Safety Data Sheet

ZYLtech ASA PRIME 3D Printer Filament

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1. Chemical Product/Company Name

Substance or Preparation *Substance Chemical Name*	ASA (Acrylonitrile-Styrene-Acrylate Copolymer)
Product Description	Engineered Plastics
Product Use	3D Printing - Do not use in printers where temperatures exceed 300°C.
Supplier	ZYLtech Engineering, LLC 283 Lockhaven Dr Ste 122 Houston TX 77073 csr@zyltech.com

2. Composition/Ingredient Information

Materials	>95% ASA Resin (CAS 26299-47-8) <5% Additives <0.2% Styrene (CAS 100-42-5)

3. Hazards Identification

Classification in accordance with paragraph (d) of 29 CFR 1910.1200	None needed according to classification criteria
GHS Label Elements Symbol(s)	None needed according to classification criteria
Signal Word	None needed according to classification criteria

Hazard Statement(s)	None needed according to classification criteria.

Precautionary Statement(s)

Prevention	None needed according to classification criteria
Response	None needed according to classification criteria.
Storage	None needed according to classification criteria.
Disposal	Dispose of contents/container in accordance with local/ regional/national/international regulations.

4. First Aid Measures

Eyes	It is unlikely that first aid will be required. Dust may be irritating to the eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention, if needed.
Skin	It is unlikely that first aid will be required. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Ingestion	IF SWALLOWED - Rinse mouth. Get immediate medical advice/attention.
Inhalation	Heating may release vapors which may be irritating. In case of inhalation of decomposition products, affected person should be moved into fresh air and kept still. Get medical advice/attention.
Indication of any Immediate Medical Attention and Special Treatment Needed	First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. Treat symptomatically and supportively.

Most Important Symptoms/Effects

Acute	Molten material may cause thermal burns.
Delayed	No information on significant adverse effects.
Note to Physicians	Treat symptomatically. Give artificial respiration if not breathing.
Antidote	None known. Treat symptomatically and supportively.

5. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures	No measures required.
Methods and Materials for Containment and Cleaning Up	Collect spilled material in appropriate container for disposal. Dispose in accordance with all applicable regulations.
Environmental Precautions	Avoid release to the environment. Comply with all applicable regulations on spill and release reporting. Prevent entry into waterways, sewers, basements, or confined areas.

6. Handling and Storage

Precautions for Safe Handling	Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations.
Conditions for Safe Storage, Including any Incompatibilities	None needed according to classification criteria. Store in a cool dry place. Store below 50 C. Avoid heat, flames, sparks and other sources of ignition. Keep away from incompatible materials.
Incompatible Materials	Oxidizing agents.

7. Exposure Controls/Personal Protection

Component Exposure Limits	Styrene - 100-42-5 ACGIH - 20 ppm TWA / 40 ppm STEL NIOSH - 50 ppm TWA; 215 mg/m3 TWA / 100 ppm STEL; 425 mg/m3 STEL / 700 ppm IDLH OSHA (US) - 100 ppm TWA / 200 ppm Ceiling Mexico - 50 ppm TWA LMPE-PPT; 215 mg/m3 TWA LMPE-PPT / 100 ppm STEL [LMPE-CT]; 425 mg/m3 STEL [LMPE-CT] / Skin - potential for cutaneous absorption
EU - Occupational Exposure (98/24/EC) - Binding Biological Limit Values and Health Surveillance Measures	There are no biological limit values for any of this product's components.

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)	Styrene (CAS 100-42-5) 400 mg/g creatinine Medium: urine Time: end of shift Parameter: Mandelic acid plus phenylglyoxylic acid (nonspecific) 40 µg/L Medium: urine Time: end of shift Parameter: Styrene
Engineering Controls	Provide local exhaust ventilation system. Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection	None during normal use. Protect against molten solid.
Skin Protection	None during normal use. Protect against molten solid.
Respiratory Protection	No respirator is required under normal conditions of use. If respirable dusts are generated, respiratory protection may be needed.
Glove Recommendation	Protect against molten solid. In the molten form, Wear protective gloves.

8. Physical and Chemical Properties

Appearance	Spool, string, strand
Physical State	solid
Odor	odorless, sweet, plastic
Color	clear, translucent, opaque
Odor Threshold	varies
Melting Point	Softening above 100 °C
Auto-ignition temperature	466 °C
Flash Point	404°C

Lower Explosive Limit	45 g/m^3
Decomposition temperature	>250 °C
Specific Gravity (water=1)	1.03 - 1.1
Water Solubility	Insoluble

9. Stability and Reactivity

Reactivity	The product is chemically stable under recommended conditions of storage, use and temperature.
Chemical Stability	Stable under normal conditions of use.
Possibility of Hazardous Reactions	Will not polymerize.
Conditions to Avoid	Avoid contact with temperatures above 250 C.
Incompatible Materials	Oxidizing agents.
Hazardous decomposition products	Oxides of carbon, oxides of nitrogen, HCN, acrylonitrile, styrene monomer.

10. Ecological Information

Component Analysis - Aquatic Toxicity:

Styrene - 100-42-5

Fish –
LC50 96 h Pimephales promelas 3.24 - 4.99 mg/L [flow-through];
LC50 96 h Lepomis macrochirus 19.03 - 33.53 mg/L [static];
LC50 96 h Pimephales promelas 6.75 - 14.5 mg/L [static];
LC50 96 h Poecilia reticulata 58.75 - 95.32 mg/L [static]

Algae -
EC50 72 h Pseudokirchneriella subcapitata 1.4 mg/L IUCLID;
EC50 96 h Pseudokirchneriella subcapitata 0.72 mg/L IUCLID;
EC50 72 h Pseudokirchneriella subcapitata 0.46 - 4.3 mg/L [static] EPA;
EC50 96 h Pseudokirchneriella subcapitata 0.15 - 3.2 mg/L [static] EPA

Invertebrate - EC50 48 h Daphnia magna 3.3 - 7.4 mg/L EPA

11. Disposal Information

Disposal Methods:

Dispose of contents/container in accordance with local /regional/national/international regulations. Avoid release to the environment. Incineration should be done in accordance with prevailing municipal, state, and federal laws and standards from local environmental agencies.

12. Transportation Information

UN/NA #: Not regulated

International Bulk Chemical Code - This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk:

Styrene - 100-42-5
IBC Code - Category Y

13. Regulatory Information

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan:

Styrene - 100-42-5
SARA 313 - 0.1 % de minimis concentration
CERCLA - 1000 lb final RQ; 454 kg final RQ

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: No
Chronic Health: No
Fire: No
Pressure: No
Reactivity: No

U.S. State Regulations

The following component appears on one or more of the following state hazardous substances lists: Styrene - 100-42-5 - CA MA MN NJ PA

Not listed under California Proposition 65

14. Other Information

NFPA Ratings:

Health – 0
Fire – 1
Reactivity – 0

(0=Minimal, 1 = Slight, 2 = Moderate, 3 = Serious, 4 = Severe)

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