



SAFETY DATA SHEET

MATERION

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

1.1. Product identifier

Name of the substance Aluminium Isopropoxide
Identification number 603-042-00-3 (Index number)
Registration number -
Document number 2ON
Synonyms None.
Materion Code 2ON
Issue date 13-April-2021
Version number 01

1.3. Details of the supplier of the safety data sheet

Supplier

Company name Materion Advanced Chemicals Inc.
Address 407 N. 13th Street
1316 W. St. Paul Avenue
Milwaukee, WI 53233
United States
Division Milwaukee
Telephone 414.212.0257
e-mail advancedmaterials@materion.com
Contact person Laura Hamilton

1.4. Emergency telephone number

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

Identified uses Not available.
Uses advised against None known.

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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 H228 - Flammable solid.

Hazard summary Not available.

2.2. Label elements

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

Contains: aluminium-tri-isopropoxide

Hazard pictograms



Signal word

Danger

Hazard statements

H228 Flammable solid.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/ equipment.
P261 Avoid breathing dust/fume/gas/mist/spray.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/eye protection/face protection.

Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P304 + P340 In case of fire: Use dry chemical powder for extinction.
P370 + P378 In case of fire: Use alcohol resistant foam for extinction.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal

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

Supplemental label information

None.

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-tri-isopropoxide	100	555-31-7 209-090-8	-	603-042-00-3	
Classification: Flam. Sol. 1;H228, STOT SE 3;H336					T

SECTION 4: First aid measures

General information

Get medical attention if any discomfort continues.

4.1. Description of first aid measures

Inhalation

Move into fresh air and keep at rest. Get medical attention. If breathing stops, provide artificial respiration.

Skin contact

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Ingestion

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

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

Treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards	Heating may cause an explosion.
5.1. Extinguishing media	
Suitable extinguishing media	Dry chemical, CO ₂ , water spray or alcohol resistant foam. Water spray should be used to cool containers.
Unsuitable extinguishing media	None known.
5.2. Special hazards arising from the substance or mixture	Container may explode in heat of fire.
5.3. Advice for firefighters	
Special protective equipment for firefighters	Not available.
Special firefighting procedures	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Wear necessary protective equipment. Ensure adequate ventilation. Avoid generation and spreading of dust.
For emergency responders	Not available.
6.2. Environmental precautions	Avoid release to the environment.
6.3. Methods and material for containment and cleaning up	Sweep up or gather material and place in appropriate container for disposal. Put material in suitable, covered, labeled containers.
6.4. Reference to other sections	Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Wear necessary protective equipment. Do not get in eyes, on skin, on clothing. Avoid inhalation of dust. Avoid ingestion. Avoid generation and spreading of dust.
7.2. Conditions for safe storage, including any incompatibilities	Store in tightly closed original container in a dry, cool and well-ventilated place. Keep away from heat, sparks and open flame. Flammable solid storage.
7.3. Specific end use(s)	Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Belgium. Exposure Limit Values

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	2 mg/m ³

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

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	MAC	2 mg/m ³

Denmark. Exposure Limit Values

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	TLV	1 mg/m ³

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	2 mg/m ³

Finland. Workplace Exposure Limits

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	2 mg/m3

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

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	VME	2 mg/m3

Regulatory status: Indicative limit (VL)

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

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	2 mg/m3

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

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	2 mg/m3

Ireland. Occupational Exposure Limits

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	2 mg/m3

Italy. Occupational Exposure Limits

Material	Type	Value	Form
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	1 mg/m3	Respirable fraction.

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

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	1 mg/m3

Norway. Administrative Norms for Contaminants in the Workplace

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	TLV	2 mg/m3

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

Material	Type	Value	Form
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	1 mg/m3	Respirable fraction.

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

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	2 mg/m3

Spain. Occupational Exposure Limits

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	2 mg/m3

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

Material	Type	Value	Form
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	1 mg/m3	Total dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Material	Type	Value	Form
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	2 mg/m3	Inhalable fraction.

UK. EH40 Workplace Exposure Limits (WELs)

Material	Type	Value
aluminium-tri-isopropoxide (CAS 555-31-7)	TWA	2 mg/m ³

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

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 Handle in accordance with good industrial hygiene and safety practices.

Eye/face protection Tightly fitting safety goggles.

Skin protection

- **Hand protection** Wear protective gloves.

- **Other** Use protective gloves, goggles and suitable protective clothing.

Respiratory protection When airborne exposures exceed or have the potential to exceed the occupational exposure limits, approved respirators must be used as specified by an Industrial Hygienist or other qualified professional. Respirator users must be medically evaluated to determine if they are physically capable of wearing a respirator. Quantitative and/or qualitative fit testing and respirator training must be satisfactorily completed by all personnel prior to respirator use. Users of tight fitting respirators must be clean shaven on those areas of the face where the respirator seal contacts the face. Use pressure-demand airline respirators when performing jobs with high potential exposures such as changing filters in a baghouse air cleaning device.

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 Powder.

Physical state Solid.

Form Not available.

Colour White.

Odour Not available.

Odour threshold Not available.

pH Not available.

Melting point/freezing point 119 °C (246,2 °F)

Initial boiling point and boiling range 135 °C (275 °F) 13,3 hPa

131 °C (267,8 °F) 10,0 hPa

125,5 °C (257,9 °F) 7,3 hPa

113 °C (235,4 °F) 3,3 hPa

106 °C (222,8 °F) 2,0 hPa

94 °C (201,2 °F) 0,7 hPa

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	0,0002 kPa (25 °C (77 °F))
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
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	1,02 g/cm ³ estimated at 20 °C
Molecular formula	C ₃ H ₈ O, 1/3Al
Molecular weight	204,23 g/mol
Specific gravity	1,03 at 20 °C

SECTION 10: Stability and reactivity

10.1. Reactivity	Not available.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	Hazardous polymerisation does not occur.
10.4. Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Minimise dust generation and accumulation. Exposure to moisture.
10.5. Incompatible materials	Strong oxidising substances. Strong acids. Halogens.
10.6. Hazardous decomposition products	Carbon oxides. Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.

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

Product	Species	Test Results
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aluminium-tri-isopropoxide (CAS 555-31-7)

Acute

Oral

LD50	Rat	11300 mg/kg
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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.

Material name: Aluminium Isopropoxide

2ON Version #: 01 Issue date: 13-April-2021

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	There are no data on the ecotoxicity of this product.
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.
Disposal methods/information	Dispose of contents/container in accordance with local/regional/national/international regulations.

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. UN number	UN3181
14.2. UN proper shipping name	Metal salts of organic compounds, flammable, n.o.s.
14.3. Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

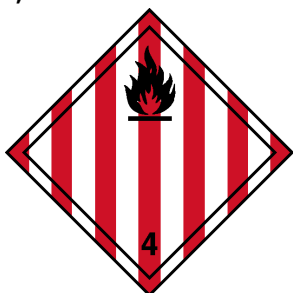
IMDG

14.1. UN number	UN3181
14.2. UN proper shipping name	Metal salts of organic compounds, flammable, n.o.s.
14.3. Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
14.4. Packing group	II
14.5. Environmental hazards	
Marine pollutant	No.

EmS Not available.

14.6. Special precautions for user Not available.

IATA; IMDG



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 (EU) 2019/1021 On persistent organic pollutants (recast), 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

Not listed.

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-tri-isopropoxide (CAS 555-31-7)

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

Not listed.

National regulations Not available.

15.2. Chemical safety assessment Not available.

SECTION 16: Other information

List of abbreviations Not available.

References Not available.

Information on evaluation method leading to the classification of mixture	Not available.
Revision information	None.
Training information	Not available.