



CHEMBALL (HANGZHOU) CHEMICALS CO., LTD

According to UN GHS (the 8<sup>th</sup> revised edition)

# Material Safety Data Sheet (MSDS)

<b>Product Name:</b>	SODIUM NAPHTHALENE SULPHONATE
<b>Model No.:</b>	

Written by: Linda  
(Linda)

Inspected by: Jose  
(Jose)



ISSUED BY: TUV-Laboratory (China) Service of Testing Co., Ltd.

Oct. 2021 PRINT

<b>Item No.:</b>	NM36WJB
<b>MSDS No.:</b>	EMS.211.028.002.WJB
<b>Initial Date:</b>	Oct. 28, 2021
<b>Revision Date:</b>	Oct. 28, 2021



Query service

# Material Safety Data Sheet

MSDS No.: EMS.21.028.002.WJB

Initial Date: Oct.28,2021

Version: 1.0

Product Name: SODIUM NAPHTHALENE SULPHONATE

Revision Date: Oct.28,2021

Item No.: NM36WJB

## Section 1

## Product and Company Identification

### Product identification

Product Name:	SODIUM NAPHTHALENE SULPHONATE
Model No.:	/
HS code:	38244010
CAS No.:	36290-04-7
EC No.:	609-228-0
Molecular formula:	$2(C_nH_sSO_sNa) \cdot (n-1) CH_2 (n-2) (CH_sSO_sNa)$

### Relevant identified uses of the substance or mixture and uses advised against

identified uses:	Multi-purpose dispersant, suitable for concrete admixtures, agricultural products, synthetic rubber, resin emulsifiers. Widely used in pre-cast & ready-mixed concrete, armored concrete and pre-stressed reinforced concrete in key construction projects such as dam and port construction, road building & town planning projects and dwelling erections etc. Suitable for preparation of early-strength, high-strength, high-antifiltration and self-sealing & pumpable concrete. Used for and wide for self-cured, vapor-cured concrete and its formulations. At early stage of application, extremely prominent effects are shown. As the result, the modulus and site utilization can be drastically, the procedure of vapor cure is omitted in peak-heat summer days. Statistically 40-60 metric tons of coal will be preserved when a metric ton of the material is consumed. Compatible with Portland cement, normal Portland Cement, Portland slag cement, fly-ash cement and Portland pozzolanic cement etc.
Uses advised against:	No special note

### Details of the applicant, supplier

Company name:	CHEMBALL (HANGZHOU) CHEMICALS CO. LTD
Address:	GAOJIAO ROAD, YUHANG DISTRICT, HANGZHOU, ZHEJIANG, CHINA, 311122.
Post code:	311122
Telephone:	+86-19818279437
Fax:	



# Material Safety Data Sheet

MSDS No.: EMS.21.028.002.WJB

Initial Date: Oct.28,2021

Version: 1.0

Product Name: SODIUM NAPHTHALENE SULPHONATE

Revision Date: Oct.28,2021

Item No.: NM36WJB

E-mail: shine@chemball.com

## Emergency telephone number

Emergency telephone: +86-571-8627 3270

## Section 2

## Hazard Description

### Hazard class and label elements of the product according to GHS (the 8" revised edition)

#### GHS Hazard class

Non-hazardous substance or mixture.

#### GHS label elements

Pictogram(s): None

Signal word: None

#### Hazard statements

Not applicable.

#### Other Hazards

None.

#### Hazard description

##### Physical and chemical hazards

Non-flammable, no special combustion and explosion characteristics.

##### Health hazards

Inhalation: May cause respiratory discomfort.

Ingestion: Abdominal pain and vomiting.

Skin contact: Long term and repeated contact may be irritating.

Eye contact: Redness, pain, tears.

##### Environmental hazards

Please refer to Section 12 of MSDS.

This technical report may not be quoted in full. Any use for advertising purposes must be granted in writing. This report is the property of the object in question and is not generally applicable evaluation of the quality of the product.

TUV-Labs (China) Service of Testing and Certification Co. Ltd  
3F, E Block, Buidih Gyong, Bao an Dist Shenzhen

Website: [www.tuv-lab.com](http://www.tuv-lab.com)  
E-mail: [report@tuv-lab.com](mailto:report@tuv-lab.com)

Tel: 4008-553-663  
Fax: 0755-3295 7866





# Material Safety Data Sheet

MSDS No.: EMS.211.028.002.WJB

Initial Date: Oct. 28, 2021

Version: 1.0

Product Name: SODIUM NAPHTHALENE SULPHONATE

Revision Date: Oct. 28, 2021

Item No.: NM36WJB

## Section 3 Composition/Ingredient Data

Material

Mixture

Component(s)	Content, %	CAS No.
SODIUM NAPHTHALENE SULPHONATE	≥70.5	36290-04-7
SODIUM SULFATE	≤20.0	7757-82-6
MOISTURE	≤9.0	7732-18-5
CHLORIDE	≤0.5	16887-00-6

1

Main effective ingredient: Sodium Naphthalene Sulphonate Molecular Formula:  
 $2(C_{10}H_6SO_3Na) \cdot (n-1)CH_2 \cdot (n-2)(C_{10}H_5SO_3Na)$

## Section 4 First Aid Measures

### Description of first aid measures

General advice:	Show material this safety data sheet to the doctor in attendance. After receiving the first-aid measure required, consult a physician if necessary.
Skin contact:	Remove contaminated clothing and shoes. Wash off with mild soap and plenty of water. If skin irritation occurs or persists, consult a physician immediately.
Eyes contact:	Check for and remove any contact lenses, occasionally lifting the upper and lower eyelids. Immediately flush eyes with running water, disappear until the chemical residues so far. Provide a readily-accessible eyewash facility and quick-drench safety shower. Do not rub eyes with hands. If skin irritation occurs or persists, consult a physician immediately.
Inhalation:	Move exposed person to fresh air. Maintain an open airway. Keep person warm and at rest. If breathing is irregular, provide artificial respiration or oxygen by trained personnel. Get medical attention if adverse health effects persist or are severe.
Ingestion:	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink.

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.





# Material Safety Data Sheet

MSDS No.: EMS.211.028.002.WJB	Initial Date: Oct. 28, 2021	Version: 1.0
Product Name: SODIUM NAPHTHALENE SULPHONATE	Revision Date: Oct. 28, 2021	Item No.: NM36WJB

	<p>Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel.</p> <p>If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.</p> <p>Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person.</p>
--	--

## Most important acute and delayed symptoms/effects

1	The most important known symptoms and effects are described in section 2 and/or in section 11.
---	--

## Immediate/special treatment

1	Continue with first aid measures. Treat symptomatically and supportively.
2	Symptoms may be delayed.

## Section 5 Firefighting Measures

### Extinguishing agent

Suitable extinguishing agents:	<p>Use dry sand, dry chemical or CO<sub>2</sub> foam extinguishing.</p> <p>Water spray can be used to cool fire exposed containers/materials.</p> <p>Use extinguishing media most appropriate for the surrounding fire.</p>
Unsuitable extinguishing agents:	Do not use a solid water stream as it may scatter or spread fire.

### Special hazards arising from the substance or mixture

1	If this product is involved in a fire, the following can be released: Sodium oxides, carbon oxides, chlorine oxides, etc.
---	---

### Fire precautions and measures

1	Firefighters must wear self-contained breathing apparatus, wear full body fire suit, fire extinguishing in the upwind.
2	As far as possible will be transferred to empty containers from the scene.
3	Keep the fire water spray containers cooling, until the end of fire.
4	If the containers in the fire ground have been color, must be evacuated immediately.
5	Isolated accident scene, prohibit access.
6	Receiving and processing of fire water, to prevent environmental pollution.

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.





# Material Safety Data Sheet

MSDS No.: EMS.211.028.002.WJB

Initial Date: Oct. 28, 2021

Version: 1.0

Product Name: SODIUM NAPHTHALENE SULPHONATE

Revision Date: Oct. 28, 2021

Item No.: NM36WJB

## Section 6 Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

- |   |   |
|---|---|
| 1 | No action shall be taken involving any personal risk or without suitable training.        |
| 2 | Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering.     |
| 3 | Do not touch or walk through spilt material, avoid slipping.                              |
| 4 | Avoid breathing dusts.  |
| 5 | Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. |
| 6 | Put on appropriate personal protective equipment (see section 8).                         |

### Environmental precautions

- |   |   |
|---|---|
| 1 | Prevent further leakage or spillage if safe to do so. |
| 2 | Discharge into the environment must be avoided.       |

### Methods and materials for containment and cleaning up

- |   |   |
|---|---|
| 1 | Pick up and arrange disposal without creating dust. Collect mechanically. Keep in suitable, closed containers for disposal. |
| 2 | Disposal: Contaminated material must be disposed of in accordance with all State and/or Local regulations.                  |

## Section 7 Handling and Storage

### Precautions for safe handling

- |   |   |
|---|---|
| 1 | Avoid formation of dust and aerosols.   |
| 2 | Put on appropriate personal protective equipment (see section 8).   |
| 3 | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.  |
| 4 | Workers should wash hands and face before eating, drinking and smoking. Avoid contact eyes. Avoid breathing dust. |
| 5 | Provide suitable exhaust equipment. Operate in a well-ventilated place.   |
| 6 | Normal measures for preventive fire protection. Keep away from heat/open flames/hot surfaces.                     |
| 7 | Observe good housekeeping procedures and hygiene practices.   |

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.





# Material Safety Data Sheet

MSDS No.: EMS.211.028.002.WJB	Initial Date: Oct. 28, 2021	Version: 1.0
Product Name: SODIUM NAPHTHALENE SULPHONATE	Revision Date: Oct. 28, 2021	Item No.: NM36WJB

8	Provide for appropriate exhaust ventilation and dust collection at machinery.
9	Wash thoroughly after handling.
10	Persons with a history of skin sensitization problems should not be employed in any process in which this product is used.
11	Handling carefully to prevent damage the packaging and container.

## Precautions for storage

1	Store in accordance with local regulations. Stored in a dry, cool and well-ventilated area. Keep container tightly closed.
2	Avoid direct sunlight. Keep away from open flames and high temperatures, away from incompatible materials (see section 10).
3	Moisture-proof and water-proof.
4	Keep out of reach of children and pets.

## Section 8 Exposure Controls/Personal Protection

### Control parameters


#### ◆ Occupational Exposure limit values

1	There is no known exposure limits prescribed by the state.
---	--

### Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protection

General requirements:	
Respiratory protection:	Where protection from nuisance le (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Eye protection:	Wear safety glasses when there is a potential for eye contact.
Skin and body protection:	Wear suitable protective clothing and boots.

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.





# Material Safety Data Sheet

MSDS No.: EMS.211.028.002.WJB	Initial Date: Oct. 28, 2021	Version: 1.0
Product Name: SODIUM NAPHTHALENE SULPHONATE	Revision Date: Oct. 28, 2021	Item No.: NM36WJB

Hands protection:	<p>Wear protective gloves.</p> <p>Check protective gloves prior to each use for their proper condition.</p> <p>The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.</p>
-------------------	--

## Section 9 Physical and Chemical Properties

### Information on basic physical and chemical properties

Appearance and character:	Light brown powder, solid
Odor:	Mild
Melting point/freezing point (°C):	No data/Not applicable
Initial boiling point and boiling range (°C):	No data/Not applicable
Flash point (°C):	No data/Not applicable
Evaporation rate:	No data/Not applicable
Steam pressure (20°C):	No data/Not applicable
Relative density (water=1):	No data/Not applicable
Partition coefficient: n-octanol/water:	No data/Not applicable
Decomposition temperature (°C):	No data/Not applicable
Auto ignition temperature (°C):	No data/Not applicable
pH value:	7.95
Explosion limit [% (v/v) ]:	Non-explosive
Relative vapor density (air=1):	No data
Solubility:	Soluble in water
Flammability (solid, gas):	Non-flammable
Oxidizing properties:	The substance does not belong to oxidizing substances

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.





# Material Safety Data Sheet

MSDS No.: EMS.211.028.002.WJB	Initial Date: Oct. 28, 2021	Version: 1.0
Product Name: SODIUM NAPHTHALENE SULPHONATE	Revision Date: Oct. 28, 2021	Item No.: NM36WJB

Water reduction rate (%):	18~28
---------------------------	-------

## Section 10 Stability and Reactivity

### Stability and Reactivity

Stability:	The product is chemically stable.
Reactivity:	Stable under recommended storage and handling conditions.
Incompatible materials:	Strong oxidizing agents, strong acids and strong bases.
Conditions to avoid:	In contrast to the nature of the material, direct sunlight, water, high temperature and open fire.
Hazardous decomposition products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11 Toxicological Information

### Acute toxicity

Component(s)	CAS No.	LD <sub>50</sub> (Oral)	LD <sub>50</sub> (Dermal)	LC <sub>50</sub> (Inhalation)
SODIUM SULFATE	7757-82-6	Mouse: 5989mg/kg	No data	No data

Skin corrosion/irritation:	According to the existing data, the product is not classified. Long term and repeated contact may cause skin irritation.
Eye corrosion/irritation:	Irritating effect possible.
Respiratory sensitization:	These products are not known to cause human respiratory sensitization.
Skin sensitization:	These products are not known to cause skin sensitization.
Germ cell mutagenicity:	According to the existing data, the product is not classified.
Carcinogenicity:	No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:	According to the existing data, the product is not classified.
Specific target organ toxicity - single exposure:	According to the existing data, the product is not classified.

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.





# Material Safety Data Sheet

MSDS No.: EMS.211.028.002.WJB	Initial Date: Oct. 28, 2021	Version: 1.0
Product Name: SODIUM NAPHTHALENE SULPHONATE	Revision Date: Oct. 28, 2021	Item No.: NM36WJB

Specific target organ toxicity - repeated exposure:	According to the existing data, the product is not classified.
Aspiration hazard:	According to the existing data, the product is not classified.
Additional reproductive toxicity hazards:	According to the existing data, the product is not classified.

## Section 12 Ecological Information

### Aquatic toxicity

Acute/Chronic aquatic toxicity:	This product contains no hazardous or toxic substances, and presents a negligible impact on the environment based on its reported use pattern.
---------------------------------	--

### Persistence and degradability

Persistence:	The products are usually with natural biodegradable.
--------------	--

### Bioaccumulative potential

Bioaccumulation:	The potential for bioaccumulation of this material in aquatic organisms is low.
------------------	---

### Mobility in soil

Mobility:	Will penetrate into the soil, will be dissolved in the soil material.
-----------	---

### Other adverse effects

1	Under environmental conditions, is not expected to have a detrimental effect on plants, animals or microorganisms. But do not allow material to be released to the environment without proper governmental permits.
---	---

## Section 13 Disposal Considerations

### Waste disposal

Residual waste:	Before disposal should refer to the relevant national and local laws and regulation. The generation of waste should be avoided or minimized wherever possible. Recommended landfill or transfer to a suitable container and arrange for collection by specialized disposal company if recycling is not feasible.
Contaminated	The generation of waste should be avoided or minimized wherever possible.

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.





# Material Safety Data Sheet

MSDS No.: EMS.211.028.002.WJB	Initial Date: Oct. 28, 2021	Version: 1.0
Product Name: SODIUM NAPHTHALENE SULPHONATE	Revision Date: Oct. 28, 2021	Item No.: NM36WJB

packaging:	Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Disposal considerations:	Dispose of container and unused contents in accordance with national and local relevant regulations laws.

## Section 14 Transport Information

### Transport rules

	According to IATA DGR 62 <sup>nd</sup> Edition for transportation, IMO International Maritime Dangerous Goods Code (Amendment 39-18), European Agreement Concerning the International Carriage of Dangerous Goods by Road. The products are not subject to IATA DGR, IMDG and ADR/RID.
--	--

### Label(s) required

Label(s):	None
-----------	------

### Road transport (UN-ADR)

UN number:	Not regulated
UN proper shipping name:	Not regulated
Transport hazard class(es)-Main:	Not regulated
Transport hazard class(es)-Sub risk:	None
Packaging group:	Not regulated
Special provisions:	None
Hazard code:	None

### Air transport (ICAO-IATA/DGR)

UN number:	Not regulated
UN proper shipping name:	Not regulated
Transport hazard class(es)-Main:	Not regulated
Transport hazard	None

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.





# Material Safety Data Sheet

MSDS No.: EMS.211.028.002.WJB	Initial Date: Oct. 28, 2021	Version: 1.0
Product Name: SODIUM NAPHTHALENE SULPHONATE	Revision Date: Oct. 28, 2021	Item No.: NM36WJB

class(es)-Sub risk:	
Packaging group:	Not regulated
Special provisions for transportation	None
ERG code:	None

## Sea transport (IMDG-CODE)

UN number:	Not regulated
UN proper shipping name:	Not regulated
Transport hazard class(es)-Main:	Not regulated
Transport hazard class(es)-Sub risk:	None
Packaging group:	Not regulated
Special provisions for transportation:	None
Marine pollutants (Yes/No):	No
EmS No.:	None

## Section 15 Regulatory Information

### Regulatory information:

**Reference to the local, national, US, EU, CA and international regulations.**

CAS No.	TSCA	EINECS	DSL	IECSC	NZIoC	PICCS	KECI	AICS
36290-04-7	✓	✗	✓	✓	✓	✓	✓	✓
7757-82-6	✓	✓	✓	✓	✓	✓	✓	✓
7732-18-5	✓	✓	✓	✓	✓	✓	✓	✓
16887-00-6	✗	✗	✗	✓	✓	✗	✗	✗

TSCA:	United States Toxic Substances Control Act Inventory
EINECS:	European Inventory of Existing Commercial Chemical Substances

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.





# Material Safety Data Sheet

MSDS No.: EMS.211.028.002.WJB

Initial Date: Oct. 28, 2021

Version: 1.0

Product Name: SODIUM NAPHTHALENE SULPHONATE

Revision Date: Oct. 28, 2021

Item No.: NM36WJB

DSL:	Canadian Domestic Substances List
IECSC:	China Inventory of Existing Chemical Substances
PICCS:	Philippines Inventory of Chemicals and Chemical Substances
NZIoC:	New Zealand Inventory of Chemicals
KECI:	Existing and Evaluated Chemical Substances
AICS:	List of existing chemical substances in Australia
★Note:	“√” Indicates that the substance included in the regulations “×” That no data or included in the regulations

## Section 16 Other Information

### Abbreviations or phrases

ACGIH:	American Conference of Governmental Industrial Hygienists
ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS:	Chemical Abstracts Service
CLP:	Classification, labeling and packaging
EC:	Council of Europe
ECHA:	European Chemicals Agency
EINECS:	European Inventory of Existing commercial Chemical Substances
GHS:	Globally Harmonized System of Classification and Labelling of Chemicals
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
RID:	Regulation for rail International transportation of Dangerous goods
ICAO:	International Civil Aviation Organization
IMDG:	International Maritime Dangerous Goods Code
IC <sub>50</sub> :	Inhibitory Concern Triton 50%
LC <sub>50</sub> :	Lethal Concentration 50%
LD <sub>50</sub> :	Median Lethal Dose 50%

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.

TUV-Laboratory (China) Service of Testing Co., Ltd.  
3F, E Block, Huaihe Building, Fuyong, Bao'an Dist, Shenzhen

Website: [www.tuv-lab.com](http://www.tuv-lab.com)  
E-mail: [report@tuv-lab.com](mailto:report@tuv-lab.com)

Tel: 4008-553-663  
Fax: 0755-3295 7866





# Material Safety Data Sheet

MSDS No.: EMS.211.028.002.WJB	Initial Date: Oct. 28, 2021	Version: 1.0
Product Name: SODIUM NAPHTHALENE SULPHONATE	Revision Date: Oct. 28, 2021	Item No.: NM36WJB

MAPROL:	International Convention for the Prevention of Pollution from Ships
REACH:	REGULATION concerning the Registration, Evaluation, Authorization and Restriction of Chemicals
STEL:	Short Term Exposure Limit
TWA:	Time Weighted Average
MAC:	Maximum Allowable Concentration
OSHA:	Occupational Safety and Health Administration
NIOSH:	National Institute for Occupational Safety and Health
TLV:	Threshold Limit Value
TLV-TWA:	Threshold Limit Value-Time Weighted Average
TLV- STEL:	Threshold Limit Value-Short term Exposure Limit
PC-TWA:	Permissible Concentration-Time Weighted Average
PC-STEL:	Permissible Concentration-Short Term Exposure Limit
PEL:	Permissible Exposure Limit
OELs:	Occupational Exposure Limits

## Reference

1	IARC
2	OECD: The Global Portal to Information on Chemical Substances
3	U.S. Department of Transportation: ERG
4	Germany GESTIS-database on hazard substance
5	CAMEO Chemicals
6	NLM: ChemIDplus
7	EPA: Integrated Risk Information System
8	IPCS: The International Chemical Safety Cards (ICSC)

## Disclaimer

1	The above information is believed to be correct but we can not guarantee the absolute universality and accuracy and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.
---	--

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.





# Material Safety Data Sheet

MSDS No.: EMS.211.028.002.WJB

Initial Date: Oct. 28, 2021

Version: 1.0

Product Name: SODIUM NAPHTHALENE SULPHONATE

Revision Date: Oct. 28, 2021

Item No.: NM36WJB

2

TUV-Laboratory ensures the objectivity and fairness of the test and fulfills the confidentiality obligations of the applicant's information. The applicant is responsible for the authenticity of the submitted samples and information. The results shown in this report relate only to the samples tested. The test results only reflect the evaluation of the sample being tested and are not used for other purposes. TUV-Laboratory shall not be liable for any loss arising from or in connection with this report, contract, tort, regulation or other reasons. This report is invalid or has been copied in whole or in part if there is no approver signature and TUV-Laboratory testing special seal. This report may not be published as an advertisement without the approval of the TUV-Laboratory. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is illegal and the offender may be prosecuted to the fullest extent of the law.

## Product photo(s)



\*\*\*END OF REPORT\*\*\*

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.

TUV-Laboratory (China) Service of Testing Co., Ltd.  
3F, E Block, Huaihe Building, Fuyong, Bao'an Dist, Shenzhen

Website: [www.tuv-lab.com](http://www.tuv-lab.com)  
E-mail: [report@tuv-lab.com](mailto:report@tuv-lab.com)

Tel: 4008-553-663  
Fax: 0755-3295 7866

