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Safety data sheet: Z-SUPPORT Premium

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

1.1. PRODUCT IDENTIFIER

Trade name: Z-SUPPORT Premium

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: other than listed above

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier: Zortrax S.A.
Lubelska 43a
10-410 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

This mixture does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

2.2. LABEL ELEMENTS

Hazard pictogram(s): not applicable

Signal word(s): not applicable

Hazard statement(s): not applicable

Precautionary statement(s): not applicable

2.3. OTHER HAZARDS

There is a risk that fine particles of the material may form an explosive mixture with air. The product does not ignite easily but adequate precautions are needed to minimize the hazard of dust explosions.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. SUBSTANCES

Not applicable

3.2. MIXTURES

Components	Concentration [%]	CAS-No. EC-No. Registration number	Classification (1272/2008/EC)
Methanol	< 1	67-56-1 200-659-6 -	Flam. Liq. 2; H225 Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 STOT SE 1; H370
Methyl acetate	< 0.5	79-20-9 201-185-2 -	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336

SECTION 4. FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

Eye contact:	not likely due to the form of the product. If hot product comes into contact with eyes, rinse with water for at least 15 minutes and seek medical attention immediately.
Skin contact:	if molten material comes into contact with the skin, cool immediately with cold water. Removal of solidified molten material from skin as well as treatment of burns require medical assistance.
Ingestion:	rinse mouth with water. Induce vomiting immediately and call a physician. If a person vomits when lying on his back, place him in the recovery position.
Inhalation:	provide fresh air. In case of worrying symptoms, consult a physician.

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

Most important symptoms/effect: no data available

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

Notes to physician: treat symptomatically

SECTION 5. FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable extinguishing media:

water spray, dry powder.

Unsuitable extinguishing media:

do not use a solid water stream as it may scatter and spread fire.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Special hazards arising from the substance or mixture:

during incomplete combustion release of carbon monoxide, carbon dioxide and hydrocarbons.

5.3. ADVICE FOR FIREFIGHTERS

Fire fighting measures:

evacuate personnel Move containers from fire area if you can do it without risk. Keep containers and surroundings cool with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Special protective equipment for firefighters:

wear self-contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Evacuate personnel to safe areas. Do not touch or walk through spilled material. Avoid dust formation. Avoid contact with skin, eyes and clothing. Do not breathe dust. Use personal protective equipment. Ensure adequate ventilation. Risk of slipping.

6.2. ENVIRONMENTAL PRECAUTIONS

Should not be released into the environment. Prevent further leakage or spillage if safe to do so.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Avoid dust formation. Sweep up and shovel into suitable containers for disposal. Following product recovery, flush area with water.

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 accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not breathe dust. Ensure adequate ventilation. Wear personal protective equipment. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store in accordance with local regulations. Keep containers tightly closed in a cool, well-ventilated place <40° C. Protect from moisture / Water.

7.3. SPECIFIC END USE(S)

See SECTION 1.2.

Exposure scenario: no data available

Other guidelines: no data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

Components	CAS-No.	Control Parameters	Basis	Update
Methanol	67-56-1	TWA: 266 mg/m ³ , 200 ppm Sk STEL: 333 mg/m ³ , 250 ppm Sk	GB EH40	2005-04-06
Methyl acetate	79-20-9	TWA: 616 mg/m ³ , 200 ppm STEL: 770 mg/m ³ , 250 ppm	GB EH40	2005-04-06
Components	CAS-No.	Control Parameters	Basis	Update
Methanol	67-56-1	TWA: 260 mg/m ³ , 200 ppm skin	2006/15/EC	2006-02-09

Other information on limit values: see SECTION 16.

8.2. EXPOSURE CONTROLS

Appropriate engineering controls: ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment:

Eye protection: tightly fitting safety goggles (EN166).

Skin protection: protective gloves (EN374): Butyl rubber.
long sleeved clothing.

Respiratory protection: in case of insufficient ventilation wear suitable respiratory equipment. Recommended Filter Type P2.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice. Workers must be trained in the proper use and handling of this product as required under applicable regulations.

Environmental exposure controls:

The product should not be allowed to enter drains, water courses or the soil

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	filament
Physical state:	solid (compressed)
Colors:	natural
Odor:	sweet
Odor threshold:	not available
pH:	5.0 - 7.0 (concentration 100.00 g/L)
Melting point/freezing point:	150 - 230° C [302 - 446° F]
Initial boiling point and boiling range:	not applicable
Flash point:	>200° C [392° F]
Evaporation rate:	not applicable
Flammability:	no data available
Upper/lower flammability or explosive limits:	35 g/m ³ (Polyvinylalcohol)
Vapor pressure:	not applicable
Vapor density:	not applicable
Relative density:	Ca. 1.19 - 1.31 g/cm ³
Solubility:	Water soluble (emulsified)
Partition coefficient: n-octanol/water:	not available
Auto-ignition temperature:	520° C [968° F] (Polyvinylalcohol)
Decomposition temperature:	>= 200° C [392° F] (Polyvinylalcohol)
Viscosity:	no data available
Explosive properties:	no data available
Oxidizing properties:	no data available

9.2. OTHER INFORMATION

Miscibility:	immiscible
Fat solubility:	no data available
Conductivity:	no data available
Gas group:	no data available

SECTION 10. STABILITY AND REACTIVITY

10.1. REACTIVITY

No information available

10.2. CHEMICAL STABILITY

Stable under recommended storage conditions

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

No hazardous reactions observed under normal handling and storage conditions

10.4. CONDITIONS TO AVOID

Sources of heat, ignition and moisture. Temperatures above 230° C / 446° F.

10.5. INCOMPATIBLE MATERIALS

Oxidizing agents, strong bases, acids

10.6. HAZARDOUS DECOMPOSITION PRODUCTS

Burning produces obnoxious and toxic fumes Aldehydes, Carbon monoxide (CO), carbon dioxide (CO₂)

SECTION 11. TOXICOLOGICAL INFORMATION**11.1. INFORMATION ON TOXICOLOGICAL EFFECTS**

Acute toxicity:

Butenediol-Vinyl Alcohol copolymer:

Ingestion:

LD50 Oral : > 2,000 mg/kg

Skin Contact:

Acute toxicity estimate : > 2,000 mg/kg

Method: Calculation method

Inhalation:

Acute toxicity estimate : > 20 mg/L

Test atmosphere: vapour

Exposure time: 4 h

Method: Calculation method

Product dust may be irritating to eyes, skin and respiratory system. Resin particles, like other inert materials, are mechanically irritating to eyes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea

no data available

Skin corrosion/irritation

Serious eye damage/irritation

Methyl acetate

Causes serious eye irritation.

Species: rabbit

Severe eye irritation

Respiratory or skin sensitization

Methanol :

Test Method: Maximisation Test

Species: guinea pig

Result: Does not cause skin sensitisation.

Method: OECD Test Guideline 406.

Germ cell mutagenicity:	Genotoxicity in vitro: Butenediol-Vinyl Alcohol copolymer Type: Ames test Result: negative Type: Chromosome aberration test in vitro Result: negative Genotoxicity in vivo: No data available
Carcinogenicity:	Contains no ingredient listed as a carcinogen.
Reproductive toxicity:	Not known to cause birth defects or have a deleterious effect on a developing fetus. Not known to adversely affect reproductive functions and organs.
STOT-single exposure:	Methanol : Causes damage to organs. Methyl acetate : May cause drowsiness or dizziness.
STOT-repeated exposure:	No known effect.

SECTION 12. ECOLOGICAL INFORMATION

12.1. TOXICITY

Contains no substances known to be hazardous for the environment.

Toxicity to fish Butenediol-Vinyl Alcohol copolymer:	Oncorhynchus mykiss (rainbow trout): > 100 mg/L Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates Butenediol-Vinyl Alcohol copolymer:	Daphnia magna (Water flea): > 100 mg/L Exposure time: 48 h
Toxicity to algae Butenediol-Vinyl Alcohol copolymer:	EbC50 (Algae) : > 100 mg/L Exposure time: 72 h ErC50 : > 100 mg/L Exposure time: 72 h
Toxicity to fish Methanol:	Bluegill LC50 = 15,400 mg/L Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates Methanol:	Crustaceans (brown shrimp) LC50 = 1,340 mg/L Exposure time: 96 h
Aquatic acute toxicity Methyl acetate:	It carried out the outside of Category from 72-hour EC50>120mg/L of algae (Green algae) (EU-RAR, 2003).
Aquatic chronic toxicity Methyl acetate:	Since not water-insoluble (aqueous solubility =2.43*10 ⁵ mg/L (PHYSPROP Database, 2005)) and acute toxicity is low.

12.2. PERSISTENCE AND DEGRADABILITY

Butenediol-Vinyl Alcohol copolymer	Biodegraded by sludge containing such as Pseudomonas.
Methanol:	Result: Readily biodegradable.

12.3. BIOACCUMULATIVE POTENTIAL

Bioaccumulation

Methanol :

Acute toxicity is outside the category and it is not poorly water soluble (water solubility = 1,000,000 mg/L (PHYSPROP Database, 2009)), it was classified as out of Category.

12.4. MOBILITY IN SOIL

No information available.

12.5. RESULTS OF PBT AND VPVB ASSESSMENT

No data available

12.6. OTHER ADVERSE EFFECTS

See SECTION 6.2.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. WASTE TREATMENT METHODS

Advice on disposal and Packaging

Disposal:

In accordance with local and national regulations. Do not dispose of together with household waste. Waste codes should be assigned by the user based on the application for which the product was used.

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

DOT, ADR, IMDG, IATA – not applicable

14.6. SPECIAL PRECAUTIONS FOR USER

DOT, ADR, IMDG, IATA – not applicable

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

Not applicable

SECTION 15. REGULATORY INFORMATION

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

VOC: 0.5 %

VOC content less water: 6.55 g/L

Directive 96/82/EC:

Update: 2003

Directive 96/82/EC does not apply

Further information:

Reserved for industrial and professional use.

15.2. CHEMICAL SAFETY ASSESSMENT

No information available.

SECTION 16. OTHER INFORMATION

Full text of H-Statements referred to under SECTIONS 2 and 3.

H225 Highly flammable liquid and vapour

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H336 May cause drowsiness or dizziness.

H370 Causes damage to organs.

Other information:

Sk - Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.

skin - Identifies the possibility of significant uptake through the skin

Abbreviations and acronyms:

REACH: Registration, Evaluation, Authorisation and Restriction of Chemical substances

EC: European Commission

STOT: Specific Target Organ Toxicity

PBT: Persistent, Bioaccumulative, Toxic

vPvB: very Persistent and very Bioaccumulating

ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

ADN: Accord européen relatif au transport international des marchandises Dangereuses par voies de Navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)

RID: Règlement concernant le transport international ferroviaire des marchandises dangereuses (Regulations for the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Dangerous Goods Code

ICAO: International Civil Aviation Organization

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 and Regulation (EC) No. 2015/830. Label element according to Regulation (EC) No 1272/2008.

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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