

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

### 1. Product identifier

**Tradename:** ABS Granulate, Natural

**Product code:** ABS-HF (High fluidity)

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

**Product use:** A biopolymer to be used in 3D printing applications.

### 3. Details of the supplier of the safety data sheet:

**Supplier:** Laboratorio Geométrico S.L.  
Calle Segunda (Polígono Industrial El Montalvo III), 4,  
37188, Carbajosa de la Sagrada  
info@winkle.shop  
670 37 88 29

### 4. Emergency telephone number

**Emergency telephone numbers (24 hours a day):** 112

## 2. HAZARDS IDENTIFICATION

### 1. Classification of the substance or mixture

Classification according to EU regulation 1272/2008 (CLP)

This mixture is not classified as dangerous

Classification according to Directive 67/548 / EEC or Directive 1999/45 / EC

This mixture is not classified as dangerous

### 2. Label elements

#### CLP labeling:

Hazard statements: Not applicable

Precautionary statements: Not applicable

#### Labeling (67/548/CEE o 1999/45/CE)

R phrases: Not applicable

S phrases: Not applicable

### 3. Other hazards

Dust: May irritate skin, eyes and respiratory tract  
 Fine powder: Explosive  
 The melted product can cause severe burns  
 Ingestion can cause gastrointestinal irritation and intestinal pain

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical name and CAS                               | Weight % |
|---|----------|
| Styrene-acrylonitrile-butadiene copolymer 9003-56-9 | >98      |
| Styrene 100-42-5                                    | >0,1     |

### 4. FIRST AID MEASURES

#### 1. Description of first aid measures

**General information:** Change soaked clothing immediately

**Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes Call a physician immediately

**Skin contact:** Rinse immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician Cool skin rapidly with cold water after contact with hot polymer. Do not peel polymer from the skin. Consult a physician

**Inhalation:** Move to fresh air. Call a physician immediately

**Ingestion:** Drink water as a precaution. Never give anything by mouth to an unconscious person Do not induce vomiting without medical advice Call a physician immediately.

**Notes to physician:** Treat symptomatically

#### 2. Most important symptoms and effects, both acute and delayed

Dust: Skin irritation, eye irritation and flushing

#### 3. Indication of any immediate medical attention and special treatment needed

Symptomatic treatment

## 5. FIREFIGHTING MEASURES

### 1. Extinguishing media

**Suitable extinguishing media:** Water spray jet, foam, extinguishing powder, carbon dioxide

**Unsuitable extinguishing media** Full steam of water

### 2. Special hazards arising from the substance or mixture

In the event of a fire, the following may be formed: hydrocyanic acid, carbon monoxide and carbon dioxide carbon (CO<sub>2</sub>).

In case of dust formation (fine dust): danger of dust explosion

### 3. Advice for firefighters

**Special protective equipment in case of fire:** Wear self-contained breathing apparatus and a combination of protection against substances chemical

**Additional indications:** Avoid immersion of fire-fighting water on the surface of the water or under the bottom. The remains of fire and contaminated extinguishing water must be disposed of in accordance with local official regulations.

## 6. ACCIDENTAL RELEASE MEASURES

### 1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use your own protective equipment. Do not breathe dust

### 2. Environmental precautions

Avoid infiltration into the subsoil, waterways and canalization

### 3. Methods and material for containment and cleaning up

Avoid the production of dust. Eliminate all sources of ignition. Pick up mechanically. Store in closed containers for disposal.

Additional information: Great danger of skidding from spilled / spilled product

### 4. Reference from other sections

See also Chapter 8 and 13

## 7. HANDLING AND STORAGE

### 1. Precautions for safe handling

#### Information for safe handling

Ensure good ventilation of the warehouse and the workplace. Do not breathe dust.

In case of dust formation: It is necessary to empty by aspiration. Molten product: Avoid contact with the substance.

### Fire and explosion protection

Avoid the accumulation of electrostatic charges. Keep away from any flame or source of sparks. Use earth connections. Use explosion-protected devices and non-sparking tools. Avoid open flames. Forms explosive mixtures with air.

## 2. Conditions for safe storage, including any incompatibilities

### Conditions for warehouses and containers

Store in a well ventilated place. Keep the recipient hermetically sealed. Protect from sunlight / heat. Protect from moisture.

### Storage class

11 = Solid flammable materials

100-42-5

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 1. Control parameters

| CAS Number | Chemical name                    | Type   | Limit value   |
|------------|----------------------------------|--|---|
|            | Terluran® ABS Granulate, Natural | Spain: VLA-ED<br>Spain: VLA-ED   | 10 mg / m <sup>3</sup> Inhalable fraction dust limit value<br>3 mg / m <sup>3</sup> Respirable fraction dust limit value  |
| 100-42-5   | Styrene                          | Spain: VLA-EC<br>Spain: VLA-ED<br><br>Spain: VLA-ED<br><br>Spain: VLA-ED | 172 mg / m <sup>3</sup> ; 40 ppm VLB, ae<br>0.2 mg / L (Styrene, venous blood, end of exposure or end of turn)<br>400 mg / g creatinine (Mandelic acid plus phenylglyoxylic acid, urine, end of exhibition or end of shift)<br>86 mg/m <sup>3</sup> ; 20 ppm VLB,ae |
| 107-13-1   | Acrylonitrile                    | Spain: VLA-ED  | 4.4 mg / m <sup>3</sup> ; 2 ppm (Can be absorbed through dermal)  |
| 106-99-0   | 1,3- Butadiene                   | Spain: VLA-ED<br><br>Spain: VLA-ED<br><br>Spain: VLA-ED                  | 2.5 mg / L (1,2-Dihydroxybutyl mercapturic acid, urine, end of exhibition or end of shift)<br>2.5 pmol / g Hb (Mixture of 1-N and 2-N- (hydroxybutenyl) valine adducts of hemoglobin (Hb), blood, unlimited)<br>4,5 mg/m <sup>3</sup> ; 2 ppm ClA,MIA,r,VLB         |

### 2. Exposure controls

Ensure good ventilation of the workshop and / or install an air intake system in the job.

### Occupational exposure controls

#### Respiratory protection:

In case of exceeding the concentration limits of the workplace (TLV / OEL), use a breathing apparatus. Use type A-P2 filter according to EN 14387

**Hand protection:**

Protective gloves according to EN 374. Gloves material: Nitrile rubber – Layer thickness: 0.11 mm. Break time: > 480 min. The instructions of the manufacturer of the safety gloves regarding the porosity and breakthrough time. Fusing: Heat resistant protective gloves according to EN 407. The instructions of the manufacturer of the safety gloves regarding the porosity and breakthrough time

**Eye protection:**

Hermetic goggles conforming to standard EN 166

**Body protection:**

Wear suitable protective clothing. boots o Wear safety shoes

**General protection and hygiene measures:**

Molten product: Avoid contact with skin. Do not breathe dust and vapors. Keep away from sources of ignition flame. Wash hands before breaks and at the end of work. In case of dust formation: Extreme danger of slipping due to the distribution of the product on the floor

**Environmental exposure controls**

Avoid infiltration into the subsoil, waterways and canalization

**9. PHYSICAL AND CHEMICAL PROPERTIES****1. Information on basic physical and chemical properties**

|  |  |
|--|--|
| <b>Appearance:</b>                                 | Form/state: solid pellet                                       |
| <b>Color:</b>                                      | Natural colors (off-white)                                     |
| <b>Odor:</b>                                       | Weak, characteristic   |
| <b>pH:</b>   | Not data available   |
| <b>Melting point/zone:</b>                         | > 100 ° C (DIN IN ISO 306)                                     |
| <b>Boiling point/zone:</b>                         | No data available  |
| <b>Flash point/zone:</b>                           | > 400°C  |
| <b>Evaporation rate:</b>                           | Not determined   |
| <b>Flammability:</b>                               | Not easily flammable   |
| <b>Explosion hazard:</b>                           | Dust explosion hazard in fine dust                             |
| <b>Explosion limits:</b>                           | No data available  |
| <b>Vapor pressure:</b>                             | No data available  |
| <b>Vapor density:</b>                              | No data available  |
| <b>Density:</b>                                    | At 20 ° C: approx. 1.04 g / cm <sup>3</sup> (DIN 53479)        |
| <b>Water solubility:</b>                           | Insoluble  |
| <b>Distribution coefficient (n-octanol/water):</b> | No data available  |
| <b>Autoignition:</b>                               | Not spontaneously flammable                                    |
| <b>Decomposition temperature:</b>                  | Approx. 300°C. Do not overheat to avoid thermal decomposition. |
| <b>Viscosity, dynamic:</b>                         | No data available  |
| <b>Explosive properties:</b>                       | Not data available   |
| <b>Oxidizing properties:</b>                       | Potential to cause fire: non-oxidizing                         |

## 2. Other information

**Ignition temperature:** >400°C (DIN 51794)

**Apparent density:** At 20°C: approx. 600 kg/m<sup>3</sup> (DIN 53466)

**Additional information:** No data available

## 10. STABILITY AND REACTIVITY

### 1. Reactivity

See 10.3

### 2. Chemical stability

Stable under recommended storage conditions

### 3. Possibility of hazardous reactions

In case of dust formation (fine dust): danger of dust explosion

### 4. Conditions to avoid

Protect from extreme heat. Keep away from sources of ignition and heat.

Avoid the production of dust.

### 5. Incompatible materials

Strong oxidizing agents

### 6. Hazardous decomposition products

In the event of a fire, the following may be formed: hydrocyanic acid, carbon monoxide and carbon dioxide (CO<sub>2</sub>)

**Thermal decomposition:** Approx. 300 °C. Do not overheat to avoid thermal decomposition

## 11. TOXICOLOGICAL INFORMATION

### 1. Information on toxicological effects

#### Toxicological effects:

Extreme toxicity (oral): Lack of data.

Extreme toxicity (dermal): Lack of data.

Extreme toxicity (inhalation): Lack of data.

Cauterization / skin irritation: Lack of data. May cause irritations.

Eye damage / irritation: Lack of data. May cause irritations.

Respiratory sensitization: Lack of data. Is not expected

Skin sensitization: Lack of data. Is not expected

Germ cell mutagenicity / Genotoxicity: Lack of data. Is not expected

Carcinogenicity: Lack of data. Is not expected

Reproductive toxicity: Lack of data. Is not expected

Effect on and via lactation: Lack of data.

Specific Target Organ Toxicity - Single Exposure: Lack of data.

Dusts: Irritating to eyes, skin and respiratory tract.

Specific target organ toxicity (repeated exposure): Lack of data.

Aspiration hazard: Lack of data.

### Other effects:

**Styrene:** Harmful if inhaled. Causes damage to organs after exposures prolonged or repeated. lung damage May be fatal if swallowed and enters airways. Causes serious eye irritation. Causes skin irritation

**Acrylonitrile:** Toxic by inhalation, by ingestion and in contact with the skin. It can cause cancer. It is suspected that it damages the fetus. Causes skin irritation. May produce an allergic reaction on the skin. Provokes serious eye injuries

**1,3-Butadiene:** May cause cancer. It can cause genetic defects

### Symptoms:

Dust: May irritate skin, eyes and respiratory tract. The melted product can cause severe burns.

Heat treatment, Processing: Irritating to eyes, respiratory system and skin.

After ingestion: Ingestion may cause gastrointestinal irritation and intestinal pain.

## 12. ECOLOGICAL INFORMATION

### 1. Toxicity

**Aquatic toxicity:**  
**Hazard class for the aquatic environment:**

No evidence of aquatic toxicity  
nwg = No Water Hazards (Catalog Number-WGK 766)

### 2. Persistence and degradability

**Other information:**  
**Effects on purification stations:**

Biological degradation: The product is not easily biodegradable  
In treatment plants it can be separated mechanically

### 3. Bioaccumulative potential

**Distribution coefficient (n-octanol / water):** No information available

### 4. Mobility on soil

No data available

### 5. Results of PBT and vPvB assessment

This substance does not meet the PBT / vPvB criteria of the REACH Regulation, annex XIII

### 6. Other adverse effects

**General information:** Do not dump into groundwater, rivers or sewers

## 13. DISPOSAL CONSIDERATIONS

### 1. Waste treatment methods

#### Product

**Waste code number:** 07 02 99 = Waste from the MFSU of plastics, synthetic rubber and artificial fibers PPSA = production, preparation, supply and application

**Recommendation:** Observing the local regulations in force, take the product to an incineration facility for suitable waste / landfill.

**Packaging**

**Recommendation:** Disposal is done according to local authority regulations. Cleaned containers should be recycled

**14. TRANSPORT INFORMATION****1. ONU number**

Not applicable

**2. UN proper shipping name**

ADR/RID: Not restricted

IMDG, AIIATA: Not restricted

**3. Transport hazard class(es)**

Not applicable

**4. Packaging group**

Not applicable

**5. Environmental hazards**

Marine pollutant: no

**6. Special precautions for users**

It is not a dangerous product according to the applicable transport regulations

**7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

No data available

**15. REGULATORY INFORMATION****1. Safety, health and environmental regulations/legislation specific for the substance of mixture**

No information available

**2. Chemical safety assessment**

A substance safety assessment is not required for this substance

**16. OTHER INFORMATION****Additional information**

**Reason for latest changes:** Changes in section 1: product name, Modification of the product list. General rework

**Initial release:** 30/01/2013

**Service responsible for the technical data sheet**

**Responsible / Contact person:** see under paragraph 1: Department responsible for the information

For acronyms and abbreviations see ECHA: Guidelines on information requirements and safety assessment chemistry, chapter R.20 (registration of terms and abbreviations). The information in this technical data sheet has been obtained with the greatest care and is updated on the review date. However, they do not guarantee, the observation of certain properties in the plan legal. It does not represent a guarantee for the properties of the product in terms of legal guarantee regulations.