

Raise3D Premium ABS Safety Data Sheet

Section 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Identification of the material

Raise3D Premium ABS 3D Printing Filament

1.2 Identified uses

Used primarily for extrusion-based 3D printing processes

1.3 Supplier information

Supplier:

Raise 3D Technologies, Inc.

Address:

43 Tesla, Irvine, CA 92618

Emergency phone number: In case of toxicological emergency, contact your doctor.

Section 2: HAZARDS IDENTIFICATION

2.1 GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

2.2 Label elements

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

2.3 Other hazards

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. If small particles are generated during further processing, handling, or by other means, combustible dust concentrations in air may form. See section 7 for more information. See section 8 for more information.



Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical Name	CAS No.	Weight (%)	Exposure Limits
Acrylonitrile-Butadiene- Styrene copolymer	9003-56-9	>98	None
Additives		≤2	None

Section 4: FIRST AID MEASURES

4.1 Description of first aid measures

Remove affected persons from the danger area, at the same time ensuring your own safety. Remove all contaminated clothing immediately.

4.1.1 Inhalation

In case of gases evolving from melted resin, move subject to fresh air. Treat symptomatically

4.1.2 Skin contact

In case of pellets or powder, wash with water. In case of smelt, wash affected skin area and clothing with plenty of (soap and) water. Seek medical advice

4.1.3 Eye contact

In case of pellets or powder, flush with plenty of water for at least 15 minutes. Seek medical advice if any dust particles still remain. In case of gases evolving from melted resin of high temperature, flush with plenty of water for at least 15 minutes. Seek medical advice if necessary

4.1.4 Ingestion

Induce vomiting. Rinse mouth with water. Seek medical advice if necessary

4.2 Most important symptoms and effects, both acute and delayed

Dust: Skin irritation, eye irritations and redness

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. (Decontamination, vital functions)

Section 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media

Water, foam, dry chemical powder



5.2 Special hazards arising from the substance or mixture

Not applicable

5.3 Advice for fire fighters

Protective equipment: Self-contained breathing apparatus

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Filaments remained on ground may cause slipping

Wear protective equipment

Ensure adequate ventilation

Keep away from ignition sources

Keep unprotected persons away

6.2 Environmental precautions

Do not allow product to reach sewage system or water bodies. Inform respective authorities in case product reaches water, sewage system or soil

6.3 Methods and materials for containment and cleaning up

Recovery if not contaminated or disposal

Section 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Measures to prevent fire: Prevent from fire around handling area

Measures to prevent aerosol and dust generation:

maintain good housekeeping standards to prevent accumulation of dust. To avoid dust explosion resulting from the existence of powder, electrostatics eliminators and grounding should be fixed to such equipment as air transferring pipes, bag filters and hoppers. Use electrically conductive filters for bag filters.

7.2 Conditions for safe storage

Store in ambient temperatures. Avoid exposure to high moisture levels. No special restrictions on storage with other products. Keep the material at a cool dry place. Protect from direct sunlight, rain and violent temperature fluctuation. Fire is inhibited around storage area.



Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure Limits: None established

8.2 Engineering controls

Provide appropriate exhaust ventilation at places where dust is formed or the material is molten, such as during printing.

8.3 Personal protective equipment

Wear gloves when handling hot/molten material.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance: Filament, Solid

Color: Various

Odor: Odorless or negligible

Odor threshold: None

pH: Not applicable

Melting point/freezing point: Not determined

Boiling point: Not applicable

Flash point: 404°C

Evaporation rate: Not applicable

Flammability: Not available

Upper/lower flammability or explosive limits: 45 g/m³ (open cup, powder)

Vapor pressure: Not applicable

Vapor density: Not applicable

Relative density: 1.03 - 1.10 g/cm³

Solubility: No soluble

Partition coefficient (n-octanol/water): No data available

Auto-ignition temperature: 466°C

Decomposition temperature: Onset of decomposition > 380°C

Viscosity: Not applicable



Section 10: STABILITY AND REACTIVITY

10.1 Reactivity

Non-reactive under normal handling and storage conditions

10.2 Chemical stability

Stable under normal handling and storage conditions

10.3 Possibility of hazardous reactions

Data no available

10.4 Conditions to avoid

Avoid excessive heat, flames and all sources of ignition

10.5 Incompatible materials

not applicable

10.6 Hazardous decomposition products

not applicable

Section 11: TOXICOLOGICAL INFORMATION

11.1 Likely routes of exposure

Inhalation:

Dust irritates the respiratory system, and may cause coughing and difficulties in breathing.

Skin contact:

Dust may irritate skin.

Eye contact:

Dust may irritate the eyes.

Ingestion:

May cause discomfort if swallowed.

11.2 Symptoms

Dust may irritate throat and respiratory system and cause coughing. Direct contact with eyes may cause temporary irritation.

11.3 Information on toxicological effects

Acute toxicity (oral): Lack of data.



Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Lack of data. May cause irritations.

Eye damage/eye irritation: Lack of data. May cause irritations.

Sensitisation to the respiratory tract: Lack of data. Not to be expected

Skin sensitization: Lack of data. Not to be expected

Germ cell mutagenicity/Genotoxicity: Lack of data. Not to be expected

Carcinogenicity: Lack of data. Not to be expected

Reproductive toxicity: Lack of data. Not to be expected

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Dusts: Irritating to eyes, respiratory system and skin.

Specific target organ toxicity (repeated exposure): Lack of data.

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Short-term aquatic toxicity:

Based on available data on the constituents the classification criteria are not met.

$LC(50)_{mixture} = 5.78 \text{ mg/l}$ (additivity and summation method, toxicity information available for 92,5 % of the mixture)

Long-term aquatic toxicity:

Based on available data on the constituents the classification criteria are met and the mixture is therefore classified as

Aquatic Chronic 1. $NOEC_{mixture} = 0.0079 \text{ mg/l}$ (additivity and summation method, toxicity information available for 78 % of the mixture)

12.2 Persistence and degradability

Further details:

Biodegradation: Product is not readily biodegradable.

The product is likely to persist in the environment.

Effects in sewage plants:

In sewage treatment plants it may be separated mechanically.

12.3 Bioaccumulative potential

To avoid bioaccumulation plastics should not be disposed in the sea or in other water environments.



12.4 Mobility in soil

No data available.

12.5 Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal: Dispose in accordance with the current local regulations.

Waste treatment-relevant information: Inadequate incineration may generate toxic gases such as CO, HCN, AN and SM

Section 14: TRANSPORT INFORMATION

14.1 ADR/RID:

14.1.1 UN number

Not applicable

14.1.2 UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.1.3 Transport hazard class(es)

Not applicable

14.1.4 Packing Group

Not applicable

14.1.5 Environmental hazards

Not considered environmentally hazardous based on available data

14.1.6 Special precautions for user

Special Provisions: no data available

Hazard identification No: no data available

14.2 ADNR / ADN

14.2.1 UN number

Not applicable

14.2.2 UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.2.3 Transport hazard class(es)

Not applicable



14.2.4 Packing Group

Not applicable

14.2.5 Environmental hazards

Not considered environmentally hazardous based on available data

14.2.6 Special precautions for user

no data available

14.3 IMDG**14.3.1 UN number**

Not applicable

14.3.2 UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.3.3 Transport hazard class(es)

Not applicable

14.3.4 Packing Group

Not applicable

14.3.5 Environmental hazards

Not considered environmentally hazardous based on available data

14.3.6 Special precautions for user

EMS Number: Not applicable

14.3.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

14.4 ICAO/IATA**14.4.1 UN number**

Not applicable

14.4.2 UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.4.3 Transport hazard class(es)

Not applicable

14.4.4 Packing Group

Not applicable

14.4.5 Environmental hazards

Not considered environmentally hazardous based on available data

14.4.6 Special precautions for user

no data available



Section 15: REGULATORY INFORMATION

15.1 International Inventories

TSCA: Complies

DSL/NDSL: Complies

EINECS/ELINCS: Complies

ENCS: Complies

IECSC: Complies

KECL: Complies

PICCS: Complies

AICS: Complies

15.2 Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified

Chemical Substances ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.3 US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard No

Chronic Health Hazard No

Fire hazard No

Sudden release of pressure hazard No

Reactive Hazard No



CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

15.4 US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

Section 16: OTHER INFORMATION**Revision information**

Date of this revision: December 18, 2018

Declare to reader

The information above is believed to be accurate and represents the best information currently available to us.

However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use.

This shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

