Regulation EC Nr. 1907/2006 Art.31

**Product name:** Aluminium oxide pure in various forms **Document Nr.:** SDS00170AO2010

 Date:
 October 5th 2022

 Version:
 4.0
 Page 1 of 10

### Section 1: Identification of the substance or mixture and the company

### 1.1. Product Identifier

Aluminium oxide (Alumina) in various manufactured forms. EC #: 231-691-6 CAS #: 1344-28-1 Registration number (REACH): 01-2119529248-35-xxxx

### 1.2 Relevant applications of the material and uses advised against

Refractory material. Coating material for evaporation baskets. Alumina tubes.

#### 1.3. Company details

Vof Micro to Nano Tappersweg 91 2031ET Haarlem Netherlands Tel: +31(0)85-2013155 E: info@microtonano.com

#### **1.4 Emergency telephone number**

+31(0)85-2013155 (office hours) Vof Micro to Nano, Netherlands

### Section 2: Hazards identification

### 2.1. Classification of the substance or mixture according to Regulation EC Nr. 1272/2008

This substance does not meet the criteria for classification in accordance with regulation Nr. 1272/2008/EC

### **2.2** Labeling elements

### Labelling accordance to Regulation EC. Nr 1272/2008

Not needed

(Contd. on page 2)



Tappersweg 91 2031ET Haarlem The Netherlands

- E info@microtonano.com
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Regulation EC Nr. 1907/2006 Art.31

**Product name:** Aluminium oxide pure in various forms **Document Nr.:** SDS00170AO2010

 Date:
 October 5th 2022

 Version:
 4.0
 Page 2 of 10

(Contd. of page 1)

### 2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, the substance is not a PBT or a vPvB

### Section 3: Composition / information on components

### 3.1. Substances

Aluminium oxide (Alumina) in various manufactured forms. EC #: 231-691-6 CAS #: 1344-28-1 Registration number (REACH): 01-2119529248-35-xxxx

### 3.2 Mixtures

Not applicable

### Section 4: First aid measures

### 4.1. Description of first aid measures

Contact with eyes:	Rinse cautiously with water for several minutes. If possible, remove contact lenses. Continue rinsing.
Contact with skin:	Rinse skin with water/shower
Inhalation:	No special measures necessary. There is no major dust generation possible.
Ingestion:	Rinse mouth. Seek medical assistance if you feel unwell

### 4.2. Important symptoms and effects, either immediate or delayed

Symptoms and effects are not known to date

### 4.3. Indication of any immediate medical attention and special treatment

General advice: If you feel unwell, seek medical advice; show product label if possible If symptoms persist, always call a doctor

(Contd. on page 3)



Tappersweg 91 2031ET Haarlem The Netherlands

- E info@microtonano.com
- I www.microtonano.com

Product name: Aluminium oxide pure in various forms

Document Nr.: SDS00170AO2010

 Date:
 October 5th 2022

 Version:
 4.0
 Page 3 of 10

(Contd. of page 2)

### Section 5: Firefighting Measures

### 5.1. Extinguishing media

Water, foam, dry extinguishing powder, ABC powder. Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

Non-combustible

### **5.3 Advice to firefighters**

Fight fire from a safe distance, with adequate cover. Do not move the load if exposed to heat. In case of fire: do not breathe fumes. Wear self-contained breathing apparatus for fire fighting

### Section 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

No special measures are necessary.

### 6.2 Environmental precautions

Do not allow to enter public sewers and waterways

### 6.3 Methods and material for containment and clean up

Pick up mechanically

### 6.4 Reference to other sections

For further information see section 7, 8 and 13.



Tappersweg 91 2031ET Haarlem The Netherlands (Contd. on page 4)

T +31-85-2013155 E info@microtonano.com

I www.microtonano.com

**Product name:** Aluminium oxide pure in various forms **Document Nr.:** SDS00170AO2010

 Date:
 October 5th 2022

 Version:
 4.0
 Page 4 of 10

(Contd. of page 3)

## Section 7: Handling and storage

### 7.1. Precautions for safe handling

No special measures are necessary.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool dry place

### 7.3 Specific end uses(s)

Not required

## Section 8: Exposure control and personal protection

### 8.1. Control parameters

### **Occupational exposure limits (OEL)**

Ingredient	Material Name	Source	TWA	STEL	Ceiling -C	Notes
Aluminium oxide	Alumina	EU	4 mg/m <sup>3</sup>		Not available	

### 8.2 Exposure controls

Control procedures:	Avoid creating or accumulating dust or fine particles Wash hands before breaks and at the end of the work Maintain appropriate working environment
Personal protection:	Protective work clothing
Inhalation:	Respiratory protection necessary at: Dust formation. Filter EN 143
Hands and skin:	Wear suitable gloves: Nitrile rubber
Eyes:	Wear safety goggles with side protection or full-face protection

(Contd. on page 5)



Tappersweg 91 2031ET Haarlem The Netherlands

- E info@microtonano.com
- I www.microtonano.com

**Product name:** Aluminium oxide pure in various forms **Document Nr.:** SDS00170AO2010

### Regulation EC Nr. 1907/2006 Art.31

 Date:
 October 5th 2022

 Version:
 4.0
 Page 5 of 10

(Contd. of page 4)

## Section 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance/physical state: Colour: Odour: pH Melting point/range: Boiling point/range: Flammability: Flash point: Evaporation rate: Explosion limits: upper limit: lower limit:	Solid in various forms White None 6.8 – 7.8 in aqueous solution 2050°C 2980°C Non-combustible Not determined Not available Not determined Not determined
Vapour pressure:	Not applicable
Relative density:	3.97 g/cm3 @ 20°C
Solubility in water:	Practically insoluble in water
Auto-ignition:	Not determined
Viscosity:	Not applicable

### 9.2 Other information

None

## Section 10: Stability and reactivity

### 10.1. Reactivity

This material is not reactive under normal ambient conditions.

### **10.2** Chemical stability

Stable under recommended storage conditions

### 10.3 Possibility of hazardous reactions

No known hazardous reactions



Tappersweg 91 2031ET Haarlem The Netherlands (Contd. on page 6)

T +31-85-2013155 E info@microtonano.com

I www.microtonano.com

**Product name:** Aluminium oxide pure in various forms **Document Nr.:** SDS00170AO2010

### Regulation EC Nr. 1907/2006 Art.31

 Date:
 October 5th 2022

 Version:
 4.0
 Page 6 of 10

(Contd. of page 5)

### 10.4 Conditions to avoid

Avoid creating dust or accumulating dust or fine particles

#### 10.5 Incompatible materials

There is no additional information.

#### **10.6 Hazardous decomposition products**

There is no additional information.

### Section 11: Toxicological information

### 11.1. Information on toxicological effects

#### Information hazard classes as defined in Regulation (EC) Nr. 1272/2008

Inhalation:	Not classified	
Skin contact:	Not classified	
Eye contact:	Not classified	
Sensitisation:	Not classified	
Germ cell mutagenicit		
Carcinogenicity:	Not classified	
Reproductive toxicity:	Not classified	
Specific target organ toxicity – single exposure:		Not classified
Specific target organ toxicity – repeated exposure:		Not classified

#### **Toxicological data:**

Ingredient	Toxicity	Irritation
Aluminiumoxide	Oral (rat) LD50: >15900 mg/kg	Not classified

#### Symptoms related to the physical, chemical and toxicological characteristics

• •	•	•	•
If swallowed:		Data are not available	
If in eyes:		Data are not available	
If inhaled:		Data are not available	
If on skin:		Data are not available	
Other information:		Health effects are not kn	lown



Tappersweg 91 2031ET Haarlem The Netherlands (Contd. on page 7)

- E info@microtonano.com
- I www.microtonano.com

**Product name:** Aluminium oxide pure in various forms **Document Nr.:** SDS00170AO2010

### Regulation EC Nr. 1907/2006 Art.31

 Date:
 October 5th 2022

 Version:
 4.0
 Page 7 of 10

(Contd. of page 6)

### 11.2. Endocine disrupting properties

Not listed

### 11.3. Information on other hazards

There is no additional information

### Section 12: Ecological information

### 12.1. Aquatic toxicity

Shall not be classified as hazardous to the aquatic environment.

### 12.2 Persistence and degradability

No data available

### 12.3 Bio-accumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

No data available

### **12.6 Endocrine disrupting properties**

Not listed

### **12.7 Hazardous decomposition products**

No information available



Tappersweg 91 2031ET Haarlem The Netherlands (Contd. on page 8)

T +31-85-2013155 E info@microtonano.com

- I www.microtonano.com

**Product name:** Aluminium oxide pure in various forms **Document Nr.:** SDS00170AO2010

### Regulation EC Nr. 1907/2006 Art.31

 Date:
 October 5th 2022

 Version:
 4.0
 Page 8 of 10

(Contd. of page 7)

## Section 13: Disposal considerations

### 13.1. Waste treatment methods

Product:	This material and its container must be disposed of in a safe way.
	Do not discharge into drains or the environment, dispose to an authorised waste
	collection point.
National regulations:	Disposal should be in accordance with local, state or national legislation.

## Section 14: Transport information

### 14.1. UN number

	UN-number:	N/A	
14.2 U	N proper shipping name		
	Proper shipping name:	N/A	
14.3 T	ransport hazard class(es)		
	Class: ADR/RID-Classification code:	N/A N/A	
14.4 P	acking group		
	Packing:	N/A	
14.5 lr	ncompatible materials		
	ADR/RID- Environmentally hazardous: IMDG-Marine pollutant: IATA/ICAO-Environmentally hazardous:	N/A	
14.6 S	pecial precautions for user		
	ADR/RID-Tunnel code:	N/A	(Contd. on page 9)
ų-r	Micro to Nan Innovative Microscopy Suppli		

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- E info@microtonano.com
  - I www.microtonano.com

Regulation EC Nr. 1907/2006 Art.31

**Product name:** Aluminium oxide pure in various forms **Document Nr.:** SDS00170AO2010

 Date:
 October 5th 2022

 Version:
 4.0
 Page 9 of 10

(Contd. of page 8)

IMDG-Ems:N/AIATA/ICAO-PAX:N/AIATA/ICAO-CAO:N/A

### 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code

Not applicable

### Section 15: Regulatory information

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

**Restrictions according to REACH, Annex XVII:** Not listed List of substance subject to authorization (REACH, Annex XIV)/SVHC – candidate list: Not listed

#### 15.2 Chemical safety assessment

No information available

### Section 16: Other information

### **RoHS Directive Compliant**

This product is fully compliant with the directive 2100/65/EU Annex II (RoHS). It does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's or PBDE's.

#### WEEE

This product is not a piece of electrical or electronic equipment, and it therefore not governed by Directive 2002/96/EC on waste electrical and electronic equipment (WEEE)

### Abbreviations:

Asp. Tox	Aspiration hazard	
Carc.	Carcinogenicity	
Exp.	Exposure	
Flam.	Flammable	
GHS	Global Harmonised System of Classification of Labellin	g Chemicals
Irrit.	Irritant	
N/A	Not applicable	
N/E	Not estimated	(Contd. on page 10)



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Innovative Microscopy Supplies

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Regulation EC Nr. 1907/2006 Art.31

**Product name:** Aluminium oxide pure in various forms **Document Nr.:** SDS00170AO2010

 Date:
 October 5th 2022

 Version:
 4.0
 Page 10 of 10

(Contd. of page 9)

NOEC	No observed effect concentration
LC50	Lethal dose single exposure to causing 50% lethality
LD50	Lethal dose 50% corresponds to causing 50% lethality during a specific time
PBT	Persistent Bio-accumulative and Toxic
WEL	Workplace Exposure Limit
Repr.	Reproductive toxicant
RoHS	Restriction of Hazardous Substance
vPvB	very Persistent and very Bio-accumulative
WEEE	Waste Electrical and Electronic Equipment

This product should be stored, handled and used in accordance with good industrial hygiene practices and in accordance with any legal regulation.

The information contained herewith is based on the present state of our knowledge and is intended to describe the product from the point of view of safety requirements. It does not guarantee any specific properties.

It is the responsibility of the user to query and verify any information seeming suspect or where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, state, federal and international regulations.

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