

**MATERION****1. Chemical and company identification**

Name of chemical (Product name)	Aluminum Silicon Alloy
Company name	Materion Aerospace Metals Composites
Address	1 R A E Road, Farnborough Hampshire, GU14 6XE United Kingdom
Contact person	Theodore Knudson
Telephone	+1.800.862.4118
e-mail address	ehs@materion.com
Emergency telephone number	+1.800.862.4118
Reference number	L64

2. Hazards identification

GHS classification	
Physical hazards	The product is not classified according to GHS.
Health hazards	Sensitization, skin Category 1 Carcinogenicity Category 2 Specific target organ toxicity, repeated exposure Category 1 (Respiratory system)
Environmental hazards	The product is not classified according to GHS.

GHS label elements**Symbols****Signal words**

Danger

Hazard statement

May cause an allergic skin reaction. Suspected of causing cancer. Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.

Precautionary statement**Prevention**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response

None.

Storage

Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification

None known.

Supplemental information

For further information, please contact the Product Stewardship Department at +1.216.383.4019.

Main symptoms and emergency overview**Main symptoms**

May cause an allergic skin reaction. Prolonged exposure may cause chronic effects.

Emergency overview

May cause an allergic skin reaction. Suspected of causing cancer. Prolonged exposure may cause chronic effects.

3. Composition/information on ingredients

Substance or mixture	Mixture
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Components	CAS Number	Gazette notification		Concentration (%)
		ENCS no.	ISHL no.	
Aluminum	7429-90-5			71 - 87
Silicon	7440-21-3			9 - 24
Copper	7440-50-8			1.8 - 2.2
Iron	7439-89-6			1.6 - 2
Nickel	7440-02-0			0.7 - 1.1
Magnesium	7439-95-4			0.5 - 0.7

Synonym(s) AMC4632, AMC4632E, AMC4631, AMC4630, 4630, 4631, 4632E, 4632
Chemical formula Al (7429-90-5), Si (7440-21-3), Cu (7440-50-8), Fe (7439-89-6), Ni (7440-02-0), Mg (7439-95-4)

4. First aid measures

If inhaled Move to fresh air. Call a physician if symptoms develop or persist.
If on skin Wash off with soap and water. Get medical attention if irritation develops and persists.
If in eyes Rinse with water. Get medical attention if irritation develops and persists.
If swallowed Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed Prolonged exposure may cause chronic effects.
Protection of first-aid responders 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.
Notes to physician Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media Powder. Dry sand.
Extinguishing media to avoid Do not use water jet as an extinguisher, as this will spread the fire. Carbon dioxide (CO₂).
Specific hazards During fire, gases hazardous to health may be formed.
Special fire fighting procedures Move containers from fire area if you can do so without risk.
Protection of fire-fighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
General fire hazards No unusual fire or explosion hazards noted.
Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency measures Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
Environmental precautions Avoid discharge into drains, water courses or onto the ground.
Methods or materials for containment and cleaning up Collect and dispose of spillage as indicated in section 13 of the SDS.

7. Handling and storage

Handling
Technical measures (e.g. Local and general ventilation) Not available.
Safe handling advice Not available.
Hygiene measures Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking.
Storage
Safe storage conditions Not available.
Safe packaging materials Store in original tightly closed container.

8. Exposure controls/personal protection

Occupational exposure limits

Japan. OELs - ISHL. (Workplace Environment Assessment Standards)

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	TLV	0.025 mg/m ³	Dust.
Nickel (CAS 7440-02-0)	TLV	0.1 mg/m ³	

Japan. OELs - JSOH (Japan Society of Occupational Health: Recommendation of Occupational Exposure Limits)

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	TWA	2 mg/m ³	Total dust.
		0.5 mg/m ³	Respirable dust.
Nickel (CAS 7440-02-0)	TWA	1 mg/m ³	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	TWA	1 mg/m ³	Respirable fraction.
Copper (CAS 7440-50-8)	TWA	1 mg/m ³	Dust and mist.
		0.2 mg/m ³	Fume.
Nickel (CAS 7440-02-0)	TWA	1.5 mg/m ³	Inhalable fraction.

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.

Eye protection

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.

Skin and body protection

Protective overgarments or work clothing must be worn by persons who may become contaminated with particulate during activities.

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Solid.
Color	Silver. Grey metallic.

Odor None.

Odor threshold Not applicable.

pH Not applicable.

Melting point/Freezing point > 1018.4 °F (> 548 °C) estimated / Not applicable.

Boiling point, initial boiling point, and boiling range Not applicable.

Flash point Not applicable.

Combustion characteristics (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not applicable.

Explosive limit - upper (%)	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Evaporation rate	Not applicable.
Specific gravity	Not applicable.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity (Coefficient of viscosity)	Not applicable.
Other information	
Density	2.70 g/cm ³
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Relative density	Not applicable.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical 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	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Japan Society for Occupational Health: Respiratory sensitizer	
Nickel (CAS 7440-02-0)	2 Probable respiratory sensitizer.
Japan Society for Occupational Health: Skin sensitizer	
Copper (CAS 7440-50-8)	2 Probable skin sensitizer.
Nickel (CAS 7440-02-0)	1 Known skin sensitizer.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	May cause cancer.
ACGIH Carcinogens	
Aluminum (CAS 7429-90-5)	A4 Not classifiable as a human carcinogen.
Nickel (CAS 7440-02-0)	A5 Not suspected as a human carcinogen.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Nickel (CAS 7440-02-0)	2B Possibly carcinogenic to humans.
Japan Society for Occupational Health: Carcinogen	
Nickel (CAS 7440-02-0)	1 Carcinogenic to humans.
NTP Report on Carcinogens	
Nickel (CAS 7440-02-0)	Known To Be Human Carcinogen.

Reproductive toxicity	Not classified.
Specific target organ toxicity - repeated exposure	Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.
Aspiration hazard	Not an aspiration hazard.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous.
Persistence and degradability	Not available.
Bioaccumulation	Not available.
Mobility in soil	Not available.
Hazardous to the ozone layer	Not available.

13. Disposal considerations

Dispose in accordance with all applicable regulations.

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.

14. Transport information

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 available.

National regulations Follow regulation in section 15 for domestic transportation.

15. Regulatory information

Industrial Safety and Health Act

Specified substances regulation

Class 2 designated chemical substances

NICKEL COMPOUNDS (POWDER, EXCLUDING NICKEL CARBONYL (ITEM NO. 24))

Notifiable substances

ALUMINUM	Table 9 Ordinance No. 37	71 - 87 %
COPPER AND COPPER COMPOUNDS	Table 9 Ordinance No. 379	1.8 - 2.2 %
NICKEL	Table 9 Ordinance No. 418	0.70 - 1.1 %

Labeling substances

ALUMINIUM AND ITS WATER-SOLUBLE SALTS	71 - 87 %
COPPER (POWDER)	1.8 - 2.2 %
COPPER AND COPPER COMPOUNDS	1.8 - 2.2 %

Poisonous and Deleterious Substances Control Act

Specified poisonous substances

Not regulated.

Poisonous substances

Not regulated.

Deleterious substances

Not regulated.

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

Class I specified chemical substances

Not regulated.

Class II specified chemical substances

Not regulated.

Monitoring chemical substances

Not regulated.

Priority Assessment Chemical Substances (PACs)

Not regulated.

Reporting Exempted Substances

Not regulated.

Law concerning Pollutant Release and Transfer Register

Specified class 1 substances (substance name, ordinance number and content)

NICKEL COMPOUNDS	Ordinance No. 309	1.1 %	(Nickel)
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Class 1 substances (substance name, ordinance number and content)

NICKEL	Ordinance No. 308	1.1 %	(Nickel)
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Class 2 substances (substance name, ordinance number and content)

Not regulated.

Ship Safety Law, Dangerous Goods Marine Transport and Storage Rule Not regulated.

Air Law, Enforcement Rule Not regulated.

Explosives Control Act

Not regulated.

Water Pollution Control Act

COPPER

Sewage Act

COPPER AND ITS COMPOUNDS (AS CU)	3 MG/L
IRON AND ITS SOLUBLE COMPOUNDS (AS FE)	10 MG/L

16. Other information

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