

Product: **Wematter Aurora PA11**

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SDS No.: 007465-001 (Version 1.0)

Date 07.07.2020

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1. Identification of the product**

Identification of the mixture: Wematter Aurora PA11

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

Use of the Substance/Mixture : Powder material for Selective Laser Sintering (SLS)

1.3. Details of the supplier of the safety data sheet

Supplier	Wematter AB Södra Oskarsgatan 4, 582 73 Linköping Sweden Telephone: +46 (0)13 560 33 00 Email address: info@wematter.se Website: http://www.wematter3d.com
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1.4. Emergency telephone number European emergency phone number: 112**2. HAZARDS IDENTIFICATION****2.1. Classification of the substance or mixture**

Classification (REGULATION (EC) No 1272/2008):

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2. Label elements

Label elements (REGULATION (EC) No 1272/2008):

Additional information: No label necessary for this product.

2.3. Other hazards**Potential health effects:**

Acute exposure: Contact with the product, when handled at high temperatures, can cause serious burns.
Inhalation: Possible irritation of respiratory system (by dust inhalation).
At high temperature, products of thermal decomposition can be irritating to respiratory system Toxic effects cannot be excluded
Skin contact: At high temperature, products of thermal decomposition can be irritating to skin
Eye contact: At high temperature, products of thermal decomposition can be irritating to eyes

Environmental Effects:

Inert polymer not biodegradable on the basis of its structure

Physical and chemical hazards:

In the presence of an ignition source: Dust may form explosive mixture in air.
Thermal decomposition giving toxic and corrosive products.
Decomposition products: See chapter 10

Other:

Results of PBT and vPvB assessment : Based on the available information, it is not possible to conclude on PBT and vPvB criteria according to REACH regulation, annex XIII.

3. COMPOSITION/INFORMATION ON INGREDIENTS**3.2. Mixtures**

Chemical nature of the mixture¹:

Preparation based on : polyamide

¹: See chapter 14 for Proper Shipping Name

²: See the text of the regulation for applicable exceptions or provisions -

4. FIRST AID MEASURES

4.1. Description of necessary first-aid measures:

General advice:

No hazards which require special first aid measures.

Inhalation:

Dust inhalation: Move to fresh air. Blow nose.

Inhalation of vapours due to decomposition of product: Move to fresh air. Oxygen or artificial respiration if needed. In case of persistent problems : Consult a physician.

Skin contact:

Wash immediately, abundantly and thoroughly with soap and water.

On contact with hot product : Cool skin rapidly with cold water after contact with molten material. Remove product with vegetable oil or paraffin. In case of adhesion, do not try to remove the product. Treat the affected areas as thermal burns. Consult a physician.

Eye contact:

Dusts : Wash well-open eyes immediately, abundantly and thoroughly with water. Remove particles remaining under the eyelids. If irritation persists, consult an ophthalmologist.

On contact with hot product : Cool eyes rapidly with cold water after contact with molten polymer. Consult an ophthalmologist immediately.

Ingestion:

In case of problems : Consult a doctor.

Protection of first-aiders:

Dusts : In case of insufficient ventilation, wear suitable respiratory equipment.

4.2. Most important symptoms/effects, acute and delayed: No data available.

4.3. Indication of immediate medical attention and special treatment needed, if necessary: No data available.

5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Water spray

Unsuitable extinguishing media: High volume water jet, Fine dust dispersed in air may ignite, risk of dust explosion

5.2. Special hazards arising from the substance or mixture:

300 - 350 °C: possible formation of:, Monomer and oligomer (white fumes)

Temperature exceeding 350°C:, Thermal decomposition giving toxic and corrosive products :, Carbon monoxide, Ammonia, Amino derivatives

Temperature exceeding 500 °C :, Formation of toxic products through combustion:, Carbon oxides, Hydrogen cyanide (hydrocyanic acid), (traces)

5.3. Advice for firefighters:

Specific methods:

Ensure a system for the rapid emptying of containers. In case of fire nearby, remove the bags.

Special protective actions for fire-fighters:

Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

Prohibit all sources of sparks and ignition - Do not smoke. Avoid contact with skin and eyes and inhalation of dust. Wear a dust mask and safety glasses/goggles if necessary. In case of insufficient ventilation, wear suitable respiratory equipment.

6.2. Environmental precautions:

Do not release into the environment. Do not let product enter drains.

6.3. Methods and materials for containment and cleaning up:

Recovery:

Shovel into suitable container for disposal. Sweep up to prevent slipping hazard. No sparking tools should be used.

Elimination:

Destroy the product by incineration (in accordance with local and national regulations).

6.4. Reference to other sections: None.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling:

Technical measures/Precautions:

Storage and handling precautions applicable to products: Solid. DUST FORMING, forming EXPLOSIVE mixtures with air(In the presence of an ignition source).

Ensure ventilation of work areas and extraction of dust or vapours likely to be given off during conversion operations (product handled when hot). Provide showers, eye-baths. Provide water supplies near the point of use. Provide electrical earthing of equipment.

Safe handling advice:

At all stages of the operation, do not exceed the temperature at which decomposition into toxic and corrosive products will occur. Avoid creating dust. In case of dust formation, wear a dust mask. Prohibit all sources of sparks and ignition - Do not smoke. Take precautionary measures against static discharges. Avoid charging as a dust shower – risk of product flammability. Keep well away from naked flames. In case of insufficient ventilation, wear suitable respiratory equipment.

Hygiene measures:

Avoid contact with the skin and the eyes. Avoid breathing dust. Product handled when hot : Avoid inhalation of vapours. When using do not eat, drink or smoke.

Wash hands after handling. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities:

Store away from moisture and heat to maintain the technical properties of the product. Remove all sources of ignition. Provide electrical earthing of equipment and electrical equipment usable in explosive atmospheres.

Do not store above: 60 °C

Incompatible products:

None known.

Packaging material:

Recommended: Triplex bags (polyethylene - aluminium - polyethylene), Triplex bags (paper, aluminium, polyethylene)

7.3. Specific end use(s):

 None.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Exposure Limit Values (dust)

Source	Date	Value type	Value (ppm)	Value (mg/m3)	Remarks
EH40 WEL	12 2011	TWA	–	10	Inhalable dust.
EH40 WEL	12 2011	TWA	–	4	Respirable dust.
EH40 WEL	12 2011		–	–	Inhalable dust. Listed
EH40 WEL	12 2011		–	–	Respirable dust. Listed
ACGIH (US)	03 2014	TWA	–	3	Respirable particles.
ACGIH (US)	03 2014	TWA	–	10	Inhalable particles.

Exposure Limit Values

Not relevant

Derived No Effect Level (DNEL):

This information is not required.

Predicted No Effect Concentration:

This information is not required.

8.2. Exposure controls:

General protective measures:

Ensure ventilation of work areas and extraction of dust or vapours likely to be given off during conversion operations (product handled when hot).

Personal protective equipment:

Respiratory protection:

Effective dust mask Recommended Filter type: P2

In the case of hazardous fumes, wear self contained breathing apparatus.

Hand protection:

Gloves

Natural Rubber, Nitrile rubber

Eye/face protection:

Safety glasses

Skin and body protection:

Antistatic boots

Protective suit

Environmental exposure controls: See chapter 6

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:

Physical state (20°C):	solid
Form:	powder
Colour:	natural colour
Odour:	none
Olfactory threshold:	Not relevant
pH:	Not applicable
Melting point/range :	> 180 °C
Boiling point/boiling range :	Not relevant, Decomposes on heating.
Flash point:	Not relevant
Evaporation rate:	Not relevant
Flammability (solid, gas):	No data available.
Vapour pressure:	Not relevant
Vapour density:	Not relevant
Relative density:	No data available.
Water solubility:	No data available.
Partition coefficient: n-octanol/water:	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	350 °C
Viscosity, kinematic:	Not applicable
Explosive properties:	
Explosivity:	In the presence of an ignition source: Dust may form explosive mixture in air.
Oxidizing properties:	Not relevant (due to its chemical structure)

9.2. Other data: None.

10. STABILITY AND REACTIVITY

10.1. Reactivity: No data available.

10.2. Chemical stability:

The product is stable under normal handling and storage conditions.

10.3. Possibility of hazardous reactions:

In the presence of an ignition source: Dust may form explosive mixture in air.

10.4. Conditions to avoid:

Temperatures above 60 °C

(to maintain the technical properties of the product).

Store away from moisture and heat to maintain the technical properties of the product. Remove all sources of ignition.

10.5. Incompatible materials to avoid:

Strong acids and oxidizing agents

10.6. Hazardous decomposition products:

Thermal decomposition:

Decomposition temperature: 350 °C

300 - 350 °C: possible formation of: Monomer and oligomer (white fumes)

Temperature exceeding 350°C: Thermal decomposition giving toxic and corrosive products: Carbon monoxide, Ammonia, Amino derivatives

Temperature exceeding 500 °C: Formation of toxic products through combustion: Carbon oxides, Hydrogen cyanide (hydrocyanic acid), (traces)

11. TOXICOLOGICAL INFORMATION

All available data on this product and/or the components quoted in section 3 and/or the analogue substances/metabolites have been taken into account for the hazard assessment.

11.1. Information on toxicological effects:

Acute toxicity:

Inhalation:	Inhalation of vapours due to thermal decomposition.; Risk of irritation of respiratory system, Toxic effects cannot be excluded
Ingestion:	Polymer: According to its composition, this product should not be harmful in normal conditions of use
Dermal:	Polymer: According to its composition, this product should not be harmful in normal conditions of use

Local effects (Corrosion / Irritation / Serious eye damage):

Skin contact:	Polymer: According to its composition, can be considered as Slightly or not irritating to skin Contact with the product, when handled at high temperatures, can cause serious burns. At high temperature, products of thermal decomposition can be irritating to skin
Eye contact:	Polymer: According to its composition, can be considered as Slightly or not irritating to eyes Contact with the product, when handled at high temperatures, can cause serious burns. At high temperature, products of thermal decomposition can be irritating to eyes

Respiratory or skin sensitisation:

Inhalation:	No data available.
Skin contact:	According to its composition : Not a skin sensitizer

CMR effects :

Mutagenicity:	Contains no ingredient listed as a mutagen
Carcinogenicity:	Polymer: According to its composition, this product should not be harmful in normal conditions of use
Reproductive toxicity:	
Fertility:	Polymer: According to its composition, this product should not be harmful in normal conditions of use
Foetal development:	Polymer: According to its composition, this product should not be harmful in normal conditions of use

Specific target organ toxicity :

Single exposure :

Inhalation: • In man :	Dust inhalation: Possible irritation of respiratory system , (Physical effect of dust) At high temperature, products of thermal decomposition can be irritating to respiratory system
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<u>Repeated exposure:</u>	Polymer: According to its composition, this product should not be harmful in normal conditions of use
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Aspiration hazard:

Not relevant

12. ECOLOGICAL INFORMATION

Ecotoxicology Assessment:	All available and relevant data on this product and/or the components quoted in section 3 and/or the analogue substances/metabolites have been taken into account for the hazard assessment.
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12.1. Acute toxicity :

Fish:	Based on the available information, it is not possible to conclude on the hazard potential of this mixture.
Aquatic invertebrates:	Based on the available information, it is not possible to conclude on the hazard potential of this mixture.
Aquatic plants:	Based on the available information, it is not possible to conclude on the hazard potential of this mixture.

12.2. Persistence and degradability :

Biodegradation (In water): Inert polymer Not biodegradable on the basis of its structure

12.3. Bioaccumulative potential :

Bioaccumulation: Based on the available information, it is not possible to conclude on the bioaccumulation potential of this mixture.

12.4. Mobility in soil - Distribution among environmental compartments:

Vapor pressure: Not relevant,

12.5. Results of PBT and vPvB assessment :

Based on the available information, it is not possible to conclude on PBT and vPvB criteria according to REACH regulation, annex XIII.

12.6. Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment:

Disposal of product: Do not dispose of waste into sewer. Recycle if possible. Destroy the product by incineration (in accordance with local and national regulations).

Disposal of packaging: Do not release into the environment. Recycle if possible. Destroy packaging by incineration at an approved waste disposal site (in accordance with local and national regulations).

14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

Safety data sheets: accordance with Annex II of Regulation (EC) No 1907/2006 and its amendment(s)

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture:

UK REGULATION Chip3: Chemical (Hazard Information and Packaging for Supply) Regulations 2002

Major Accident Hazard Legislation Not applicable

15.2. Chemical safety assessment:

This information is not required.

INVENTORIES:

EINECS:	Conforms to
TSCA:	Conforms to
DSL:	All components of this product are on the Canadian DSL
IECSC (CN):	Consult Wematter
ENCS (JP):	Consult Wematter
ISHL (JP):	Does not conform
KECI (KR):	Consult Wematter
PICCS (PH):	Does not conform
AICS:	Does not conform
NZIOC:	Does not conform

16. OTHER INFORMATION

Thesaurus:

NOAEL : No Observed Adverse Effect Level (NOAEL)

LOAEL : Lowest Observed Adverse Effect Level (LOAEL)

bw : Body weight

food : oral feed

dw : Dry weight

vPvB : very Persistent and very Bioaccumulative

PBT : Persistent, Bioaccumulative and Toxic

This information applies to the PRODUCT AS SUCH and conforming to specifications of Wematter. In case of formulations or mixtures, it is necessary to ascertain that a new danger will not appear. The information contained is based on our knowledge of the product, at the date of publishing and it is given quite sincerely. Users are advised of possible additional hazards when the product is used in applications for which it was not intended. This sheet shall only be used and reproduced for prevention and security purposes. The references to legislative, regulatory and codes of practice documents cannot be considered as exhaustive. It is the responsibility of the person receiving the product to refer to the totality of the official documents concerning the use, the possession and the handling of the product. It is also the responsibility of the handlers of the product to pass on to any subsequent persons who will come into contact with the product (usage, storage, cleaning of containers, other processes) the totality of the information contained within this safety data sheet and necessary for safety at work, the protection of health and the protection of environment.

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).

