



PRODUCT INFORMATION SHEET

MATERION

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Name of the substance Aluminum Product
Identification number 013-002-00-1 (Index number)
Registration number -
Synonyms None.
Issue date 13-June-2018
Revision date 13-May-2019
Supersedes date 15-February-2019
Version number 04

1.3. Details of the supplier of the product information sheet

Supplier

Company name Materion Advanced Materials Group
Address 42 Mt. Ebo Road South
Brewster, NY 10509
United States

Division

Telephone 1+845.279.0900
e-mail Not available.
Contact person Not available.

1.4. Emergency telephone number Chemtrec 1+703.527.3887

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

Identified uses Not available.
Uses advised against None known.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 as amended

Physical hazards

Flammable solids Category 1
Pyrophoric solids Category 1
Substances and mixtures which, in contact with water, emit flammable gases Category 2

Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard Category 1 H400 - Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term aquatic hazard Category 1 H410 - Very toxic to aquatic life with long lasting effects.

Hazard summary Not available.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Aluminium, Titanium
Hazard pictograms None.
Signal word Warning
Hazard statements

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.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.

Response

P391 Collect spillage.

Storage

Not available.

Disposal

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

Supplemental label information

% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.
% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Aluminium	98,5 - 98,5	7429-90-5 231-072-3	-	013-002-00-1	
Classification:	Aquatic Acute 1;H400, Aquatic Chronic 1;H410				T
Titanium	1,5 - 1,5	7440-32-6 231-142-3	-	-	
Classification:	-				

SECTION 4: First aid measures

General information Not available.

4.1. Description of first aid measures

Inhalation Not available.

Skin contact Not available.

Eye contact Not available.

Ingestion Not available.

4.2. Most important symptoms and effects, both acute and delayed Not available.

4.3. Indication of any immediate medical attention and special treatment needed Not available.

SECTION 5: Firefighting measures

General fire hazards Not available.

5.1. Extinguishing media

Suitable extinguishing media Not available.

Unsuitable extinguishing media Not available.

5.2. Special hazards arising from the substance or mixture Not available.

5.3. Advice for firefighters

Special protective equipment for firefighters Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Not available.

For emergency responders	Not available.
6.2. Environmental precautions	Not available.
6.3. Methods and material for containment and cleaning up	Not available.
6.4. Reference to other sections	Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Not available.
7.2. Conditions for safe storage, including any incompatibilities	Not available.
7.3. Specific end use(s)	Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Material	Type	Value	Form
Aluminum Product	MAK	5 mg/m ³	Respirable fraction.
		10 mg/m ³	Inhalable fraction.
	STEL	20 mg/m ³	Inhalable fraction.
		10 mg/m ³	Respirable fraction.

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	MAK	5 mg/m ³	Respirable fraction.
		10 mg/m ³	Inhalable fraction.
	STEL	20 mg/m ³	Inhalable fraction.
		10 mg/m ³	Respirable fraction.

Belgium. Exposure Limit Values.

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

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Material	Type	Value	Form
Aluminum Product	TWA	2 mg/m ³	
		10 mg/m ³	Dust.
		1,5 mg/m ³	Respirable fraction.
Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	2 mg/m ³	
		10 mg/m ³	Dust.
		1,5 mg/m ³	Respirable fraction.
Titanium (CAS 7440-32-6)	TWA	1 mg/m ³	

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Material	Type	Value	Form
Aluminum Product	MAC	4 mg/m ³	Respirable dust.
		10 mg/m ³	Total dust.
Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	MAC	4 mg/m ³	Respirable dust.
		10 mg/m ³	Total dust.

Czech Republic. OELs. Government Decree 361

Material	Type	Value	Form
Aluminum Product	TWA	10 mg/m3	Dust.
Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	10 mg/m3	Dust.

Denmark. Exposure Limit Values

Material	Type	Value	Form
Aluminum Product	TLV	5 mg/m3	Fume.
		5 mg/m3	Dust and fume.
		2 mg/m3	Respirable dust and/or fume.
Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TLV	5 mg/m3	Fume.
		5 mg/m3	Dust and fume.
		2 mg/m3	Respirable dust and/or fume.

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)

Material	Type	Value	Form
Aluminum Product	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.

Finland. Workplace Exposure Limits

Material	Type	Value	Form
Aluminum Product	TWA	1,5 mg/m3	Welding fume.
Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	1,5 mg/m3	Welding fume.

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Material	Type	Value	Form
Aluminum Product	VME	5 mg/m3	Welding fume.
Regulatory status: Indicative limit (VL)		5 mg/m3	Dust.
Regulatory status: Indicative limit (VL)		10 mg/m3	
Regulatory status: Indicative limit (VL)			
Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	VME	5 mg/m3	Welding fume.
Regulatory status: Indicative limit (VL)		5 mg/m3	Dust.
Regulatory status: Indicative limit (VL)		10 mg/m3	
Regulatory status: Indicative limit (VL)			

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Material	Type	Value	Form
Aluminum Product	TWA	4 mg/m3	Inhalable fraction.
		1,5 mg/m3	Respirable fraction.
Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	4 mg/m3	Inhalable fraction.

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
		1,5 mg/m ³	Respirable fraction.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Material	Type	Value	Form
Aluminum Product	AGW	10 mg/m ³	Inhalable fraction.
		1,25 mg/m ³	Respirable fraction.

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	AGW	10 mg/m ³	Inhalable fraction.
		1,25 mg/m ³	Respirable fraction.

Greece. OELs (Decree No. 90/1999, as amended)

Material	Type	Value	Form
Aluminum Product	TWA	5 mg/m ³	Inhalable
		10 mg/m ³	Welding fume.
		10 mg/m ³	Respirable.
		10 mg/m ³	Pyrophoric powder.

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	5 mg/m ³	Inhalable
		10 mg/m ³	Welding fume.
		10 mg/m ³	Respirable.
		10 mg/m ³	Pyrophoric powder.

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Material	Type	Value	Form
Aluminum Product	TWA	6 mg/m ³	Respirable.

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	6 mg/m ³	Respirable.

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Material	Type	Value	Form
Aluminum Product	TWA	5 mg/m ³	Fume.
		10 mg/m ³	Dust.

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	5 mg/m ³	Fume.
		10 mg/m ³	Dust.

Ireland. Occupational Exposure Limits

Material	Type	Value	Form
Aluminum Product	TWA	1 ppm	Respirable dust.

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	1 ppm	Respirable dust.

Italy. Occupational Exposure Limits

Material	Type	Value	Form
Aluminum Product	TWA	1 mg/m ³	Respirable fraction.

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

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Material	Type	Value
Aluminum Product	TWA	2 mg/m ³

Components	Type	Value
Aluminium (CAS 7429-90-5)	TWA	2 mg/m ³

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value	
Titanium (CAS 7440-32-6)	TWA	10 mg/m ³	

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Material	Type	Value	Form
Aluminum Product	TWA	5 mg/m ³	Inhalable fraction.
		2 mg/m ³	Respirable fraction.
Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	5 mg/m ³	Inhalable fraction.
		2 mg/m ³	Respirable fraction.

Norway. Administrative Norms for Contaminants in the Workplace

Material	Type	Value	Form
Aluminum Product	TLV	5 mg/m ³	Welding fume.
		5 mg/m ³	Pyrophoric powder.
Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TLV	5 mg/m ³	Welding fume.
		5 mg/m ³	Pyrophoric powder.

Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817

Material	Type	Value	Form
Aluminum Product	TWA	2,5 mg/m ³	Inhalable fraction.
		1,2 mg/m ³	Respirable fraction.
Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	2,5 mg/m ³	Inhalable fraction.
		1,2 mg/m ³	Respirable fraction.
Titanium (CAS 7440-32-6)	STEL	30 mg/m ³	
	TWA	10 mg/m ³	

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

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

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Material	Type	Value	Form
Aluminum Product	STEL	3 mg/m ³	Fume.
		10 mg/m ³	Dust.
	TWA	3 mg/m ³	Dust.
		1 mg/m ³	Fume.
Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	STEL	3 mg/m ³	Fume.
		10 mg/m ³	Dust.
	TWA	3 mg/m ³	Dust.
		1 mg/m ³	Fume.
Titanium (CAS 7440-32-6)	STEL	15 mg/m ³	
	TWA	10 mg/m ³	

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Material	Type	Value	Form
Aluminum Product	TWA	4 mg/m ³	Inhalable fraction.
		1,5 mg/m ³	Respirable fraction.

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	4 mg/m ³	Inhalable fraction.
		1,5 mg/m ³	Respirable fraction.

Spain. Occupational Exposure Limits Material

Material	Type	Value	Form
Aluminum Product	TWA	5 mg/m ³	Welding fume.
		10 mg/m ³	Dust.

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

Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7) Material

Material	Type	Value	Form
Aluminum Product	TWA	5 mg/m ³	Total dust.
		2 mg/m ³	Respirable dust.

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	5 mg/m ³	Total dust.
		2 mg/m ³	Respirable dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz Material

Material	Type	Value	Form
Aluminum Product	TWA	3 mg/m ³	Respirable fraction.

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	3 mg/m ³	Respirable fraction.

UK. EH40 Workplace Exposure Limits (WELs) Material

Material	Type	Value	Form
Aluminum Product	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Inhalable dust.

Components	Type	Value	Form
Aluminium (CAS 7429-90-5)	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Inhalable dust.

Biological limit values**Croatia. BLV. Dangerous Substance Exposure Limit Values at Workplace, Annexes 4 (as amended)**

Material	Value	Determinant	Specimen	Sampling Time
Aluminum Product	200 mg/l	Aluminium	Urine	*
Components	Value	Determinant	Specimen	Sampling Time
Aluminium (CAS 7429-90-5)	200 mg/l	Aluminium	Urine	*

* - For sampling details, please see the source document.

Slovakia. BLVs (Biological Limit Value). Regulation no. 355/2006 concerning protection of workers exposed to chemical agents, Annex 2

Material	Value	Determinant	Specimen	Sampling Time
Aluminum Product	60 µg/g	Aluminium	Creatinine in urine	*
Components	Value	Determinant	Specimen	Sampling Time
Aluminium (CAS 7429-90-5)	60 µg/g	Aluminium	Creatinine in urine	*

* - For sampling details, please see the source document.

Switzerland. BAT-Werte (Biological Limit Values in the Workplace as per SUVA)

Material	Value	Determinant	Specimen	Sampling Time
Aluminum Product	60 µg/g	Aluminium	Creatinine in urine	*

Switzerland. BAT-Werte (Biological Limit Values in the Workplace as per SUVA)

Components	Value	Determinant	Specimen	Sampling Time
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Aluminium (CAS 7429-90-5) 60 µg/g

Aluminium

Creatinine in urine

*

* - For sampling details, please see the source document.

Recommended monitoring procedures Not available.**Derived no effect levels (DNELs)** Not available.**Predicted no effect concentrations (PNECs)** Not available.**8.2. Exposure controls****Appropriate engineering controls** Not available.**Individual protection measures, such as personal protective equipment****General information** Not available.**Eye/face protection** Not available.**Skin protection****- Hand protection** Not available.**- Other** Not available.**Respiratory protection** Not available.**Thermal hazards** Not available.**Hygiene measures** Not available.**Environmental exposure controls** Not available.**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties****Appearance****Physical state** Solid.**Form** Not available.**Colour** Not available.**Odour** Not available.**Odour threshold** Not available.**pH** Not available.**Melting point/freezing point** 660 °C (1220 °F) estimated
660 °C (1220 °F)**Initial boiling point and boiling range** 2327 °C (4220,6 °F) estimated

2327 °C (4220,6 °F)

Flash point Not available.**Evaporation rate** Not available.**Flammability (solid, gas)** Not available.**Upper/lower flammability or explosive limits****Flammability limit - lower (%)** Not available.**Flammability limit - upper (%)** Not available.**Vapour pressure** < 0,0000001 kPa (25 °C (77 °F))
0,00001 hPa estimated**Vapour density** Not available.**Relative density** Not available.**Solubility(ies)****Solubility (water)** Insoluble**Partition coefficient (n-octanol/water)** Not available.**Auto-ignition temperature** Not available.

Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.
9.2. Other information	
Density	2,73 g/cm ³ estimated 2,70 g/cm ³ estimated
Heat of combustion (NFPA 30B)	0 kJ/g
Molecular formula	Al
Molecular weight	26,98 g/mol
Specific gravity	2,73 estimated 2,7

SECTION 10: Stability and reactivity

10.1. Reactivity	Not available.
10.2. Chemical stability	Not available.
10.3. Possibility of hazardous reactions	Not available.
10.4. Conditions to avoid	Not available.
10.5. Incompatible materials	Not available.
10.6. Hazardous decomposition products	Not available.

SECTION 11: Toxicological information

General information	Not available.
Information on likely routes of exposure	
Inhalation	Not available.
Skin contact	Not available.
Eye contact	Not available.
Ingestion	Not available.
Symptoms	Not available.
11.1. Information on toxicological effects	
Acute toxicity	No data available.
Skin corrosion/irritation	Not available.
Serious eye damage/eye irritation	Not available.
Respiratory sensitisation	Not available.
Skin sensitisation	Not available.
Germ cell mutagenicity	Not available.

Carcinogenicity

Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

Reproductive toxicity	Not available.
Specific target organ toxicity - single exposure	Not available.
Specific target organ toxicity - repeated exposure	Not available.
Aspiration hazard	Not available.
Mixture versus substance information	Not available.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity

Product	Species	Test Results
Aluminum Product		
Aquatic		
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)
		0,16 mg/l, 96 hours

12.2. Persistence and degradability Not available.

12.3. Bioaccumulative potential Not available.

Partition coefficient n-octanol/water (log Kow) Not available.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Not available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Not available.

Contaminated packaging Not available.

EU waste code Not available.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Aluminium (CAS 7429-90-5)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Aluminium (CAS 7429-90-5)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Aluminium (CAS 7429-90-5)

National regulations Not available.

15.2. Chemical safety assessment Not available.

SECTION 16: Other information

List of abbreviations Not available.

References Not available.

Training information Not available.