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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 Anodic Aluminum Oxide  
Brand : ACS Material LLC  
CAS-No. : 1344-28-1

### 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 St. 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.

### 2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

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

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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### 3.1 Substances

Substance name : Anodic Aluminum Oxide  
CAS-No. : 1344-28-1  
EC-No. : 215-691-6  
Synonyms : Al<sub>2</sub>O<sub>3</sub>, Aluminum Oxide  
Linear formula : Al<sub>2</sub>O<sub>3</sub>  
Molecular weight : 101.96 g/mol

**Hazardous ingredients**

Components	Concentration (wt%)	CAS No.
Al <sub>2</sub> O <sub>3</sub>	≤ 100 %	1344-28-1

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

**SECTION 4: FIRST AID MEASURES**

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

Move out of dangerous area.

**If inhaled**

If inhaled, 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**

No data available

**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 vapors, mist or



gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

## 6.2 Environmental precautions

No special environmental precautions required.

## 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. 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 formation of dust and aerosols. Provide appropriate exhaust ventilation in places where dust is formed. Take 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

### 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. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**

No special environmental precautions required.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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**9.1 Information on basic physical and chemical properties**

1) Appearance	Form: Powder
	Color: White
2) Odor	Odorless
3) Odor Threshold	No data available
4) pH	No data available
5) Melting point/freezing point	Melting point: 2,072 °C (3,761.6 °F)
6) Initial boiling point and boiling range	2,980 °C (5,396 °F)
7) Flash point	Not applicable
8) Evaporation rate	No data available
9) Flammability (solid, gas)	The product is not flammable.
10) Upper/lower flammability or explosive limits	No data available
11) Vapor pressure	Not applicable
12) Vapor density	No data available
13) Relative density	4.000 g/cm <sup>3</sup>
14) Water solubility	Insoluble in hot water
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	Not explosive
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**

Exposure to moisture

**10.5 Incompatible materials**

Strong acids, Strong bases, Chlorine trifluoride, Ethylene oxide, Halogenated hydrocarbon, Oxygen difluoride, Sodium nitrate, Vinyl compounds, Oxygen, Nitrates, Halogens

**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 - > 10,000 mg/kg  
(OECD Test Guideline 401)

LC50 Inhalation - Rat - 4 h - > 2.6 mg/l (OECD Test Guideline 403)

Remarks: No significant adverse effects were reported

Dermal: No data available

No data available

**Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation (OECD Test Guideline 404)

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: No eye irritation  
(OECD Test Guideline 405)

**Respiratory or skin sensitisation**

Maximisation Test - Guinea pig

Result: Did not cause sensitisation on laboratory animals.

**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.

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**

Inhalation - May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

RTECS: BD1200000

Cough, chest pain, Difficulty in breathing, Gastrointestinal disturbance

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

Liver - Irregularities - Based on Human Evidence Liver - Irregularities - Based on Human Evidence

**SECTION 12: ECOLOGICAL INFORMATION**

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**12.1 Toxicity**

No toxicity at the limit of solubility

**12.2 Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**

Does not bioaccumulate

**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**

**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**

**14.1 DOT (US)**

Not dangerous goods

**14.2 IMDG**

Not dangerous goods

**14.3 IATA**

Not dangerous goods

**SECTION 15: REGULATORY INFORMATION**

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

**SARA 302 Components**

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

**SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313:

**SARA 311/312 Hazards**

Chronic Health Hazard

**Massachusetts Right To Know Components**

	CAS-No.	Revision Date
Aluminium oxide	1344-28-1	1994-04-01

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
Aluminium oxide	1344-28-1	1994-04-01

**New Jersey Right To Know Components**

	CAS-No.	Revision Date
Aluminium oxide	1344-28-1	1994-04-01

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**SECTION 16: OTHER INFORMATION**

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**HMIS Rating**

Health hazard:	2
Chronic Health Hazard:	0
Flammability:	0
Physical Hazard	0

**NFPA Rating**

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

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