

ABS

1. IDENTIFICATION

1.1. Product identifier	
Trade name	3DGence ABS
Product type	Acrylonitrile butadiene styrene
1.2. Recommended use	Filament used in 3D printers
1.3. Company	3DGence sp. z o.o. Mickiewicza 29 40-085 Katowice, Poland
Telephone	+48 32 438 98 65
E-mail	sales@3dgence.com
1.4. Emergency telephone number	+48 32 438 98 65

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2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

According to UN GHS criteria

No need for classification according to GHS criteria for this product.

2.2. Label elements

Globally Harmonized System (GHS)

The product does not require a hazard warning label in accordance with GHS criteria.

2.3. Other hazards

According to UN GHS criteria

The product may cause burns, if handled in the melted state.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Preparation based on: Polymer, additives.

Hazardous ingredients (GHS)

According to UN GHS criteria
No particular hazards known.

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4. FIRST-AID MEASURES

4.1. Description of first aid measures

General information	Remove contaminated clothing.
If inhaled:	Remove the affected individual into fresh air and keep the person calm. If symptoms persist, seek medical advice.
On skin contact:	Wash thoroughly with soap and water. Burns caused by molten material require hospital treatment. If irritation develops, seek medical attention.
On contact with eyes:	Wash affected eyes for at least 15 minutes under running water with eyelids held open. If irritation develops, seek medical attention.
On ingestion:	Rinse mouth immediately with water. Immediate medical attention required.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: (Further) symptoms and / or effects are not known so far

Hazards: No hazard is expected under intended use and appropriate handling.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: water spray, foam, dry powder, carbon dioxide

5.2. Special hazards arising from the substance or mixture

The substances/groups of substances mentioned can be released in case of fire: Acrylonitrile, Styrene, fumes/smoke, nitrogen oxides, carbon oxides

5.3. Advice for fire-fighters

Special protective equipment: Wear a self-contained breathing apparatus.

Further information: Dust can form an explosive mixture with air. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. ACCIDENTAL RELEASE MEASURES

Avoid dispersal of dust in the air (e.g. by clearing dusty surfaces with compressed air). Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

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6.1. Personal precautions, protective equipment and emergency procedures

No special precautions necessary.

6.2. Environmental precautions

Dispose of in compliance with the environmental protection requirements.
Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

For small amounts: Sweep/shovel up.

For large amounts: Sweep/shovel up.

Dispose of absorbed material in accordance with regulations. Avoid raising dust.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid inhalation of dusts/mists/vapours. Ensure adequate ventilation. Provide suitable exhaust ventilation at the drying process and in the area surrounding the melt outlet of processing machines. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Avoid the formation and deposition of dust.

Protection against fire and explosion:

The product is not an oxidizer, not self-combustible and not explosive. Avoid dust formation. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

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7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container tightly closed. Avoid extreme heat. Avoid all sources of ignition: heat, sparks, open flame.

Storage stability:
Avoid prolonged storage.

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Components with occupational exposure limits
100-42-5: Styrene
107-13-1: Acrylonitrile

8.2. Kontrola narażenia

Personal protective equipment

Respiratory protection: Breathing protection if breathable aerosols/dust are formed. Wear respiratory protection if ventilation is inadequate. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

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Hand protection:	Use additional heat protection gloves when handling hot molten masses (EN 407), e.g. of textile or leather.
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Eye protection:	Safety glasses with side-shields (frame goggles) (e.g. EN 166)
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Body protection:	Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).
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General safety and hygiene measures

Wear protective clothing to prevent contact during mechanical processing and/or hot melt conditions. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Form:	filament
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Colour:	white
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Odour:	odourless
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Odour threshold:	not applicable, odour not perceivable
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pH value:	not determined
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Melting point:	> 150 °C
Boiling point:	not applicable
Flash point:	not applicable
Evaporation rate:	The product is a non-volatile solid
Flammability:	not flammable
Lower explosion limit:	For solids not relevant for classification and labelling.
Upper explosion limit:	For solids not relevant for classification and labelling.
Vapour pressure:	not applicable
Relative density:	1,05 - 1,07 (25 °C)
Relative vapour density (air):	not applicable
Solubility in water:	insoluble
Partitioning coefficient n-octanol/ water (log Kow):	not applicable for mixtures
Self ignition:	not self-igniting
Thermal decomposition:	> 300 °C
Viscosity, dynamic:	not applicable, the product is a solid
Viscosity, kinematic:	not applicable, the product is a solid
Explosion hazard:	Product is not explosive, however a dust explosion could result from an air / dust mixture.
Fire promoting properties:	not fire-propagating

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9.2. Other information

Self heating ability: It is not a substance capable of spontaneous heating.

10. STABILITY AND REACTIVITY

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: No corrosive effect on metal.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

10.4. Conditions to avoid

Temperature: > 300 °C
Prolonged exposure to elevated temperatures may result in exothermic decomposition accompanied by a pressure build-up in sealed containers. Avoid all sources of ignition: heat, sparks, open flame.

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10.5. Incompatible materials

Substances to avoid:
oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products:
Acrylonitrile, Styrene
Gaseous products of degradation can be given off if the product is greatly overheated., monomers, gases/vapours, oxides, hydrocarbons, cyclic low molecular weight oligomers

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity: Virtually nontoxic after a single ingestion.
Virtually nontoxic after a single skin contact.
Virtually nontoxic by inhalation. Contact with molten product may cause thermal burns.

Irritation

Assessment of irritating effects: Not irritating to eyes and skin. May cause mechanical irritation.

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Respiratory/Skin sensitization

Assessment of sensitization: Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Assessment of mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity

Assessment of carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity

Assessment of reproduction toxicity: Based on available data, the classification criteria are not met.

Developmental toxicity

Assessment of teratogenicity: Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Assessment of STOT single: Based on available data, the classification criteria are not met.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity: Based on available data, the classification criteria are not met.

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Aspiration hazard

No aspiration hazard expected.

Other relevant toxicity information

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Assessment of aquatic toxicity: The product has not been tested. The statement has been derived from the structure of the product. There is a high probability that the product is not acutely harmful to aquatic organisms.

12.2. Persistence and degradability

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria.

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Assessment biodegradation and elimination (H ₂ O):	No data available concerning biodegradation and elimination.
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12.3. Bioaccumulative potential

Assessment bioaccumulation potential:	The product has not been tested.
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Bioaccumulation potential:	The product will not be readily bioavailable due to its consistency and insolubility in water.
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12.4. Mobility in soil

Assessment transport between environmental compartments:

Adsorption in soil:	Adsorption to solid soil phase is expected.
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12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria.

12.6. Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

12.7. Additional information

Add. remarks environm. fate & pathway:
Due to the consistency of the product, dispersion into the environment is impossible. Therefore no negative effects on the environment may be anticipated based on the present state of knowledge.

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13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Dispose of in accordance with national, state and local regulations.
Contact specialized companies about recycling.

Contaminated packaging:
Dispose of in accordance with national, state and local regulations.
Contaminated packaging should be emptied as far as possible and disposed of
in the same manner as the substance/product.

14. TRANSPORT INFORMATION

Land transport	
ADR	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable.
UN proper shipping name:	Not applicable.
Transport hazard class(es):	Not applicable.
Packing group:	Not applicable.
Environmental hazards:	Not applicable.
Special precautions for user	None known.
RID	Not classified as a dangerous good under transport regulations

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UN number or ID number:	Not applicable.
UN proper shipping name:	Not applicable.
Transport hazard class(es):	Not applicable.
Packing group:	Not applicable.
Environmental hazards:	Not applicable.
Special precautions for user	None known.
Inland waterway transport	

ADN

Not classified as a dangerous good under transport regulations

UN number or ID number:	Not applicable.
UN proper shipping name:	Not applicable.
Transport hazard class(es):	Not applicable.
Packing group:	Not applicable.
Environmental hazards:	Not applicable.
Special precautions for user:	None known.
Transport in inland waterway vessel	

Not evaluated

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Sea transport	
IMDG	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable.
UN proper shipping name:	Not applicable.
Transport hazard class(es):	Not applicable.
Packing group:	Not applicable.
Environmental hazards:	Not applicable.
Special precautions for user:	None known.
Air transport	
IATA/ICAO	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable.
UN proper shipping name:	Not applicable.
Transport hazard class(es):	Not applicable.
Packing group:	Not applicable.
Environmental hazards:	Not applicable.
Special precautions for user:	None known.
14.1. Special precautions for user	
Maritime transport in bulk is not intended.	

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15. REGULATORY INFORMATION

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. OTHER INFORMATION

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.