

Poly(Acrylonitrile-Butadiene-Styrene) acid

Safety Data Sheet

compliant to Regulation (EC) No 1907/2006 (REACH) as amended by Regulation (EU) 2015/830 Date of issue: 06/07/2020
Version: 1.0

HEADING 1: Identification of the substance/mixture and the company/undertaking

1.1. Product Identifier

Product form : Substance
Name : Acrylonitrile-Butadiene-Styrene Filament
CAS N° : 9003-56-9
Synonyms : ABS

1.2. Identified relevant uses of the substance or mixture and use not recommended

1.2.1. Relevant identified uses

Use of substance/mixture: 3D printing applications.

1.2.2. Uses not recommended

This product cannot be implanted in humans.

1.3. Information about the provider of the safety data sheet

Lattice Medical
80, rue du Docteur Yersin
59120
LOOS - FRANCE
T +33 6 73 59 08 71
julien.payen@lattice-medical.com

1.4. Emergency call number

Country	Organization/Society	Address	Emergency number	Comment
France	ORFILA	http://www.centres-antipoison.net	+33 (0)8 00 59 59 59	

HEADING 2: Hazard Identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Uncategorized

Adverse physicochemical effects on human health and the environment

To our knowledge, this product does not present any particular danger under normal conditions of use.

2.2. Labelling elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Labelling not applicable

2.3. Other hazards

This product does not meet the PBT or vPvB criteria in accordance with REACH.

SECTION 3: Composition/Component Information

3.1. Substances

Name	Product Identifier	Classification according to Regulation (EC) No 1272/2008 [CLP]
Poly(acrylonitrile-butadiene-styrene)	(CAS NO.): 9003-56-9	Uncategorized
Poly(styreneacrylonitrile)		(CAS NO.): 9003-54-7

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3.2 Mixtures

Chemical nature

: **Hazardous components: Styrene**

Identifiers: 100-42-5 Index: 601-026-00-0 / REACH: 01-2119457861-32

Concentration: ≥ 0.1 - $< 0.3\%$

Classification:

- Flam. Fl. 3; H226
- Acute Tox.4; H332
- Skin Irrit.2; H315
- Eye Irrit.2; H319
- Repr.2; H361d
- STOT SE3; H335
- STOT RE1; H372

Asp. Tox.1; H304

HEADING 4: First aid

4.1. Description of first aid

First aid after inhalation	: Remove the subject from the contaminated area and bring him to the fresh air. If symptoms persist, call a doctor.
First aid after skin contact	: Wash immediately with soap and plenty of water while removing all contaminated clothing and shoes. Seek immediate medical attention if symptoms appear.
First aid after eye contact	: Rinse immediately and thoroughly with water, also under the eyelids, for at least 15 minutes. Seek immediate medical attention if symptoms appear.
First aid after ingestion	: In case of accidental ingestion consult a doctor immediately

4.2. Main symptoms and effects, acute and delayed

Symptoms/effects : None known.

4.3. Indication of any immediate medical care and special treatment required

Symptomatic treatment.

HEADING 5: Fire-fighting measures

5.1. Extinguishing means

Appropriate extinguishing means : Use a dry chemical agent, CO2, water sprayer or alcohol foam

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products : Carbon oxides, hydrocarbon fragments, hydrogen cyanide, nitrogen oxides

5.3. Advice to firefighters

Firefighting Instruction	: Cool containers exposed to heat with sprayed water. Contain and contain extinguishing fluids.
Fire protection	: Do not intervene without appropriate protective equipment. Self-contained breathing apparatus. Full protection of the body.

HEADING 6: Measures to be taken in the event of accidental dispersal

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ensure appropriate ventilation.

6.1.1. For non-first aiders

Emergency procedures : Evacuate the danger zone. Do not touch or step on spilled product. Avoid contact with eyes, skin or clothing. Prevent or limit the formation and dispersion of dust. Avoid any possible source of ignition.

6.1.2. For first aiders

Emergency procedures : Do not intervene without appropriate protective equipment. For more information, please refer to section 8: "Control of exposure-personal protection".

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6.2. Precautions for environmental protection

Contain and contain land application. Do not discharge into sewers and rivers.

6.3. Containment and cleaning methods and equipment

For retention	: Prevent or limit the formation and dispersion of dust. Sweep or shovel the spilled product and put it in a suitable container for disposal.
Cleaning methods	: Wash the non-recoverable remainder with plenty of water.
Other information	: Dispose of solid materials or residues in a licensed centre.

6.4. Reference to other headings

See section 13 for the disposal of waste resulting from clean-up.

HEADING 7: Handling and Storage

7.1. Precautions to be taken for safe handling

Precautions for safe handling	: Handle in accordance with good industrial hygiene and safety practices. Ensure proper ventilation. Avoid dust formation. Avoid contact with skin, eyes or clothing. Do not breathe in dust. Keep away from ignition sources.
Hygiene measures	: Do not drink, eat or smoke in the workplace. Wash hands after handling.

7.2. Conditions for safe storage, including possible incompatibilities

Storage conditions	: Store tightly closed in a dry and cool place. Keep away from heat and ignition sources. Residual monomer vapours can accumulate in the headspace of closed containers.
Incompatible materials	: Water, humidity.
Storage temperature	: 10 – 40°C

7.3. Specific end-use(s)

No additional information available

HEADING 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits	Styrene:
	• CAS No.: 1001-42-5
	• Value type (exposure type): VME
	• Control parameter: 50 ppm 215mg/m3
	• Reference : FR VLE

8.2. Exposure controls

Hand protection:

Not required under normal conditions of use. In case of risk of splashing: Gloves resistant to chemicals (according to the standard NF EN 374 or equivalent)

Eye protection:

Not required under normal conditions of use. In case of risk of splashing: Safety glasses with side protections

Protection of the skin and body:

Wear appropriate long-sleeved protective clothing.

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Respiratory protection:

Adequate ventilation. In case of formation of vapours / dusts, use an approved respirator for dust protection

HEADING 9: Physical and chemical properties

9.1. Information on essential physical and chemical properties

Physical state	: Solid
Appearance	: Filament
Colour	: Ivory / Natural
Smell	: Odorless.
Olfactory threshold	: No data available
ph	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: None but the product gradually softens over a wide range of T°
Freezing point	: No data available
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: 508°C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: > 1
Solubility	: Insoluble
n-octanol/water partition coefficient (Log Pow)	: No data available
Viscosity, kinematics	: Not applicable
Viscosity, dynamic	: Not applicable
Explosive properties	: Not explosive.
Oxidizing properties	: Not applicable
Explosive limits	: Not applicable

9.2. Other information

Other properties : None

HEADING: Stability and responsiveness

10.1. Responsiveness

To our knowledge, this product does not present any particular danger under normal conditions of use.

10.2. Chemical stability

Stable at normal ambient temperature and pressure. Dangerous polymerization does not occur.

10.3. Possibility of dangerous reactions

No known reaction

10.4. Conditions to avoid

Do not overheat, in order to avoid thermal decomposition.

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May release hazardous gases when heating. Do not exceed the melting temperature recommended in the product documentation. Collected hot material purges should be small in size and flat and thin in shape and soaked with water to allow for rapid cooling. Do not leave the product, long in the barrel at high temperatures.

10.5. Incompatible substances

No special restrictions for common storage.

10.6. Hazardous decomposition products

Under recommended process conditions, process vapours may contain traces of, styrene, acrylonitrile, acrolein, acetaldehyde, acetophenone, ethylbenzene, cumene, alphas-methyl styrene, 4 vinylcyclohexene, phenols

HEADING 11 : Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral/dermal/inhalation)	: Acute oral toxicity - Remarks: >5000 mg/kg (estimated) Acute dermal toxicity - Remarks: >2000 mg/kg (estimated) Acute inhalation toxicity – Styrene <ul style="list-style-type: none">• Value: LC50• Species: Rat• Value: 11.8 mg/l• Duration: 4h
Skin corrosion/irritation	: Unclassified (Based on available data, classification criteria are not met)
Severe eye damage/eye irritation	: Unclassified (Based on available data, classification criteria are not met)
Respiratory or skin sensitization	: Unclassified (Based on available data, classification criteria are not met)
Germ cell mutagenicity	: Unclassified (Based on available data, classification criteria are not met)
Carcinogenicity	: Unclassified (Based on available data, classification criteria are not met)
Reproductive toxicity	: Fetal developmental implications for styrene: <ul style="list-style-type: none">• Oral (gavage) on rats: general maternal toxicity: LOAEL 180 body weight mg/kg• Inhalation (dust/fog/smoke) on rats: developmental toxicity: NOAEL 1.08 mg/l• Oral (gavage) on rats: embryo-foetal toxicity: NOAEL 300 BODY WEIGHT mg/l• Inhalation (dust/fog/smoke) on rats: general maternal toxicity 1.08 mg/l• Inhalation (vapour) on rabbits: General maternal toxicity NOAEL 2,556 mg/l• Inhalation (vapour) on rabbits: Teratogenicity: NOAEL 2,556 mg/l
Specific target organ toxicity (single exhibition)	: Styrene : May irritate the airways
Specific target organ toxicity (repeated exposure)	: Styrene can have an impact on organs during repeated exposure or during prolonged exposure.
Suction hazard	: Unclassified (Technical impossibility to obtain data)

Additional training: Special studies: toxicological data were taken from products of a similar composition.

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Viscosity, kinematics : Not applicable

HEADING 12 : Ecological information

12.1. Toxicity

Hazards to the aquatic environment, short-term (acute) : Unclassified (Based on available data, classification criteria are not met)

Hazards to the aquatic environment, long-term (chronic) : Unclassified (Based on available data, classification criteria are not met)

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12.2. Persistence and degradability

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Persistence and degradability	Hydrolysis. Easily biodegradable.
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12.3. Bioaccumulation potential

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Bioaccumulation potential	Non-bioaccumulative.
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12.4. Mobility in soil

No additional information available.

12.5. Results of PBT and vPvB assessments

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This substance/mixture does not fulfil the PBT criteria of reach regulation annex XIII

This substance/mixture does not meet the vPvB criteria of reach regulation annex XIII

12.6. Other adverse effects

No additional information available

HEADING 13: Disposal Considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose in accordance with applicable local requirements.
Recommendations for product/packaging processing : Do not reuse empty containers.

Additional information : The user's attention is drawn to the possible existence of specific laws, regulations and administrative provisions, Community, national or local, relating to disposal, concerning him.

European Waste Catalogue Code (EDC) : 16 05 09 - discarded chemicals other than those specified in 16 05 06, 16 05 07 or 16 05 08

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HEADING 14 : Transport information

In accordance with adr / RID / IMDG / IATA / AND requirements

ADR	IMDG	IATA	DNA	Rid
14.1. UN number				
Unregulated	Unregulated	Unregulated	Unregulated	Unregulated
14.2. UN proper shipping name				
Unregulated	Unregulated	Unregulated	Unregulated	Unregulated
14.3. Transport hazard class(ies)				
Unregulated	Unregulated	Unregulated	Unregulated	Unregulated
14.4. Packing group				
Unregulated	Unregulated	Unregulated	Unregulated	Unregulated
14.5. Environmental hazards				
Unregulated	Unregulated	Unregulated	Unregulated	Unregulated

14.6. Special precautions to be taken by the user

Overland transport

Unregulated

Shipping

Unregulated

Air transport

Unregulated

Inland waterway transport

Unregulated

Rail transport

Unregulated

14.7. Carriage in bulk in accordance with Annex II to the Marpol Convention and the IBC Code

Not applicable

HEADING 15: Regulatory Information

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

15.1.1. EU regulation

No restrictions according to Annex XVII of REACH

Poly(acrylonitrile-butadiene-styrene) acid is not on the REACH Candidate list

Poly(acrylonitrile-butadiene-styrene) acid is not listed in Annex XIV of REACH

Poly(acrylonitrile-butadiene-styrene) acid is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 on the export and import of hazardous chemicals

Poly(acrylonitrile-butadiene-styrene) acid is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National guidelines

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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HEADING 16: Other information

Abbreviations and acronyms:	
DNA	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
Case	Chemical Abstracts Service (division of the American Chemical Society)
CLP	Regulation on Classification, Labelling and Packaging; Regulation (EC) No 1272/2008
ECHA	ECHA - European Chemicals Agency
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods Code
Pbt	Persistent, bioaccumulative and toxic
REACH	Registration, evaluation, authorisation and restriction of chemical substances. REACH Regulation (EU) No 1907/2006
Rid	International Regulations concerning the Carriage of Dangerous Goods by Rail
vPvB	Very persistent and very bioaccumulative

Data sources : ECHA - European Chemicals Agency. Supplier SDS.

EU SDS (Annex II REACH)

This information is based on our current knowledge and describes the product for health, safety and environmental needs only. They should therefore not be interpreted as guaranteeing any specific property of the product.