### 3D printing filament

### **ASA Filament**

### 1. Chemical product and copany information

a Chemical product Acrylonitrile-Styrene-Acrylate

b Usage Electronic Goods, Automotive Parts, Package etc

c Chemical type Thermoplastics

d Company information 3D4Makers BV, Waarderweg 56, 2031 BP Haarlem,

The Netherlands

e Telephone number + 31 (0) 238200584

#### 2. Hazards indentification

a Threshold limit

b Effect of overexposure

Eye contact Solid or dust may cause irritation or corneal injury due to mecha-

nical action

Skin contact Essentially nonirritating to skin, Mechanical injury only

Skin absorption Unlikely due to physical properties

Ingestion Unlikely due to physical state.

Inhalation Dust may cause irritation to respiratory

In case of breathing, fumes released from heated material

may cause respiratory irritation

Chronic Effects Not available

Mutagenicity Not available

### 3. Composition/information on ingredients

	CAS number	Contents
ASA (Acrylonitrile-Styrene-Acrylate)	26299-47-8	97~100%
Typical antioxidant		0-1 %
Typical lubricants		0-2%

### 4. First aid measures

a Eye contact Immediately rinse eyes with copious amount of running water and seek medical advice.



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b Skin contact Essentially nonirritating to skin but rinse with copious water

C Ingestion If vomiting occurs, lower the head to ease vomiting and seek for

medical advice

d Inhalation In case of breathing, fumes released from heated material may

cause respiratory irritation

In case of inhaling dense smoke, immediately remove a person to fresh air. If necessary, apply artificial respiration

and seek medical attention immediately

e Mutagenicity Not available

### 5. Firefighting measures

a Flammable Properties

Flash Point None

Method used Not applicable
Auto ignition temperature Not applicable

b Extinguishing Media Usually use water and use extinguishing media appropriate to

surrounding conditions

c Special Fire Fighting Proce-

dure

Cool Containers with water spray. In closed stores, provide fire fighter with self-contained breathing apparatus in positive

pressure mode

d Usual Fire and Explosion Ha-

zards

Irritating gases and dense smoke

#### 6. Accidental release measures

a Personal Precautions Use personal protective equipment as required. Avoid contact

with eyes and skin. Remove all sources of ignition

b Environmental Precautions Keep out of irrigation ditches, sewers, and water supplies

Spills should be collected to prevent contamination of waterways

c Clean up Collect in closed and suitable containers for disposal

### 7. Handling and storage

a Handling Avoid formation of dust

Keep bags always closed / Keep container lightly closed

Avoid filament from getting wet

Storage Keep bags / containers in a well-ventilated place

Avoid filament from getting wet



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### 8. Exposure controls/personal protection

a Engineering controls Good general ventilation should be sufficient for most conditi-

ons

Local exhaust ventilation may be necessary for some operations

b Personal protective equip-

ment

which could cause mechanical injury to the eye, wear chemical

goggles

Skin Protection No Precautions other than clean body-covering clothing should

be needed

Respiratory Protection For most conditions, no respiratory protection should be needed;

however, If handling at elevated temperatures without sufficient ventilation, use an approved air-purifying respirator. In dusty at-

mospheres, use an approved dust respirator

c Exposure Guideline (s) Although some of the additives used in this product may have

exposure guidelines, these additives are encapsulated in the product and no exposure would be expected under normal handling

conditions

#### 9. Information on basic physical and chemical properties

a Appearance Filament

b Odor Almost Odorless

C pH Neutral

d Boiling point Not applicable

e Evaporation Rate Not applicable at standard condition

f Specific gravity 1.07

 $\begin{array}{ll} g & \text{Vapor pressure} & \text{Not applicable at standard condition} \\ h & \text{Vapor density} & \text{Not applicable at standard condition} \end{array}$ 

i Solubility in Water insoluble

Solubility in other Solvent Soluble in THF, Acetone and other Analogous Solvents

### 10. Stability and reactivity

a Stability Stable under normal condition

b Storage conditions to avoid Avoid fire and heating above 60°C

c Incompatibility None known

d Hazardous decomposition

products

Not applicable

e Hazardous polymerization Not occur



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### 11. Toxicological information

a See Section 3 for Potential Health Effects. For detailed toxicological data, Write or call the address or phone number shown in Section 1.

### 12. Ecological information

a Environmental Fate

Movement & Partitioning No bioconcentration is expected because of the high molecular

weight (MW>1000). In the terrestrial environment,

material is expected to remain in the soil. In the aquatic environ-

ment, material will sink and remain in the sediment.

Degradation & Persistence This water insoluble polymeric solid is expected to the inert in

the environment. Surface degradation is expected with exposure

to sunlight. No appreciable biodegradation is expected.

b Ecotoxicity Not Expected to be acutely toxic, but if ingested by waterfowl or

aquatic life, may mechanically cause adverse effects.

### 13. Disposal considerations

a Disposal Do not Dump into any sewers, on the ground, or into any body of

water. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with appliance laws are the responsibility solely of

the waste generator.

For unused & uncontaminated product, the preferred options include sending to a licensed, permitted: recycler, reclaim, incine-

rator or other thermal destruction device.

### 14. Transport information

a Not classified as hazardous under transport regulations.

#### 15. Regulatory information

Listed below are chemical substances subject to supplier notification requirements.



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**U.S. REQULATIONS:** 

TSCA INVENTORY STATUS: This product complies with the Chemical Substance Inventory

requirements of the US EPA TSCA.

CERCLA SECTION 103 (40CFR302.4): Not Listed SARA SECTION 313 (40CFR372.65): Not Listed

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21)

ACUTE: Not Listed CHRONIC: Not Listed FIRE: Not Listed REACTIVE: Not Listed

**SUDDEN RELEASE: Not Listed** 

**STATE REQULATIONS:** 

**California Proposition 65: Not Listed** 

**EUROPEAN REGULATIONS:** EC NUMBER: Not assigned

This product complies with the requirements of resolution of European Parliament (WE) no.

1907/2006

Dated December 18 2006 concerning REACH (European Union Official Register L396 with its changes In EU Official Register no. L136)

#### 16. Other Informaton

Product should be handled, stored, and used in accordance with the generally accepted industriahygiene practices and in conformity with all the applicable legal regulations. The information provided herein is based on the knowledge possessed at this present time from the view point of safety requirements. It should, therefore, not be construed as guaranteeing specific properties.



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