

**Trade name:** PA 1101

**Product no.:** 9012-0091 / 200000335

**Current version :** 2.1.0, issued: 31.01.2024

**Replaced version:** 2.0.0, issued: 24.10.2022

**Region:** GB

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

### 1.1 Product identifier

**Trade name**

**PA 1101**

Substance name polyamide 11

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

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

Laser sintering

**Uses advised against**

No data available.

### 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 - 22 85

e-mail info@eos.info

**Information provided by / telephone**

+49 (0) 89 / 893 36 - 151

**Advice on Safety Data Sheet**

MSDSInfo@eos.info

### 1.4 Emergency telephone number

+49 89 893 36 151 (GMT +2)

+65 6430 0463 (GMT +8)

+1 877 388 7916 (GMT -4)

during the usual office hours

## 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 Regulation (EC) No 1272/2008 (CLP). According to the provisions of the CLP-Regulation (EC) No. 1272/2008, this product is not subject to mandatory labeling.

### 2.2 Label elements

Not relevant

**Labelling information**

The product does not require a hazard warning label in accordance with EC Directives.

### 2.3 Other hazards

No data available.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

**Chemical characterization**

Substance name polyamide 11

### 3.2 Mixtures

Not applicable. The product is not a mixture.

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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. Blow your nose. After inhalation of fumes from overheating: Ensure supply of fresh air. In case of breathing difficulties give oxygen. Take medical treatment.

#### 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.). Get medical attention if pain still persists. Cool skin rapidly with cold water after contact with molten polymer. Seek medical assistance.

#### After ingestion

Seek medical advice immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting.

### 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

Water spray jet; Carbon dioxide

#### Unsuitable extinguishing media

High power water jet

### 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); Ammonia (NH<sub>3</sub>); not combusted hydrocarbons; Hydrogen cyanide (HCN); 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. Containers close to fire should be transferred to a safe place.

## 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 from ignition sources. Avoid contact with skin, eyes and clothing.

#### 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

Risk of slipping due to leakage/spillage of product. Collect mechanically. When collected, handle material as described under the section heading "Disposal considerations".

### 6.4 Reference to other sections

No data available.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Avoid the formation and deposition of dust. Provide good ventilation at the work 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. Use barrier skin cream. Avoid contact with eyes and skin. Do not inhale dust. Do not inhale vapours during thermal processing. Provide eye wash fountain in work area. Have emergency shower available.

#### 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 container tightly closed and dry in a cool, well-ventilated place. Protect from atmospheric moisture and water.

#### Recommended storage temperature

Value < 60 °C

#### Requirements for storage rooms and vessels

Always keep in containers of same material as the original.

#### Incompatible products

Do not store together with: Acids; oxidizing agents

### 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>			
Dust respirable			
	WEL long-term (8-hr TWA reference period)	4	mg/m <sup>3</sup>
	Comments	see Definition 44 "Dust"	
<b>List of approved workplace exposure limits (WELs) / EH40</b>			
Dust inhalable			
	WEL long-term (8-hr TWA reference period)	10	mg/m <sup>3</sup>
	Comments	see Definition 44 "Dust"	

### 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 that workplace threshold values are not specified. Respirator with particulate filter (filter cat. P 3)

##### Eye / face protection

Safety glasses (EN 166)

##### Hand protection

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Unless otherwise indicated in the chemical risk assessment, following recommendations are made: 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. In case of thermal processing, thermally insulating protective gloves are to be used.

**Other**

Wear fully closed, flame retardant clothing. Closed ESD safety footwear (ESD according to EN 61340-4-3 or equivalent).

**Environmental exposure controls**

No data available.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>State of aggregation</b>	
solid	
<b>Form</b>	
Powder	
<b>Colour</b>	
colourless	
<b>Odour</b>	
odourless	
<b>pH value</b>	
Not applicable	
<b>Boiling point / boiling range</b>	
No data available	
<b>Melting point/freezing point</b>	
Value	205 °C
Method	EN ISO 11357-1
<b>Decomposition temperature</b>	
Value	> 350 °C
<b>Flash point</b>	
Not applicable	
<b>Ignition temperature</b>	
Comments	Minimum ignition energy with inductance: 300 - 1000 mJ
<b>Auto-ignition temperature</b>	
Value	465 °C
<b>Explosive properties</b>	
Product is explosive.	
<b>Flammability</b>	
No data available	
<b>Lower explosion limit</b>	
Value	30 g/m <sup>3</sup>
<b>Upper explosion limit</b>	
No data available	
<b>Vapour pressure</b>	
No data available	

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**Relative vapour density**

No data available

**Relative density**

No data available

**Density**

Value	1.0	-	1.1	g/cm <sup>3</sup>
Reference temperature			20	°C

**Solubility in water**

Reference temperature	20	°C
Comments	insoluble	

**Solubility**

No data available

**Partition coefficient n-octanol/water (log value)**

No data available

**Kinematic viscosity**

No data available

**Particle characteristics**

No data available

**9.2 Other information****Other information**

No data available.

**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**

Heat; Protect against humidity. Keep away sources of ignition. Stable under recommended storage and handling conditions(See section 7).

**10.5 Incompatible materials**

strong acids; Oxidizing agents

**10.6 Hazardous decomposition products**Ammonia (NH<sub>3</sub>); Amines; Hydrogen cyanide (HCN)**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute oral toxicity**

No data available

**Acute dermal toxicity**

No data available

**Acute inhalational toxicity**

No data available

**Skin corrosion/irritation**

No data available

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**Serious eye damage/irritation**

No data available

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

No data available

**Reproduction toxicity**

No data available

**Carcinogenicity**

No data available

**STOT - single exposure**

No data available

**STOT - repeated exposure**

No data available

**Aspiration hazard**

No data available

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

Eye contact may cause mechanical irritation through dust particles. Skin contact may cause mechanical irritation through dust particles.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

Inhalation of dusts may irritate the respiratory tract. Inhalation of vapours from the heated product can cause irritation of the respiratory tract.

**11.2 Information on other hazards****Endocrine disrupting properties**

No data available.

**Other information**

No data available.

**SECTION 12: Ecological information****12.1 Toxicity****Toxicity to fish (acute)**

No data available

**Toxicity to fish (chronic)**

No data available

**Toxicity to Daphnia (acute)**

No data available

**Toxicity to Daphnia (chronic)**

No data available

**Toxicity to algae (acute)**

No data available

**Toxicity to algae (chronic)**

No data available

**Bacteria toxicity**

No data available

**12.2 Persistence and degradability**

No data available.

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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**

No data available.

**12.7 Other adverse effects**

No data available.

**12.8 Other information****Other information**

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**

Residues 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.

**14.5 Environmental hazards**

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

**14.6 Special precautions for user**

No data available.

**14.7 Maritime transport in bulk according to IMO instruments**

Not relevant

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulations****Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)**

In accordance with the REACH regulation (EC) 1907/2006, the product does not contain any substances that are considered as subject to listing in annex XIV, inventory of substances requiring authorisation.

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In accordance with article 57 and article 59 of the Reach regulation (EC) 1907/2006, this substance is not considered as subject to listing in annex XIV, inventory of substances requiring authorisation ("Authorization list").

**Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES**

The substance is not subject to the provisions of annex XVII (restriction entries) of the Reach regulation (EC) 1907/2006.

**Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances**

This substance is not subject to Part 1 or 2 of Annex I

**Other regulations**

Adhere to the national sanitary and occupational safety regulations when using this product.

**15.2 Chemical safety assessment**

No data available.

**SECTION 16: Other information****Sources of key data used to compile the data sheet:**

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

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

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 section.

**Creation of the safety data sheet**

UMCO GmbH

Georg-Wilhelm-Str. 187, D-21107 Hamburg

Tel.: +49 40 / 555 546 300 Fax: +49 40 / 555 546 357 e-mail: umco@umco.de

This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

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