



## MATERION

### 1. Chemical and company identification

**Name of chemical (Product name)** Aluminum Scandium Products

**Company name** Materion Advanced Materials Group

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**Reference number** 340

### 2. Hazards identification

**GHS classification**

**Physical hazards** The product is not classified according to GHS.

**Health hazards** Specific target organ toxicity, single exposure Category 1 (respiratory system)  
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

Causes damage to organs (respiratory system). Causes damage to organs (respiratory system) through prolonged or repeated exposure.

#### Precautionary statement

##### Prevention

Do not breathe dust. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

##### Response

IF exposed or concerned: Call a POISON CENTER/doctor.

##### 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

100% of the mixture consists of component(s) of unknown acute oral toxicity. 100% of the mixture consists of component(s) of unknown acute dermal toxicity. 25% of the mixture consists of component(s) of unknown acute inhalation toxicity. 100% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 100% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

#### Main symptoms and emergency overview

##### Main symptoms

Dusts may irritate the respiratory tract, skin and eyes. Prolonged exposure may cause chronic effects.

##### Emergency overview

Causes damage to organs. Exposure to powder or dusts may be irritating to eyes, nose and throat.

### 3. Composition/information on ingredients

**Substance or mixture** Mixture

Components	CAS Number	Gazette notification		Concentration (%)
		ENCS no.	ISHL no.	
Aluminum	7429-90-5			75 - 99.9
Scandium	7440-20-2			0.1 - 25

Chemical formula Al (7429-90-5), Sc (7440-20-2)

#### 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	Do not rub eyes.
If swallowed	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Dusts may irritate the respiratory tract, skin and eyes. Prolonged exposure may cause chronic effects.
Protection of 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.
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 (CO <sub>2</sub> ).
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	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
Methods or materials for containment and cleaning up	Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. Stop the flow of material, if this is without risk.  Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.  Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.  Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

#### 7. Handling and storage

Handling	
Technical measures (e.g. Local and general ventilation)	Provide appropriate exhaust ventilation at places where dust is formed.
Safe handling advice	Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Use personal protection recommended in Section 8 of the SDS.
Contact avoidance measures	For further information, please refer to section 10 of the SDS.
Hygiene measures	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.
Storage	
Safe storage conditions	Store locked up. Keep container tightly closed. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).
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 <sup>3</sup>	Dust.

#### 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 <sup>3</sup>	Total dust.
		0.5 mg/m <sup>3</sup>	Respirable dust.

#### US. ACGIH Threshold Limit Values

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

### 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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

### Personal protective equipment

**Respiratory protection** Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.

**Hand protection** Wear appropriate chemical resistant gloves.

**Eye protection** Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.

**Skin and body protection** Use of an impervious apron is recommended.

## 9. Physical and chemical properties

<b>Appearance</b>	Powder.
<b>Physical state</b>	Solid.
<b>Form</b>	Powder.
<b>Color</b>	Not available.
<b>Odor</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/Freezing point</b>	1220 °F (660 °C) estimated
<b>Boiling point, initial boiling point, and boiling range</b>	4220.6 °F (2327 °C) estimated
<b>Flash point</b>	Not available.
<b>Combustion characteristics (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	0.00001 hPa estimated
<b>Vapor density</b>	Not available.
<b>Specific gravity</b>	2.7 estimated
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.

<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity (Coefficient of viscosity)</b>	Not available.
<b>Other information</b>	
<b>Density</b>	2.70 g/cm <sup>3</sup> estimated
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

<b>Acute toxicity</b>	Not known.
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.
<b>Serious eye damage/eye irritation</b>	Direct contact with eyes may cause temporary irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	
<b>ACGIH Carcinogens</b>	
Aluminum (CAS 7429-90-5)	A4 Not classifiable as a human carcinogen.
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	Causes damage to organs (respiratory system).
<b>Specific target organ toxicity - repeated exposure</b>	Causes damage to organs (respiratory system) through prolonged or repeated exposure.
<b>Aspiration hazard</b>	Not an aspiration hazard.

## 12. Ecological information

<b>Ecotoxicity</b>	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.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulation</b>	No data available.
<b>Mobility in soil</b>	No data available for this product.
<b>Hazardous to the ozone layer</b>	No data available.
<b>Other hazardous effects</b>	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

Dispose in accordance with all applicable regulations.

<b>Residual waste</b>	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).
<b>Contaminated packaging</b>	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.
<b>Local disposal regulations</b>	Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Dispose of contents/container in accordance with local/regional/national/international regulations. When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.

## 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 applicable.

**National regulations** Follow regulation in section 15 for domestic transportation.

## 15. Regulatory information

### Industrial Safety and Health Act

#### Notifiable substances

ALUMINUM Table 9 Ordinance No. 37 75 - 100 %

#### Labeling substances

ALUMINIUM AND ITS WATER-SOLUBLE SALTS 75 - 100 %

### 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)

Not regulated.

#### Class 1 substances (substance name, ordinance number and content)

Not regulated.

#### 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.

## 16. Other information

### Bibliography

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices  
HSDB® - Hazardous Substances Data Bank  
IARC Monographs. Overall Evaluation of Carcinogenicity  
National Toxicology Program (NTP) Report on Carcinogens  
Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits  
Japan Chemical Industry Association (JCIA) GHS Guideline, June 2012  
JIS Z 7252:2014 Classification of chemicals based on “Globally Harmonized System of Classification and Labelling of Chemicals (GHS)”  
JIS Z 7253:2012 Hazard communication of chemicals based on GHS - Labelling and Safety Data Sheet (SDS)

Materion Advanced Materials Group cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.