

SAFETY DATA SHEET



Trade name : PA 2200
Product no. : 9012-0014
Current version : 3.0.1, issued: 16.01.2018

Replaced version: 3.0.0, issued: 19.08.2015

Region: GB

Section 1: Identification: Product identifier and chemical identity

- 1.1 Product identifier**
Trade name
PA 2200
Substance name : Poly laurolactam (polyamide 12) (CAS-No. 25038-74-8), modified, polymer
- 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
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 Regulation (EC) No 1272/2008 (CLP).
- 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 Poly laurolactam (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. 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
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 (CO₂); Carbon monoxide (CO); Nitrogen oxides (NO_x); 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.

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 containers dry, tightly closed, at temperatures between 5 and 35°C and relative air moisture of 20 - 70%.

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		
	List of approved workplace exposure limits (WELs) / EH40		
	total inhalable dust		
	TWA	10	mg/m ³
	List of approved workplace exposure limits (WELs) / EH40		
	respirable dust		
	TWA	4	mg/m ³

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. Respirator with particulate filter (filter cat. P 3)

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

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

Form/Colour			
	Powder		
	white		
Odour			
	odourless		
Odour threshold			
	No data available		
pH value			
	Not applicable		
Boiling point / boiling range			
	Not applicable		
Melting point / melting range			
Value	185		°C
Method	EN ISO 11357-1		
Decomposition point / decomposition range			
Value	>	300	°C
Flash point			
	Not applicable		
Ignition temperature			
Value	>	450	°C

EC SAFETY DATA SHEET



Trade name : PA 2200
Product no. : 9012-0014
Current version : 3.0.1, issued: 16.01.2018

Replaced version: 3.0.0, issued: 19.08.2015

Region: GB

Ignition temperature	
Method	DIN 51794
Remarks	Minimum ignition energy with inductance: 100

Auto-ignition temperature	
No data available	

Oxidising properties	
No data available	

Explosive properties	
Product is explosive.	

Flammability (solid, gas)	
No data available	

Lower flammability or explosive limits	
Value	30 g/m ³

Upper flammability or explosive limits	
No data available	

Vapour pressure	
Not applicable	

Vapour density	
Not applicable	

Evaporation rate	
Not applicable	

Relative density	
Not applicable	

Density	
Value	1.0 - 1.1 g/cm ³
Reference temperature	20 °C

Solubility in water	
Remarks	insoluble

Solubility(ies)	
No data available	

Partition coefficient: n-octanol/water	
No data available	

Viscosity	
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

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

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

Toxicity to fish (acute)	
Remarks	No data available.

Toxicity to fish (chronic)	
No data available.	

Toxicity to Daphnia (acute)	
Remarks	No data available.

Toxicity to Daphnia (chronic)	
No data available.	

Toxicity to algae (acute)	
Remarks	No data available.

Toxicity to algae (chronic)	
No data available.	

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

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.

14.5 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 Transport in bulk according to Annex II of Marpol and the IBC Code

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.

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

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, PREPARATIONS 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 I or 2 of Annex I

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.

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

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

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.

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

Prod-ID 611149