



MATERION

SAFETY DATA SHEET

1. Identification

Product identifier Aluminum, pieces and solids

Other means of identification

SDS number 1AF
Materion Code 1AF
CAS number 7429-90-5

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Materion Advanced Chemicals Inc.
Address 6070 Parkland Blvd
Mayfield Heights, Ohio 44124
United States
Telephone 1.216.383.4019
E-mail Materion-PS@materion.com
Contact person Product Stewardship Director
Emergency phone number See Section 16

Relevant identified uses of the substance or mixture and uses advised against

Identified uses Not available.
Uses advised against None known.

2. Hazard(s) identification

Hazards of the product as supplied

Physical hazards

Flammable solids	Category 1
Pyrophoric solids	Category 1
Self-heating substances and mixtures	Category 1
Substances and mixtures which, in contact with water, emit flammable gases	Category 1

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Other hazards

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information For further information, please contact the Product Stewardship Department at +1.800.862.4118.

Label elements



Signal word Danger

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. Combustible dust may be generated if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes. Flammable solid. Catches fire spontaneously if exposed to air. Self-heating; may catch fire. In contact with water releases flammable gases which may ignite spontaneously.
Precautionary statement	
Prevention	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not allow contact with air. Do not allow contact with water. Handle and store contents under inert gas. Handle and store contents under inert gas. Protect from moisture. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
Response	IF ON SKIN: Brush off loose particles from skin and immerse in cool water. IF ON SKIN: Brush off loose particles from skin. Immerse in cool water or wrap in wet bandages. In case of fire: Use appropriate media to extinguish.
Storage	Store in a dry place. Store in a closed container. Maintain air gap between stacks or pallets. Protect from sunlight. Store separately.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS No./Unique ID	%
Aluminum		7429-90-5	100

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Rinse with water. Get medical attention if irritation develops and persists.
Eye contact	Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.
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	Foam. Dry chemical powder. Dry sand. Carbon dioxide (CO2). Dry chemical, soda ash, lime or DRY sand.
Unsuitable extinguishing media	Water. Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Do not get water inside container.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards	Flammable solid. Catches fire spontaneously if exposed to air. Self-heating; may catch fire. In contact with water releases flammable gases which may ignite spontaneously.
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6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Use only non-sparking tools. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up	Clean up in accordance with all applicable regulations.
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Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
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7. Handling and storage

Precautions for safe handling	Do not allow contact with air. Open container carefully and only in a dry, oxygen-free or inert atmosphere. Keep away from any possible contact with water, because of violent reaction and possible flash fire. Handle under inert gas. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Keep cool. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
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Conditions for safe storage, including any incompatibilities	Never allow product to get in contact with water during storage. Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Store in a dry place. Store away from other materials. Maintain air gap between stacks/pallets. Keep in an area equipped with sprinklers.
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8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Permissible Exposure Limits (PEL) for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value	Form
Aluminum (CAS 7429-90-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. OSHA Table Z-3 Permissible Exposure Limits (PEL) for Mineral Dusts (29 CFR 1910.1000)

Material	Type	Value	Form
Aluminum (CAS 7429-90-5)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values (TLV)

Material	Type	Value	Form
Aluminum (CAS 7429-90-5)	TWA	1 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)

Material	Type	Value	Form
Aluminum (CAS 7429-90-5)	TWA	5 mg/m3	Respirable.

US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)

Material	Type	Value	Form
		5 mg/m3	Welding fume or pyrophoric powder.
		10 mg/m3	Total

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Material	Type	Value	Form
Aluminum (CAS 7429-90-5)	PEL	5 mg/m3	Pyrophoric powder.
		5 mg/m3	Respirable fraction.
		5 mg/m3	Welding fume.
		10 mg/m3	Total dust.

Biological limit values

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

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. 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 gloves to prevent metal cuts and skin abrasions during handling.

Other

Wear suitable protective clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using do not smoke. 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

Physical state

Solid.

Form

Solid.

Color

Not available.

Odor

Not available.

Odor threshold

Not applicable.

Melting point/freezing point

1220 °F (660 °C)

Boiling point or initial boiling point and boiling range

4220.6 °F (2327 °C)

Flammability

Flammable solid.

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.

Flash point

Not applicable.

Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
pH	Not applicable.
Kinematic viscosity	Not applicable.
Solubility	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not applicable.
Vapor pressure	<0.0000001 kPa (77 °F (25 °C))
Density and/or relative density	
Density	2.70 g/cm3 estimated
Relative density	Not applicable.
Vapor density	Not applicable.
Particle characteristics	Not available.
Other information	
Evaporation rate	Not applicable.
Explosive properties	Not explosive.
Heat of combustion (NFPA 30B)	0 kJ/g
Molecular formula	Al
Oxidizing properties	Not oxidizing.
Specific gravity	2.7
Viscosity	Not applicable.

10. Stability and reactivity

Reactivity	In contact with water releases flammable gas.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Exposure to moisture. Exposure to air. Contact with incompatible materials.
Incompatible materials	Air. Oxygen. Water. Strong oxidizing agents. Combustible material.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Not likely, due to the form of the product.
Skin contact	Not likely, due to the form of the product.
Eye contact	Not likely, due to the form of the product.
Ingestion	Not likely, due to the form of the product.

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

Acute toxicity	Not known.
Skin corrosion/irritation	Not likely, 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 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.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

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.

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.

Product	Species	Test Results
Aluminum (CAS 7429-90-5)		
Aquatic		
Acute		
Fish	LC50 Rainbow trout, donaldson trout (Oncorhynchus mykiss)	0.16 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this substance.

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 Consult authorities before disposal. Dispose of contents/container in accordance with local/regional/national/international regulations.

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.

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

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories Flammable (gases, aerosols, liquids, or solids)
Pyrophoric (liquid or solid)
Self-heating
In contact with water emits flammable gas

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Aluminum	7429-90-5	100

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Aluminum (CAS 7429-90-5)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

16. Other information, including date of preparation or last revision

Issue date 01-25-2022

Revision date 06-23-2026

Version # 06

Further information

Transportation Emergency
Call Chemtrec at:
US: 800.424.9300
International: 703.741.5970
Spain: 900.868.538
Switzerland: 0800.564.402
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059
South Korea Toll-free Number – 080-880-0468

Disclaimer

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Revision information

Hazard(s) identification: Hazard statement
Hazard(s) identification: Prevention
Hazard(s) identification: Supplemental information
Exposure controls/personal protection: Hand protection
Exposure controls/personal protection: Other
Toxicological information: Chronic effects
Toxicological information: Corrosivity
Toxicological information: Eye contact
Toxicological information: Eye contact
Toxicological information: Ingestion
Toxicological information: Inhalation
Toxicological information: Skin contact
Toxicological information: Symptoms related to the physical, chemical and toxicological characteristics
GHS: Classification