SAFETY DATA SHEETS

Version: 1.0
Creation Date: Sept. 12, 2025
Revision Date: Sept. 12, 2025

1. Identification

1.1 Product identifier used on the label

Product name Filaform Naked

1.2 Other means of identification

Product number PLA
Other names -

1.3 Recommended use of the chemical and restrictions on use

Identified uses Filaform Naked
Uses advised against no data available

1.4 Details of the supplier of the safety data sheet

Details of supplier in Australia
Company 3D Printer Gear Pty Ltd
Address 781 High Street Reservoir, Melbourne Victoria 3073
Telephone 1300 334 327
Details of suppliers outside Australia
Company 3D Printer Gear Pty Ltd
Address 781 High Street Reservoir, Melbourne Victoria 3073
Telephone 1300 334 327

1.5 Emergency phone number

Emergency phone number +61431584407
Service hours Monday to Friday, 9am-6pm hours

2. Hazard identification

2.1 Classification of the chemical in accordance with paragraph (d)(1)(i) of § 1910.1200

Not classified.

2.2 Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of § 1910.1200

Hazard symbol(s) No symbol.
Signal word No signal word
Hazard statement(s) none
Precautionary statement(s)
Prevention none
Response none
Storage none
Disposal none

2.3 Hazards classified under paragraph (d)(1)(ii) of § 1910.1200

no data available

2.4 Hazards not otherwise classified that have been identified during the classification process

no data available

3. Composition/information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

Chemical name	Common names and synonyms	CAS number	EC number	% [weight]
Polylactid Acid	PLA pellets	9051-89-2	618-575-7	60%-85%
/	Polyeaster pellets	-	-	1%-20%

Calcium carbonate	Calcium carbonate	471-34-1	207-439-9	5%-20%
/	Additive	-	-	1%-4%

4. First aid measures

4.1 Description of necessary measures

Following inhalation

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

4.2 Most important symptoms/effects, acute and delayed

no data available

4.3 Indication of immediate medical attention and special treatment needed, if necessary

no data available

5. Fire-fighting measures

5.1 Suitable (and unsuitable) extinguishing media

Suitable extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

Unsuitable extinguishing media

no data available

5.2 Specific hazards arising from the chemical

Hazardous combustion products

no data available

5.3 Special protective equipment and precautions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid creating dust or micro-filament particles. Do not breathe fumes, vapors or airborne particulates that may be released if the material has been heated.
Keep away from skin, eyes and clothing. Wear nitrile or neoprene gloves, safety goggles with side shields, and a long-sleeve cotton or antistatic lab coat.
Ensure adequate ventilation. Use local exhaust (capture velocity ≥ 100 ft/min) at the printer head or general dilution ventilation to maintain exposure below OSHA PELs and ACGIH TLVs.
Eliminate all ignition sources: no smoking, open flames, hot surfaces, or spark-producing tools. Ground all equipment to prevent static discharge.
Clear non-essential personnel from the area. Establish a 25-ft (7.6 m) up-wind exclusion zone and post “Respirator & Eye Protection Required” barricade tape.
If thermal decomposition products are suspected (styrene, aldehydes, CO), wear at minimum a NIOSH-approved N95 or P100 filtering face-piece; for unknown or high concentrations use a NIOSH-approved supplied-air respirator.

6.2 Methods and materials for containment and cleaning up

Allow any molten polymer to cool and solidify. Pick up intact spools or pellets by hand or with insulated gloves.
Sweep or use a HEPA-filtered, spark-proof vacuum to collect loose dust or short filaments; do not use compressed air.
Place all recovered material in closed, labeled plastic bags or drums for re-use or disposal per federal, state and local regulations (40 CFR 262).
Do not flush residues down floor drains. Dispose of contaminated PPE and cleanup debris as non-hazardous industrial waste unless contaminated with solvents.

7. Handling and storage

7.1 Precautions for safe handling

Use only in a well-ventilated area; maintain local exhaust (≥ 100 ft/min capture) or general dilution ≥ 6 air-changes/hr to keep respirable dust and any thermal-decomposition vapors below OSHA PELs/ACGIH TLVs.
Wear long-sleeve cotton or antistatic clothing, nitrile gloves, and safety glasses with side shields; if dust or fumes are visible add a NIOSH-approved N95 or P100 filtering face-piece.
Avoid dust or micro-filament generation—do not grind, sand, or cut cold filament; collect tailings with a HEPA vacuum.
Use non-sparking, hand tools (aluminum, bronze, or plastic) when trimming or removing support material.
Ground and bond all equipment, filament spindles, and vacuum units; keep relative humidity ≥ 40 % to prevent electrostatic discharge.
Keep away from hot surfaces > 220 °C unless in the controlled melt zone; never leave printer unattended while nozzle is above set-point.
Wash hands with soap and water after handling; do not eat, drink, or smoke in work area.

7.2 Conditions for safe storage, including any incompatibilities

Store in original moisture-barrier bags or tightly closed plastic containers at 5 – 30 °C and < 20 % RH; keep away from direct sunlight, radiators, or other heat sources.
Separate from strong oxidizers, acids, alkalis, solvents, and food-grade materials by ≥ 3 ft (1 m) or a physical barrier.
Ensure storage area is cool, dry, and well-ventilated; avoid attics or vehicle interiors where summer temperatures can exceed 50 °C and cause spool deformation.
Use conductive or anti-static shelving; do not store above shoulder height to prevent dropped-container damage.
Rotate stock first-in/first-out; re-seal opened bags with desiccant to prevent hydrolysis or brittleness.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

Component	Calcium carbonate			
CAS No.	471-34-1			
	Limit value - Eight hours		**Limit value - Short term**	
	ppm	**mg/m^3**	**ppm**	**mg/m^3**
Australia		10 (1)		
Canada - Québec		10		
France		10 inhalable aerosol		
Hungary		10 inhalable aerosol		
Ireland		10 (1)		
		4 (2)		
Latvia		6		
New Zealand		10 (1)		
Poland		10		
Singapore		10 (limestone, marble)		
Switzerland		3 respirable aerosol		
USA - OSHA		15 total dust		
		5 respirable dust		
United Kingdom		10 inhalable aerosol		
		4 respirable aerosol		
	Remarks			
Australia	(1) This value is for inhalable dust containing no asbestos and			
Ireland	(1) Inhalable fraction (2) Respirable fraction			
New Zealand	(1) The value for inhalable dust containing no asbestos and less than 1% free silica.			

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side shields or full-face shield that comply with ANSI Z87.1-2020 (US) or EN 166 (EU). Select splash-rated goggles if molten polymer or cleaning solvents are present.

Skin protection

Wear loose-fitting, long-sleeve clothing made from natural fiber or flame-resistant cotton (NFPA 2112). Thermal-insulated, heat-resistant gloves (e.g., leather or aramid) are required when working near the hot-end (> 100 °C). For routine handling, nitrile gloves (≥ 0.11 mm, 5-mil) meeting EN 374 or ASTM D6319 are sufficient; inspect for pinholes before each use. Wash and dry hands after removal.

Body Protection

Standard flame-resistant lab coat or coverall (NFPA 2112, EN ISO 14116). Select apron or aluminized suit only for prolonged contact with molten bead. Do NOT wear polyester, nylon or other thermoplastic fabrics that can melt and adhere to skin.

Respiratory protection

If engineering controls cannot keep respirable dust or thermal-decomposition vapors below OSHA PEL/ACGIH TLV, wear:
Minimum: NIOSH-approved N95 or P100 filtering face-piece for dust.
For unknown or nuisance organic vapors: half-mask with OV/P100 cartridges.
For confirmed thermal-decomposition fumes (styrene, aldehydes, CO): full-face, NIOSH-approved supplied-air respirator (SCBA or airline) operated in positive-pressure mode.
Follow 29 CFR 1910.134 for selection, fit-testing, maintenance and cartridge change-out schedule.

9. Physical and chemical properties

Physical state Solid.

Color	Various
Odor (includes odor threshold)	Odorless
Melting point/freezing point	160℃
Boiling point (or initial boiling point or boiling range)	not applicable
Flammability	Flammable
Lower and upper explosion limit/flammability limit	not applicable
Flash point	not applicable
Auto-ignition temperature	not applicable
Decomposition temperature	>300℃
pH	not applicable
Kinematic viscosity	no data available
Solubility	In water: Insoluble
Partition coefficient n-octanol/water	not applicable
Vapor pressure (includes evaporation rate)	not applicable
Density and/or relative density	1.3 g/cm3
Relative vapor density	not applicable
Particle characteristics	no data available

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions, including those associated with foreseeable emergencies

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

11. Toxicological information

11.1. Information on the likely routes of exposure

no data available

11.2. Symptoms related to the physical, chemical, and toxicological characteristics

no data available

11.3. Delayed and immediate effects and also chronic effects from short- and long-term exposure

no data available

11.4. Numerical measures of toxicity

Acute toxicity

- Oral: pure CAS 471-34-1: LD50 Mouse oral 6450 mg/kg bw
- Inhalation: pure CAS 471-34-1: LC50 - rat (male/female) - > 3 mg/L air (analytical).
- Dermal: pure CAS 471-34-1: LD50 - rat (male/female) - > 2 000 mg/kg bw.

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

pure CAS 471-34-1: May cause mechanical irritation to the respiratory tract and eyes.

STOT-repeated exposure

pure CAS 471-34-1: Health effects of the substance have been investigated but none have been found

Aspiration hazard

pure CAS 471-34-1: A nuisance-causing concentration of airborne particles can be reached quickly when dispersed, especially if powdered.

11.5. Interactive effects

no data available

11.6. Whether alternative information is used and the method used to derive the information

no data available

12. Ecological information

12.1 Ecotoxicity

- Toxicity to fish: pure CAS 471-34-1: LC50 - Oncorhynchus mykiss (previous name: Salmo gairdneri) - > 100 % v/v saturated solution - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: pure CAS 471-34-1: EC50 - Daphnia magna - > 100 % v/v saturated solution - 48 h.
- Toxicity to algae: pure CAS 471-34-1: EC50 - Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) - > 14 mg/L - 72 h.
- Toxicity to microorganisms: pure CAS 471-34-1: EC50 - activated sludge of a predominantly domestic sewage - > 1 000 mg/L - 3 h. Remarks:Respiration rate.

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 Other adverse effects

no data available

13. Disposal considerations

13.1 Disposal methods

Product

Dispose of unused or cured filament in accordance with Federal, state and local requirements.
Non-hazardous solid waste: may be land-filled as ordinary industrial waste (40 CFR 261) or incinerated in a licensed municipal or industrial waste-to-energy facility equipped with acid-gas scrubbing.
Do NOT melt, burn on-site, or discharge into storm drains, sewers, or natural waterways.
If the material has become contaminated with solvents, paints, or metals, conduct a RCRA hazardous-waste determination (TCLP) and use an EPA-licensed treatment, storage and disposal facility (TSDF).

Contaminated packaging

Cardboard spool cores and plastic vacuum bags: triple-rinse or wipe clean, then recycle through an approved industrial recycler if local programs accept thermoplastics.
If recycling is unavailable, puncture bags and crush spools to render them unusable, then dispose of as non-hazardous municipal solid waste or incinerate in an EPA-permitted waste combustor with flue-gas scrubbing.
Empty metal desiccant packets may be recycled as scrap metal or discarded as solid waste.

14. Transport information

14.1 UN number

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.

14.2 UN proper shipping name

ADR/RID: Not dangerous goods.

IMDG: Not dangerous goods.

IATA: Not dangerous goods.

14.3 Transport hazard class(es)

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.

14.4 Packing group, if applicable

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.

14.5 Environmental hazards

ADR/RID: No IMDG: No IATA: No

14.6 Transport in bulk according to IMO instruments

no data available

14.7 Special precautions for user

no data available

15. Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Polylactid Acid	PLA pellets	9051-89-2	618-575-7
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
California Prop. 65 Components			Not Listed.
New Jersey Right To Know - Right to Know Hazardous Substance List (RTKHSL)			Not Listed.
Massachusetts Right To Know - MASSACHUSETTS SUBSTANCE LIST (MSL)			Not Listed.
Pennsylvania Right To Know - HAZARDOUS SUBSTANCE LIST			Not Listed.
Federal Drinking Water Guidelines	no data available		
State Drinking Water Guidelines	no data available		
Clean Water Act Requirements	no data available		
CERCLA Reportable Quantities	no data available		
RCRA Requirements	no data available		
FIFRA Requirements	no data available		
FDA Requirements	no data available		

Chemical name	Common names and synonyms	CAS number	EC number
/	Polyeaster pellets	/	-
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
California Prop. 65 Components			Not Listed.
New Jersey Right To Know - Right to Know Hazardous Substance List (RTKHSL)			Not Listed.
Massachusetts Right To Know - MASSACHUSETTS SUBSTANCE LIST (MSL)			Not Listed.
Pennsylvania Right To Know - HAZARDOUS SUBSTANCE LIST			Not Listed.

Chemical name	Common names and synonyms	CAS number	EC number
Calcium carbonate	Calcium carbonate	471-34-1	207-439-9
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
California Prop. 65 Components			Not Listed.
New Jersey Right To Know - Right to Know Hazardous Substance List (RTKHSL)			Not Listed.
Massachusetts Right To Know - MASSACHUSETTS SUBSTANCE LIST (MSL)			Not Listed.
Pennsylvania Right To Know - HAZARDOUS SUBSTANCE LIST			Not Listed.

Chemical name	Common names and synonyms	CAS number	EC number
/	Additive	/	/
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
California Prop. 65 Components			Not Listed.
New Jersey Right To Know - Right to Know Hazardous Substance List (RTKHSL)			Not Listed.
Massachusetts Right To Know - MASSACHUSETTS SUBSTANCE LIST (MSL)			Not Listed.
Pennsylvania Right To Know - HAZARDOUS SUBSTANCE LIST			Not Listed.

16. Other information

Information on revision

Creation Date	Sept. 12, 2025
Revision Date	Sept. 12, 2025

Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average

- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
- ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Any questions regarding this SDS, please send your inquiry to sds@xixisys.com.

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.