



SAFETY DATA SHEET

MATERION

1. Identification

Product identifier Zinc Aluminum Alloy

Other means of identification
SDS number G01

Recommended use Industrial uses: Uses of substances as such or in preparations at industrial sites
Manufacture of basic metals, including alloys
Manufacture of computer, electronic and optical products, electrical equipment
General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
Scientific research and development
Other: Manufacture of medical and defense equipment

Recommended restrictions Consumer uses: Private households (= general public = consumers)

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Materion Advanced Materials Germany GmbH
Address Borsigstrasse 10
Germany
Telephone 49.60.23.91.82.0
Website www.materion.com
E-mail Materion.Germany@materion.com
Contact person Hermann Schmiing
Emergency phone number 49.60.23.91.82.0
Supplier See above.

2. Hazard identification

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Not classified.

Label elements
Hazard symbol None.
Signal word None.
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 Wash hands after handling.
Storage Store away from incompatible materials.
Disposal Dispose of waste and residues in accordance with local authority requirements.

Other hazards None known.
Supplemental information For further information, please contact the Product Stewardship Department at +1.216.383.4019.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Zinc		7440-66-6	95 - 100

Chemical name	Common name and synonyms	CAS number	%
Aluminum, Elemental		7429-90-5	0 - 5

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off immediately with plenty of water.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally.
Ingestion	Drink plenty of water.
Most important symptoms/effects, acute and delayed	Not applicable.
Indication of immediate medical attention and special treatment needed	This product is not expected to produce adverse effects under normal conditions of use and appropriate personal hygiene.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Powder. Dry sand.
Unsuitable extinguishing media	Water. Do not use water jet as an extinguisher, as this will spread the fire. Carbon dioxide (CO ₂).
Specific hazards arising from the chemical	This product is not flammable.
Special protective equipment and precautions for firefighters	Wear suitable protective equipment.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS. In solid form this material poses no special clean-up problems.
Methods and materials for containment and cleaning up	Pick up and arrange disposal without creating dust. The product is immiscible with water and will spread on the water surface. Clean up in accordance with all applicable regulations. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store in a dry place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminum, Elemental (CAS 7429-90-5)	TWA	1 mg/m ³	Respirable fraction.

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Aluminum, Elemental (CAS 7429-90-5)	TWA	5 mg/m ³	Pyrophoric powder.
		10 mg/m ³	Dust.

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Aluminum, Elemental (CAS 7429-90-5)	TWA	1 mg/m ³	Respirable.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Aluminum, Elemental (CAS 7429-90-5)	TWA	1 mg/m ³	Respirable fraction.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Aluminum, Elemental (CAS 7429-90-5)	TWA	1 mg/m ³	Respirable fraction.

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

Components	Type	Value	Form
Aluminum, Elemental (CAS 7429-90-5)	TWA	5 mg/m ³	Welding fume.
		10 mg/m ³	

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value	Form
Aluminum, Elemental (CAS 7429-90-5)	15 minute	20 mg/m ³	Dust.
		10 mg/m ³	Pyrophoric powder.
		5 mg/m ³	Pyrophoric powder.
		10 mg/m ³	Dust.

Biological limit values

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

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.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles).

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves.

Other

Wear suitable protective equipment.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards

None known.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking.

9. Physical and chemical properties**Appearance**

Physical state	Solid.
Form	Solid.
Color	Grey.
Odor	None.
Odor threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	717.8 - 788 °F (381 - 420 °C)
Initial boiling point and boiling range	1664.6 °F (907 °C) estimated
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable.
Flammability limit - lower (%) temperature	Not applicable.
Flammability limit - upper (%)	Not applicable.
Flammability limit - upper (%) temperature	Not applicable.
Explosive limit - lower (%)	Not applicable.
Explosive limit - lower (%) temperature	Not applicable.
Explosive limit - upper (%)	Not applicable.
Explosive limit - upper (%) temperature	Not applicable.
Vapor pressure	124.46 hPa Not applicable.
Vapor density	Not applicable.
Relative density	Not applicable.
Solubility(ies)	
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.
Other information	
Density	6.60 - 7.20 g/cm ³
Explosive properties	Not explosive.
Miscible (water)	Insoluble.
Oxidizing properties	Not oxidizing.
Specific gravity	6.92 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	Hazardous polymerization does not occur.

Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful. Not likely, due to the form of the product.
Skin contact	Not relevant, due to the form of the product.
Eye contact	Not relevant, due to the form of the product.
Ingestion	Not relevant, due to the form of the product.

Symptoms related to the physical, chemical and toxicological characteristics None known.

Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Not relevant, due to the form of the product.
Serious eye damage/eye irritation	Not likely, due to the form of the product.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

Aluminum, Elemental (CAS 7429-90-5) Irritant

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 Not classifiable as to carcinogenicity to humans.

ACGIH Carcinogens

Aluminum, Elemental (CAS 7429-90-5) A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

Aluminum, Elemental (CAS 7429-90-5) Not classifiable as a human carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects None known.

Further information This product has no known adverse effect on human health.

12. Ecological information

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.

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. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
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).
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.

14. Transport information

TDG

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. Regulatory information

Canadian regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Ontario. Toxic Substances. Toxic Reduction Act, 2009. Regulation 455/09 (July 1, 2011)

Aluminum, Elemental (CAS 7429-90-5)

Zinc (CAS 7440-66-6)

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Zinc (CAS 7440-66-6)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
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

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