SAFETY DATA SHEET
mixture

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

1.1. PRODUCT IDENTIFIER

Trade name	**Tarfuse® envi 1 VANILLA, Tarfuse® envi 1 GREEN, Tarfuse® envi 1 ROSE, Tarfuse® envi 1 NAT**
Other names or synonyms	None.
UFI	Not applicable.

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

IDENTIFIED USES:
Filament for Additive Manufacturing (3D Printing).
USES ADVISED AGAINST:
Not applicable.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Grupa Azoty S.A.
33-101 Tarnów, ul. E. Kwiatkowskiego 8, Poland.
Tel.: +48 14 633 07 81-85
Fax: +48 14 633 07 18
SDS contact e-mail: NBP@grupaazoty.com

1.4. EMERGENCY TELEPHONE NUMBER

Emergency services Tel.: 112
Technical assistance (Grupa Azoty S.A., 24 hours):
Tel.: +48 14 637 21 00, +48 14 637 31 00

SECTION 2. HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification according to the regulation of the European Parliament and of the Council (EC) No 1272/2008 (CLP)
According to the regulation of the European Parliament and the Council (EC) No 1272/2008 (CLP):
- The product contains no hazardous substances in amounts affecting classification
- The product is not subject to REACH registration in accordance with regulation of the European Parliament and of the Council (EC) 1907/2006 dated 18 December 2006

2.2. LABEL ELEMENTS

Labelling according to Regulation (EC) No 1272/2008 (CLP):
- Hazard pictograms: The product does not require labelling.
- Signal word: The product does not require labelling.
- Hazard statements: The product does not require labelling.
- Precautionary statements: The product does not require labelling.

2.3. OTHER HAZARDS

Thermal burns are possible under recommended conditions of use.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. MIXTURES

Name of substance	The content [%]	WE	CAS	Classification compliant with the Regulation (EC) No. 1272/2008 (CLP)
Polylactide	**50-100**	Not applicable	9051-89-2	Not applicable
Improving biodegradability	**0-50**	Not applicable	Not applicable	Not applicable

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additives				
Coloring additives	**0-10**	Not applicable	Not applicable	Not applicable

SECTION 4. FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

IF INHALED
Remove affected persons from the contaminated area and take them to fresh air. Protect against heat loss. Provide medical assistance. Personnel entering contaminated atmospheres must wear appropriate breathing apparatus or gas masks.

IF SWALLOWED
Risk of choking. Remove material from the mouth and seek medical attention.

IF ON SKIN
In the event of burns caused by melted product, immediately cool the affected area under a cold running water. Cover with sterile gauze or a suitable dressing and seek medical assistance.

IN CASE OF CONTACT WITH EYES
If the eye contains small fragments of the product, rinse carefully with running water for 15 minutes. If larger pieces are present, remove carefully using a soft, clean cloth or soft tissue. If a fragment is lodged in the eye or injury has occurred, seek ophthalmic examination. In the event of contact with the molten product, rinse immediately with running water for at least 15 minutes and seek medical attention.

FIRST AID MEASURES
Not applicable.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

No information available.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Symptomatic treatment.

SECTION 5. FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA:

Water, foam, powders, carbon dioxide. Avoid directing a jet of water onto burning, molten material.

UNSUITABLE EXTINGUISHING MEDIA:

No information available.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Combustion may produce: carbon dioxide, carbon monoxide, aldehydes, ketones. Under specific conditions accompanying the combustion, trace quantities of other toxic substances cannot be excluded. The nature and quantity of further combustion and oxidation products depends on fire conditions. During combustion, the product may melt, producing flowing streams, droplets, or pools of adherent material. Molten material may re-solidify on cooling during firefighting operations.

5.3. ADVICE FOR FIREFIGHTERS

Wear self-contained breathing apparatus and full protective clothing when fighting fires involving this product.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

6.1.1. For non-emergency personnel
No special precautions required.

6.1.2. For emergency responders
No special precautions required.

6.2. ENVIRONMENTAL PRECAUTIONS

The product presents no environmental hazard.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Collect material mechanically.

6.4. REFERENCE TO OTHER SECTIONS

For fire-related measures, see Section 5. See also Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

In addition to information given in this section, relevant information may also be found in Section 8.

7.1. PRECAUTIONS FOR SAFE HANDLING

When used at room temperatures, no special precautions are necessary. Printing equipment should be fitted with adequate ventilation and heat shielding. Avoid inhalation of thermal decomposition products. Do not eat, drink or smoke in the area of application. Keep away from naked flames and sources of ignition.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store in dry conditions. Keep away from naked flames and sources of ignition.

7.3. SPECIFIC END USE(S)

No uses other than in Section 1 have been identified.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

Not applicable.
Recommended methodology: Not applicable.

DNEL
Not applicable.

PNEC:
Not applicable.

8.2. EXPOSURE CONTROLS

8.2.1. Appropriate engineering controls
Adequate ventilation must be provided for thermal processing.

8.2.2. Individual Protection Measures

a) Eye/face protection - safety goggles with side shields providing protection against filament fragments (EN 166).
b) Skin protection
   - Hand protection - when handling molten material, use heat resistant gloves (according to EN 407).
   - Others - use appropriate protective clothing where contact with molten material is possible.
c) Respiratory protection - use a suitable gas mask or respirator where ventilation is inadequate or thermal decomposition products are present.
d) Thermal hazards - when handling molten material, use protective goggles, gloves and clothing.

8.2.3. Environmental exposure controls
Not applicable.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

(a) Physical state	Solid
(b) Colour	Various
(c) Odour	Not applicable
(d) Melting point/freezing point	150-180°C
(e) Boiling point or initial boiling point and boiling range	Not applicable
(f) Flammability	Flammable solid
(g) Lower and upper explosion limit	Not applicable
(h) Flash point	Not applicable
(i) Auto-ignition temperature	Not applicable
(j) Decomposition temperature	>280°C
(k) pH	Not specified
(l) Kinematic viscosity	Not applicable
(m) Solubility	Insoluble in water
(n) Partition coefficient n-octanol/water (log value)	Not applicable
(o) Vapour pressure	Not applicable
(p) Density and/or relative density	No data
(q) Relative vapour density	Not applicable
(r) Particle characteristics	Filament of 1,75 mm and 2,85 mm diameter

9.2. OTHER INFORMATION

9.2.1. Information with regard to physical hazard classes

Not applicable.

9.2.2. Other safety characteristics

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Not applicable.

SECTION 10. STABILITY AND REACTIVITY

10.1. REACTIVITY

No hazardous reactions.

10.2. CHEMICAL STABILITY

The product is stable if stored as recommended.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Not applicable.

10.4. CONDITIONS TO AVOID

Thermal decomposition: >280°C.

10.5. INCOMPATIBLE MATERIALS

No data.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS

For fire-related measures, see Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON HAZARD CLASSES AS DEFINED IN REGULATION (EC) No. 1272/2008

Based on prior experience and available information, the product does not present a health hazard when processed and handled correctly.

a) acute toxicity;
not applicable

b) skin corrosion/irritation;
not applicable

c) serious eye damage/irritation;
not applicable

d) respiratory or skin sensitisation;
not applicable

e) germ cell mutagenicity;
not applicable

f) carcinogenicity;
not applicable

g) reproductive toxicity;
not applicable

h) STOT-single exposure;
not applicable

i) STOT-repeated exposure;
not applicable

j) aspiration hazard.
not applicable

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Information on likely routes of exposure
Not applicable.

Symptoms related to the physical, chemical and toxicological characteristics
Not applicable.

Delayed and immediate effects as well as chronic effects from short and long-term exposure
Not applicable.

Interactive effects
Not applicable.

Absence of specific data
Not applicable.

Mixtures
Not applicable.

Mixture versus substance information
Not applicable.

11.2. INFORMATION ON OTHER HAZARDS

11.2.1. Endocrine disrupting properties
Not applicable.

11.2.2. Other information
Not applicable.

SECTION 12. ECOLOGICAL INFORMATION

12.1. TOXICITY
Not toxic.

12.2. PERSISTENCE AND DEGRADABILITY
Biodegradable under industrial composting conditions.

12.3. BIOACCUMULATIVE POTENTIAL
Not applicable.

12.4. MOBILITY IN SOIL
Not applicable.

12.5. RESULTS OF PBT AND vPvB ASSESSMENT
Not applicable.

12.6. ENDOCRINE DISRUPTING PROPERTIES
Not applicable.

12.7. OTHER ADVERSE EFFECTS
No adverse ecological effects are known.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. WASTE TREATMENT METHODS
In accordance with the legal provisions referred to in section 15.1.

Waste material in the form of filaments, solidified compounds, production waste or finished products can be collected in publicly available containers or bags. Selective collecting is recommended. If the waste is not contaminated, it can be reprocessed.

Reprocessing must be performed in accordance with conditions recommended for the given material grade in the product sheet. Other methods of handling waste are possible in accordance with current regulations.

Waste can be forwarded for recycling or disposal to facilities holding appropriate licences for managing this type of waste. Waste code number 07 02 13 - Waste plastic.

Deliver disposable packages to an authorised waste disposal facilities.

Reusable packages can be reused, after appropriate cleaning if necessary.

In accordance with the legal provisions set out in section 15.1.

SECTION 14. TRANSPORT INFORMATION

The product is not classified as hazardous for transport under ADR, RID, ADNR, IMDG/GGVSee, or ICAO/IATA regulations.

14.1. UN NUMBER OR ID NUMBER

Not applicable.

14.2. UN PROPER SHIPPING NAME

Not applicable.

14.3. TRANSPORT HAZARD CLASS(ES)

Not applicable.

14.4. PACKING GROUP

Not applicable.

14.5. ENVIRONMENTAL HAZARDS

Not applicable.

14.6. SPECIAL PRECAUTIONS FOR USER

Not applicable.

14.7. MARITIME TRANSPORT IN BULK ACCORDING TO IMO INSTRUMENTS

Not applicable.

OTHER INFORMATION
LABELLING

RID, ADR: Not applicable.
IMDG: Not applicable.
ICAO/IATA: Not applicable.

CLASSIFICATION CODE (ADR/RID): Not applicable.
TANK CODE / detailed ADR requirements: Not applicable.

SECTION 15. REGULATORY INFORMATION

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

1. Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (OJ EU L 396 of 30 Dec. 2006, as amended)
2. Polish Act of 25 February 2011 on chemical substances and mixtures (Polish No 63 item 322, as amended, including the amendment of 20 March 2015 - Polish Journal of Laws 2015, item 675),
3. Polish Act of 27 April 2001 Environmental Protection Law (Polish Journal of Laws No. 62 item 627, as amended).
4. Polish Act of 14 December 2012 on waste (Polish Journal of Laws No. 2013 item 21, as amended).
5. Regulation of the Ministry of Health of 10 August 2012 on the classification criteria and methods for chemicals and mixtures (consolidated text in the Ministry of Health Declaration of 12 January 2015, Polish Journal of Laws item 208).

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6. Regulation of the Ministry of Health of 20 April 2012 on labelling of packaging of dangerous substances and mixtures and certain mixtures (consolidated text in the Ministry of Health Declaration of 2 March 2015 concerning the Declaration of the consolidated text of the Ministry of Health Regulation on labelling of packaging of dangerous substances and mixtures and certain mixtures, Polish Journal of Laws item 450).
7. Regulation of the Minister of Health of 25 August 2015 concerning labelling of sites, pipelines, containers and vessels utilised for storage or containing hazardous substances or mixtures (Polish Journal of Laws 2015, item 1368),
8. Polish Act of 19 August 2011 on the transport of hazardous goods (Polish Journal of Laws No 227 item 1367, as amended).
9. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006 (OJ UE 31.12.2008, as amended),
10. Regulation of the Minister of Labour and Social Policy of 6 June 2014 on the maximum permissible concentrations and intensities of factors harmful to health in the working environment (Polish Journal of Laws 2014 item 817, as amended, together with the Regulation of the Minister of Family, Labour and Social Policy of 9 January 2020 amending the Regulation on the maximum permissible concentrations and intensities of harmful factors for health in the working environment, Polish Journal of Laws item 61.
11. Polish Act of 13 June 2013 on managing waste and waste packaging (Polish Journal of Laws 2013 item 888, as amended).
12. The synthetic polymer microparticles supplied meet the conditions set out in entry 78 of Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council. Synthetic polymer microparticles, as substances on their own or in mixtures, are exempt from the restriction if they are intended for use in industrial plants.

15.2. CHEMICAL SAFETY ASSESSMENT

Not required for polymers.

SECTION 16. OTHER INFORMATION

AN EXPLANATION AND INDICATION OF WHERE CHANGES HAVE BEEN MADE TO THE PREVIOUS VERSION OF SAFETY DATA SHEET

Adaptation of the Safety Data Sheet to the requirements of European Commission Regulation (EU) No. 453/2010, 2015/830 and 2020/878.

A KEY OR LEGEND TO ABBREVIATIONS AND ACRONYMS USED IN THE SAFETY DATA SHEET

- ATE - acute toxicity estimate, ATE_{mix} - calculated acute toxicity estimate of a mixture.
- DNEL (Derived No-Effect Level) – Derived dosing level (concentration), for which no adverse effects are observed [mg/kg, mg/l].
- PNEC (Predicted No Effect Concentration) – expected concentration which does not cause changes in the environment [mg/kg, mg/l].
- PBT - Persistent, Bioaccumulative and Toxic
- vPvB - Very persistent and very bioaccumulative
- REACH - Registration, Evaluation and Authorisation of Chemicals

KEY LITERATURE REFERENCES AND SOURCES FOR DATA

- Information obtained from ECHA website: http://echa.europa.eu
- Physics and chemistry handbooks
- Plastics processing guides
- Data sheets of the mixture's components.

Information provided in this sheet is based on our current knowledge of the product. Its purpose is to describe the product solely as it relates to health, safety and environmental protection requirements. The product's user must observe relevant legal regulations.

OTHER INFORMATION

Not applicable.

LIST OF RELEVANT HAZARD STATEMENTS AND/OR PRECAUTIONARY STATEMENTS

Not applicable.

ADVICE ON APPROPRIATE TRAINING

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Before working with this product, users must familiarise themselves with applicable occupational health and safety regulations, this data sheet, general rules of thermoplastics processing, as well as with instructions for working at the given station and operating plastics processing equipment.

PERSON RESPONSIBLE FOR COMPILING THE SAFETY DATA SHEET

Łukasz Kantor, Technologist, tel. No.: +48 785 780 495
Łukasz Kantor, Technologist, e-mail: lukasz.kantor@grupaazoty.com

SEE: THE FOLLOWING PAGES OF THE SHEET

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