



SAFETY DATA SHEET

MATERION

1. Identification of the chemical and information about the manufacturer or supplier

1.1 Identification of the chemical products

1.1.1 Technical name **Silicon Aluminum Alloy**

Other means of identification

SDS number G21

1.1.2 Recommended use of the chemical and restrictions on use

Recommended use Manufacture of computer, electronic and optical products, electrical equipment
Scientific research and development
Other: Manufacture of medical and defense equipment

Limitations on use Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Consumer uses: Private households (= general public = consumers)

1.2 Manufacturer/Importer/Supplier/Distributor information

1.2.1 Manufacturer

Company name Materion Advanced Materials

1.2.2 Address (post and legal) 6070 Parkland Boulevard
Mayfield Heights, OH 44124
United States

Website www.materion.com

Contact person Theodore Knudson

1.2.3 Telephone, including Emergency consultations and time limits

Telephone EH&S 1.216.383.4019

**Emergency phone
number** See Section 16.

1.2.4 Fax

1.2.5 E-mail ehs@materion.com

2. Hazard(s) identification

2.1. Hazard identification of chemical product as a whole (classification according to GOST 12.1.007-76 and GHS)

**Classification according to
GOST 12.1.007-76** None, the product is a mixture.

GHS classification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

2.2 Labeling elements in compliance with GOST 31340-2013

2.2.1 Signal word None.

2.2.2 Symbols None.

2.2.3 Hazard statement The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Not available.

Storage Store away from incompatible materials.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards None known.

3. Composition/information on ingredients

3.1 Information on product as a whole

- 3.1.1 Chemical name (IUPAC) None.
- 3.1.2 Chemical formula Not available.
- 3.1.3 General description of the composition (taking into account the brand assortment; preparation method) Not available.

3.2 Components

Components	Concentration by weight (%)	Hygienic standards in the working area			CAS-No.	EC No.
		MAC, mg/m ³	TSEL, mg/m ³	Hazard classification		
Silicon	75 - 90	None.	None.		7440-21-3	231-130-8
Aluminum	10 - 25	6 Aerosol.	2 Aerosol.	3	7429-90-5	231-072-3

4. First-aid measures

4.1. Observed symptoms

- 4.1.1 In case of exposure via inhalation No adverse effects due to inhalation are expected.
- 4.1.2 In contact with skin Not likely, due to the form of the product.
- 4.1.3 In contact with eyes Not likely, due to the form of the product.
- 4.1.4 In case of exposure via ingestion Expected to be a low ingestion hazard.

4.2 First-aid measures to be provided to victims

- 4.2.1 In case of exposure via inhalation Move to fresh air. Call a physician if symptoms develop or persist.
- 4.2.2 In contact with skin Wash off with soap and water. Get medical attention if irritation develops and persists.
- 4.2.3 In contact with eyes Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- 4.2.4 In case of exposure via ingestion Rinse mouth. Get medical attention if symptoms occur.
- 4.2.5 Contraindications Not available.

General 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.

5. Fire-fighting and explosion safety measures and means

- 5.1 General characteristics of fire-explosion properties No unusual fire or explosion hazards noted.
- 5.2 Fire-explosion indicators Not available.
- 5.3 Combustion and/or thermal destruction products and hazards arising from these Non-combustible, substance itself does not burn.
- 5.4 Recommended extinguishing media Powder. Dry sand.
- 5.5 Forbidden extinguishing media Carbon dioxide (CO₂).
- 5.6 Special protective equipment for firefighters Wear suitable protective equipment.
- 5.7 Specific extinguishing methods Use standard firefighting procedures and consider the hazards of other involved materials.

Special fire fighting procedures Move containers from fire area if you can do so without risk.

6. Accident and emergency prevention and response measures and their consequences

6.1 Measures to prevent harmful effects on people, environment, buildings, constructions, etc. in case of accidents and emergencies

6.1.1 General required actions in case of an accident or emergency Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.

6.1.2 Personal protection equipment in case of the accident Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2 Procedures for the elimination of accidents and emergencies

6.2.1 Procedures in case of leaks, spills, splashes Not available.

6.2.2 Actions in case of fire Not available.

Methods and materials for containment and cleaning up Stop the flow of material, if this is without risk. For waste disposal, see section 13 of the SDS.

Environmental precautions No special environmental precautions required.

7. Storage and handling requirements of chemicals during loading and unloading

7.1 Safety precautions when handling chemical products

7.1.1 Technical safety measures No specific recommendations.

7.1.2 Environmental protection measures Not available.

7.1.3 Recommended safe handling and transportation advice Wash hands thoroughly after handling. Observe good industrial hygiene practices. Use personal protection recommended in Section 8 of the SDS.

Local and general ventilation Provide adequate ventilation.

7.2 Chemical storage requirements

7.2.1 Terms and conditions for safe storage Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS).

7.2.2 Packaging Store in original tightly closed container.

7.3 Safety measures and storage requirements at domestic use The product is not intended for domestic use.

8. Equipment for monitoring exposure and personal protective equipment

8.1 Parameters of the working area that require monitoring

Occupational exposure limits

Hygiene Norm GN 2.2.5.1313-03. Executive No. 76 of 30 April 2003. Maximum allowable concentration (MAC) of harmful substances in the air of working zones, as amended

Components	Type	Value	Form
Aluminum (CAS 7429-90-5)	Ceiling	6 mg/m ³	Aerosol.
	TWA	2 mg/m ³	Aerosol.

8.2 Measures to ensure the content of harmful substances in the working area below the exposure level concentration Not available.

Appropriate engineering controls 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.

8.3 Worker personal protective equipment

8.3.1 General recommendations Use personal protective equipment as required.

8.3.2 Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
8.3.3 Protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Hand protection	Wear gloves to prevent metal cuts and skin abrasions during handling.
Other	Wear suitable protective clothing.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
8.3.4 Personal protection equipment in case of domestic use	The product is not intended for domestic use.
General hygiene considerations	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.

9. Physical and chemical properties

9.1 Physical appearance

Physical state	Solid.
Form	Particulate.
Color	Grey.
Odor	None.
Odor threshold	Not applicable.

9.2 Parameters characterizing basic properties of the product

pH	Not applicable.
Melting point/freezing point	1076 - 2480 °F (580 - 1360 °C) estimated / Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Upper/lower flammability or explosive limits	
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.
Density	2,31 - 2,36 g/cm ³
Viscosity	Not applicable.
Solubility(ies)	
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water)	Not applicable.
Other data	
Bulk density	Not applicable.
Explosive properties	Not explosive.
Evaporation rate	Not applicable.
Flammability (solid, gas)	None known.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

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

11. Toxicological information

11.1 General exposure characteristics	None known.
11.2 Routes of exposure	Eye contact.
11.3 Affected/target organs, tissues and systems of humans	
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
11.4 Information on health hazards in case of direct exposure to the product and its effect	
Effect on upper respiratory tract irritation	Not available.
Respiratory or skin sensitization	
Hygiene Norm GN 2.2.5.1313-03. Executive No. 76 of 30 April 2003. Maximum allowable concentration (MAC) of harmful substances in the air of working zones, as amended	
Aluminum (CAS 7429-90-5)	Allergenic.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	Not a skin sensitizer.
Skin corrosion/irritation	Not likely, due to the form of the product.
Serious eye damage/eye irritation	None known.
Aspiration hazard	Not an aspiration hazard.
11.5 Information on long-term hazardous health effects	
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
Reproductive toxicity	Not classified.
Mutagenicity	Not classified.
Cumulativeness	Not available.
Chronic effects	None known.
11.6 Acute toxicity data	None known.

12. Environmental impact information

12.1 General description of the impact on the environment	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.
12.2 Routes of exposure to environment	Adverse effects may be caused by large spill in the environment as a result of accidents during transportation, storage, use, handling, depressurization of the container or/and the uncontrolled waste disposal.
12.3 The most important characteristics of the environmental impact	
12.3.1 Hygienic standards	Not available.
12.3.2 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.

Product	Species	Test Results
Silicon Aluminum Alloy		
Aquatic		
<i>Acute</i>		
Fish	LC50	Fish
		1,24 mg/l, 96 hours estimated

12.3.3 Biomigration and transformation of the environment due to the biodegradation or other processes

Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Recommendations for waste (residues) disposal

13.1 Safety precautions when handling the waste generated during use, storage, transportation	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.
13.2 Information on the location and disposal methods, recycling or disposal of product waste, including packaging	Dispose in accordance with all applicable regulations.
13.3 Recommendation on the waste disposal generated during its domestic use	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.
Waste from residues / unused products	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).

14. Transport information

ADR

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.

15. National and international regulatory information

15.1 National legislation

15.1.1 Laws of the Russian Federation	On technical regulation. On sanitary and epidemiological welfare of the population. On Environmental Protection. On Air Protection.
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15.1.2 Information about the documentation, regulatory requirements for the protection of human health and environment

Sanitary-Epidemiological Rules, 1.2.2353-08, Chemical substances, mixtures and products which are carcinogenic factors, 21 April 2008

Not listed.

15.2 International Conventions and Agreements

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	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).

16. Other information**16.1 Information on revision of the SDS**

Issue date	07-07-2020
Revision date	07-21-2021
Version #	02
Previous SDS number	Revised information in Section 16.
Revision information	Product and Company Identification: Product and Company Identification Other information: Further information Other information: Previous SDS number

16.2 List of references used in compiling the safety data sheet

GOST 19433-88. Dangerous goods. Classification and marking.
 GOST 12.1.004-91. Occupational safety standards system. Fire safety. General requirements.
 GOST 12.1.044-89. Occupational safety standards system. Fire and explosion hazard of substances and materials. Nomenclature of substances and materials. Nomenclature of indices and methods of their determination.
 GOST 32425-2013 Mixtures classification of hazard for environmental.
 GOST 31340-2013 Labeling of chemicals. General requirements.
 GOST 32419-2013 Classification of chemical products. General requirements.
 GOST 32423-2013 Mixtures classification of hazard for health.
 GOST 30333-2007 Chemical production safety passport. General requirements.
 GOST 32424-2013 Classification of chemicals for environmental hazards. General principles.
 GOST 12.1.007-76 Occupational safety standard system. Noxious substances. Classification and general safety requirements.
 Hygiene Norm GN 2.2.5.1313-03. Executive No. 76 of 30 April 2003. Maximum allowable concentration (MAC) of harmful substances in the air of working zones, as amended.

Further information

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

List of abbreviations

Not available.

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