



MATERION

Product name: Zinc Aluminum Alloy

CHEMICAL PRODUCT SAFETY DATA SHEET

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

Issue date: 11-25-2019
Revision date: 05-25-2021
Version #: 02
SDS No: G01

SECTION 1 Chemical product and company identification

Chinese name of chemical	锌铝合金	
English name of chemical	Zinc 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	11-25-2019	
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SDS No	G01	

SECTION 2 Hazards identification

Emergency overview	Fatal if swallowed. Causes damage to organs through prolonged or repeated exposure. Dangerous for the environment if discharged into watercourses.	
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GHS hazard categories

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 2
	Specific target organ toxicity, repeated exposure	Category 1 (Respiratory system)
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1

Label elements

Pictograms



Signal word: Danger

Hazard statement

H300	Fatal if swallowed.
H372	Causes damage to organs (Respiratory system) through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention	Observe good industrial hygiene practices.
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.
P273	Avoid release to the environment.

Response

P301 + P310	Wash hands after handling. IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P330	Rinse mouth.
P314	Get medical advice/attention if you feel unwell.
P391	Collect spillage.

Storage

P405	Store away from incompatible materials. Store locked up.
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Disposal

P501	Dispose of waste and residues in accordance with local authority requirements. Dispose of contents/container in accordance with local/regional/national/international regulations.
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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

Fatal if swallowed. Prolonged inhalation may be harmful. None known.

Environmental hazards

Very toxic to aquatic life with long lasting effects.

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
锌		95 - 100	7440-66-6
Zinc			
铝		0 - 5	7429-90-5
Aluminum			

SECTION 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. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Drink plenty of water. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Most important symptoms and health effects	Prolonged exposure may cause chronic effects. Not applicable.
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. Show this safety data sheet to the doctor in attendance.
Notes to physician	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed. This product is not expected to produce adverse effects under normal conditions of use and appropriate personal hygiene.

SECTION 5 Fire-fighting measures

Extinguishing media	Powder. Dry sand.
Extinguishing media to avoid	Water. Carbon dioxide (CO ₂).
Specific hazards	This product is not flammable.

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.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. In solid form this material poses no special clean-up problems.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

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

Clean-up methods and materials and containment measures Pick up and arrange disposal without creating dust. The product is immiscible with water and will spread on the water surface. Prevent product from entering drains. Clean up in accordance with all applicable regulations.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Prevention of secondary hazards Not available.

SECTION 7 Handling and storage

Handling Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Storage Store locked up. Store in tightly closed container. Store in a dry place. 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/m ³	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.

Personal protective equipment

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection Wear protective gloves.

Eye protection If contact is likely, safety glasses with side shields are recommended.

Skin and body protection	Wear suitable protective equipment. Use of an impervious apron is recommended.
Hygiene measures	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. 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.
Color	Grey.
Odor	None.
Odor threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	717.8 - 788 °F (381 - 420 °C) / Not applicable.
Boiling point, initial boiling point, and boiling range	Not applicable.
Flash point	Not applicable.
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	Not applicable.
Vapor density	Not applicable.
Relative density	Not applicable.
Density	6.60 - 7.20 g/cm ³
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)	Not applicable.
Other data	
Explosive properties	Not explosive.
Miscible (water)	Insoluble.
Oxidizing properties	Not oxidizing.
Specific gravity	Not applicable
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	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11 Toxicological information

Acute toxicity	Fatal if swallowed.
Routes of exposure	Inhalation. Ingestion.
Symptoms	Respiratory disorder.
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	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitizer	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
Toxic to reproduction	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity following single exposure	Not classified.
Specific target organ toxicity following repeated exposure	Causes damage to organs (Respiratory system) through prolonged or repeated exposure.
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
Zinc Aluminum Alloy			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Daphnia	1.4 mg/l, 48 hours estimated
Fish	LC50	Fish	0.2587 mg/l, 96 hours estimated
Components	Species		Test Results
Zinc (CAS 7440-66-6)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Bony fish superclass (Osteichthyes)	0.52 - 3.59 mg/l, 96 hours

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

Ecotoxicity	Very toxic to aquatic life with long lasting effects.
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. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. 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)

ZINC ASHES (CAS 7440-66-6)

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)

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Zinc (CAS 7440-66-6)

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

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Other information

Revised information in Section 16.