

**Trade name:** Alumide®

**Product no.:** 9012-0029

**Current version :** 2.0.0, issued: 16.05.2012

**Replaced version:** 1.0.0, issued: 07.04.2011

**Region:** GB

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

### 1.1 Product identifier

**Trade name**

**Alumide®**

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

**Relevant identified uses of the substance or mixture**

Laser sintering

### 1.3 Details of the supplier of the safety data sheet

**Address**

EOS GmbH - Electro Optical Systems

Robert-Stirling-Ring 1

82152 Krailling / München

GERMANY

Telephone no. +49 (0) 89 / 8 93 36 - 0

Fax no. +49 (0) 89 / 8 93 36 - 2 85

**Information provided by / telephone**

+49 (0) 89 / 893 36 - 0

**Advice on Safety Data Sheet**

MSDSInfo@eos.info

### 1.4 Emergency telephone number

+49 (0) 89 / 893 36 - 0 (8 am - 5 pm)

+49 (0) 89 / 893 36 - 151 (Mo - Thu: 9 am - 12 pm & 1 - 6 pm; Fr: 1 - 4 pm) (CET)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification information**

This product does not meet the classification and labelling criteria given in the Dangerous Preparations Directive (1999/45/EC; DPD)

### 2.2 Label elements

Not relevant

### 2.3 Other hazards

May form explosive gases upon contact with water and/or chemicals.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not applicable. The product is not a substance.

### 3.2 Mixtures

**Chemical characterization**

Mixture based on: Poly (lauryl lactam) (PA12) (CAS No. 25038-74-8) and aluminium granules (CAS No. 7429-90-5)

**Hazardous ingredients**

This product does not contain substances to be mentioned according to EU Regulation No 1907/2006 (REACH), annex II.

### 3.3 Other information

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information

In case of persisting adverse effects, consult a physician. Change contaminated clothing.

#### After inhalation

Remove affected person from the immediate area. Ensure supply of fresh air.

#### After skin contact

When in contact with the skin, clean with soap and water. After contact with molten product, cool quickly with cold water. Do not pull solidified product from skin. Seek medical attention.

#### After eye contact

Separate eyelids, wash the eyes thoroughly with water (15 min.).

#### After ingestion

Seek medical advice immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

### 4.2 Most important symptoms and effects, both acute and delayed

No data available.

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

No data available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Sand; extinguishing powder

#### Unsuitable extinguishing media

No data available.

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

In the event of fire, the following can be released: Carbon dioxide (CO<sub>2</sub>); Carbon monoxide (CO); Nitrogen oxides (NO<sub>x</sub>); Combustion products of this material have to be classed invariably as respiratory poison.

### 5.3 Advice for firefighters

Use self-contained breathing apparatus. Wear protective clothing.

## SECTION 6: Accidental release measures

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

#### For non-emergency personnel

Refer to protective measures listed in sections 7 and 8. Ensure adequate ventilation. Avoid dust formation. Keep away sources of ignition.

#### For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

### 6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

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

Take up mechanically. When picked up, treat material as prescribed under heading "Disposal considerations".

### 6.4 Reference to other sections

No data available.

Trade name: Alumide®

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**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

**Advice on safe handling**

No special measures necessary if stored and handled as prescribed. Avoid the formation and deposition of dust. Provide good ventilation of working area (local exhaust ventilation, if necessary).

**General protective and hygiene measures**

Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Provide eye wash fountain in work area. Do not inhale dust. Use barrier skin cream. Areas of the skin soiled with dust are to be cleaned with soap and water without delay, as the powder draws the natural moisture from the skin.

**Advice on protection against fire and explosion**

Dust can form an explosive mixture with air. Take precautionary measures against static charges. Keep away from sources of heat and ignition.

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

**Technical measures and storage conditions**

Keep containers dry, tightly closed, at temperatures between 5 and 35°C and relative air moisture of 20 – 70%. Protect from atmospheric moisture and water.

**Requirements for storage rooms and vessels**

Store product in closed containers.

**Advice on storage assembly**

None known

**7.3 Specific end use(s)**

No data available.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational exposure limit values**

No	Substance name	CAS no.	EC no.
1	Dust		
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	total inhalable dust		
	TWA	10	mg/m <sup>3</sup>
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	respirable dust		
	TWA	4	mg/m <sup>3</sup>
2	Aluminium powder (stabilised)	7429-90-5	231-072-3
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	Aluminium metal		
	total inhalable dust		
	TWA	10	mg/m <sup>3</sup>
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	Aluminium metal		
	respirable dust		
	TWA	4	mg/m <sup>3</sup>

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## 8.2 Exposure controls

### Appropriate engineering controls

No data available.

### Personal protective equipment

#### Respiratory protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of dust formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

#### Eye / face protection

Safety glasses (EN 166)

#### Hand protection

In case of intensive contact, wear protective gloves (EN 374). Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves. If this powder is handled at room temperature, it is not necessary to wear protective gloves.

In case of thermal processing, thermally insulating protective gloves are to be used.

#### Other

Normal chemical work clothing.

#### Environmental exposure controls

No data available.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Form/Colour</b>	
Powder	
grey	
<b>Odour</b>	
odourless	
<b>Odour threshold</b>	
No data available	
<b>pH value</b>	
Not applicable	
<b>Boiling point / boiling range</b>	
Not applicable	
<b>Melting point / melting range</b>	
Value	185 °C
Method	EN ISO 11357-1
<b>Decomposition point / decomposition range</b>	
Value	> 300 °C
<b>Flash point</b>	
Not applicable	
<b>Ignition temperature</b>	
Value	> 350 °C
Method	DIN 51794

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<b>Auto-ignition temperature</b>	No data available
<b>Oxidising properties</b>	No data available
<b>Explosive properties</b>	No data available
<b>Flammability (solid, gas)</b>	No data available
<b>Lower flammability or explosive limits</b>	No data available
<b>Upper flammability or explosive limits</b>	No data available
<b>Vapour pressure</b>	Not applicable
<b>Vapour density</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Relative density</b>	No data available
<b>Density</b>	no data available
<b>Solubility in water</b>	Remarks   insoluble
<b>Solubility(ies)</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Viscosity</b>	No data available

## 9.2 Other information

<b>Other information</b>	No data available.
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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available.

### 10.2 Chemical stability

No data available.

### 10.3 Possibility of hazardous reactions

No data available.

### 10.4 Conditions to avoid

None, if handled according to order. Protect against humidity.

### 10.5 Incompatible materials

none, if handled according to order

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**10.6 Hazardous decomposition products**

No hazardous decomposition products known.

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

<b>Acute oral toxicity</b>	
Remarks	No data available.
<b>Acute dermal toxicity</b>	
Remarks	No data available.
<b>Acute inhalational toxicity</b>	
Remarks	No data available.
<b>Skin corrosion/irritation</b>	
Remarks	No data available.
<b>Serious eye damage/irritation</b>	
Remarks	No data available.
<b>Respiratory or skin sensitisation</b>	
No data available	
<b>Germ cell mutagenicity</b>	
No data available	
<b>Reproduction toxicity</b>	
No data available	
<b>Carcinogenicity</b>	
No data available	
<b>STOT-single exposure</b>	
No data available	
<b>STOT-repeated exposure</b>	
No data available	
<b>Aspiration hazard</b>	
No data available	
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	
Eye contact may cause mechanical irritation through dust particles.	
<b>Delayed and immediate effects as well as chronic effects from short and long-term exposure</b>	
Inhalation of dusts may irritate the respiratory tract.	

**SECTION 12: Ecological information**

**12.1 Toxicity**

<b>Fish toxicity</b>	
Remarks	No data available.
<b>Daphnia toxicity</b>	
Remarks	No data available.
<b>Algae toxicity</b>	
Remarks	No data available.

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<b>Bacteria toxicity</b>
No data available

## 12.2 Persistence and degradability

<b>Physico-chemical eliminability</b>	
Remarks	If used properly, this product does not cause problems, on the strength of previous experience.

## 12.3 Bioaccumulative 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 Other adverse effects

No data available.

## 12.7 Other information

<b>Other information</b>
Do not discharge product unmonitored into the environment.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

**Product**

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

**Packaging**

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

## SECTION 14: Transport information

### 14.1 Transport ADR/RID/ADN

The product is not subject to ADR/RID/ADN regulations.

### 14.2 Transport IMDG

The product is not subject to IMDG regulations.

### 14.3 Transport ICAO-TI / IATA

The product is not subject to ICAO-TI / IATA regulations.

### 14.4 Other information

No data available.

### 14.6 Special precautions for user

No data available.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

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## SECTION 15: Regulatory information

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

#### EU regulations

##### **Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances**

Remarks

Annex I, part 1 + 2: not mentioned. With regard to possibly appropriate decomposition products see Chapter 10.

### 15.2 Chemical safety assessment

No data available.

## SECTION 16: Other information

#### **Sources of key data used to compile the data sheet:**

EC Directive 67/548/EC resp. 99/45/EC as amended in each case.

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EC

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

#### **Department issuing safety data sheet**

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