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## Safety data sheet: Z-SUPPORT ATP

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING

#### 1.1. PRODUCT IDENTIFIER

Trade name: Z-SUPPORT ATP

#### 1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified use: thermal processing for 3D printing in Layer Plastic Deposition (LPD) technology.

Use advised against: no information available.

#### 1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier: Zortrax S.A.  
Lubelska 34  
10-409 Olsztyn  
Poland  
TEL. +48 89 672 40 01

Made in: EU

#### 1.4. EMERGENCY TELEPHONE NUMBER

Emergency telephone number: 112

### SECTION 2. HAZARDS IDENTIFICATION

#### 2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

According to EC regulation 1272/2008 (CLP) the substance is classified as not hazardous.

#### 2.2. LABEL ELEMENTS

Hazard statements: not applicable

Precautionary statements: not applicable

#### 2.3. OTHER HAZARDS

Danger of burns while handling the heated or molten product.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. SUBSTANCES

Acrylate Terpolymer based polymer blend enhanced for 3D printing.

### 3.2. MIXTURES

Not applicable.

## SECTION 4. FIRST AID MEASURES

### 4.1. DESCRIPTION OF FIRST AID MEASURES

General information:

Contaminated clothing must be taken off immediately.

Eye contact:

Vapor or heated product may cause eye irritation. In case of contact with eyes, rinse open eyes thoroughly with water. Remove contact lenses and continue flushing. If irritation develops, seek immediate medical attention.

Skin contact:

After contact with the molten product, cool skin area immediately with cool water. Do not remove the product from the affected skin areas without medical assistance. Cover with sterile cotton sheeting to protect against infection. Seek medical attention.

Ingestion:

Rinse mouth with water. Induce vomiting immediately and seek medical attention. If a person vomits when lying on his back, place him in the recovery position.

Inhalation:

After inhalation of decomposition products, gases or dust, bring the affected person to a source of fresh air and keep calm. Contact a physician in case of discomfort.

Note to the physician:

Treat symptomatically.

### 4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Dust: Skin irritation, eye irritation and redness.

### 4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically. Decontamination, vital functions.

## SECTION 5. FIREFIGHTING MEASURES

### 5.1. EXTINGUISHING MEDIA

Suitable extinguishing media:

Water spray jet, foam, extinguishing powder, carbon dioxide.

Unsuitable extinguishing media:

Full water jet or a solid water stream. It might scatter and spread fire.

## 5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Exposure to decomposition products may be a hazard to health. The smoke of a fire can, in addition to the originating material, also contain combustion products of varying composition, which may be toxic and/or irritating. Combustion products may include and are not limited to carbon monoxide and carbon dioxide.

## 5.3. ADVICE FOR FIREFIGHTERS

Wear self-contained breathing apparatus and full protective clothing.

### Additional information:

Fine dust dispersed in air may ignite. Risk of ignition followed by flame propagation or secondary explosions shall be prevented by avoiding accumulation of dust.

Standard procedure for chemical fires: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. In the event of fire and/or explosion, do not breathe fumes. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### 6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Do not inhale vapors/fumes released during thermal processing. Use personal protective equipment/clothing (see SECTION 8). Avoid eye contact and dust formation and remove all sources of ignition. Sweep up to prevent slipping hazard.

### 6.2. ENVIRONMENTAL PRECAUTIONS

Prevent entry into drainage systems, or surface water.

### 6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Sweep/shovel into suitable container for disposal. Avoid raising dust and ensure adequate ventilation. Clean contaminated surface thoroughly.

### 6.4. REFERENCE TO OTHER SECTIONS

See SECTION 8 for personal protection information. See SECTION 13 for disposal considerations.

## SECTION 7. HANDLING AND STORAGE

### 7.1. PRECAUTIONS FOR SAFE HANDLING

Handle in a well-ventilated area. Local exhaust ventilation at 3D printer's area is recommended when many printers are operated at once. Avoid contact with heated or molten product. Use personal protective equipment (see SECTION 8.). Avoid dust formation and electrostatic charge. Keep away from sources of ignition.

## 7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Protect from water, moisture and direct sunlight. Store the material in a dry room, and in a closed and air-tight container or packaging (with desiccant when not in use). Store at ambient temperatures. Avoid all sources of ignition.

## 7.3. SPECIFIC END USE(S)

Primarily used for 3D printing.

# SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## 8.1. CONTROL PARAMETERS

Given suitable ventilation it can be that the threshold limits will not be reached. Provide good ventilation to ensure that the workplace exposure limit is not exceeded. Use of respiratory protection may be necessary during maintenance activities.

## 8.2. EXPOSURE CONTROLS

Thermal extrusion:

Provide local exhaust ventilation to ensure that the workplace exposure limit is not exceeded. Use respiratory protection may be necessary during maintenance activities.

Individual protection measures, such as personal protective equipment:

Eye protection:

Tightly sealed goggles according to EN 166.

Hand protection:

Chemical-protective gloves according to EN 374.

Glove material: Nitrile rubber – Layer thickness: 0,11 mm. Breakthrough time: > 480 min. Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

In the case of handling melted product: impervious heat-protective gloves according to EN 407.

Glove material: Leather, Kevlar. Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Skin protection:

Wear suitable protective clothing. Boots or safety shoes. In the case of dust formation: wear overalls.

Safety and hygiene measures:

Avoid contact of hot molten material with the skin. Avoid inhalation of dust, mists and vapors. Eye wash fountains and safety showers must be easily accessible. Handle in accordance with good industrial hygiene and safety practice. No eating or drinking during work.

Environmental exposure controls:

Prevent entry into drainage systems, or surface water.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	filament
Physical state:	solid (compressed)
Colors:	natural
Odor:	weak, characteristic
Odor threshold:	not applicable
pH:	no data available
Melting point/freezing point:	no data available
Initial boiling point and boiling range:	no data available
Flash point:	no data available
Evaporation rate:	no data available
Flammability:	no data available
Upper/lower flammability or explosive limits:	no data available
Vapor pressure:	no data available
Vapor density:	no data available
Specific density:	1.1 g/cm <sup>3</sup> (20° C)
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	no data available
Ignition temperature:	> 450° C
Decomposition temperature:	> 290° C
Viscosity:	no data available
Explosive properties:	no data available
Oxidizing properties:	no data available

### 9.2. OTHER INFORMATION

Melt flow index:	1 – 10 g /10 min (200° C/10 kg)
Solubility in 0.5 N NaOH:	50 g/l

## SECTION 10. STABILITY AND REACTIVITY

### 10.1. REACTIVITY

No reactions if stored and handled as prescribed/indicated.

### 10.2. CHEMICAL STABILITY

Product is stable at recommended storage conditions.

### 10.3. POSSIBILITY OF HAZARDOUS REACTIONS

The product is chemically stable.

#### 10.4. CONDITIONS TO AVOID

Avoid extreme heat and all sources of ignition. Avoid heating for a long time above processing temperatures.

#### 10.5. INCOMPATIBLE MATERIALS

Alkalis, strong acids and oxidizing substances.

#### 10.6. HAZARDOUS DECOMPOSITION PRODUCTS

Dangerous/toxic fumes and other gaseous products of degradation can be given off if the product is greatly overheated. The decomposition of product depends on temperature, air supply and the presence of other materials (carbon monoxide, hydrocarbon oxidation products, including organic acids, aldehydes and alcohol). Fire may lead to the release of: smoke, hydrogen cyanide, hydrocarbons, carbon monoxide and carbon dioxide.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### 11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity (oral):	No data available.
Acute toxicity (dermal):	No data available.
Acute toxicity (inhalative):	No data available.
Skin corrosion/irritation:	Not expected to be irritating.
Serious eye damage/irritation:	Not expected to be irritating.
Sensitization:	Not expected to be a skin sensitizer.
Repeated dose toxicity:	No data available.
Carcinogenicity:	No data available.
Mutagenicity:	No data available.
Toxicity for reproduction:	No data available.
Other information:	Based on our state of knowledge and experience no injurious health effects are expected if the product is properly handled for the designated use.

### SECTION 12. ECOLOGICAL INFORMATION

#### 12.1. TOXICITY

No ecological toxicity data has been generated for this product. There are no test results available and information is based on similar products.

#### 12.2. PERSISTENCE AND DEGRADABILITY

Biodegradation:	The product is not readily biodegradable. The product is likely to persist in the environment.
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### 12.3. BIOACCUMULATIVE POTENTIAL

No data available, but the product is not expected to be readily bioavailable due to its consistency and insolubility in water.

### 12.4. MOBILITY IN SOIL

The product is essentially insoluble in water. Avoid contamination of soil, surface and sewage system water.

### 12.5. RESULTS OF PBT AND VPVB ASSESSMENT

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

### 12.6. OTHER ADVERSE EFFECTS

No information available.

## SECTION 13. DISPOSAL CONSIDERATIONS

### 13.1. WASTE TREATMENT METHODS

Product:

Generation of waste should be minimized, check the possibility for recycling. Waste product can be incinerated or disposed of together with domestic waste in compliance with the local authority.

Packaging:

The packaging material must be emptied completely and disposed in accordance with the regulations. The packaging can be recycled if not contaminated.

## SECTION 14. TRANSPORT INFORMATION

### 14.1. UN NUMBER

DOT, ADR, IMDG, IATA – not applicable

### 14.2. UN PROPER SHIPPING NAME

DOT, ADR, IMDG, IATA – not applicable

### 14.3. TRANSPORT HAZARD CLASS(ES)

DOT, ADR, IMDG, IATA – not applicable

### 14.4. PACKING GROUP

DOT, ADR, IMDG, IATA – not applicable

#### 14.5. ENVIRONMENTAL HAZARDS

None

#### 14.6. SPECIAL PRECAUTIONS FOR USER

The product is not classified as dangerous.

#### 14.7. TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL AND THE IBC CODE

The product is not classified as dangerous according to this transport regulation.

### SECTION 15. REGULATORY INFORMATION

#### 15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

EU/National regulations:

This product does not require a hazard warning label in accordance with EC Directives and respective national laws.

#### 15.2. CHEMICAL SAFETY ASSESSMENT

A chemical safety assessment for the product has not been carried out.

### SECTION 16. OTHER INFORMATION

This Safety Data Sheet has been prepared on the basis of the currently available data on the product as well as of the Manufacturer's experience and knowledge. It should be treated as a guide for safe transportation, storage and handling. The given information is not to be considered as a warranty or quality specification. Additionally, it is the user's responsibility to handle the product in accordance with local regulations and standards.

End of Safety Data Sheet



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