

# CHEMICAL PRODUCT SAFETY DATA SHEET

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

Product name: Aluminum Silicon Alloy

Issue date: 08-28-2019

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Version #: 02

SDS No: L64

## SECTION 1 Chemical product and company identification

Chinese name of chemical	铝硅合金
English name of chemical	Aluminum Silicon Alloy
Synonyms	AMC4632, AMC4632E, AMC4631, AMC4630, 4630, 4631, 4632E, 4632
Manufacturer/Supplier	Materion Aerospace Metals Composites
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## SECTION 2 Hazards identification

Emergency overview	May cause an allergic skin reaction. Suspected of causing cancer. Prolonged exposure may cause chronic effects.	
GHS hazard categories		
Physical hazards	Not classified.	
Health hazards	Sensitization, skin	Category 1
	Carcinogenicity	Category 2
	Specific target organ toxicity, repeated exposure	Category 1 (respiratory system)
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 3
Label elements		
Pictograms		
Signal word	Danger	
Hazard statement		
H317	May cause an allergic skin reaction.	
H351	Suspected of causing cancer.	
H372	Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.	
Precautionary statement		
Prevention		
P201	Obtain special instructions before use.	
P202	Do not handle until all safety precautions have been read and understood.	

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
<b>Response</b>	None.
<b>Storage</b>	
P405	Store locked up.
<b>Disposal</b>	
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Physical and chemical hazards</b>	The product is stable and non-reactive under normal conditions of use, storage and transport. No unusual fire or explosion hazards noted.
<b>Health hazards</b>	Prolonged inhalation may be harmful. May cause an allergic skin reaction. Expected to be a low ingestion hazard. Direct contact with eyes may cause temporary irritation.
<b>Environmental hazards</b>	The product is not expected to be hazardous to the environment.
<b>Supplemental information</b>	For further information, please contact the Product Stewardship Department at +1.216.383.4019.

### SECTION 3 Composition/information on ingredients

<b>Substance/mixture</b>	Mixture	
<b>Chemical name</b>	<b>Concentration (%)</b>	<b>CAS Number</b>
铝 Aluminum	71 - 87	7429-90-5
硅 Silicon	9 - 24	7440-21-3
铜 Copper	1.8 - 2.2	7440-50-8
铁 Iron	1.6 - 2	7439-89-6
镍 Nickel	0.7 - 1.1	7440-02-0
镁 Magnesium	0.5 - 0.7	7439-95-4

### SECTION 4 First aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.
<b>Most important symptoms and health effects</b>	Prolonged exposure may cause chronic effects.
<b>Personal protection for first-aid responders</b>	If exposed or concerned: get medical attention/advice. 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.
<b>Notes to physician</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

### SECTION 5 Fire-fighting measures

<b>Extinguishing media</b>	Powder. Dry sand.
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<b>Extinguishing media to avoid</b>	Do not use water jet as an extinguisher, as this will spread the fire. Carbon dioxide (CO <sub>2</sub> ).
<b>Specific hazards</b>	During fire, gases hazardous to health may be formed.
<b>Special fire fighting procedures</b>	Move containers from fire area if you can do so without risk.
<b>Protection of fire-fighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.
<b>Specific methods</b>	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** Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

**For emergency responders** Keep unnecessary personnel away.

**Environmental precautions** Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

**Clean-up methods and materials and containment measures** Collect and dispose of spillage as indicated in section 13 of the SDS.

**Prevention of secondary hazards** Not available.

## SECTION 7 Handling and storage

**Handling** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Provide adequate ventilation. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

**Storage** Store in original tightly closed container.

## 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/m <sup>3</sup>	Total dust.
Copper (CAS 7440-50-8)	PC-TWA	1 mg/m <sup>3</sup>	Dust.
		0.2 mg/m <sup>3</sup>	Fume.
Nickel (CAS 7440-02-0)	PC-TWA	1 mg/m <sup>3</sup>	

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Monitoring methods** Follow standard monitoring procedures.

**Engineering measures** Good general ventilation (typically 10 air changes per hour) 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.

### Personal protective equipment

**Respiratory protection** When airborne exposures exceed or have the potential to exceed the occupational exposure limits, approved respirators must be used as specified by an Industrial Hygienist or other qualified professional. Respirator users must be medically evaluated to determine if they are physically capable of wearing a respirator. Quantitative and/or qualitative fit testing and respirator training must be satisfactorily completed by all personnel prior to respirator use. Users of tight fitting respirators must be clean shaven on those areas of the face where the respirator seal contacts the face. Use pressure-demand airline respirators when performing jobs with high potential exposures such as changing filters in a baghouse air cleaning device.

**Hand protection** Wear gloves to prevent contact with particulate or solutions. Wear gloves to prevent metal cuts and skin abrasions during handling.

<b>Eye protection</b>	Wear approved safety glasses, goggles, face shield and/or welder's helmet when risk of eye injury is present, particularly during operations that generate dust, mist or fume.
<b>Skin and body protection</b>	Protective overgarments or work clothing must be worn by persons who may become contaminated with particulate during activities.
<b>Hygiene measures</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking.

## SECTION 9 Physical and chemical properties

### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Solid.
<b>Color</b>	Silver. Grey metallic.
<b>Odor</b>	None.
<b>Odor threshold</b>	Not applicable.
<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	> 1018.4 °F (> 548 °C) estimated / Not applicable.
<b>Boiling point, initial boiling point, and boiling range</b>	Not applicable.
<b>Flash point</b>	Not applicable.
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not applicable.
<b>Explosive limit - upper (%)</b>	Not applicable.
<b>Vapor pressure</b>	Not applicable.
<b>Vapor density</b>	Not applicable.
<b>Relative density</b>	Not applicable.
<b>Density</b>	2.70 g/cm <sup>3</sup>
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble
<b>Partition coefficient (n-octanol/water)</b>	Not applicable.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition temperature</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Other data</b>	
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.
<b>Viscosity</b>	Not applicable.

## SECTION 10 Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

**SECTION 11 Toxicological information**

<b>Acute toxicity</b>	Not available.
<b>Routes of exposure</b>	Inhalation.
<b>Symptoms</b>	Prolonged exposure may cause chronic effects.
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.
<b>Serious eye damage/eye irritation</b>	Direct contact with eyes may cause temporary irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitizer</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	May cause cancer.
<b>China OELs for hazardous agents in the workplace: Carcinogen Category</b>	
NICKEL METAL (CAS 7440-02-0)	Possible human carcinogen.
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>	
Nickel (CAS 7440-02-0)	2B Possibly carcinogenic to humans.
<b>Toxic to reproduction</b>	Not classified.
<b>Specific target organ toxicity following single exposure</b>	Not classified.
<b>Specific target organ toxicity following repeated exposure</b>	Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Causes damage to organs through prolonged or repeated exposure.

**SECTION 12 Ecological information****Ecotoxicological data**

<b>Components</b>		<b>Species</b>	<b>Test Results</b>
Copper (CAS 7440-50-8)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Blue crab ( <i>Callinectes sapidus</i> )	0.0031 mg/l
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> )	0.0219 - 0.0446 mg/l, 96 hours
Nickel (CAS 7440-02-0)			
<b>Aquatic</b>			
<i>Acute</i>			
Fish	LC50	Rainbow trout, donaldson trout ( <i>Oncorhynchus mykiss</i> )	0.06 mg/l, 4 days

\* Estimates for product may be based on additional component data not shown.

<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous.
<b>Persistence and degradability</b>	Not available.
<b>Bioaccumulation</b>	Not available.
<b>Mobility in soil</b>	Not available.
<b>Other hazardous effects</b>	Not available.

**SECTION 13 Disposal considerations**

<b>Residual waste</b>	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).
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**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.

## 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** Not available.

**Annex II of MARPOL 73/78 and the IBC Code**

## 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)

COPPER AND ITS COMPOUNDS (CAS 7440-50-8)

DUST FROM IRON AND ITS COMPOUNDS (CAS 7439-89-6)

**Regulations on the Control over Safety of Dangerous Chemicals**

### Catalog of Hazardous Chemicals

ALUMINIUM POWDER (CAS 7429-90-5)

MAGNESIUM (CAS 7439-95-4)

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

**Regulations on Labor Protection in Workplaces Where Toxic Substances Are Used**

### Directory of Highly Toxic Substances

Nickel (CAS 7440-02-0)

**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).

**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** Not available.

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**Other information**

Revised information in Section 16.