



MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 02/05/2013

Version 1.0

SECTION 1. Identification

Product identifier

Product number	814917
Product name	Aluminium (grit) for synthesis

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

Identified uses	Chemical for synthesis
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Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation 290 Concord Road, Billerica, MA 01821, United States of America SDS Phone Support: +1-978-715-1335 General Inquiries: +1-978-715-4321 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) e-mail: mm_sds@merckgroup.com
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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SECTION 2. Hazards identification

GHS Classification

Flammable solid, Category 1, H228
Substances which in contact with water emit flammable gases, Category 2, H261
For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms



Signal Word
Danger

Hazard Statements

H261 In contact with water releases flammable gas.
H228 Flammable solid

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Precautionary Statements

P370 + P378 In case of fire: Use metal fire powder for extinction.

P402 + P404 Store in a dry place. Store in a closed container.

OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula	Al (Hill)
CAS-No.	7429-90-5
Molar mass	26.98 g/mol

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

aluminium powder (stabilised) (>= 90 % - <= 100 %)

7429-90-5

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air.

Skin contact

After skin contact: wash off with plenty of water. Remove contaminated clothing.

Eye contact

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

Ingestion

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Special powder against metal fire, Sand, Cement

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Unsuitable extinguishing media
Water, Foam

Special hazards arising from the substance or mixture

Combustible material
Risk of dust explosion.
Development of hazardous combustion gases or vapors possible in the event of fire.
Fire may cause evolution of:
metal fumes
May not get in touch with:
Water
Caution! in contact with water product releases:
Hydrogen

Advice for firefighters

Special protective equipment for fire-fighters
In the event of fire, wear self-contained breathing apparatus.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact.
Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not let product enter drains. Risk of explosion.

Methods and materials for containment and cleaning up

Observe possible material restrictions (see sections 7 and 10).
Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Keep workplace dry. Do not allow product to come into contact with water.

Conditions for safe storage, including any incompatibilities

Dry. Tightly closed. Keep away from heat and sources of ignition.

Store at +15°C to +25°C (+59°F to +77°F).

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SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Ingredients

Basis	Value	Threshold limits	Remarks
<i>aluminium powder (stabilised) 7429-90-5</i>			
ACGIH	Time Weighted Average (TWA):	1 mg/m ³	Form of exposure: Respirable fraction.
NIOSH/GUIDE	Recommended exposure limit (REL):	5 mg/m ³	Form of exposure: Welding fume or pyrophoric powder. Expressed as: as Al
	Recommended exposure limit (REL):	5 mg/m ³	Form of exposure: Respirable.
	Recommended exposure limit (REL):	10 mg/m ³	Form of exposure: Total
OSHA_TRANS	PEL:	15 mg/m ³	Form of exposure: Total dust. Expressed as: as Al
	PEL:	5 mg/m ³	Form of exposure: Respirable dust. Expressed as: as Al
Z1A	Time Weighted Average (TWA):	5 mg/m ³	Form of exposure: Respirable dust. Expressed as: as Al
	Time Weighted Average (TWA):	5 mg/m ³	Form of exposure: Pyrophoric powder. Expressed as: as Al
	Time Weighted Average (TWA):	5 mg/m ³	Form of exposure: Fume. Expressed as: as Al
	Time Weighted Average (TWA):	15 mg/m ³	Form of exposure: Total dust. Expressed as: as Al

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Change contaminated clothing. Application of skin- protective barrier cream recommended.
Wash hands after working with substance.

Eye/face protection

Safety glasses

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

Flame retardant antistatic protective clothing

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Respiratory protection

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state	solid
Color	metallic
Odor	odorless
Odor Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	The substance or mixture is a flammable solid with the category 1.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Relative density	No information available.
Water solubility	at 68 °F (20 °C) (reaction)
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.

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Explosive properties No information available.

SECTION 10. Stability and reactivity

Reactivity

Risk of dust explosion.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

Risk of explosion with:

Water, ammonium compounds, nitrates, sulfates, nitrites, alkaline earth compounds, chlorates, dichloromethane, Peroxides, Carbon monoxide, perchlorates, Strong oxidizing agents, metallic oxides, Iron

Risk of ignition or formation of inflammable gases or vapors with:

formic acid, chromium(VI) oxide, halogen-halogen compounds, ferric oxide, carbon dioxide, Phosgene, carbon disulfide, nitrogen oxides, Zinc, alkali hydroxides, Alcohols, Oxygen, sulfur dioxide, sulfuric acid

Exothermic reaction with:

halogens, Halogenated hydrocarbon, Hydrogen fluoride, phosphorus, mercury compounds, sulfur, selenium, Sulfides

Conditions to avoid

Exposure to moisture.

Incompatible materials

no information available

Hazardous decomposition products

no information available

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact, Ingestion

Target Organs

Eyes

Skin

Respiratory system

Acute oral toxicity

Symptoms: Possible damages:, Irritation of mucous membranes

Skin irritation

Possible damages: slight irritation

Eye irritation

slight irritation

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Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

Quantitative data on the toxicity of this product are not available.

Other information

The following applies to aluminum compounds in general: After swallowing: only slightly absorbable via the gastrointestinal tract. Serious disorders in man (from about 4000 mg aluminum up): phosphate metabolism, calcium metabolism.

Further data:

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

No information available.

Persistence and degradability

No information available.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

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SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number UN 1396
Proper shipping name ALUMINIUM POWDER, UNCOATED
Class 4.3
Packing group II
Environmentally hazardous --

Air transport (IATA)

UN number UN 1396
Proper shipping name ALUMINIUM POWDER, UNCOATED
Class 4.3
Packing group II
Environmentally hazardous --
Special precautions for user no

Sea transport (IMDG)

UN number UN 1396
Proper shipping name ALUMINIUM POWDER, UNCOATED
Class 4.3
Packing group II
Environmentally hazardous --
Special precautions for user yes
EmS F-G S-O

SECTION 15. Regulatory information

United States of America

OSHA Hazards

Water Reactive

Target organ effects

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

SARA 311/312 Hazards

Reactivity Hazard

Chronic Health Hazard

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SARA 313

SARA 313: 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 302

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

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

Massachusetts Right To Know

Ingredients

aluminium powder (stabilised)

Pennsylvania Right To Know

Ingredients

aluminium powder (stabilised)

New Jersey Right To Know

Ingredients

aluminium powder (stabilised)

Notification status

TSCA: On TSCA Inventory

DSL: All components of this product are on the Canadian DSL.

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

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

H228 Flammable solid
H261 In contact with water releases flammable gas.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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