

Shanghai Aladdin Biochemical Technology Co., Ltd.  
No. 809, Chuhua Branch Road, Fengxian District, Shanghai

# SAFETY DATA SHEET

Version: v1  
Revision Date: 2024-01-26  
Print Date: 2024-02-02

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : Graphene  
Product Number : S491698  
Brand : aladdin  
CAS-No. : 7782-42-5

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

Identified uses : Laboratory chemicals, Manufacture of substances.

### 1.3 Details of the supplier of the safety data sheet

Company : Shanghai Aladdin Biochemical Tech Co., Ltd  
Address : 36 Xinjinqiao Road, Shanghai  
Telephone : 400-620-6333  
Fax : no data available

### 1.4 Emergency telephone number

Emergency Phone : 0532-83889090

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

### 2.2 GHS Label elements, including precautionary statements

Pictogram : no data available  
Signal word : no data available  
Hazard statement(s)  
Precautionary statement(s)

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : no data available

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|                  |             |
|------------------|-------------|
| Formula          | : C         |
| Molecular weight | : 12.01     |
| CAS No.          | : 7782-42-5 |
| EC-NO.           | : 231-955-3 |

| Component | Classification    | Concentration  |
|-----------|-------------------|--|
| Graphene  | no data available | Monolayer ratio > 99.8%, thickness 0.8-1.2nm, diameter 0.8-3 $\mu$ m |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice

no data available

If inhaled

If inhaled, move the patient to fresh air. If breathing stops, perform artificial respiration.

In case of skin contact

Rinse with soap and plenty of water

In case of eye contact

Rinse eyes with water carefully.

If swallowed

Never feed anything to an unconscious person. Rinse your mouth with water.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the label (see Chapter 2.2) and / or Chapter 11

### 4.3 Indication of any immediate medical attention and special treatment needed

no data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Use water mist, alcohol resistant foam, dry powder or carbon dioxide to extinguish the fire

Unsuitable extinguishing media

no data available

### 5.2 Special hazards arising from the substance or mixture

Carbon oxide

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### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust generation. Avoid inhalation of vapors, aerosols or gases. See Part 8 for personal protection.

### 6.2 Environmental precautions

There are no special environmental prevention requirements.

### 6.3 Methods and materials for containment and cleaning up

Sweep and shovel off. Place in a suitable closed container for disposal

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Where dust is generated, appropriate exhaust equipment shall be provided. Routine industrial hygiene operations. See Chapter 2.2 for preventive measures.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool place. Keep the container closed and store in a dry and ventilated place.

### 7.3 Specific end use(s)

no data available

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

| Component | CAS No. | value | control parameter | basis |
|-----------|---------|-------|-------------------|-------|
|-----------|---------|-------|-------------------|-------|

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|          |           |        |         |   |
|----------|-----------|--------|---------|---|
| graphite | 7782-42-5 | PC-TWA | 4 mg/m3 | occupational exposure limit for hazardous factors in the workplace - chemical hazardous factors |
|          |           | PC-TWA | 2 mg/m3 | occupational exposure limit for hazardous factors in the workplace - chemical hazardous factors |

**8.2 Exposure controls**

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).

Skin protection

Gloves must be checked before use. Please use proper methods to remove the gloves (do not touch the outer surface of the gloves), and avoid any skin parts contacting the product. After use, please handle the contaminated gloves carefully according to relevant laws and regulations and effective laboratory rules and procedures. Please clean and blow dry the protective gloves selected for your hands must meet the specifications given in regulation (EU) 2016 / 425 and the en 374 standard derived from it.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and

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components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).  
Control of environmental exposure  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|   |                   |
|---|-------------------|
| a) Appearance                                   | no data available |
| b) Odour  | no data available |
| c) Odour Threshold                              | no data available |
| d) pH   | no data available |
| e) Melting point/freezing point                 | 3652-3697°C       |
| f) Initial boiling point and boiling range      | no data available |
| g) Flash point                                  | no data available |
| h) Evaporation rate                             | no data available |
| i) Flammability (solid, gas)                    | no data available |
| j) Upper/lower flammability or explosive limits | no data available |
| k) Vapour pressure                              | no data available |
| l) Vapour density                               | no data available |
| m) Relative density                             | no data available |
| n) Water solubility                             | no data available |
| o) Partition coefficient: n-octanol/water       | no data available |
| p) Auto-ignition temperature                    | no data available |
| q) Decomposition temperature                    | no data available |
| r) Viscosity                                    | no data available |
| s) Explosive properties N                       | no data available |
| t) Oxidizing properties N                       | no data available |

### 9.2 Other safety information

no data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

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#### 10.4 Conditions to avoid

no data available

#### 10.5 Incompatible materials

no data available

#### 10.6 Hazardous decomposition products

In case of fire: see section 5 fire extinguishing measures

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Acute toxicity

LD50 oral - rat - female - > 2000 mg / kg

(OECD Test Guideline 423)

LC50 inhalation - rat - male and female - 4 h - 2000 mg / m<sup>3</sup>

(OECD Test Guideline 403)

Percutaneous: no data

Skin corrosion/irritation

Skin rabbit results: no skin irritation (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eye rabbit results: no eye irritation (OECD Test Guideline 405)

Respiratory or skin sensitisation

The mice did not cause allergy to the test animals. (OECD Test Guideline 429)

Germ cell mutagenicity

Test type: Ames test test system: metabolic activation of Salmonella typhimurium: with or without metabolic activation method: OECD Test Guideline 471 result: negative

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

Repeated exposure toxicity - rat - male - feeding - level at which no harmful effect was observed - 813 mg / kg

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toxic effect registration of chemical substance: md9659600

to our knowledge, this chemical, physical and toxic property has not been fully studied.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Semi static toxicity test for fish LC50 - Danio rerio (zebrafish) - > 100 mg / L - 96 h (OECD Test Guideline 203)

Static toxicity test for Daphnia magna and other aquatic invertebrates EC50 - Daphnia magna - > 100 mg / L - 48 h (OECD Test Guideline 202)

Static toxicity test on algae EC50 - pseudokirchnerella subcapitata - > 100 mg / L - 72 h (OECD Test Guideline 201)

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

no data available

### 12.6 Other adverse effects

no data available

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## SECTION 13:

### 13.1 Disposal considerations

Product

recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur. Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

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## SECTION 14: Transport information

DOT (US)

UN number: no data available

Packing group: no data available

Class: no data available

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|   |  |   |
|---|--|---|
| Proper shipping name: Non dangerous goods | Reportable Quantity(RQ): no data available | Poison Inhalation Hazard: no data available |
| Environmental Hazards: no                 |  |   |
| IMDG                                      |  |   |
| UN number: no data available              | Packing group: no data available           | EMS-No: no data available                   |
| Proper shipping name: Non dangerous goods |  |   |
| IATA                                      |  |   |
| UN number: no data available              | Packing group: no data available           | Class: no data available                    |
| Proper shipping name: Non dangerous goods |  |   |

## SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

## SECTION 16: Other information

Further information

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