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**SECTION 1: IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY**

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**1.1 Product identifiers**

Product Name : ACS Material Trivial Transfer® Graphene  
Brand : ACS Material LLC  
CAS-No. : 7782-42-5

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

Identified uses : Laboratory chemicals, Manufacturing of substances

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

Company : ACS MATERIAL LLC  
959 E Walnut Street, Suite 100  
Pasadena, CA 91106  
USA  
Telephone : +1 (866)-227-0656  
Fax : +1 (781)-518-0284

**1.4 Emergency telephone number**

Emergency Phone #: +1 (866)-227-0656

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**SECTION 2: HAZARDS IDENTIFICATION**

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**2.1 Classification of the substance or mixture**

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008. This substance is not classified as dangerous according to Directive 67/548/EEC.

**2.2 Label elements**

This substance is not classified as dangerous according to Directive 67/548/EEC.

**2.3 Other Hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

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**3.1 Substances**



Substance name : ACS Material Trivial Transfer® Graphene  
CAS-No : 7782-42-5  
Synonyms : Graphene, Single layer graphite, Graphene sheets, CVD Graphene

**Hazardous ingredients**

Components	CAS No.	Concentration
Carbon	7440-40-0	>99.0

For the full text of the phrases mentioned in this Section, see Section 16.

**Hazardous impurities:** None known.

**SECTION 4: FIRST AID MEASURES**

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**4.1 Description of first aid measures****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Flush eyes with water as a precaution.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

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

No data available

**SECTION 5: FIREFIGHTING MEASURES**

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**5.1 Extinguishing media****Suitable extinguishing media**

Use carbon dioxide, dry chemical extinguishing agents, dry sand or dry ground dolomite.

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

Carbon oxides

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

No data available

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

**6.2 Environmental precautions**

Do not let product enter drains.

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

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

**SECTION 7: HANDLING AND STORAGE**

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**7.1 Precautions for safe handling****Suitable extinguishing media**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place.

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**8.1 Control parameters****Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

**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.

### 8.3 Personal protective equipment

#### Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Body Protection

Impervious clothing recommended. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Do not let product enter drains.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1 Information on basic physical and chemical properties

1) Appearance	Form: Solid
	Colour: Black
2) Odour	Odorless
3) Odour Threshold	No data available
4) pH	No data available
5) Melting point/freezing point	Melting Point: 3,650°C (6,602°F)
6) Initial boiling point and boiling range	No data available
7) Flash point	Not applicable
8) Evaporation rate	No data available
9) Flammability (solid, gas)	No data available



10) Upper/lower flammability or explosive limits	No data available
11) Vapour pressure	No data available
12) Vapour density	No data available
13) Relative density	No data available
14) Water solubility	Insoluble
15) Partition coefficient: n- octanol/water	No data available
16) Auto-ignition temperature	No data available
17) Decomposition temperature	No data available
18) Viscosity	No data available
19) Explosive properties	No data available
20) Oxidizing properties	No data available

## 9.2 Other safety information

No data available

## SECTION 10: STABILITY AND REACTIVITY

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### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5.

## SECTION 11: TOXICOLOGICAL INFORMATION

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### 11.1 Information on toxicological effects

#### Acute toxicity

No data available

#### Skin corrosion/irritation



No data available

**Serious eye damage/eye irritation**

No data available

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

Inhalation - May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

RTECS: No available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**SECTION 12: ECOLOGICAL INFORMATION**

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**12.1 Toxicity**

See section 11.

**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**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**



No data available

## SECTION 13: DISPOSAL CONSIDERATIONS

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### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

#### Contaminated packaging

Dispose of as unused product.

## SECTION 14: TRANSPORT INFORMATION

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### 14.1 DOT (US)

Not dangerous goods

### 14.2 IMDG

Not dangerous goods

### 14.3 IATA

Not dangerous goods

## SECTION 15: REGULATORY INFORMATION

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### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No data available

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

## SECTION 16: OTHER INFORMATION

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#### HMIS Rating

Health hazard: 0

#### Chronic Health Hazard:

Flammability: 0

Physical Hazard: 0

#### NFPA Rating

Health hazard: 0

Fire Hazard: 0

Reactivity Hazard: 0



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