1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

1.1 Identification of the substance or preparation: Colorfabb varioShore TPU is a high quality expanding TPU 3D printing filament with base Shore hardness of 92A. The active foaming technology can be used to achieve light weight parts, soft tough surfaces and lower Shore hardness’s. All information in this SDS is applicable to the TPU filament material, not the filament spool itself.

1.2 Use of the substance or preparation: FDM 3D printing

1.3 Company/undertaking identification: Colorfabb B.V.
NL-5951 DK Belfeld, The Netherlands
Tel.: +31 77 4664015
Fax: +31 77 3971414
E-mail: sales@colorfabb.com

1.4 Emergency telephone: Colorfabb B.V.; Tel.: 077 4664015 (only during office hours)

2. HAZARDS IDENTIFICATION

2.1 Classification: The material is not hazardous according EC 1272/2008

2.2 Label elements

| Health hazards: | Not hazardous |
| Environmental hazards | Not hazardous |
| Hazard symbol | None |
| Signal Word | None |
| Hazard Statement | None |
| Precautionary statement | None |
| PBT and vPvB substances | Material does not contain PBT and vPvB substances |

3. COMPOSITION AND INFORMATION ON INGREDIENTS

3.1 Description: The material is a mixture of chemical substances in a solid polymer matrix.

3.2 Hazardous ingredients

<table>
<thead>
<tr>
<th>Substance name</th>
<th>CAS number</th>
<th>Concentration</th>
<th>Classification</th>
<th>H-Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>No hazardous ingredients</td>
<td>N/A</td>
<td>N/A</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

3.3 Additional information: The material does not contain amounts of substances fulfilling the criteria of hazard classification.
### 4. FIRST AID MEASURES

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Skin contact</td>
<td>If burned by contact with molten material, cool down with water for at least 10 minutes. In case of severe burns, do not remove molten material from skin and consult a physician.</td>
</tr>
<tr>
<td>4.2 Eye contact</td>
<td>Not likely due to physical state. Grinding or pelletizing of filament may lead to fine dust particles which can cause eye irritation. Wash with plenty of water and get medical attention if symptoms persist.</td>
</tr>
<tr>
<td>4.3 Inhalation</td>
<td>Not likely due to physical state.</td>
</tr>
<tr>
<td>4.4 Ingestion</td>
<td>Not likely due to physical state. Material is not expected to be absorbed by gastrointestinal, No first aid measures necessary.</td>
</tr>
</tbody>
</table>

### 5. FIRE FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Extinguishing media</td>
<td>Water mist, carbon dioxide, foam, dry powder</td>
</tr>
<tr>
<td>5.2 Extinguishing media not to be used for safety reasons</td>
<td>High pressure water jet</td>
</tr>
<tr>
<td>5.3 Special hazards arising from the mixture</td>
<td>Thermal decomposition and burning may release oxides of carbon and nitrogen, acetaldehyde</td>
</tr>
<tr>
<td>5.4 Protective equipment for fire fighters</td>
<td>Use full protective clothing for chemicals and a self-contained breathing apparatus</td>
</tr>
</tbody>
</table>

### 6. ACCIDENTAL RELEASE MEASURES

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1 Personal precautions</td>
<td>Avoid dust formation and static discharge. Do not overheat material</td>
</tr>
<tr>
<td>6.2 Environmental precautions</td>
<td>Should not be released into environment. Do not allow material to enter drains or water courses.</td>
</tr>
<tr>
<td>6.3 Cleanup, containment and disposal of spill</td>
<td>Avoid dust formation. Sweep up into suitable container for disposal.</td>
</tr>
<tr>
<td>6.4 Reference to other sections</td>
<td>See section 8 and 13</td>
</tr>
</tbody>
</table>

### 7. HANDLING AND STORAGE

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1 Precautions for safe handling</td>
<td>Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke at the...</td>
</tr>
</tbody>
</table>
workplace. Avoid dust formation by cutting or grinding. During printing, ensure good ventilation and local exhaust.

7.2 Conditions for safe storage
To ensure technical integrity of the product store in the original container/box and keep at temperatures below 50ºC and in a dry place. Protect from moisture, product may be hygroscopic.

7.3 Specific use
Under anticipated conditions of use no further measures required. No available exposure scenario's.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure limits
No information available

Biological limit values
Not established

Recommended monitoring procedures
No information available

Derived No Effect Level (DNEL)
No information available

8.2 Exposure controls

Appropriate Engineering Controls
Keep at temperatures below 250ºC. Ensure adequate ventilation in confined areas.

Individual protection measures

Eye protection
Not required (for FDM printing)

Hand protection
Not required (for FDM printing)

Skin protection
Not required (for FDM printing)

Respiratory protection
Not required (for FDM printing)

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product.

Environmental exposure controls
Do not allow product to enter drains, water courses or soil.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 General information

Density
1.0-1.1 g/cm³

Odour
Faint

9.2 Important health, safety and environmental information

Glass transition
No data available
SAFETY DATA SHEET

Boiling point  No data available
Auto flammability  No data available
Bulk density  n.a.
Melting point  No data available
pH-value  No data available
Viscosity  No data available
Flashpoint  n.a.
Solubility in water  Insoluble
Vapour pressure  No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity  No data available
10.2 Chemical stability  Stable for handling under normal handling conditions
10.3 Possibility of hazardous reactions  No hazardous reactions with other chemicals known, under normal handling conditions.
10.4 Conditions to avoid  Do not grind, pelletize or mill the material. Avoid temperatures above 250ºC.
10.5 Incompatible materials  Avoid water which can cause degradation of material. Material can react with strong oxidizers or strong acids
10.6 Hazardous decomposition products  Thermal decomposition or combustion may liberate carbon dioxide and other toxic gases or vapors. May also include carbon dioxide, acetaldehyde, isocyanates and small amounts of hydrogen cyanide

11. TOXICOLOGICAL INFORMATION

Skin irritation  No information available
Eye irritation  No information available
Skin sensitation  No information available
Respiratory sensitation  No information available
CMR effects  No information available
General remarks  No harmful, toxic and sensitive effects have been reported to date. Information listed in this section is transferred from safety data from the ingredients of this product.

12. ECOLOGICAL INFORMATION

Safety datasheet conform regulation (EC) 2015/830

Page: 4 of 6  Revision date: December 17, 2019
Revision: 1.0  Replaces version of:
12.1 Aquatic toxicity  
No information available

12.2 Persistence and degradability  
No information available

12.3 Bioaccumulative potential  
No information available

12.4 Mobility in soil  
No information available

12.5 Results of PBT and vPvB assessment  
No information available

12.6 Other adverse effects  
No information available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods  
Dispose of in accordance with local regulations

13.2 Additional information  
n.a.

13.3 Packaging  
Dispose of in accordance with local regulations

14. TRANSPORT INFORMATION

14.1 RID / ADR  
Not listed / free

14.2 ICAO / IATA-DGR  
Not listed / free

14.3 GGVSEE / IMDG-CODE  
Not listed / free

14.4 UN-NR  
Not listed / free

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the substance or mixture

Restrictions of use  
None

Other regulations  
No information available

15.2 Chemical safety assessment  
No Chemical Safety Assessment has been carried out
16. OTHER INFORMATION

Relevant H-phrase: None

Changes compared to previous version: n.a.

Abbreviations

REACH; Registration, Evaluation, Authorisation and restriction of chemical substances
EC: European Community
STOT: Specific Target Organ Toxicity
PBT: Persistent, Bioaccumulating, Toxic
vPvB: very Persistent, very Bioaccumulating
ADR; Accord européen relative au transport international des marchandises
STOT: Specific Target Organ Toxicity
PBT: Persistent, Bioaccumulating, Toxic
vPvB: very Persistent, very Bioaccumulating
ADN: Accord européen relative au transport international des marchandises
Dangereuses per Route
ADN: Accord européen relative au transport international des marchandises
Dangereuses per voies de Navigation intérieures
RID: Regulations for the international Transport of dangerous goods by rail
IMDG: International maritime dangerous goods code
ICAO: International civil aviation organization

This safety datasheet complies with the requirements of EC 1907/2006 and regulation EC 2015/830. Label element according to regulation EC 1272/2008.

Disclaimer
The information provided in the safety datasheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information only relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.