

## Polymaker™ PC-ABS

Version 1.1

Revision Date 03.03.2021

Print Date 04.03.2021

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Polymaker™ PC-ABS**

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

**Use:**

3D Printing Filament

#### 1.3 Details of the supplier of the safety data sheet

Building 6&7&11, No.2, Hai Cheng Road,  
Chang Shu Economic & Technological Development Zone,  
215513, People's Republic of China

Tel.: +86 0512-52058005

Email: zhenxing.miao@polymaker.com

#### 1.4 Emergency telephone number

+86 0512-52058005

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**GHS Classification:**

Non-hazardous substance according to GHS classification

#### 2.2 Label elements

**GHS-Labeling**

Non-hazardous substance according to GHS classification

NON-HAZARDOUS according to the criteria of NOHSC NON-DANGEROUS GOODS

#### 2.3 Other hazards

No information available.

### SECTION 3: Composition/information on ingredients

**Type of product:** Mixture

#### 3.2 Mixtures

Polymer blend based on polycarbonate / styrene- acrylonitrile- copolymer / acrylonitrile-butadiene-styrene copolymer

Contains no hazardous ingredients according to GHS

#### SECTION 4: First aid measures

##### 4.1 Description of first aid measures

**In case of skin contact:** CONTACT WITH THE HOT MELT: Cool immediately with plenty of water. Do not remove product crusts which may have formed neither forcibly nor by applying any solvents to the skin involved. To obtain treatment for possible burns, and appropriate skin care, seek medical advice immediately.

The following information refers to the handling of the product at room temperature. In case of skin contact wash affected areas thoroughly with soap and plenty of water.

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

**Notes to physician:** No information available.

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

**Therapeutic measures:** No information available.

#### SECTION 5: Firefighting measures

##### 5.1 Extinguishing media

**Suitable extinguishing media:** sprayed water jet, extinguishing powder, Carbon dioxide (CO<sub>2</sub>), Foam, Dry chemical

##### 5.2 Special hazards arising from the substance or mixture

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.

##### 5.3 Advice for fire-fighters

Firemen must wear self-contained breathing apparatus.

Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

#### SECTION 6: Accidental release measures

##### 6.1 Personal precautions, protective equipment and emergency procedures

Granules - slip hazard!

##### 6.2 Environment related measures

Do not flush into surface water or sanitary sewer system.

##### 6.3 Methods and material for containment and cleaning up

Use mechanical handling equipment. Avoid dust formation.

##### 6.4 Reference to other sections

For further disposal measures see section 13.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Under recommended processing conditions small amounts of residues of monomers and residual solvent may be emitted. Provided good ventilation and/or local exhaust systems are used, the Workplace Exposure Limit(s) stated in section 8 should not be exceeded.

In case of mechanical processing, dust must be removed by effective exhaust ventilation.

Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at end of work and use skin-protecting ointment. Change contaminated clothing.

**7.2 Conditions for safe storage, including any incompatibilities**

No special storage conditions required.

**7.3 Specific end use(s)**

No information available.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

The regulations for the substances listed below must be observed when processing this product, particularly if processing takes place at elevated temperatures. In our experience the provision of effective fresh-air and exhaust ventilation equipment at the points where vapors may be generated will ensure compliance with the tolerance limits quoted below.

Substance	CAS-No.	Basis	Type	Value	Ceiling Limit Value	Remarks
acrylonitrile	107-13-1	AU NOEL				Dermal absorption possible
acrylonitrile	107-13-1	AU NOEL	TWA	2 ppm 4,3 mg/m3		
acrylonitrile	107-13-1	AU OEL	TWA	2 ppm 4,3 mg/m3		
acrylonitrile	107-13-1	AU OEL				Dermal absorption possible
styrene	100-42-5	AU NOEL	STEL	100 ppm 426 mg/m3		
styrene	100-42-5	AU NOEL	TWA	50 ppm 213 mg/m3		
styrene	100-42-5	AU OEL	TWA	50 ppm 213 mg/m3		
styrene	100-42-5	AU OEL	STEL	100 ppm 426 mg/m3		
1,3-butadiene; buta-1,3-diene	106-99-0	AU NOEL	TWA	10 ppm 22 mg/m3		
1,3-butadiene; buta-1,3-diene	106-99-0	AU OEL	TWA	10 ppm 22 mg/m3		
Ethylbenzene	100-41-4	AU NOEL	TWA	100 ppm 434 mg/m3		
Ethylbenzene	100-41-4	AU NOEL	STEL	125 ppm 543 mg/m3		
Ethylbenzene	100-41-4	AU OEL	TWA	100 ppm 434 mg/m3		

Ethylbenzene	100-41-4	AU OEL	STEL	125 ppm 543 mg/m <sup>3</sup>		
phenol	108-95-2	AU NOEL	TWA	1 ppm 4 mg/m <sup>3</sup>		
phenol	108-95-2	AU NOEL				Dermal absorption possible
phenol	108-95-2	AU OEL	TWA	1 ppm 4 mg/m <sup>3</sup>		
phenol	108-95-2	AU OEL				Dermal absorption possible
chlorobenzene	108-90-7	AU NOEL	TWA	10 ppm 46 mg/m <sup>3</sup>		

## 8.2 Exposure controls

### Respiratory protection

In case of dust formation use respiratory equipment with filter type particle filter P1 according to EN 143.

### Hand protection

Suitable materials for safety gloves; EN 374:

Polyvinyl chloride - PVC ( $\geq 0.5$  mm)

Contaminated and/or damaged gloves must be changed.

### Eye protection

Wear eye/face protection.

### Skin and body protection

Wear suitable protective clothing.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance:	granular	
Colour:	different according to colouration	
Odour:	odourless	
Odour Threshold:	not established	
pH:	not applicable	
Softening point:	100 - 200 °C	
Flash point:	not established	
Evaporation rate:	not established	
Flammability:	not established	
Burning number:	not established	
Upper/lower flammability or explosive limits:	not applicable	
Vapour pressure:	not applicable	
Vapour density:	not established	
Density:	ca. 1,1 - 1,2 g/cm <sup>3</sup>	DIN 53479
Bulk density:	600 - 700 kg/m <sup>3</sup>	
Water solubility:	practically insoluble	
Surface tension:	not established	
Partition coefficient (n-octanol/water):	not established	
Auto-ignition temperature:	> 390 °C	
Ignition temperature:	> 390 °C	
Decomposition temperature:	$\geq 380$ °C	
Heat of combustion:	not established	
Viscosity, dynamic:	not applicable	
Explosive properties:	not established	

Dust explosion class: not established  
Oxidising properties: not established

## 9.2 Other information

The indicated values do not necessarily correspond to the product specification. Please refer to the product information sheet or the technical information sheet for specification data.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This information is not available.

### 10.2 Chemical stability

Fumes evolved by overheating during improperly processing or by burning may be injurious to health.

### 10.3 Possibility of hazardous reactions

If overheated, the melt may undergo exothermal decomposition in the air (increase in temperature, generation of smoke or fumes).

### 10.4 Conditions to avoid

This information is not available.

### 10.5 Incompatible materials

This information is not available.

### 10.6 Hazardous decomposition products

Caused by smouldering and incomplete combustion toxic fumes mainly consisting of CO and CO<sub>2</sub> may be developed.

Under recommended processing conditions small amounts of emissions may occur.

The regulations for the substances listed below must be observed when processing this product, particularly if processing takes place at elevated temperatures.

acrylonitrile

CAS-No.: 107-13-1

GHS Classification: Flam. Liq. 2 H225 Carc. 1B H350 Acute Tox. 3 Inhalative H331 Acute Tox. 3

Dermal H311 Acute Tox. 3 Oral H301 STOT SE 3 H335 Skin Irrit. 2 H315 Eye Dam. 1 H318 Skin Sens.

1 H317 Aquatic Chronic 2 H411 Repr. 2 H361d

styrene

CAS-No.: 100-42-5

GHS Classification: Flam. Liq. 3 H226 Acute Tox. 4 Inhalative H332 Skin Irrit. 2 H315 Eye Irrit. 2 H319

Repr. 2 H361d STOT SE 3 H335 STOT RE 1 Inhalative H372 Asp. Tox. 1 H304 Aquatic Chronic 3 H412

1,3-butadiene; buta-1,3-diene

Index-No. 601-013-00-X

CAS-No.: 106-99-0

GHS Classification: Flam.Gas 1 H220 Carc. 1A H350 Press. Gas Muta. 1B H340

4-Vinylcyclohexene

EC-No.: 202-848-9

CAS-No.: 100-40-3

GHS Classification: Carc. 2 H351 Flam. Liq. 2 H225 Skin Irrit. 2 H315 Asp. Tox. 1 H304 Repr. 2 H361

Aquatic Chronic 3 H412

Ethylbenzene

EC-No.: 202-849-4

CAS-No.: 100-41-4

GHS Classification: Flam. Liq. 2 H225 Acute Tox. 4 Inhalative H332 STOT RE 2 Inhalative H373 Asp.

Tox. 1 H304 Aquatic Chronic 3 H412

phenol

EC-No.: 203-632-7

CAS-No.: 108-95-2

GHS Classification: Acute Tox. 3 Oral H301 Acute Tox. 3 Inhalative H331 Acute Tox. 3 Dermal H311  
Skin Corr. 1B H314 Eye Dam. 1 H318 Muta. 2 H341 STOT RE 2 H373 Aquatic Chronic 2 H411

4-tert-butylphenol

CAS-No.: 98-54-4

GHS Classification: Skin Irrit. 2 H315 Eye Dam. 1 H318 Repr. 2 H361f Aquatic Chronic 1 H410

chlorobenzene

CAS-No.: 108-90-7

GHS Classification: Flam. Liq. 3 H226 Acute Tox. 4 Inhalative H332 Skin Irrit. 2 H315 Aquatic Chronic 2  
H411

bisphenol A; 4,4'-isopropylidenediphenol

CAS-No.: 80-05-7

GHS Classification: Eye Dam. 1 H318 Skin Sens. 1 H317 Repr. 2 H361f STOT SE 3 Inhalative H335  
Aquatic Chronic 2 H411

## SECTION 11: Toxicological information

Toxicological studies on the product are not yet available.

### 11.1 Information on toxicological effects

#### Acute toxicity, oral

No data available.

#### Acute toxicity, dermal

No data available.

#### Acute toxicity, inhalation

No data available.

#### Primary skin irritation

No data available.

#### Primary mucosae irritation

No data available.

#### Sensitisation

No data available.

#### Subacute, subchronic and prolonged toxicity

No data available.

#### Carcinogenicity

No data available.

#### Reproductive toxicity/Fertility

No data available.

#### Reproductive toxicity/Developmental Toxicity/Teratogenicity

No data available.

#### Genotoxicity in vitro

No data available.

#### Genotoxicity in vivo

No data available.

#### STOT evaluation – one-time exposure

No data available.

#### STOT evaluation – repeated exposure

No data available.

**Aspiration toxicity**

No data available.

**Additional information**

According to our experience and information the product has no harmful effects on health if properly handled.

**SECTION 12: Ecological information**

Ecotoxicological studies of the product are not available.

Do not allow to escape into waterways, wastewater or soil.

**12.1 Toxicity**

No data available.

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

No data available.

**12.6 Other adverse effects**

The product is practically insoluble in water. In view of its consistency and insolubility in water, no ecological problems are to be expected if the product is properly handled. The product is not readily biodegradable.

**SECTION 13: Disposal considerations**

Dispose in accordance with applicable international, national and local laws, ordinances and statutes.

For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

**13.1 Waste treatment methods**

After containers have been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), they can be sent to an appropriate collection point set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.

The product is suitable for mechanical recycling. After appropriate treatment it can be remelted and reprocessed into new moulded articles. Mechanical recycling is only possible if the material has been selectively retrieved and carefully segregated according to type.

None disposal into waste water.

**SECTION 14: Transport information**

**ADG7 -  
Australia**

14.1 UN number : Not dangerous goods  
14.2 UN proper shipping name : Not dangerous goods  
14.3 Transport hazard class(es) : Not dangerous goods  
14.4 Packing group : Not dangerous goods  
14.5 Environmental hazards : Not dangerous goods

**IATA**

14.1 UN number : Not dangerous goods  
14.2 UN proper shipping name : Not dangerous goods  
14.3 Transport hazard class(es) : Not dangerous goods  
14.4 Packing group : Not dangerous goods  
14.5 Environmental hazards : Not dangerous goods

**IMDG**

14.1 UN number : Not dangerous goods  
14.2 UN proper shipping name : Not dangerous goods  
14.3 Transport hazard class(es) : Not dangerous goods  
14.4 Packing group : Not dangerous goods  
14.5 Marine pollutant : Not dangerous goods

**14.6 Special precautions for user**

See section 6 - 8.

Additional information : Not dangerous cargo. Keep dry.

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

No poison schedule number allocated

**SECTION 16: Other information**

**Full text of the hazard statements of the CLP classification (1272/2008/CE) referred to under sections 2, 3 and 10.**

H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H340	May cause genetic defects.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

The safety data sheet is also valid for corresponding BBS... types.

Relevant changes since the last version are highlighted in the margin. This version replaces all previous versions.

**Further information**

The information provided in this Safety Data Sheet 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 relates only 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.