

SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

Safety Data Sheet

Date Effective: December 19, 2016

SPI# 01337-AB, 01338-AB, 01339-AB

SPI Alumina Powder

Section 1.1: Identification

Chemical Name/Synonyms Aluminum oxide powder

Product or Trade Name SPI Alumina Powder for metallography

CAS #'s 1344-28-1

Chemical Formula..... Al₂O₃

Section 1.2: Relevant Uses/Restrictions

Abrasive Product

Section 1.3: Supplier of the Safety Data Sheet

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Section 1.4: Emergency telephone number

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-741-5970

Toll-free phone: 1-(800)-424-9300 USA + Canada only

Section 2: Hazard Identification

2.1 Classification of the substance

Emergency Overview

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Ingestion May be harmful if swallowed.

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

GHS: Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).

2.2 Label elements: Not applicable

2.3 Other Hazards: None

Hazardous Material Information System USA

Health 0
Fire Hazard 0
Reactivity 0
Personal Protection

NFPA Rating (estimated)

Health 0
Flammability 1
Reactivity 0

Section 3: Composition

3.1 Substances:

Aluminum Oxide Mineral (non-fibrous) CAS# 1344-28-1 >99 weight percent

Section 4: First Aid Measures

4.1 Description of first aid measures:

Inhalation:

Remove person to fresh air.
If you feel unwell, get medical attention.

Skin Contact:

Wash with soap and water.
If signs/symptoms develop get medical attention.

Eye Contacting:

Flush with large amounts of water.
Remove contact lenses if easy to do so.
Continue rinsing.
If signs/symptoms persist, get medical advice.

Ingestion:

No need for first aid is anticipated.

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

See Section 11.1 for information on toxicological effects.

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

Not applicable

Section 5: Fire Fighting Measures

5.1 Extinguishing media:

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2 Special hazards arising from the substance or mixture

None inherent in this product.

5.3 Advice for firefighters

No special protective actions for fire-fighters are anticipated.

Section 6: Accidental Release Measures

6.1 Personal precautions

Ventilate the area with fresh air.
Observe precautions from other sections.

6.2 Environmental precautions

Avoid release to the environment.

6.3 Methods and material for containment and cleaning up

Use wet sweeping compound or water to avoid dusting. Sweep up. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

6.4 Reference to other sections

No further information available.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Avoid breathing of dust created by sanding, grinding or machining. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

No special storage requirements.

7.3 Specific end uses

Abrasive for precision polishing of metallographic samples.
This material not being offered for clinical or diagnostic applications, agricultural uses or for human or animal consumption.

Section 8: Exposure Controls and Personal Protection

8.1 Control parameter and Personal Protection

Workplace exposure limits

Ingredient

CAS#

Agency

Limit Type

Aluminum Oxide Mineral (non-fibrous)	1344-28-1	CMRG	TWA: 1 fiber/cc
Aluminum Oxide Mineral (non-fibrous)	1344-28-1	OSHA	TWA (as total dust): 15 mg/m ³
			TWA (respirable fraction): 5 mg/m ³
Aluminum, insoluble compounds*	1344-28-1	ACGIH	TWA (respirable fraction): 1 mg/m ³

*A4: Not classified as human carcinogen

Biological limit values: No information available.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Provide appropriate local exhaust ventilation for sanding, grinding or machining.

8.2.2 Individual protection measures

Eye/face protection: Safety glasses with side shields recommended. To minimize the risk of injury to face and eyes, always wear eye and face protection when working at sanding or grinding operations or when near such operations. Select and use eye/face protection to prevent contact based on the results of an exposure assessment.

Skin/hand protection: Wear appropriate gloves to minimize risk of injury to skin from contact with dust or physical abrasion from grinding or sanding.

Respiratory protection: Assess exposure concentrations of all materials involved in the work process. Consider material being abraded when determining the appropriate respiratory protection. Select and use appropriate respirators to prevent inhalation overexposure. An exposure assessment may be needed to decide if a respirator is required.

If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure: Half face-piece or full face-piece air-purifying respirator suitable for particulates.

For questions about suitability for a specific application, consult with your respirator manufacturer.

8.2.3 Environmental exposure controls

No further information available.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance: White powder

Odor: Odorless

Odor threshold: No data available

pH: Not applicable

Melting point/Freezing point: 2050 °C

Boiling point/Boiling point range: 2977 °C

Flash Point: No flash point

Evaporation rate: Not applicable

Flammability (solid, gas): Not classified

Upper/lower flammability or explosive limits: Not applicable

Vapor Pressure: 1 mm Hg [@ 2,158 °C]
Vapor density: No data available
Relative density: 3.98 g/ml
Solubility in water: Nil
Partition coefficient (n-octanol/water): Not available
auto-ignition temperature: Not applicable
Decomposition temperature: No data available
Viscosity: No data available

9.2 Other information

No further relevant information.

Section 10: Stability and Reactivity

10.1 Reactivity

This material is considered to be non-reactive under normal use conditions.

10.2 Chemical Stability

Stable.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

None known.

Section 11: Toxicological Information

Information on the likely routes of exposure

11.1 Information on toxicological effects

a. acute toxicity – Aluminum Oxide Mineral (non-fibrous)

Ingestion, No data available, calculated acute toxicity estimate >5,000 mg/kg

Dermal – LD50 estimated to be > 5,000 mg/kg

Inhalation, Dust/Mist (rat, 4 hours) >2.3 mg/l

Ingestion – Rat – LD50 > 5,000 mg/kg

There are no known health effects from ingestion.

b. skin corrosion/irritation

Aluminum Oxide Mineral (non-fibrous) – rabbit – No significant irritation.

Mechanical skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.
Skin sensitization: For the component/components, either no data are currently available or the data are not sufficient for classification.

c. serious eye damage/irritation

Aluminum Oxide Mineral (non-fibrous) – rabbit – No significant irritation.

Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Dust created by grinding, sanding, or machining may cause eye irritation. Signs/symptoms May include redness, swelling, pain, tearing, and blurred or hazy vision.

d. respiratory irritation

Dust from grinding, sanding or machining may cause irritation of the respiratory system.

Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Respiratory sensitization: For the component/components, either no data are currently available or the data are not sufficient for classification.

e. germ cell mutagenicity

Aluminum Oxide Mineral (non-fibrous) – in Vitro – Not mutagenic

f. carcinogenicity

Aluminum Oxide Mineral (non-fibrous) – Inhalation, Rat – Not carcinogenic

g. reproductive toxicity

Reproductive and/or Developmental Effects: For the component/components, either no data are currently available or the data are not sufficient for classification.

h. STOT-single exposure

For the component/components, either no data are currently available or the data are not sufficient for classification.

i. STOT-repeated exposure

Aluminum Oxide Mineral (non-fibrous) – inhalation – pneumocomiosis/pulmonary fibrosis:

Some positive data exist, but the data are not sufficient for classification – Human –

NOAEL*: not available – Occupational exposure.

*NOAEL = no-observable-adverse-effect-level

j. aspiration hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Section 12: Ecological Information

12.1 Toxicity – No toxicity at the limit of solubility.

12.2 Persistence and degradability – No data available.

12.3 Bioaccumulative potential – Does not bio-accumulate.

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.

Section 13: Disposal Considerations

13.1 Waste treatment methods

Dispose of contents / container in accordance with the local / regional/ national/ international regulations.

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. The substance that was abraded must be considered as a factor in the disposal method for this product. Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during the incineration processes. If no other disposal options are available, waste product may be placed in a landfill properly designed for industrial waste.

Section 14: Transport Information

US DOT Hazard Class: Not regulated

IATA (for international shipments): Not regulated

Section 15: Regulatory Information

United States:

TSCA:

All ingredients of this product are on the TSCA Inventory.

Health & Safety Reporting List

None of the ingredients of this product is on the Health & Safety Reporting List.

Chemical Test Rules

None of the ingredients of this product is under a Chemical Test Rule.

Section 12b:

None of the ingredients of this product is listed under TSCA Section 12b.

TSCA Significant New Use Rule:

None of the ingredients of this product has a TSCA SNUR.

CERCLA Section 103:

None of the ingredients of this product is listed under CERCLA Section 103.

SARA:

Section 302 (RQ)

None of the ingredients of this product has an RQ.

Section 302 (TPQ)

None of the ingredients of this product has a TPQ.

Section 313

SARA 313 Components

Aluminium oxide

CAS-No.1344-28-1

Revision Date 2007-03-01

SARA 311/312 Hazards

Chronic Health Hazard

Massachusetts Right To Know Components

Aluminium oxide CAS-No. 1344-28-1 Revision Date 2007-03-01

Pennsylvania Right To Know Components

Aluminium oxide CAS-No. 1344-28-1 Revision Date 2007-03-01

New Jersey Right To Know Components

Aluminium oxide CAS-No. 1344-28-1 Revision Date 2007-03-01

California No Significant Risk Level:

California Prop. 65:

None of the ingredients in this product is listed under California Prop. 65.

European/International Regulations:

European Labeling in Accordance with EC Directives

None of the ingredients of this product is listed.

WGK (Water Danger/Protection):

None of the ingredients of this product is listed.

Canada

This product has a WHMIS classification of: Not listed.

DSL/NDSL:

CAS# 1344-28-1 is listed on the DSL List.

Date of Preparation: December 19, 2016.

Abbreviations and acronyms

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

CMRG: Chemical Manufacturer's Recommended Guidelines

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bio-accumulative and Toxicological

vPvB: very Persistent and very Bio-accumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

STEL: Short Term Exposure Limit

CEIL: Ceiling

LOLI: The Registered Chemicals List of Lists

Section 16: Other Information

Disclaimer of Liability:

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc. make no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues or fluids.

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