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GUANGDONG DETECTION CENTER OF MICROBIOLOGY

REPORT FOR ANALYSIS

Report №. 2026FM04534R01E

Name of Sample HALOGLAS Energy block

Applicant HEBEI MSD GLASS TECHNOLOGY CO.,LTD.

Test Type Entrustment Test

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REPORT FOR ANALYSIS

Report №.: 2026FM04534R01E Verification Code：E7WS8U3Q

Name of Sample	HALOGLAS Energy block	Test Type	Entrustment Test
Applicant	HEBEI MSD GLASS TECHNOLOGY CO.,LTD.	Address	JIAN SHE NAN STREET DEVELOPMENT ZONE HEJIAN CITY.HEBEI.CHINA.
Sample Source	Submitted for Testing by the Applicant	Sample Quantity	12 pcs
Spec and Lot № of Sample	——	State and Characteristic	Nubby
Sample Received Date	2026-03-13	Test Completion Date	2026-05-06
Item Tested	Skin sensitization test (closed patch test), Skin irritation test (Repeated exposure test)		
Test Standard and Method	ISO 10993-10: 2021(6.6), GB/T 16886.23-2023/ISO 10993-23:2021 7.2		
Test Conclusion	**1. Skin sensitization test (closed patch test)：** Under the condition of this test, the sensitization rate of sample was 0% in guinea pig skin sensitization test (closed patch test), no sensitization. **2. Skin irritation test (Repeated exposure test:** Under the condition of this test, the cumulative irritation index in rabbits of the sample was 0, which was considered as negligible skin irritation. Issue Date：2026-05-06 (Official Seal)		
Remarks	1. Manufacturer: HEBEI MSD GLASS TECHNOLOGY CO.,LTD. Address: JIAN SHE NAN STREET DEVELOPMENT ZONE HEJIAN CITY.HEBEI.CHINA.Provided by the applicant) 2. Testing location of animal experiment project: No. 790 Shenzhou Road, Huangpu District, Guangzhou.		

Editor: Qiuwanchun **Verifier:** **Approver:**

GUANGDONG DETECTION CENTER OF MICROBIOLOGY

REPORT FOR ANALYSIS

Report №.: 2026FM04534R01E

Name of Sample	HALOGLAS Energy block	Sample Received Date	2026-03-13
Test item	Skin sensitization test (closed patch test)	Test Completion Date	2026-04-27

I. Test substance:

Sample preparation: According to GB/T 16886.12-2023, 121.0g sample was added to 605mL sterilized water at a ratio of 0.2g/mL, and the extract was extracted at 37℃ for 72h. The extract was taken as the test substance.

II. Laboratory animals and housing/feeding environment:

1. Facility: Conventional Environment; Laboratory Animal Use License No. SYXK (粤) 2021-0156.

2. Animal species and strains: Conventional albino guinea pig; 8 males and 8 females; weight range:300-500g; Certificate: 430730261100060252.

3. Animal source: Provided by Hunan Taiping Biotechnology Co., Ltd. (Laboratory Animal Production License: No. SCXK(湘)2023-0011).

4. Feed and source: Provided by Guangdong Medical Laboratory Animal Center, Laboratory Animal Feed Production License: No. 粤饲证（2024）05073, Feed certificate: No. 2601140049.

5. Feed environment: Temperature: 20-26℃; Relative humidity: 30-70%.

6. Quarantine test animals for 5 days before testing.

III. Method:

ISO 10993-10: 2021(6.6)

IV. Test procedure:

1. Induce phase: Closely clipped or shaved the fur (approximately 3cm*3cm) on the left back of animals 24 hours prior to test. Applied 0.5mL of the sample directly to left upper region (3cm*3cm) of each animal and covered with double layer of gauze and single layer of plastic film then fixed with tape. Remove the restrainer of any occlusive dressings and patches after 6 hours. Repeat the step on three consecutive days within one week. Perform the same procedure for three consecutive weeks.

2. Challenge phase: On the 14th day after the last induction, applied 0.5ml of the sample directly to right upper region (3cm*3cm) of each animal and covered with double layer of gauze and single layer of plastic film then fixed with tape. Remove the restrainer of any occlusive dressings and patches after 6 hours.

3. The negative control group underwent the same treatment as the test group, with the extraction medium applied during induction exposure and the test substance applied during challenge exposure. The positive control group used 2,4-dinitrochlorobenzene (DNCB) as the test substance, with an induction dose of 0.10% and a challenge dose of 0.04%, following the same treatment protocol as the test group.

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REPORT FOR ANALYSIS

Report №.: 2026FM04534R01E

Name of Sample	HALOGLAS Energy block	Sample Received Date	2026-03-13
Test item	Skin sensitization test (closed patch test)	Test Completion Date	2026-04-27

V. Evaluation:

After 24 hours of exposure contact, shave the hair from the exposure site and surrounding areas. Thoroughly rinse the area with warm water and dry it. Perform scoring 2 hours after drying according to the Magnusson and Kligman grading scale. Repeat scoring 48 hours after removal of the test material. If the control group receives a grade <1 while the test substance group receives a grade ≥1, sensitization is confirmed

VI. Result:

Group	Number of animal (count)	Initial body weight (g)	Final body weight (g)	Induction dose	Challenge dose	Observation time*	Skin reaction				Number of animal (≥1)	Sensitization rate (%)
							Magnusson and Kligman					
							0	1	2	3		
Test group	10	333.5±11.1	473.2±14.8	100%	100%	24h+2h	10	0	0	0	0	0
						48h	10	0	0	0	0	0
Negative control	6	328.3±16.1	476.9±18.0	100%	100%	24h+2h	6	0	0	0	0	0
						48h	6	0	0	0	0	0
Positive control	10	330.7±10.7	475.5±11.1	0.10%	0.04%	24h+2h	2	5	3	0	8	80
						48h	4	5	1	0	6	60

*Date of positive control test: 2025.12.10-2026.01.12

Magnusson and kligman scale:

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

VII. Conclusions:

Under the condition of this test, the sensitization rate of sample was 0% in guinea pig skin sensitization test (closed patch test), no sensitization.

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REPORT FOR ANALYSIS

Report №.: 2026FM04534R01E

Name of Sample	HALOGLAS Energy block	Sample Received Date	2026-03-13
Test item	Skin irritation test (Repeated exposure test)	Test Completion Date	2026-04-15

I. Test substance:

Sample preparation: According to GB/T 16886.12-2023, 121.0g sample was added to 605mL sterilized water at a ratio of 0.2g/mL, and the extract was extracted at 37℃ for 72h. The extract was taken as the test substance.

Ⅱ. Laboratory animal and housing / feeding environment:

1. Facility: Conventional Environment. Laboratory Animal Use License No. SYXK (粤) 2021-0156.

2. Animal species and strains: Conventional New Zealand rabbits; 3 females; weight range: 2.0-2.8kg; Certificate: No. SCXK(粤)2022-00422026583315.

3. Animal source: Provided by Guangzhou baiyun Longguixinke animal farm (Laboratory Animal Production License: No. SCXK (粤) 2022-0042).

4. Feed and source: Provided by Guangdong Medical Laboratory Animal Center, Laboratory Animal Feed Production License: No. 粤饲证（2024）05073, Feed certificate: No. 2603160035.

5. Environment: Temperature: 20-26℃; Relative humidity: 30-70%.

6. Quarantined test animals for 3 days before testing.

Ⅲ. Method

Test method: GB/T 16886.23-2023/ISO 10993-23:2021 7.2.

Ⅳ. Procedure

24 hours before the test, the fur (approximately 10cm*15cm) from two sides of the spine of the experimental animals were shaved off avoiding damage. Then 4 test areas were set.

The second day, for single-exposure tests, 0.5mL of the test substance was directly applied to the skin on each side of each rabbit (upper left and low right of the test areas). The other 2 test areas were used as negative control and applied normal saline. Then covered with patches and wrapped the application sites with a bandage for 4 hours. Washed with warm water to remove the test materials after 4 hours treatment. Recorded the appearance of each application site at 1 hour, 24 hours, 48 hours and 72 hours following removal of the patches according to the “Scoring system for skin reaction”. After the 72 hours observation, repeated the application once a day for another 14 days. For repeated-exposure tests, recorded the appearances of the application site at 1 hour after removal of the patches and immediately prior to the next application. After last application, noted the appearance of each application site at 1 hour, 24 hours, 48 hours and 72 hours following removal of the last patches.

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REPORT FOR ANALYSIS

Report №.: 2026FM04534R01E

Name of Sample	HALOGLAS Energy block	Sample Received Date	2026-03-13
Test item	Skin irritation test (Repeated exposure test)	Test Completion Date	2026-04-15

Ⅴ. Evaluation

For single exposure tests, used only the observations at 24h, 48h and 72h for calculations. The primary irritation score for an animal was calculated by dividing the sum of all the scores of 3 time points by 6. To obtain the primary irritation index for the test sample, added all the primary irritation scores of the individual animals and divide by the number of animals (generally 3). When negative control was used, calculated the primary irritation score for the controls and subtracted that score from the score using the test material to obtain the primary irritation score.

For repeated exposure assays, the primary irritation score for each animal should be calculated according to the single exposure test above. To determined the cumulative irritation index, added together the irritation scores of all animals and divide by the total number of animals. The cumulative irritation index was compared with the categories of irritation response given in and the appropriate response category was recorded for the report.

Ⅵ. Result

Information of experimental animals

Animal No.	1	2	3
Sex	♀	♀	♀
Body weight (kg)	2.1	2.1	2.2

1. Single exposure test:

Observation point	Animal No.	Test group						Negative control					
		1		2		3		1		2		3	
		Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
1h	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
	Oedema	0	0	0	0	0	0	0	0	0	0	0	0
24h	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
	Oedema	0	0	0	0	0	0	0	0	0	0	0	0
48h	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
	Oedema	0	0	0	0	0	0	0	0	0	0	0	0
72h	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
	Oedema	0	0	0	0	0	0	0	0	0	0	0	0
Primary irritation index per animal		0		0		0		0		0		0	
Primary irritation index of groups		0		0		0		0		0		0	
Primary irritation index of sample:0													

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2. Repeated exposure test：

Observation point		Animal No.	Test group						Negative control					
			1		2		3		1		2		3	
			Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
0d	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
1d	prior to next application	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
2d	prior to next application	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
3d	prior to next application	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
4d	prior to next application	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
5d	prior to next application	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0

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Observation point		Animal No.	Test group						Negative control					
			1		2		3		1		2		3	
			Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
6d	prior to next application	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
7d	prior to next application	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
8d	prior to next application	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
9d	prior to next application	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
10d	prior to next application	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
11d	prior to next application	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0

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Observation point		Animal No.	Test group						Negative control					
			1		2		3		1		2		3	
			Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
12d	prior to next application	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
13d	prior to next application	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
	1h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
14d	24h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
15d	48h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
16d	72h after removal	Erythema	0	0	0	0	0	0	0	0	0	0	0	0
		Oedema	0	0	0	0	0	0	0	0	0	0	0	0
Primary irritation index per animal			0		0		0		0		0		0	
Primary irritation index of groups			0						0					
Cumulative irritation index			0											

Ⅶ. Conclusion

Under the condition of this test, the cumulative irritation index in rabbits of the sample was 0, which was considered as negligible skin irritation.

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