

## MATERIAL SAFETY DATA SHEET

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Version 1.5

## Section 1 - Product and Company Information

Product Name ALUMINUM, SHOT, 1-2MM DIAM.  
Product Number 328405  
Brand ALDRICH

Company Sigma-Aldrich  
Street Address 3050 Spruce Street  
City, State, Zip, Country SAINT LOUIS MO 63103 US  
Technical Phone: 314 771 5765  
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## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313 No
ALUMINUM	7429-90-5	No

Formula Al  
Synonyms A 00 \* A 95 \* A 995 \* A 999 \* AA 1099 \* AA1199 \*  
AD 1 \* AD1M \* ADO \* AE \* Aisin Metal Fiber \*  
Alaun (German) \* Allbri aluminum paste and powder  
\* Alumina fibre \* Aluminium \* Aluminium bronze \*  
Aluminium flake \* Aluminum (ACGIH) \* Aluminum 27  
\* Aluminum A00 \* Aluminum dehydrated \* Aluminum  
metal (OSHA) \* Aluminum powder \* AO Al \* AR2 \*  
AV00 \* AV000 \* C.I. 77000 \* Emanay atomized  
aluminum powder \* JISC 3108 \* JISC 3110 \* L16 \*  
Metana \* Metana aluminum paste \* Noral aluminum \*  
Noral Extra Fine Lining Grade \* Noral Ink Grade  
Aluminum \* Noral non-leafing grade \* PAP-1

RTECS Number: BD0330000

## Section 3 - Hazards Identification

## HMIS RATING

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 1

## NFPA RATING

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 1

For additional information on toxicity, please refer to Section 11.

## Section 4 - First Aid Measures

## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

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Section 5 - Fire Fighting Measures

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FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  
Specific Hazard(s): Emits toxic fumes under fire conditions.

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Section 6 - Accidental Release Measures

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PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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Section 7 - Handling and Storage

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HANDLING

User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Store in a cool dry place. Store under nitrogen.

SPECIAL REQUIREMENTS

Store under inert gas. Air and moisture sensitive.

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Section 8 - Exposure Controls / PPE

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ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT  
Respiratory: Wear dust mask.  
Hand: Protective gloves.  
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES  
Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	10 MG(AL)/M3
Remarks: metal dust			
USA	OSHA.	PEL	8H TWA 15 MG(AL)/M3, TOTAL DUS
New Zealand OEL			
Remarks: check ACGIH TLV			
USA	NIOSH	TWA	2 MG/M3

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Section 9 - Physical/Chemical Properties

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Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
Molecular Weight	26.98 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	660.37 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	2.7 g/cm3	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

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Section 10 - Stability and Reactivity

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STABILITY

Conditions of Instability: Air and moisture sensitive.  
Materials to Avoid: Oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Aluminum oxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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Section 11 - Toxicological Information

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ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.  
Skin Absorption: May be harmful if absorbed through the skin.  
Eye Contact: May cause eye irritation.  
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.  
Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

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

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Section 12 - Ecological Information

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No data available.

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Section 13 - Disposal Considerations

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APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Material in the elemental state should be recovered for reuse or recycling. Observe all federal, state, and local environmental regulations.

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Section 14 - Transport Information

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DOT

Proper Shipping Name: None  
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

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Section 15 - Regulatory Information

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UNITED STATES REGULATORY INFORMATION

SARA LISTED: No  
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.  
DSL: Yes  
NDSL: No

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Section 16 - Other Information

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DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide.

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