procedures, equipment records, and documentation are examined in order to assure that the study is performed in accordance with GLP guidelines from the regulatory body, such as the Taiwan Food and Drug Administration and OECD.

The following list describes the inspection date, inspection type, inspection phase, and report dates of inspections conducted by Quality Assurance in this study.

INSPECTION DATE	INSPECTION TYPE	STUDY PHASE	DATE REPORTED TO STUDY DIRECTOR	DATE REPORTED TO FACILITY MANAGER
Mar. 05, 2024	Study-Based inspections	Draft Study Plan Review & Operator's Qualification	Mar. 05, 2024	Mar. 05, 2024
Apr. 12, 2024	Study-Based inspections	Test Item Application: Induction phase I	Apr. 12, 2024	Apr. 12, 2024
May 28, 2024	Study-Based inspections	Raw Data Review	May 28, 2024	May 28, 2024
May 30, 2024	Study-Based inspections	Final Report Review	May 30, 2024	May 30, 2024

I accept the responsibility for conducting inspection to assure that the methods and procedures used in the study and the reported results accurately reflect the raw data of the study.

Quality Assurance Auditor

Chia Yun Tsai

Signer Name: Chia-Yun Tsai, MS

May 31, 2024

Date

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Appendix

Summary

The test item「"NoGerm"General Purpose Disinfectant ("諾必淨"一般醫療器材用消毒劑)」was evaluated for the potential to cause delayed dermal contact sensitization in a guinea pig maximization test. This study was conducted based on the requirements of ISO 10993-10 (2021), Biological evaluation of medical devices - Part 10: Tests for skin sensitization (2021). The test item was extracted in 0.9% saline and sesame oil. Each extract was intradermally injected and occlusively patched to ten test guinea pigs (per extract). Following a recovery period, the test and control animals received a challenge patch of the appropriate test item extract, the vehicle control. All sites were scored for dermal reactions at 24 and 48 hours after patch removal.

The test item extracts showed no evidence of causing delayed dermal contact sensitization in the guinea pig. The test item was not considered a sensitizer in the guinea pig maximization test.

1. Objectives

The purpose of this study was evaluating the potential of the test items to cause delayed dermal contact sensitization in the guinea pig maximization test.

2. Test Facility

2.1.Name:

Chang Bing Show Chwan Memorial Hospital Animal Center (CBSCMHAC)

2.2.Address:

1F., No. 6, Lugong Rd., Lukang Township, Changhua County 505, Taiwan (R.O.C.)

3. Personnel

Associates involved in this study was appropriately qualified and trained.

3.1.Study Director:

Wei-Jen Hsu, BS

Phone: +886-4-7813888#73630

E-mail: weijen1025@gmail.com

Address: 3F.,No. 6, Lugong Rd., Lukang Township, Changhua County 505, Taiwan (R.O.C.)

3.2.Study Personnel:

De-Wei Lai, Ph.D.

Hao-Ting Wu, MS

Wei-Jen Hsu, BS

3.3.Study Location:

Operation room	Preparation of extracts and skin sensitisation test
Rat room	Animal feeding

4. Sponsor Information

4.1.Name:

Nanoplus Life Biomedical Technology Co., Ltd

4.2.Address:

9 F., No. 179, Sec. 2, Tiding Blvd., Neihu Dist., Taipei City 114735, Taiwan (R.O.C.)

4.3.Sponsor's Representative and contact information:

Tzu-Ying Hung (洪慈營)

Phone: (02)2656-0555

Email: Cecilia@nanoplustech.com

5. Study Schedule

1. Study initiation date:	Apr. 09, 2024
2. Test item receipt date:	Feb. 16, 2024
3. Experimental starting date:	Apr. 09, 2024
4. Experimental completion date:	May 06, 2024
5. Study completion date:	The date Study Director signed in the Final Report

6. Test Item

6.1.Test Item:

Name of Test Item: “NoGerm” General Purpose Disinfectant (“諾必淨” 一般醫療器材用消毒劑)

Receipt Date: Feb. 16, 2024

Lot Number: 51224010004

Test Item No.: TW025-23071L01- 51224010004 (1,2,3): Polar Extracts &Non-Polar Extracts

TW025-23071L01- 51224010004 (4,5,6): Polar Extracts &Non-Polar Extracts (retention)

Type: Medical Devices, Category: Class1; Surface Device

External Features: Liquid

Surface Area: Not Available

Thickness: Not Available

Concentration: N/A

Purity: N/A

Expiry Date: Jan. 30, 2027

Manufacture Date: Jan. 31, 2024

Amount: Test: 3 bot* 4L, Retention: 3 bot* 4L

Major Components: Electrolyzed Water

Sterilization: No

Color: Colorless

Storage Condition: Room Temperature (SC-01 region)

Cut or Not: N/A (Liquid)

Extraction: By Weight: (0.2±10%) g/mL; Condition: (50±2) °C (72±2) Hours

Test Conditions: No Dilution

Others: The Intracutaneous Irritation Study in Rabbits; Test Item/ Control Item/ Information Form as Appendix 1

7. Test System

7.1.Test System:

7.1.1. Species: Guinea pig

7.1.2. Strain: Hartley

7.1.3. Weigh: Initial body weight 338.57 to 422.38 g.

7.1.4. Sex: Female healthy young adult animals were used (Non-pregnant and nulliparous).

7.1.5. Number of Animals: Thirty-two. Thirty for testing, two for spare.

7.1.6. Source: National Laboratory Animal Center (Building G, No. 111, Lane 130, Section 1, Academia Road, Nangang District,Taipei City 115021, Taiwan)

7.1.7. Feeding Region: Chang Bing Show Chwan Memorial Hospital Experimental Animal Center Rat Room. (1F., No. 6, Lugong Rd., Lukang Township, Changhua County 505, Taiwan (R.O.C.))

7.1.8. Acclimation Period: Quarantine in the quarantine room for 7 days and transfer to the rat room for 3 days of acclimatization.

7.1.9. Animal Facility Environment Control:

i Temperature for the room: 17.3~22.8°C

ii Relative humidity: 38.9~68.0%

iii Light cycle: 12 hours light, 12 hours dark (set 07:00 open; 19:00 close)

iv Condition: Animals were housed in groups in plastic suspended cages identified by a card indicating the study number, animal number, experimental group, sex, and experimental date, species, strain, and source.

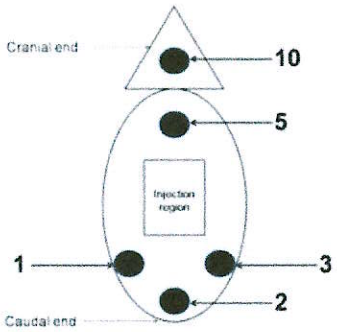
v Diet: 3023 Maintenance Diet-Guinea Pig –lot number: 202211101203 (Altromin) was supplied ad libitum throughout the study period.

vi Bedding: Biocob Corn Cob Lab Bedding-lot number: 10530396 (1) was supplied throughout the study period.

vii Potable water: RO and sterilization water were supplied ad libitum throughout the study period. It will be distributed to the polycarbonate bottles and autoclaved, then attached to the cages.

viii Animal Marking and identification: Color in the corresponding positions with a marker pen as Figure 1, and the cumulative number indicated the animal number. Purple was used for polar extract testing; Black was used for Non-polar testing.

Figure 1. Annotation position of animal number



10:On the head.

5:The back of the neck.

1:The left leg side of the buttocks.

2:The buttocks near the tail.

3:The right leg side of the buttocks.

7.2.The procedures for this study were approved by the Chang Bing Show Chwan Memorial Hospital Institutional Animal Care and Use Committee (IACUC) prior to conduct. IACUC approval Number: 113009.

7.3.Selection: Only healthy, previously unused animals free of mechanical irritation or trauma that could interfere with the test were selected.

7.4.Justification of Test System: The albino guinea pig (animal) has been used historically for sensitization studies (Magnusson and Kligman, 1970). The guinea pig is believed to be the most sensitive animal model for this type of study.

8. Study Design

This test procedure refers to ISO10993-10 (2021), OECD Guideline 406 (2021) and SOP GLP-TM-10-02 Skin Sensitisation Test (Guinea Pig Maximisation Test (GPMT)).

8.1. Reagent, Materials and Equipment:

8.1.1. Biological Safety Cabin (BSC), model: AC2-4S9-NS, supplier: ESCO, equipment number: BSC-06, calibration date: Oct. 04, 2023
8.1.2. Rotary shaking incubator, model: LM-575RD, supplier: YIHDER, equipment number: SI-01, calibration date: Mar. 19, 2023
8.1.3. Electric shaver, model:CF-202, supplier: CHI FON SHAVER IND. CO., LTD., calibration date: N.A.
8.1.4. Vernier caliper, model: CD-6"CSX, equipment number: DC-01, calibration date: Aug. 21, 2023
8.1.5. Electronic balance, model: PGW3502E, supplier: ADAM, equipment number: BAL-01, calibration date: Mar. 19, 2024
8.1.6. Electronic balance, model: PA224C, supplier: OHAUS, equipment number: BAL-05, calibration date: Mar. 19, 2024
8.1.7. Vortex, model: VM-1000, supplier: TYPHOON, equipment number: VOX-07, calibration date: N.A.
8.1.8. 1000μL Pipette, supplier: Sorenson, equipment number: P1mL-08, calibration date: Mar. 13, 2024
8.1.9. 1000μL tip, catalog: TF112-1000, supplier: QSP, lot: 1364140, expiry date: Jan. 08, 2028
8.1.10. Extraction container, catalog: 5100050C, lot: 50C2G1128B, supplier: CAPP, expiry date: Aug. 31, 2024
8.1.11. Marker pen
8.1.12. Gauze, supplier: BELIA, lot: 20210531, expiry date: May 31, 2024
8.1.13. Self-adhesive elastic bandage, lot: 103278623, supplier: 3M, expiry date: Nov. 05, 2025
8.1.14. Tubular Net Bandage, lot: 202105, supplier: I-M, expiry date: Jun. 24, 2026
8.1.15. Three-Way Stopcock, catalog: R1-FL-3CAPS, lot: OH13M, supplier: Top, expiry date: Jul. 31, 2025
8.1.16. 10mL Syring with Needle, catalog: 302149, lot: 0268120, supplier: BD, expiry date: Sep. 30, 2025
8.1.17. Freund's Complete Adjuvant (FCA), catalog: F5881, lot: SLCQ7099, supplier: Sigma, expiry date: May 23, 2024
8.1.18. Sodium dodecyl sulfate (SLS or SDS), catalog: 1614363, lot: R11250,supplier: Sigma, expiry date: Nov. 22, 2024
8.1.19. 75% alcohol, supplier: TOUN-SHIN CO., LTD., lot: HA221127, expiry date: Nov. 21, 2026
8.1.20. Cotton swabs, supplier: BELIA, lot: 20230221-3, expiry date: Feb. 21, 2026
8.1.21. 1mL Syringes 26Gx1/2", supplier: PERFECT MEDICAL INDUSTRY CO., LTD. ; lot: 220304, expiry date: Feb. 12, 2025
8.1.22. 0.9% saline, lot: 1TKB2022, supplier: Taiwan Biotech Co., Ltd., expiry date: Aug. 01, 2025
8.1.23. Sesame oil, catalog: S3547, lot: MKCP7144, supplier: Sigma, expiry date: Jul. 17, 2024
8.1.24. Dimethyl sulfoxide (DMSO), catalog: D2650, lot: RNBK7774, supplier: Sigma, expiry date: Apr. 30, 2024

8.2.**Preparation of Extracts**

8.2.1. Test item was taken according to the sampling method (whole sampling added additional volume of extraction vehicle that the test sample absorbed when performing the extraction, using the weight data of the test item provided by the CBSCMHAC detection). The extraction was performed in close inert containers according to the extraction ration of (0.2±10%)g: 1 mL (sample: extraction vehicle). The vehicle (without the test items) was similarly prepared to serve as the control. The extraction steps referred to SOP GLP-TM-10-03 Test Item Extraction and ISO10993-12 (2021).

8.2.1.1.The Extraction Vehicle:

Polar solvent: 0.9% saline; Non-polar solvent: Sesame oil

8.2.1.2.Extraction Condition:

50±2°C for 72±2 hours

8.3.**Test Procedure:**

8.3.1. **Induction phase I**

8.3.1.1.The test procedure, reagent, material, equipment, and related operation time points were recorded in "GLP-TM-10-02-04T Skin Sensitisation Test Procedure-II" and referred to SOP GLP-TM-10-02 Skin Sensitisation Test (Guinea Pig Maximisation Test (GPMT)) 7.3.7.1 Program B.

8.3.2. Recorded the body weight before and after the test in "GLP-TM -10-02-02F Skin Sensitisation Test - Animal Body Weight Record".

8.3.2.1.On the first day of treatment, the animals were weighed and arbitrarily assigned to a treatment group as shown below

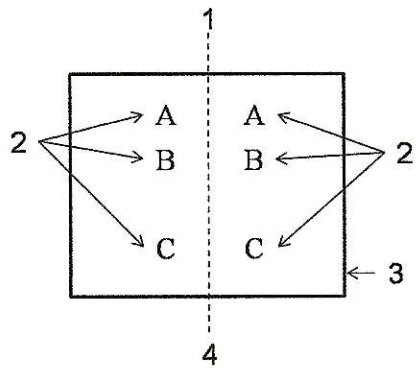
Table 1: Treatment Group Assignment

Vehicle	Treatment Group	Number of Animals
Polar solvent: 0.9% saline	Test	10
	Control	5
Non-polar solvent: Sesame oil	Test	10
	Control	5

The fur over the dorsoscapular region was removed with an electric clipper. The test animals were injected with the test item extract and the control animals were inject with the vehicle control. Three rows of intradermal injections (two injections per row) were given to each animal within an approximate 2 cm x 4 cm boundary of the fur clip area as illustrated below

Figure 2. Location of Intradermal Injection Sites

1. Cranial end
2. 0.1mL intradermal injection
3. Clipped intrascapular region
4. Caudal end



Control Animals:

A. 0.1 mL of 1:1 (v/v) mixture of FCA and 0.9% saline

B. 0.1 mL of vehicle

C. 0.1 mL of a 1:1 mixture of the 1:1 (v/v) FCA/ 0.9% saline mixture and the vehicle

Test Animals:

A. 0.1 mL of 1:1 (v/v) mixture of FCA and 0.9% saline

B. 0.1 mL of test extract

C. 0.1 mL of a 1:1 mixture of the 1:1 (v/v) FCA/0.9% saline mixture and the test extract

8.3.3. **Induction phase II**

8.3.3.1. At 6±1 days after completion of the Induction I injection, the fur over the dorsoscapular region (same area as used during Induction I) of each animal was removed with an electric clipper (if necessary). The area was treating with a 10% SLS to coat the skin by cotton swab. The SLS applied to provoke a mild acute inflammation, was massaged into the skin over the injection site. The area was uncovered.

8.3.3.2. At 24 hours (±2 hours) after SLS treated. An approximate 2 cm x 4 cm section of gauze patch, saturated with 0.5 mL of freshly prepared test item extract, was then topically applied to the previously injected sites of the test animals. The control animals were similarly patched with the appropriate vehicle control. Each patch was secured with a nonreactive tape and the trunk of each animal was wrapped with an elastic bandage. At 48 hours, the bandages and patches were removed.

8.3.4. **Challenge phase**

8.3.4.1. At 14±1 days after completion of Induction phase II, the fur was removed from both sides flank areas with an electric clipper. Appropriate sites for these hairless areas were selected and applied by the patches. Gauze patches were saturated with 0.5 mL of the test item extract or control vehicle. The test item extract was applied to the right flank of each animal and the control vehicle was applied to the left flank of each animal. The trunk of each animal was wrapped with anelastic bandage to maintain well-occluded sites. At 24 hours, the wraps and gauze were removed. Any residue remaining at the sites was removed.

8.3.5. **Laboratory Observations**

8.3.5.1. Animals were observed daily for general health and recorded in "GLP-TM-10-04-04F Laboratory Animal Observation Record" .

8.3.5.2. Observations and take pictures for dermal reactions were conducted at 24±2and 48±2 hours after challenge patch removal. Dermal reactions were scored in accordance with the criteria shown below, and recorded in "GLP-TM-10-02-05F Individual Values of Skin Reactions-II".

Table 2: Magnusson and Kligman scale

Patch test reaction	Grading scale
No visible change	0
Discrete or patchy erythema	1
Moderate and confluent erythema	2
Intense erythema and/ or swelling	3

9. Results Analysis

9.1. Magnusson and Kligamn grades of 1.0 or greater in the individual animals of test group generally indicated sensitization, provided grades of less than 1.0 were seen on the individual animals of control animals. If grades of 1.0 or greater were noted in control animals, then the reactions of test animal which exceed the most severe reaction in control animals were presumed to be due to sensitization. The frequency of positive challenge result of the test group was more than 30%, the test result was positive. If the response was equivocal, rechallenge was recommended to confirm the results from the first challenge.

9.2. According to ISO 10993-10 (2021), the skin sensitivity test (guinea pig maximization method) conducted a positive control substance confirmed, which was performed within six months before the study.

10.Results

10.1.Extraction

10.1.1. Polar Extract

Phase	Group	Extraction Ratio	Weight of Test Item	Extraction Volume	Condition of Extraction (Estimated)	Condition of Extraction (Actual)
Induced I	Test	(0.2±10%)g/ mL	5.01g	25.05mL	50±2℃; 72±2 hours	50.0~50.0℃; 72hours
	Control	N.A.	N.A.	20.00mL	50±2℃; 72±2 hours	50.0~50.0℃; 72hours
Induced II	Test	(0.2±10%)g/ mL	5.07g	25.35mL	50±2℃; 72±2 hours	50.0~50.0℃; 72hours
	Control	N.A.	N.A.	20.00mL	50±2℃; 72±2 hours	50.0~50.0℃; 72hours
Challenge	Test	(0.2±10%)g/ mL	5.01g	25.05mL	50±2℃; 72±2 hours	50.0~50.0℃; 72hours
	Control	N.A.	N.A.	20.00mL	50±2℃; 72±2 hours	50.0~50.0℃; 72hours

10.1.2. Non-Polar Extract

Phase	Group	Extraction Ratio	Weight of Test Item	Extraction Volume	Condition of Extraction (Estimated)	Condition of Extraction (Actual)
Induced I	Test	(0.2±10%)g/ mL	5.03g	25.15mL	50±2℃; 72±2 hours	50.0~50.0℃; 72hours
	Control	N.A.	N.A.	20.00mL	50±2℃; 72±2 hours	50.0~50.0℃; 72hours
Induced II	Test	(0.2±10%)g/ mL	5.09g	25.45mL	50±2℃; 72±2 hours	50.0~50.0℃; 72hours
	Control	N.A.	N.A.	20.00mL	50±2℃; 72±2 hours	50.0~50.0℃; 72hours
Challenge	Test	(0.2±10%)g/ mL	5.23g	26.15mL	50±2℃; 72±2 hours	50.0~50.0℃; 72hours
	Control	N.A.	N.A.	20.00mL	50±2℃; 72±2 hours	50.0~50.0℃; 72hours

10.2.Extraction Condition

10.2.1. Polar Extract

Group	Observation Point	Phase	Extraction State		
			Color	Clarity	Precipitate
Test	Before Extract	Induced I	colorless	clear	No
		Induced II	colorless	clear	No
		Challenge	colorless	clear	No
	After Extract	Induced I	colorless	clear	No
		Induced II	colorless	clear	No
		Challenge	colorless	clear	No
	Before Used	Induced I	colorless	clear	No
		Induced II	colorless	clear	No
		Challenge	colorless	clear	No
Control	Before Extract	Induced I	colorless	clear	No
		Induced II	colorless	clear	No
		Challenge	colorless	clear	No
	After Extract	Induced I	colorless	clear	No
		Induced II	colorless	clear	No
		Challenge	colorless	clear	No
	Before Used	Induced I	colorless	clear	No
		Induced II	colorless	clear	No
		Challenge	colorless	clear	No

10.2.2. Non-Polar Extract

Group	Observation Point	Phase	Extraction State		
			Color	Clarity	Precipitate
Test	Before Extract	Induced I	light yellow	turbid	No
		Induced II	light yellow	turbid	No
		Challenge	light yellow	turbid	No
	After Extract	Induced I	light yellow	turbid	No
		Induced II	light yellow	turbid	No
		Challenge	light yellow	turbid	No
	Before Used	Induced I	light yellow	turbid	No
		Induced II	light yellow	turbid	No
		Challenge	light yellow	turbid	No
Control	Before Extract	Induced I	light yellow	turbid	No
		Induced II	light yellow	turbid	No
		Challenge	light yellow	turbid	No
	After Extract	Induced I	light yellow	turbid	No
		Induced II	light yellow	turbid	No
		Challenge	light yellow	turbid	No
	Before Used	Induced I	light yellow	turbid	No
		Induced II	light yellow	turbid	No
		Challenge	light yellow	turbid	No

10.3.Animal Body Weight

10.3.1. Polar Extract

Total body weight				
Animal number	**Group**	**Sex**	**Before (g)**	**After (g)**
1	Control	Female	340.86	407.52
2	Control	Female	347.01	460.92
3	Control	Female	342.43	491.33
4	Control	Female	343.49	507.80
5	Control	Female	338.83	445.58
6	Test	Female	378.15	547.73
7	Test	Female	355.57	509.79
8	Test	Female	384.11	552.13
9	Test	Female	383.87	518.40
10	Test	Female	352.92	484.70
11	Test	Female	367.12	499.36
12	Test	Female	397.33	579.16
13	Test	Female	422.38	561.64
14	Test	Female	343.25	590.35
15	Test	Female	411.90	482.45

10.3.2. Non-Polar Extract

Total body weight				
Animal number	**Group**	**Sex**	**Before (g)**	**After (g)**
1	Control	Female	406.72	538.07
2	Control	Female	398.79	542.29
3	Control	Female	383.47	562.04
4	Control	Female	402.70	545.24
5	Control	Female	362.58	527.79
6	Test	Female	375.31	499.12
7	Test	Female	368.73	508.60
8	Test	Female	374.58	508.95
9	Test	Female	353.49	468.48
10	Test	Female	401.95	560.20
11	Test	Female	381.55	526.02
12	Test	Female	349.05	453.37
13	Test	Female	338.57	489.29
14	Test	Female	360.60	485.19
15	Test	Female	340.63	494.73

10.4. Values of Skin Reactions

10.4.1. Individual Values of Skin Reactions (Polar-Extract)

Animal number	Group	Magnusson and Kligman scale					
		24±2 hours			48±2 hours		
		Control side	Test side	Positive (+/-)	Control side	Test side	Positive (+/-)
1	Control	0	0	-	0	0	-
2	Control	0	0	-	0	0	-
3	Control	0	0	-	0	0	-
4	Control	0	0	-	0	0	-
5	Control	0	0	-	0	0	-
Control group mean score/ Frequency of positive (%)		0	0	0%	0	0	0%
6	Test	0	0	-	0	0	-
7	Test	0	0	-	0	0	-
8	Test	0	0	-	0	0	-
9	Test	0	0	-	0	0	-
10	Test	0	0	-	0	0	-
11	Test	0	0	-	0	0	-
12	Test	0	0	-	0	0	-
13	Test	0	0	-	0	0	-
14	Test	0	0	-	0	0	-
15	Test	0	0	-	0	0	-
Test group mean score/ Frequency of positive (%)		0	0	0%	0	0	0%

10.4.2. Individual Values of Skin Reactions (Non-Polar-Extract)

Animal number	Group	Magnusson and Kligman scale					
		24±2 hours			48±2 hours		
		Control side	Test side	Positive (+/-)	Control side	Test side	Positive (+/-)
1	Control	0	0	-	0	0	-
2	Control	0	0	-	0	0	-
3	Control	0	0	-	0	0	-
4	Control	0	0	-	0	0	-
5	Control	0	0	-	0	0	-
Control group mean score/ Frequency of positive (%)		0	0	0%	0	0	0%
6	Test	0	0	-	0	0	-
7	Test	0	0	-	0	0	-
8	Test	0	0	-	0	0	-
9	Test	0	0	-	0	0	-
10	Test	0	0	-	0	0	-
11	Test	0	0	-	0	0	-
12	Test	0	0	-	0	0	-
13	Test	0	0	-	0	0	-
14	Test	0	0	-	0	0	-
15	Test	0	0	-	0	0	-
Test group mean score/ Frequency of positive (%)		0	0	0%	0	0	0%

10.4.3. Clinical Observations

During the test (Apr. 09, 2024-May 06, 2024) Laboratory Animal Observation

Group	Control		Test	
	Polar-Extract	Non-Polar-Extract	Polar-Extract	Non-Polar-Extract
正常	5/5*	5/5*	10/10*	10/10*
異常	0/5^{+}	0/5^{+}	0/10^{+}	0/10^{+}
死亡	0/5$^{\#}$	0/5$^{\#}$	0/10$^{\#}$	0/10$^{\#}$

Remarks: During the test period, animal clinical observations were carried out every Monday to Friday, and the observation content included whether the appearance and behavior of the animals were normal.
* (number of animals with normal clinical observation/total number of animals in each group)
+(number of animals with abnormal clinical observation/total number of animals in each group)
#(Number of dead animals in clinical observation/total number of animals in each group)

10.4.4. The test animals were observed for mobility, mortality, other clinical signs in skin, fur, and occurrence of excretions. There were no clinical signs including mortality and morbidity related with the test item during the testing period.

10.5. Conclusion

Under the condition of this test, neither the control nor the test group showed significant skin response on the treated area. Thus, the results indicated that the polar and non-polar extract of「"NoGerm"General Purpose Disinfectant ("諾必淨"一般醫療器材用消毒劑)」did not produce skin sensitization in guinea pigs.

11. Deviation Statement

There were no deviations from the approved study plan which were judged to have any impact on the validity of the data.

12.Study Documents and Archives

The study pertinent records to be maintained included, but not limited to, the following objects:

- Signed Study Plan
- Material record (e.g. Test Item/ Control Item/ Specimen Information Form, Receiving Item Confirmation Form, and Controlled Item Request Form.)
- Raw data for experimental handling (e.g. IACUC approval certification, Laboratory Animal Quarantine Report, Laboratory Animal Receive Record, and Animal Room Environmental Monitoring data)
- Raw data of experimental results (e.g., Extraction Test Procedure, Skin Sensitisation Test Procedure-II, Skin Sensitisation Test - Animal Body Weight Record, Individual Values of Skin Reactions-II, Laboratory Animal Observation Record, Cage Card, Photograph of the Observation, Autoclave Record-Water, Diet, Bedding and etc.)
- Correspondence between the CBSCMHAC and the Sponsor Application Form
- A copy of Final Report

The above-mentioned data and documents will be maintained in the archives at Animal Center of Chang Bing Show Chwan Memorial Hospital for at least 6 years after report finalization. The retention of test item will be maintained in the storage cabinet (SC-01) in the control area of the test item management room at room temperature. The storage period of the test item will be reserved for at least 6 years after the final report becomes effective or be withdrawn after the validity period of the test item.

13.References

13.1 Taiwan Food and Drug Administration -Good Laboratory Practice for Nonclinical Laboratory Studies. (2019)

13.2 The Organisation for Economic Co-operation and Development (OECD)- Principles of Good Laboratory Practice(GLP). (1997)

13.3 Council of Agriculture, Executive Yuan, Animal Care and Use Program (2018)

13.4 World Health Organization. (2002). WHO Manual on Animal Influenza Diagnosis and Surveillance.

13.5 The Organisation for Economic Co-operation and Development (OECD) Test Guidelines 406: Skin Sensitisation Guinea Pig Maximisation Test and Buehler Test. (2021)

13.6 International Organization for Standardization (ISO) 10993-12, Biological evaluation of medical devices - Part 12: Sample preparation and reference materials (2021).

13.7 International Organization for Standardization (ISO) 10993-10, Biological evaluation of medical devices - Part 10: Test for Skin Sensitisation (2021).

13.8 Magnusson B. and Kligman A.M. (1970). Allergic Contact Dermatitis in the Guinea Pig.Charles G. Thomas; Springfield, Illinois.

13.9 SOP GLP-AF-00-09 Laboratory Animal Purchasing, Receiving, Quarantine, Domestication procedures and management

13.10 SOP GLP-AF-00-05Animal Room Environmental Monitoring

13.11 SOP GLP-EQ-20-01Microbalance (PA224C)

13.12 SOP GLP-EQ-20-06Balance (PGW3502E)

13.13 SOP GLP-EQ-10-01 Biological safety cabinet (AC2-4S9-NS)

13.14 SOP GLP-EQ-20-05 Incubator (LM-570RD)

13.15 SOP GLP-TM-10-02 Skin Sensitisation Test (Guinea Pig Maximisation Test (GPMT))

13.16 SOP GLP-TM-10-03 Test Item Extraction

Appendix 1

Reliability Check

The positive control study (Study no. TW006-23044L01) was finished on Dec. 25, 2023. According to the ISO10993-10 (2021) and OECD 406 Skin Sensitization (2021) guidelines, positive control shall be performed at least once every six months. 2-Mercaptobenzothiazole (2MBT) (Sigma, M3302-5G, Lot No 0000167089) were used for positive control substances, which was a suggested positive control substances according to ISO10993-10 (2021). The method of induction phase I and phase II for positive control assay was identical to the method described above in the study, and the method of challenge phase followed ISO10993-10 (2021) section 6.5.4.3.3 option b),2) to determine if any skin reaction observed in the test animals is due to sensitization or potential irritation. Respectively, the induction phase I, induction phase II and challenge phase were corresponding to 1%, 25% and 15% in dimethyl sulfoxide absolute (w/v) was used.

The frequency of positive challenge result was 70% at 24±2 hours and 70% 48±2 hours in the test group; moreover the score were 1 to 3 at 24±2 hours and 48±2 hours. Animals in the positive control group exhibited discrete or patchy erythema to intense erythema and swelling at the test site, therefore the test result showed that the response of the test item was positive, and validated test system reproducibility and sensitivity in laboratory.

動物編號	組別	Magnusson and Kligman scale					
		24±2 hours			48±2 hours		
		對照側	試驗側	陽性反應 (+/-)	對照側	試驗側	陽性反應 (+/-)
1	對照組	0	0	-	0	0	-
2	對照組	0	0	-	0	0	-
3	對照組	0	0	-	0	0	-
4	對照組	0	0	-	0	0	-
5	對照組	0	0	-	0	0	-
平均分數/陽性反應統計比例 (%)		0	0	0%	0	0	0%
6	試驗組	0	1	+	0	1	+
7	試驗組	0	0	-	0	0	-
8	試驗組	0	1	+	0	2	+6
9	試驗組	1	2	+	1	2	+
10	試驗組	0	1	+	0	1	+
11	試驗組	1	1	-	1	1	-
12	試驗組	0	1	+	0	1	+
13	試驗組	0	1	+	0	1	+
14	試驗組	1	1	-	1	1	-
15	試驗組	0	1	+	0	1	+
平均分數/陽性反應統計比例 (%)		0.3	1.0	70%	0.3	1.1	70%

Appendix 2

試驗物質/對照物質/檢體資料表(英文)
Test Item/ Control Item/ Specimen Information Form (English)

Information marked with "*" will be written in the final report, please fill in carefully

Test/Control Item No.	TW025-23071L01-3]2240/0001(1/6) It will be labeled by CBSCMHAC receiving personnel

Sponsor information			
*Sponsor Company Name	Nanoplus Life Biomedical Technology Co., Ltd.		
*Sponsor Address	9 F., No. 179, Sec. 2, Fuding Blvd., Neihu Dist., Taipei City 114735, Taiwan (R.O.C.)		
*Sponsor's Representative	Ming-Jer Shieh (謝明哲) Tzu-Ying Hung (洪梓瑩)		
*Contact Person	Tzu-Ying Hung (洪梓瑩)	Telephone Number	(02)2656-0555
		E-mail	Cecilia@nanoplustech.com
*Test Name	Skin Sensitisation Test: Guinea Pig Maximisation Test		
*Estimated Transfer Date	02 / 16 / 2024(mm/dd/ yyyy)		
Transfer Method	■Personal delivery □ Post □ By sea shipping □ Others		
Transfer Conditions	■ Room Temperature □ Refrigerated □ Freezing □ Dry ice □ Liquid Nitrogen □ Others :		

■TEST ITEM/ □CONTROL ITEM

Information of Test Item/ Control Item	
* Name of TestItem ControlItem	"NoGerm" General Purpose Disinfectant ("諾必淨"一般型環境消毒液劑)
* Batch Lot Number	5123A10004
Type	■Medical Devices * Category Class I ■SurfaceDevice □ExternalCommunicatingDevice CirculatingBlood : □Yes □No □ImplantDevice □GasPathways □OtherType : □Food, □Cosmetics Products, □IndustrialChemicals, □Pesticide Products, □Drug, □Others :
PackingCondition	□ In Bulk □ Intact Packing (■Bottled □Boxed □Tube □Barrel □Bag □Others)
Amount(s)	Test 3 bottles, volume: 4 L, Retention:3 bottles, volume: 4 L
Manufacture Date	01 / 31 / 2024(mm/dd/ yyyy) □ No information provided
Expiry Date(s)	01 / 30 / 2027(mm/dd/ yyyy)
* Major Components	Electrolyzed water
* Purity Concentration	Purity N.A. Concentration: NA

試驗物質/對照物質/檢體資料表(英文)
Test Item/ Control Item/ Specimen Information Form (English)

*Description	ExternalFeatures: □Regular; □Irregular; ■Liquid; □Powder; □Granule; □Flat; □Other:_____ Color: Colorless Stability: N.A. PH values: N.A. Sterilization: Has been Sterilized ■NO □YES,If Yes, Please Selecthe FollowingMethod □EO Sterilization □Gamma Sterilization □SteamSterilization □Other Thickness：_____mm pcs or ■NotAvailable Surface Area：□_____cm² pcs, □Double Side □Single Side □All Side or ■Not Available *According to FDA guidance, determine the appropriate amount of test material by using surface area to extraction volume ratios. Mass to extraction volume ratios should only be used if surface area cannot be calculated, or if use of mass will result in a larger sample. In addition, the test will be performed directly with the surface area provided by the sponsor.
* Storage Condition	■Room Temperature□2~8℃□-20±10℃□-65~-85℃□Liquid Nitrogen □Keep in Dark Place □Avoid Moisture □Others：_____
Cut or Not	□Yes □No ■N.A. (Liquid, Gel, Powder)
*Solvent /Solubility	Solvent: N.A. Solubility: N.A.
Test Conditions (Dilution)	■No Dilution □Yes, Test final concentration (%): _____, Recommended Solvent: _____
Item Return	■No, The remaining materials considered as retention? □Yes ■No □N.A. (Processing Method: Remaining material is processed by CBSCMHAC.) □Yes, only for un-used test item： Delivery Conditions: □Room Temperature □Refrigerated □Frozen □Dry Ice □Liquid Nitrogen Recipient: _____ Telephone: _____ Address: _____
Attachment	□Certificate of Analysis □Material Safety Data Sheet □Stability Test Result □Product Manual □Others：_____ ■No Attachment
Extraction	Ratio: □No Extraction □By Surface Area：□(3±0.6)*10⁴cm²/mL □(6±1.2)*10⁴cm²/mL ■By Weight □0.1±10%g/mL ■0.2±10%g/mL □Others: _____ Condition: □(37±1)℃(24±2)Hours ■(50±2)℃(72±2)Hours □Other：
Others	

試驗物質/對照物質/檢體資料表(英文)

Test Item/ Control Item/ Specimen Information Form (English)

Precautions

- Note1: All information on this form including the blanks which can't be provided are disclosure and should be responsibility by the sponsor.
- Note2: If the test follow GLP, should provide extra amount of the test control item with the same lot for retention. If sponsor doesn't provide the retention of test item/control item, the retention of a reserved test item/control item from each lot/batch of test item / control item is the responsibility of the Sponsor (Example: 1mg / mL* 1mL or 1x10^5 cell/ mL*2 vial)
- Note3: For retention of the effective period is less than CBSCMHAC SOP definition, the test item/control item will be returned till the expiry date. If the expiry date is longer than CBSCMHAC SOP definition, the test item/control item will be retained for the period of CBSCMHAC SOP definition only. If the expiry date remained incomplete, it mentions that sponsor will agree that test facility will determine the earliest date. e.g. Exp.Date: 2022(YYYY), sponsor didn't directly the MM/DD, the expiration date should be 01/01/2023 (means Jan. 01, 2023)
- Note4: Sponsor should determinate, document and confirm the identity, strength, purity, stability, composition, method of synthesis, fabrication, derivation or other characteristics of the test item/control item before study. If the sponsor cannot provide the information, determination and documentation of the test item/control item are the responsibility of the Sponsor.
- Note5: The test item/control item which has been destroyed or exiting will be discarded after the end of experiment unless applicant sponsor have extra requirement. If the sponsor does not agree or have special requirements, should take the initiative to inform test facility and state the application price in text. If related losses occurred because applicant sponsor didn't inform, we will not be liable.
- Note6: If sponsor wants to retain the sample, the retention, characteristics and biological safety related issue of test item/control item are the responsibility of the Sponsor.
- Note7: Note 'N.A.' or 'N.A.' (not applicable). Do not leave blank.
- Note8: Test item and control item should be filled individually in "INFORMATION OF TEST ITEM/CONTROL ITEM".
- Note9: GLP test: (1) Corrections and additions to a final report should be in the form of amendments. Amendments should clearly specify the reason for the corrections or additions. Lot number, test item photos and raw data cannot be amended by sponsor's requirement. (2)One protocol only can generate one report except for translation version. If the report with more than two languages version, we only issue English version protocol. We only issue amendment or additional language GLP report within three years and non-GLP report within one year. (3)The GLP compliance statement will state that we follow TFDA GLP and EM OECD GLP norm unless sponsor's requirement. Chang Bing Show Chwan Memorial Hospital Experimental Animal Center (CBSCMHAC) have acquired Good Laboratory Practice Statement of Compliance from TFDA and TAF.
- Note10: Please write down it carefully and in detail. "INFORMATION OF TEST ITEM/CONTROL ITEM" will be placed in the protocol and report along with a copy of this official document. If the information is not clear, we will exclude them from GLP statement.
- Note11: The results shown in this test report refer only to the test item(s) tested.
- Note12: If the sponsor is different from the applicants mentioned in the application form, the sponsor agrees that the study-related information, test control item and application form provided or reply to CBSCMHAC shall be agreed by the sponsor. The report submitted by SOC is only to the applicant.
- Note13: For commissioned tests under GLP specifications, each batch of test item/control item shall comply with the regulations of the planned regulatory agency (for example: TFDA/OECD GLP). The test consignor should attach the relevant certificate of the test item; if it cannot be provided, it will be excluded from the GLP statement.

  CBSCMHAC makes no GLP compliance claim for the following items:
  - 1. Sections 6.2.2, 6.2.3, 6.2.4, 6.2.5 in Taiwan Food and Drug Administration «Good Laboratory Practice for Nonclinical Laboratory Studies» and The Organization for Economic Co-operation and Development (OECD) Principles of Good Laboratory Practice: Characterization and verification of the test article identity and properties provided from sponsor, which are the responsibility of the sponsor.
  - 2. Sections 6.2.6 in Taiwan Food and Drug Administration «Good Laboratory Practice for Nonclinical Laboratory Studies» and The Organization for Economic Co-operation and Development (OECD) Principles of Good Laboratory Practice (GLP): A sample for analytical purposes from each batch of test item should be retained for all studies except short-term studies. Sponsor is responsible for the retention of samples for storage conditions other than room temperature and 4°C refrigeration.

Sponsor'sRepresentative Signature/Date: 01/22/24

Appendix 3


"諾必淨"一般醫療器械用消毒劑
"NoGerm" General Purpose Disinfectant
品　　名："諾必淨"一般醫療器械用消毒劑
產品成分：99.99% Electrolized Water (電解離子水)
注意事項：1. 對皮膚安全無刺激性
2. 若不慎接觸眼睛，請用清水沖洗
3. 本產品消毒、殺菌完後會還原成水，對人體與環境無害
4. 密封儲存於避光處，儲存於常溫中
產品容量：4L
產品效能：消毒、殺菌
製作日期：如標示
保存期限：未拆封有效期三年，開封後請於一年內使用完畢
【醫療器材商名稱】：諾康生醫科技股份有限公司
【醫療器材商地址】：台北市內湖區堤頂大道二段179號9樓
【製造業者名稱】：諾康生醫科技股份有限公司委託
龍達科技股份有限公司製造
【製造業者地址】：桃園市桃園區汴州里春日路1492之5號3樓
、1492之6號3樓及1492號3樓
衛署醫器字第00xxxx號
使用說明：使用前，請務必詳閱本產品之使用說明書並遵照指示使用
使用方法：


Study No.:TW025-23071L01
名稱:"NoGerm"General Purpose Disinfectant
("諾必淨"一般醫療器材用消毒劑)
物料編號: TW025-23071L01-51224010004(2)
批號:51224010004
有效期限:01/30/2027
儲存條件:室溫
"諾必淨"一般醫療器械用消毒劑
"NoGerm" General Purpose Disinfectant
品　　名："諾必淨"一般醫療器械用消毒劑
產品成分：99.99% Electrolized Water (電解離子水)
注意事項：1. 對皮膚安全無刺激性
2. 若不慎接觸眼睛，請用清水沖洗。
3. 本產品消毒、殺菌完後會還原成水，
對人體與環境無害
4. 密封儲存於避光處，儲存於常溫中
產品容量：4L
產品效能：消毒、殺菌
製作日期：如標示
保存期限：未拆封有效期三年，開封後請於一年內使用完畢
【醫療器材商名稱】：諾康生醫科技股份有限公司
【醫療器材商地址】：台北市內湖區堤頂大道二段179號9樓
【製造業者名稱】：諾康生醫科技股份有限公司委託
星博科技股份有限公司製造
【製造業者地址】：桃園市桃園區汴州里春日路1492之5號3樓
、1492之6號3樓及1492號3樓
衛署醫器製字第00xxxx號
使用說明：使用前，請務必詳閱原廠之使用說明書並嚴格指示使用
使用方法：將消毒劑直接噴在欲消毒的醫器設備表面上，30分鐘後
使用紗布擦拭即可，無需清水沖洗，若設有接觸孔洞
或縫隙，請先浸泡消毒劑於紗布上，在擦拭以消毒的保
險設備表面，待自然乾即可，無需清水沖洗。
器械泡消操作步驟
LOT 51224010004
MFG 20240131
EXP 20270130


Study No. TW025-23071L01
"NoGerm" General Purpose Disinfectant
TW025-23071L01-51224010004(3)
51224010004
01/30/2027
"諾必淨"一般醫療器械用消毒劑
"NoGerm" General Purpose Disinfectant
品　名："諾必淨"一般醫療器械用消毒劑
產品成分：99.99% Electrolized Water (電解離子水)
注意事項：1. 對皮膚安全無刺激性
2. 若不慎接觸眼睛，請用清水沖洗
3. 本產品消毒，殺菌完後會還原成水，
對人體與環境無害
4. 密封儲存於避光處，儲存於常溫中
產品容量：4L


Study No.:TW025-23071L01
名稱:"NoGerm"General Purpose Disinfectant
("諾必淨"一般醫療器材用消毒劑)
物質點址: TW025-23071L01-S1224010004(4)
批號:S1224010004
有效期限:01/30/2027
儲存條件:室溫
Retention
"諾必淨"一般醫療器械用消毒劑
"NoGerm" General Purpose Disinfectant
品　　名："諾必淨"一般醫療器械用消毒劑
產品成分：99.99% Electrolized Water (電解離子水)
注意事項：1. 對皮膚安全無刺激性
2. 若不慎接觸眼睛，請用清水沖洗
3. 本產品消毒、殺菌完後會還原成水，
對人體與環境無害
4. 密封儲存於避光處，儲存於常溫中
產品容量：4L
產品效能：消毒、殺菌
製作日期：如標示
保存期限：未拆封有效期三年，開封後請於一年內使用完畢
【醫療器材商名稱】：諾康生醫科技股份有限公司
【醫療器材商地址】：台北市內湖區瑞頂大道二段179號9樓
【製造廠商名稱】：諾康生醫科技股份有限公司委託
諾康科技股份有限公司製造
【製造廠商地址】：桃園市桃園區許州里春日路1492之5號3樓
、1492之6號3樓及1492號3樓


Study No.:TW025-23071L01
名稱:"NoGerm"General Purpose Disinfectant
("諾必淨"一般醫療器材用消毒劑)
物質編號: TW025-23071L01-512240100004(5)
批號:512240100D4
有效期限:01/30/2027
儲存條件:室溫
Retention
"諾必淨"一般醫療器械用消毒劑
NoGerm General Purpose Disinfectant
品　　名："諾必淨"一般醫療器械用消毒劑
產品成分：99.99% Electrolized Water (電解離子水)
注意事項：1. 對皮膚安全無刺激性
2. 若不慎接觸眼睛，請用清水沖洗
3. 本產品消毒、殺菌完後會還原成水，
對人體與環境無害
4. 密封儲存於避光處，儲存於常溫中
產品容量：4L
產品效能：消毒、殺菌
製作日期：如標示
保存期限：未拆封有效期三年，開封後請於一年內使用完畢


Study No.:TW025-23071L01
Retention
"諾必淨"一般醫療器械用消毒劑
NoGerm General Purpose Disinfectant
品　名："諾必淨"一般醫療器械用消毒劑
產品成分：99.99% Electrolized Water (電解離子水)
注意事項：1. 對皮膚安全無刺激性
2. 若不慎接觸眼睛，請用清水沖洗
3. 本產品消毒、殺菌完後會還原成水，
對人體與環境無害
4. 密封儲存於避光處，儲存於常溫中
產品容量：4L
產品效能：消毒、殺菌
製作日期：如標示
保存期限：未拆封有效期三年，開封後請於一年內使用完畢