

**Trade name:** PA 2200

**Product no.:** 9012-0014

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

**Replaced version:** 1.0.0, issued: 13.04.2011

**Region:** USA

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

### 1.1 Product identifier

**Trade name**

**PA 2200**

### 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

**Advice on Safety Data Sheet**

MSDSInfo@eos.info

**Supplier**

**Address**

EOS of North America Inc.

28970 Cabot Drive, Ste. 700

Novi, MI 48377-2978

USA

www.eos.us

Telephone no. +1 (248) 306 - 0143

Fax no. +1 (248) 306 - 0298

### 1.4 Emergency telephone

CHEMTREC US: (800) 424-9300

CHEMTREC: +1 703 527-3887 (24h) Transport

## SECTION 2: Hazards identification

### 2.1 Immediate hazards

No data available.

### 2.2 Potential Health Effects

**Eye**

No hazard in normal industrial use.

**Skin**

No hazard in normal industrial use.

**Inhalation**

No hazard in normal industrial use.

**Ingestion**

No hazard in normal industrial use.

**Cancer**

None of the components present in this material at concentrations equal or greater than 0.1% is listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

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## SECTION 3: Composition / information on ingredients

### 3.1 Substances

#### Chemical characterization

Substance name Polylauro lactam (polyamide 12) (CAS-No. 25038-74-8), modified, polymer

### 3.2 Mixtures

Not applicable. The product is not a mixture.

## 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. Take for medical treatment.

#### 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

Foam; Carbon dioxide; Extinguishing powder; Water spray jet

#### 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

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

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.

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### 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.

## 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 41 and 95°F and relative air moisture of 20 – 70%.

#### Requirements for storage rooms and vessels

Store product in closed containers.

#### Hints on storage assembly

None known

## SECTION 8: Exposure controls / personal protection

### 8.1 Control parameters

#### Occupational exposure limit values

No	Substance name	CAS no.	EC no.
1	DUST		
	<b>LIMITS FOR AIR CONTAMINANTS (OSHA)</b>		
	Particulates not otherwise regulated		
	Total dust		
	TWA	15	mg/m <sup>3</sup>
	<b>LIMITS FOR AIR CONTAMINANTS (OSHA)</b>		
	Particulates not otherwise regulated		
	Respirable fraction		
	TWA	5	mg/m <sup>3</sup>
	<b>LIMITS FOR AIR CONTAMINANTS (ACGIH)</b>		
	Particulates (insoluble or poorly soluble)		
	respirable particles		
	TWA	3	mg/m <sup>3</sup>
	<b>LIMITS FOR AIR CONTAMINANTS (ACGIH)</b>		
	Particulates (insoluble or poorly soluble)		
	inhalable particles		
	TWA	10	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 respirations 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. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

#### Eye / face protection

Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent).

#### Hand protection

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/Color</b>	
Powder	
white	
<b>Odor</b>	
odorless	
<b>Odor 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	> 572 °F
<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>Vapor 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

### 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

Acute oral toxicity	
Remarks	no data available

Acute dermal toxicity	
Remarks	no data available

Acute inhalational toxicity	
Remarks	no data available

Skin corrosion/irritation	
Remarks	no data available

Serious eye damage/irritation	
Remarks	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.	

## SECTION 12: Ecological information

### 12.1 Toxicity

Fish toxicity	
Remarks	no data available

Daphnia toxicity	
Remarks	no data available

Algae toxicity	
Remarks	no data available

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**Bacteria toxicity**

No data available

**12.2 Persistence and degradability**

**Physico-chemical eliminability**

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**

**Other information**

Do not discharge product unmonitored into the environment.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product**

Dispose in accordance with federal, state and local regulations.

**SECTION 14: Transport information**

**14.1 US DOT**

The product is not subject to DOT 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.

**SECTION 15: Regulatory information**

**US FEDERAL REGULATIONS**

**Toxic Substances Control Act (TSCA)**

All of the components of this product are either listed on the TSCA Inventory or are not subject to the notification requirements (exempt).

**Clean Water Act (CWA)**

None of the ingredients is listed.

**OSHA**

OSHA: This product is not classified as hazardous in accordance with US OSHA Hazard Communication Standard 29 CFR 1910.1200.

**SARA Section 302 (RQ):**

None of the ingredients is listed.

**SARA 311/312**

Hazard category                      Acute Health Hazards

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### **SARA Section 313**

None of the ingredients is listed.

### **HAPS Hazardous Air Pollutants**

None of the ingredients is listed.

### **HMIS Classification**

Health	1
Flammability	0
Physical Hazard	1
Personal Protection	C

### **NFPA Rating**

Health	1
Flammability	0
Physical Hazard	1

### **CARCINOGENICITY**

#### **IARC**

None of the ingredients is listed in group 1, 2A or 2B.

### **US STATE REGULATIONS**

#### **New Jersey Worker and Community Right to Know Act.**

None of the ingredients is listed.

#### **California Proposition 65.**

None of the ingredients is listed.

#### **Pennsylvania HAZARDOUS SUBSTANCE LIST**

None of the ingredients is listed.

## **SECTION 16: Other information**

### **Other information**

Abbreviations:

ACGIH American Conference of Governmental Hygienics

CAS Chemical Abstracts Service

HAPS Hazardous Air Pollutants

HMIS Hazardous Material Identification System

IARC International Agency for Research on Cancer

IDLH Immediate Dangerous to Life and Health

LEL Lower Explosion Limit

NTP National Toxicology Program

OEL Occupational Exposure Limit

OSHA Occupational Safety and Health Administration

PEL Permissible Exposure Limit

PPE Personal Protection Equipment

SARA Superfund Amendments and Reauthorization Act

STEL Short-Term Exposure Level (15 minutes)

TWA Time-Weighted Average (8 hours)

UEL Upper Explosion Limit

WEEL Workplace Environmental Exposure Level

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

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This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.