



MATERION

CHEMICAL PRODUCT SAFETY DATA SHEET

Prepared in accordance with GB/T 16483 and GB/T 17519.

Product name: Silicon Aluminum Alloy

Issue date: 11-27-2019

Revision date: 07-21-2021

Version #: 02

SDS No: G21

SECTION 1 Chemical product and company identification

Chinese name of chemical	硅铝合金	
English name of chemical	Silicon Aluminum Alloy	
Manufacturer/Supplier	Materion Advanced Materials	
Address	6070 Parkland Boulevard Mayfield Heights, OH 44124 United States	
Contact person	Theodore Knudson	
Telephone	EH&S	1.216.383.4019
e-mail	ehs@materion.com	
Emergency telephone number	See Section 16.	
Issue date	11-27-2019	
Revision date	07-21-2021	
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SDS No	G21	

SECTION 2 Hazards identification

Emergency overview	Causes serious eye irritation. Prolonged exposure may cause chronic effects.	
GHS hazard categories		
Physical hazards	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 2B
	Specific target organ toxicity, repeated exposure	Category 1 (Respiratory system)
Environmental hazards	Not classified.	
Label elements		
Pictograms		
Signal word	Danger	
Hazard statement		
H320	Causes eye irritation.	
H372	Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.	
Precautionary statement		
Prevention	Observe good industrial hygiene practices.	
Response		
P314	Get medical advice/attention if you feel unwell.	
Storage	Store away from incompatible materials.	
Disposal		
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.	

Physical and chemical hazards	The product is stable and non-reactive under normal conditions of use, storage and transport. No unusual fire or explosion hazards noted.
Health hazards	Not classified.
Environmental hazards	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Supplemental information	For further information, please contact the Product Stewardship Department at +1.216.383.4019.

SECTION 3 Composition/information on ingredients

Substance/mixture	Mixture		
Chemical name		Concentration (%)	CAS Number
硅 Silicon		75 - 90	7440-21-3
铝 Aluminum		10 - 25	7429-90-5

SECTION 4 First aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms and health effects	Under normal conditions of intended use, this material does not pose a risk to health.
Personal protection for first-aid responders	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
Notes to physician	Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media	Powder. Dry sand.
Extinguishing media to avoid	Carbon dioxide (CO2).
Specific hazards	Non-combustible, substance itself does not burn.
Special fire fighting procedures	Move containers from fire area if you can do so without risk.
Protection of fire-fighters	Wear suitable protective equipment.
General fire hazards	No unusual fire or explosion hazards noted.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
Environmental precautions	No special environmental precautions required.
Clean-up methods and materials and containment measures	The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk. For waste disposal, see section 13 of the SDS.
Prevention of secondary hazards	Not available.

SECTION 7 Handling and storage

Handling	Observe good industrial hygiene practices.
Storage	Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8 Exposure controls/personal protection

Exposure limits

China OELs. Occupational Exposure Limits for Hazardous Agents in the Workplace, Chemical Hazardous Agents (GBZ 2.1-2007)

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	PC-TWA	3 mg/m3	Total dust.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Monitoring methods

Follow standard monitoring procedures.

Engineering measures

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Personal protective equipment

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection

For prolonged or repeated skin contact use suitable protective gloves. Suitable gloves can be recommended by the glove supplier. Wear gloves to prevent metal cuts and skin abrasions during handling.

Eye protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear suitable protective clothing.

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9 Physical and chemical properties

Appearance

Physical state

Solid.

Form

Solid. Particulate.

Color

Grey.

Odor

None.

Odor threshold

Not applicable.

pH

Not applicable.

Melting point/freezing point

1076 - 2480 °F (580 - 1360 °C) estimated / Not applicable.

Boiling point, initial boiling point, and boiling range

Not applicable

Flash point

Not applicable.

Flammability limit - lower (%)

Not available.

Flammability limit - upper (%)

Not available.

Explosive limit - lower (%)

Not applicable.

Explosive limit - lower (%) temperature

Not applicable.

Explosive limit - upper (%)

Not applicable.

Explosive limit - upper (%) temperature

Not applicable.

Vapor pressure

Not applicable.

Vapor density

Not applicable.

Relative density

Not applicable.

Density

2.31 - 2.36 g/cm3

Solubility(ies)

Solubility (water)

Insoluble.

Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	None known.
Other data	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Viscosity	Not applicable.

SECTION 10 Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Acids. Chlorine. Fluorine. Alkalies.
Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11 Toxicological information

Acute toxicity	Not known.
Routes of exposure	Not established.
Symptoms	None known.
Skin corrosion/irritation	Not likely, due to the form of the product.
Serious eye damage/eye irritation	Causes eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitizer	Not a skin sensitizer.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
Toxic to reproduction	Not classified.
Specific target organ toxicity following single exposure	Not classified.
Specific target organ toxicity following repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Causes damage to organs through prolonged or repeated exposure.

SECTION 12 Ecological information

Ecotoxicological data

Product	Species	Test Results
Silicon Aluminum Alloy		
Aquatic		
Acute		
Fish	LC50	Fish 1.24 mg/l, 96 hours estimated

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulation	No data available.
Mobility in soil	The product is insoluble in water.
Other hazardous effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 Disposal considerations

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
Local disposal regulations	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14 Transport information

CNDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15 Regulatory information

Law of the People's Republic of China on Prevention and Control of Occupational Diseases

Classification of occupational disease hazards

ALUMINUM DUST (CAS 7429-90-5)

Regulations on the Control over Safety of Dangerous Chemicals

Catalog of Hazardous Chemicals

ALUMINIUM POWDER (CAS 7429-90-5)

SILICON POWDER, AMORPHOUS (CAS 7440-21-3)

Provision on the Environmental Administration of New Chemical Substances

China Inventory of Existing Chemical Substances

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Other regulations	This safety data sheet conforms to the following laws, regulations and standards: Measures for the Safe Use of Chemicals in Workplaces General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009) Regulations on Labor Protection in Workplaces Where Toxic Products Are Used Packing Symbol of Dangerous Goods(GB190-2009) Regulations on the Control over Safety of Dangerous Chemicals Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008) Packing - Pictorial Marking for Handling of Goods (GB/T191-2009)
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International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

SECTION 16 Other information**References**

EPA: AQUIRE database
GB6944-2012: Classification and Code of Dangerous Goods.
GB12268-2012: List of Dangerous Goods.
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents

Further information

Transportation Emergency
Call Chemtrec at:
International: 703.741.5970
Spain: 900.868.538
Switzerland: 0800.564.402

Disclaimer

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Other information

Revised information in Section 16.