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## Safety data sheet

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### Fine Polyamide PA 2200

#### General

This safety data sheet complies with the requirements of the directive 91/155/EC incl. all currently applicable amendments.

Revised on: 03.12.2004

Replaces issue dated: 16.09.2002

Data sheet number: 1997/1

#### 1 Identification of the substance/preparation and of the company/undertaking

Product name	Fine Polyamide PA 2200
Supplier	EOS GmbH - Electro Optical Systems
Address	Robert-Stirling-Ring 1 · D-82152 Krailling / München
Telephone	+49 (0)89 / 893 36-0 (operator) +49 (0)89 / 893 36-183(material development)
Fax	+49 (0)89 / 893 36-285
Emergency telephone	+49 (0)89 / 893 36-183

#### 2 Composition/information on ingredients

Chemical characterisation Polyaurinlactam (polyamide 12)  
modified depending on type.

Other information The components used to manufacture the polymer are included in EINECS.

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### 3 Hazards identification

Dusts	Can form potentially explosive mixtures with air.
Melt	Hot melt can cause skin burns.

### 4 First aid measures

Inhalation	On occurrence of irritation by vapours during thermal processing: ensure supply of fresh air, if necessary seek medical attention. After inhaling product dust: ensure supply of fresh air.
Eye contact	Wash with copious water.
Skin contact	Cool molten polyamide on the skin with copious cold water. Do not pull solidified polyamide from the skin. Medical attention is required for skin burns caused by molten material.

### 5 Fire-fighting measures

Suitable extinguishing media	Water spray, foam, CO <sub>2</sub> , dry powder.
Special hazards during fire-fighting	In case of fire, the following can be released: carbon monoxide, carbon dioxide, nitrogen oxide, organic decomposition products. Under certain fire conditions, traces of other toxic products cannot be excluded.
Special protective equipment during fire-fighting	Wear suitable protective clothing

### 6 Accidental release measures

Personal precautions	On release of product dust use dust mask.
Environmental precautions	Do not allow to enter the environment.

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Methods for cleaning up                      Sweep up spilt material or vacuum clean and place in a suitable container for disposal.  
Avoid the formation of dust.

### 7 Handling and storage

Handling    Avoid formation of dust. Provide adequate ventilation and dust extraction at the machine. In case of thermal processing, provide for extraction of the vapours or adequate ventilation.

Protection against fire/explosion            Observe usual fire prevention measures. If dust is produced: take measures against electrostatic charge, keep away sources of ignition.

Storage    No special measures required.

### 8 Exposure controls/personal protection

#### Ingredients with occupational limits to be monitored

General dust limit:                                6 mg/m<sup>3</sup> MAC (Minimum Alveolar Concentration) (TRGS 900): alveolar fraction  
for activities/working areas as per No. 2.4 para. 8 and 9 in conjunction with paragraph 10 of TRGS 900.

3 mg/m<sup>3</sup> MAC (TRGS 900)  
alveolar fraction otherwise

10 mg/m<sup>3</sup> MAC (TRGS 900)  
inhalable fraction  
otherwise, from 1.4.2004 (in conjunction with number 2.4 para. 11 of TRGS 900)

#### Technical protective measures

Provide extraction of vapours or adequate ventilation during thermal processing, on production of dust provide adequate extraction.

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### Personal protection equipment

Industrial hygiene	Do not inhale dusts, do not eat, drink, smoke when working.
Respiratory protection	Required, on production of dusts
Hand protection	If this powder is handled at room temperature, it is not necessary to wear protective gloves. During thermal processing, thermally insulated protective gloves are to be used.  Areas of the skin soiled with dust are to be cleaned with water and soap without delay, as the powder draws the natural moisture from the skin.  Use barrier cream regularly.
Eye protection	Safety glasses recommended.

### 9 Physical and chemical properties

Form	Powder
Colour	White
Odour	Odourless
Melting temperature	> 80 °C
Boiling temperature	Not applicable
Flash point	Not applicable
Ignition temperature	> 350 °C, method: DIN 51794
Explosion limits	Dusts can form potentially explosive mixtures with air.
Vapour pressure (20°C)	Not applicable
Density (20°C)	1.01-1.02 g/cm <sup>3</sup> (20 °C)
Solubility in water (20°C)	Insoluble
pH value	Not applicable

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### 10 Stability and reactivity

Hazardous decomposition products	No hazardous decomposition products known.
Thermal decomposition	> 300 °C
Hazardous reactions	No hazardous reactions known.

### 11 Toxicological information

No harmful effects have become known as yet.

### 12 Ecological information

#### Information on elimination (persistence and degradability)

#### Behaviour in the environment

#### Ecotoxicity

#### Other ecological information

The product is a water-insoluble, solid polymer which, under environmental conditions, is not expected to have a detrimental effect on plants, animals or microorganisms.

### 13 Disposal considerations

#### Product

Observe local regulations, e.g. dispose of in a waste incineration plant.

It is not possible to define a waste code number as per the European list of wastes, as allocation is only possible on definition of the purpose by the user. The waste code number is to be defined as per the European list of wastes (EU decision as regards the list of wastes 2000/532/EC) in consultation with the disposer / manufacturer / the authorities.

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### 14 Transport information

Not a hazardous good in the context of the transport regulations.

### 15 Regulatory information

Labelling (EU)	Not subject to labelling provisions as per GefStoffV (German law on hazardous materials and directive 67/548/EEC)
National regulations D	Störfallverordnung (German regulations on incidents): Not listed in Annex I (StörfallV 2000) Water pollution class: not water-polluting, code number 766

### 16 Other information

Recommended usage                      Laser sintering

This data sheet applies only for the product as supplied, in accordance with the EOS GmbH specification.

Make sure that no new hazards emerge if the product is combined or mixed with other materials.

All information in this data sheet are given in good faith and are based on the latest product knowledge at the issue date of the data sheet, however individual information is subject to alteration.

With the information given above, which represents the current state of our knowledge and experience, it is our intention to describe our product in relation to any safety requirements, however no warranty or assurance of properties is intended.

The user's attention is especially drawn to possible risks if the product is used differently than originally expected.

This data sheet may only be used for safety and prevention purposes.

The lists of laws and regulations must not be considered complete and/or exhaustive.

The recipient of the product is referred to all official documents in respect of the usage, storage and handling of the product and is solely responsible for these actions.





## Safety data sheet

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The user of the product is responsible for passing all information relating to the protection of the environment as well as on health and safety in the form of this safety data sheet to all persons who come into contact with the product (on use, storage, cleaning of containers, various applications).

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