

SAFETY DATA SHEETS

According to (EU) No. 1907/2006, (EU) No. 1272/2008 and their amendments and corrigenda

Version: 1.0
Creation Date: Sept. 12, 2025
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	Panchroma™ PLA Basic Colors
Nanoform	The product is not in a nanoform.
Other means of identification	
Other names	-
Product number	-
Unique formula identifier (UFI)	Not relevant.

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

Relevant identified uses	Panchroma™ PLA Basic Colors
Uses advised against	no data available
Reason why uses advised against	no data available

1.3. Details of the supplier of the safety data sheet

Details of the supplier	
Company	PolyMelt Manufacturing Inc.
Address	12515 Citypark Dr Missouri City, Texas 77489
Telephone	+1 346 955 1536
Details of the non-Community manufacturer or formulator	
Company	JF Polymers(Suzhou) Co., Ltd.
Address	No.7-1, Xinggang East Road, Changshu City, Jiangsu Province, China
Telephone	+86-512-52058005
E-mail address of competent person responsible for the SDS	support@polymaker.com

1.4. Emergency telephone number

Emergency telephone number	+86-512-52058005
Opening hours	Monday to Friday, 9 am-5 pm (Standard time zone: UTC/GMT+8 hours).

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.1. Classification according to Regulation (EC) No 1272/2008 (CLP)

Not classified.

2.1.2. Additional information

For the full text of Classification and Hazard-statements: see SECTION 16.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictogram(s)	No symbol.
Signal word	No signal word
Hazard statement(s)	none
Precautionary statement(s)	none
Supplemental Hazard information	no data available

2.3. Other hazards

no data available

SECTION 3: Composition/information on ingredients

3.1. Substances

not applicable

3.2. Mixtures

Chemical name	Common names and synonyms	CAS number	EC number	Registration number	Classification according to Regulation (EC)No 1278/2008(CLP)	% [weight]	SCL, M-factor, ATE
Poly lactid Acid	PLA pellets	9051-89-2	618-575-7	-	Not classified.	60%-85%	-
/	Polyeaster pellets		-	-	no data available	1%-20%	-
Calcium carbonate	Calcium carbonate	471-34-1	207-439-9	-	Not classified.	5%-20%	-
/	Additive			-	Not classified.	1%-4%	-

Additional information for nanoforms

not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

General notes

Medical attention is required. Consult a doctor. Show this safety data sheet (SDS) to the doctor in attendance.

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.

Self-protection of the first aider

Wear protective equipment. Consult a doctor.

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

no data available

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

no data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

no data available

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

no data available

5.3. Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 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. Environmental precautions

Prevent further leakage or spillage if safe to do so.

Do not allow the material to enter drains, surface water or groundwater.

Discharge into the environment must be avoided; collect for reuse or dispose of as non-hazardous waste in accordance with local and EU regulations.

6.3. 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.

6.4. Reference to other sections

For disposal suggestions see section 13. For exposure controls / personal protection suggestions see section 8.

SECTION 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 $\geq 40\%$ to prevent electrostatic discharge. Keep away from hot surfaces $> 220^\circ\text{C}$ 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 $5 - 30^\circ\text{C}$ 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.

7.3. Specific end use(s)

Main uses of the chemical are mentioned in section 1.2. No other specific uses are stipulated.

SECTION 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.			

8.2. Exposure controls

8.2.1. 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.

8.2.2. Individual protection measures, such as personal protective equipment

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.

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.

Thermal hazards

no data available

8.2.3. Environmental exposure controls

See section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Colour	Various.
Odour	Odorless
Melting point/freezing point	160°C
Boiling point or initial boiling point and boiling range	Not applicable
Flammability	Flammable
Lower and upper explosion limit	Not applicable
Flash point	Not applicable
Auto-ignition temperature	no data available
Decomposition temperature	>300°C
pH	Not applicable
Kinematic viscosity	no data available
Solubility	In water: Insoluble
Partition coefficient n-octanol/water	Not applicable
Vapour pressure	Not applicable
Density and/or relative density	1.3 g/cm ³
Relative vapour density	no data available
Particle characteristics	no data available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

no data available

9.2.2. Other safety characteristics

no data available

SECTION 10: Stability and reactivity

10.1. Reactivity

no data available

10.2. Chemical stability

no data available

10.3. Possibility of hazardous reactions

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

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

Summary of evaluation of the CMR properties

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.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

no data available

11.2.2. Other information

no data available

SECTION 12: Ecological information

12.1. Toxicity

- 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. Results of PBT and vPvB assessment

no data available

12.6. Endocrine disrupting properties

no data available

12.7. Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1. Waste treatment 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.

SECTION 14: Transport information

14.1. UN number or ID 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

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. Special precautions for user

no data available

14.7. Maritime transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemical name	Common names and synonyms	CAS number	EC number
Polylactid Acid	PLA pellets	9051-89-2	618-575-7
European Inventory of Existing Commercial Chemical Substances (EINECS)			Not Listed.
Chemical name	Common names and synonyms	CAS number	EC number
-	Polyester pellets	-	-
European Inventory of Existing Commercial Chemical Substances (EINECS)			Not Listed.
Chemical name	Common names and synonyms	CAS number	EC number
Calcium carbonate	Calcium carbonate	471-34-1	207-439-9
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
Chemical name	Common names and synonyms	CAS number	EC number
-	Additive	-	-
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other information

Indication of changes

Version 1.0

Initial issue.

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%

Key literature references and sources for data

- 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/>

Full text of Classification and Hazard-statements referred to under sections 2

none

Advice on any training appropriate for workers to ensure protection of human health and the environment

Provide sufficient information, guidance and training to operating personnel.

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.