

SAFETY DATA SHEET

Date Accessed: 25/08/2023

Date Revised: 02/02/2023

SECTION 1. IDENTIFICATION

Product Name: Aluminum Nickel Alloy Powder

CAS #: 12635-29-9

Relevant identified uses of the substance: Scientific research and development

Supplier details:

Stanford Advanced Materials

E-mail: sales@samaterials.com

Tel: (949) 407-8904

Address: 23661 Birtcher Dr., Lake Forest, CA 92630 U.S.A.

SECTION 2. HAZARDS IDENTIFICATION

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR

1910.1200).

Classification

Skin sensitization Category 1

Carcinogenicity Category 2

Flammable solid Category 1

Label elements

Signal word Warning

Hazard statements May cause an allergic skin reaction

Suspected of causing cancer

Flammable solid

Precautionary Statements - Prevention Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Use personal protective equipment as required

Avoid breathing dust/fume/gas/mist/vapors/spray

Contaminated work clothing should not be allowed out of the workplace

Wear protective gloves

Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Precautionary Statements - Response

Ground/bond container and receiving equipment

IF exposed or concerned: Get medical advice/attention

IF ON SKIN: Wash with plenty of soap and water

If skin irritation or rash occurs: Get medical advice/attention

Wash contaminated clothing before reuse

In case of fire: Use CO₂, dry chemical, or foam for extinction

Precautionary Statements - Storage Store locked up

Precautionary Statements - Disposal Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Hazards not otherwise classified (HNOC) N/A

Other Information

NFPA

Health hazards 2

Flammability 0

Stability 3

Physical and chemical properties

-

HMIS

Health hazards 2

Flammability 0

Physical hazards 3

Personal protection -

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No 12635-27-7

Molecular Weight 85.67

Formula AlNi

Chemical Name CAS No Weight % Oral LD50 Dermal LD50 Inhalation LC50

Aluminum-nickel catalyst 12635-27-7 >98 - - -

SECTION 4. FIRST AID MEASURES

First Aid Measures

General advice Immediate medical attention is required. In case of accident or unwellness, seek medical

advice immediately (show directions for use or safety data sheet if possible).

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and

continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately.

Skin Contact Wash off immediately with plenty of water. Wash off immediately with soap and plenty of

water. Consult a physician if necessary.

Inhalation Remove to fresh air Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation Immediate medical attention is required If not breathing, give artificial respiration Oxygen or artificial respiration if needed Call a physician

Ingestion Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Self-protection of the first aider Remove all sources of ignition.

Most important symptoms and effects, both acute and delayed

Symptoms No data available.

Indication of any immediate medical attention and special treatment needed

Note to physicians May cause sensitization of susceptible persons.

SECTION 5. FIREFIGHTING MEASURES

Suitable Extinguishing Media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances

and the

surrounding environment.

Unsuitable Extinguishing Media None.

Specific hazards arising from the chemical

Specific hazards arising from the

chemical

In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous combustion products No data available.

Explosion data

Sensitivity to Mechanical Impact No data available.

Sensitivity to Static Discharge No data available.

Protective equipment and precautions for firefighters

Protective equipment and precautions

for firefighters

Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire

and/or explosion do not breathe fumes.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate

ventilation, especially in confined areas. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do

not flush into surface water or sanitary sewer system. See Section 12 for additional

Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or

tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp

to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly. Soak

up with inert absorbent material.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks,

flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Take precautionary measures against static discharges. Use spark-proof tools and

explosion-proof equipment. All equipment used when handling the product must be grounded.

Conditions for safe storage, including any incompatibilities Conditions Keep tightly closed in a dry and

cool place. Keep in properly labeled containers. Keep

containers tightly closed in a cool, well-ventilated place. Store at room temperature.

Incompatible materials None known based on information supplied.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational

exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering Controls Ensure adequate ventilation, especially in confined areas

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and Body Protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved

respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and

clothing is recommended.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Solid

Appearance powder

Odor No data available

Property

pH No data available

Melting point/freezing point No data available

Boiling point No data available

Flash point No data available

Density No data available

Evaporation rate No data available

Upper flammability limits No data available Lower flammability limit No data available

Vapor pressure No data available

Vapor density No data available

Specific gravity No data available

Water solubility No data available

Solubility in other solvents No data available

Partition coefficient No data available

Autoignition temperature No data available

Decomposition temperature No data available

Kinematic viscosity No data available

Explosive properties No data available

Oxidizing properties No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity N/A

Chemical stability Stable under recommended storage conditions.

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization No data available.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Strong oxidizing agents.

Hazardous Decomposition Products None known based on information supplied.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation No data available.

Eye contact No data available.

Skin Contact No data available.

Ingestion No data available.

Information on toxicological effects

Symptoms No data available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated

exposure.

Numerical measures of toxicity - Product Information

Unknown acute toxicity No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity May cause long lasting harmful effects to aquatic life

100% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Persistence and degradability No data available.

Bioaccumulation No data available.

Mobility No data available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws

and

regulations.

Contaminated packaging Do not reuse container.

Other Information Waste codes should be assigned by the user based on the application for which the

product

was used.

US EPA Waste Number D001

SECTION 14. TRANSPORT INFORMATION

DOT

UN/ID no UN3089

Hazard Class 4.1

Packing Group II

Proper shipping name Metal powders, flammable, n.o.s.

Description UN3089, Metal powders, flammable, n.o.s., 4.1, II

Emergency Response Guide Number 170

IMDG

UN/ID no UN3089

Hazard Class 4.1

Packing Group II

Proper shipping name Metal powder, flammable, n.o.s.

Description UN3089, Metal powder, flammable, n.o.s., 4.1, II

EmS-No F-G, S-G

IATA

UN/ID no UN3089

Hazard Class 4.1

Packing Group II

Proper shipping name Metal powder, flammable, n.o.s.

Description UN3089, Metal powder, flammable, n.o.s., 4.1, II

SECTION 15. REGULATORY INFORMATION

International Inventories

All of the components in the product are on the following Inventory lists

No data available

X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified

Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of

Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard Yes

Chronic Health Hazard Yes

Fire hazard No

Sudden release of pressure hazard No

Reactive hazard Yes

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act

(40 CFR 122.21 and 40

CFR 122.42).

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

SECTION 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.