

**Trade name:** PA 2200

**Product no.:** 9012-0014 / 200000061

**Current version :** 4.2.0, issued: 31.01.2024

**Replaced version:** 4.1.0, issued: 27.01.2023

**Region:** GB

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

### 1.1 Product identifier

**Trade name**

**PA 2200**

**Form**

This mixture contains nanoforms (according to REACH regulation).

### 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

PBT assessment

No data available.

vPvB assessment

No data available.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not applicable. The product is not a substance.

**Trade name:** PA 2200

**Product no.:** 9012-0014 / 200000061

**Current version :** 4.2.0, issued: 31.01.2024

**Replaced version:** 4.1.0, issued: 27.01.2023

**Region:** GB

### 3.2 Mixtures

#### **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

This mixture contains nanoforms (according to REACH regulation)

## 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**

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes).

#### **After ingestion**

Seek medical advice immediately. Rinse the 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**

Foam; Carbon dioxide; Extinguishing powder; Water spray jet

#### **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); 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 from ignition sources.

#### **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.

Trade name: PA 2200

Product no.: 9012-0014 / 200000061

Current version : 4.2.0, issued: 31.01.2024

Replaced version: 4.1.0, issued: 27.01.2023

Region: GB

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

Take up mechanically. When collected, handle material as described under the section heading "Disposal considerations".

**6.4 Reference to other sections**

No data available.

**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 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. 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 container tightly closed and dry.

**Requirements for storage rooms and vessels**

Store product in closed containers.

**Incompatible products**

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>		
	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"	
2	titanium dioxide; [not containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]	13463-67-7	236-675-5
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	Titanium dioxide total inhalable dust		
	WEL long-term (8-hr TWA reference period)	10	mg/m <sup>3</sup>
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	Titanium dioxide respirable dust		
	WEL long-term (8-hr TWA reference period)	4	mg/m <sup>3</sup>

**8.2 Exposure controls**

**Trade name:** PA 2200**Product no.:** 9012-0014 / 200000061**Current version :** 4.2.0, issued: 31.01.2024**Replaced version:** 4.1.0, issued: 27.01.2023**Region:** GB**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**

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>	
white	
<b>Odour</b>	
odourless	
<b>pH value</b>	
Not applicable	
<b>Boiling point / boiling range</b>	
Not applicable	
<b>Melting point/freezing point</b>	
Value	185 °C
Method	EN ISO 11357-1
<b>Decomposition temperature</b>	
Value	> 300 °C
<b>Flash point</b>	
Not applicable	
<b>Ignition temperature</b>	
Value	450 °C
Method	DIN 51794
Comments	Minimum ignition energy with inductance: 100 - 300 mJ
<b>Explosive properties</b>	
Product is explosive.	

Trade name: PA 2200

Product no.: 9012-0014 / 200000061

Current version : 4.2.0, issued: 31.01.2024

Replaced version: 4.1.0, issued: 27.01.2023

Region: GB

<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>	
Not applicable	
<b>Relative vapour density</b>	
No data available	
<b>Relative density</b>	
No data available	
<b>Density</b>	
Value	1.0 - 1.1 g/cm <sup>3</sup>
Reference temperature	20 °C
<b>Solubility in water</b>	
Comments	insoluble
<b>Solubility</b>	
No data available	
<b>Partition coefficient n-octanol/water (log value)</b>	
No data available	
<b>Kinematic viscosity</b>	
No data available	
<b>Particle characteristics</b>	
Comments	This mixture contains nanoforms (according to REACH regulation). Contains small amounts of components that are nanomaterials as an additive.

## 9.2 Other information

<b>Other information</b>
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

None, if handled according to intended use.

### 10.5 Incompatible materials

None, if handled according to order.

### 10.6 Hazardous decomposition products

No hazardous decomposition products known.

## SECTION 11: Toxicological information

Trade name: PA 2200

Product no.: 9012-0014 / 200000061

Current version : 4.2.0, issued: 31.01.2024

Replaced version: 4.1.0, issued: 27.01.2023

Region: GB

## 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity	
No	Product Name
1	PA 2200
Comments	
No data available.	

Acute dermal toxicity	
No	Product Name
1	PA 2200
Comments	
No data available.	

Acute inhalational toxicity	
No	Product Name
1	PA 2200
Comments	
No data available.	

Skin corrosion/irritation	
No	Product Name
1	PA 2200
Comments	
No data available.	

Serious eye damage/irritation	
No	Product Name
1	PA 2200
Comments	
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.	

Delayed and immediate effects as well as chronic effects from short and long-term exposure	
Inhalation of dusts may irritate 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

**Trade name:** PA 2200

**Product no.:** 9012-0014 / 200000061

**Current version :** 4.2.0, issued: 31.01.2024

**Replaced version:** 4.1.0, issued: 27.01.2023

**Region:** GB

Toxicity to fish (acute)	
No	Product Name
1	PA 2200
Comments	
No data available.	

Toxicity to fish (chronic)	
No data available	

Toxicity to Daphnia (acute)	
No	Product Name
1	PA 2200
Comments	
No data available.	

Toxicity to Daphnia (chronic)	
No data available	

Toxicity to algae (acute)	
No	Product Name
1	PA 2200
Comments	
No data available.	

Toxicity to algae (chronic)	
No data available	

Bacteria toxicity	
No data available	

## 12.2 Persistence and degradability

Physico-chemical eliminability	
No	Product Name
1	PA 2200
Comments	
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

Results of PBT and vPvB assessment	
PBT assessment	No data available.
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

Trade name: PA 2200

Product no.: 9012-0014 / 200000061

Current version : 4.2.0, issued: 31.01.2024

Replaced version: 4.1.0, issued: 27.01.2023

Region: GB

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)**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

#### **REACH candidate list of substances of very high concern (SVHC) for authorisation**

According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.

#### **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**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances subject to restriction as listed in Annex XVII of the REACH regulation (EC) 1907/2006.

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

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

### 15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this mixture.

## 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**





---

**Trade name:** PA 2200

**Product no.:** 9012-0014 / 200000061

**Current version :** 4.2.0, issued: 31.01.2024

**Replaced version:** 4.1.0, issued: 27.01.2023

**Region:** GB

---

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](mailto: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.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

Document protected by copyright. Alterations or reproductions require the express written permission of UMCO GmbH.

Prod-ID 611149