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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 Titanium Silicalite-1 Molecular Sieve  
Brand : ACS Material LLC  
CAS-No. : 13463-67-7 (Titanium Dioxide) / 7631-86-9 (Silicon Dioxide)

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

Specific target organ toxicity - repeated exposure (Category 1), H372  
For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal word

Danger

Hazard statement(s)

H372

Causes damage to organs through prolonged or repeated exposure.

Precautionary statement(s)



P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/ eye protection/ face protection.
P314	Get medical advice/ attention if you feel unwell.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS – none

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Synonyms	:	Silica/Titanium dioxide, $\text{SiO}_2/\text{TiO}_2$ , Molecular Sieve.
Formula	:	$(\text{SiO}_2)_x(\text{TiO}_2)_y$
CAS-No	:	7631-86-9 (Silicon Dioxide)/13463-67-7 (Titanium Dioxide)

#### Hazardous ingredients

Components	Concentration	CAS No.
Silicon Dioxide	>99.0% - <= 100 %	7631-86-9
Components	Concentration	CAS No.
Titanium Dioxide	>99.0% - <= 100 %	13463-67-7

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

**Hazardous impurities:** None known.

## SECTION 4: FIRST AID MEASURES

### 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 water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Silicon 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**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

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

Components	CAS-No.	Value	Control Parameters	Basis
Silica	12173-28-3	TWA	6mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		TWA	80 mg/m <sup>3</sup> /% SiO <sub>2</sub>	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts

**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**

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**

Respiratory protection is not required. 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, powder Colour: white
2) Odour	No data available
3) Odour Threshold	No data available
4) pH	No data available
5) Melting point/freezing point	No data available
6) Initial boiling point and boiling range	No data available
7) Flash point	No data available
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**

Avoid moisture. Slight reactive with moisture.

**10.5 Incompatible materials**

Strong oxidizing agents and acids

**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**

LD50 Oral - Rat – 3, 160 mg/kg

LD50 Dermal - 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: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Silicon dioxide)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**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**



RTECS: VV7310000

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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### DOT (US)

Not dangerous goods

### IMDG

Not dangerous goods

### IATA

Not dangerous goods

## SECTION 15: REGULATORY INFORMATION

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**SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Acute Health Hazard, Chronic Health Hazard

**Harmonized Tariff Code:** 2811.2200

**SECTION 16: OTHER INFORMATION**

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**Full text of H-Statements referred to under sections 2 and 3.**

H372	Causes damage to organs through prolonged or repeated exposure.
STOT SE	Specific target organ toxicity - single exposure

**HMIS Rating**

Health hazard:	1
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Chronic Health Hazard:	*
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Flammability:	0
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Physical Hazard:	0
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**NFPA Rating**

Health hazard:	0
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Fire Hazard:	0
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Reactivity Hazard:	1
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