Product Name: Product No: Date: BioBlend<sup>®</sup> XP 22250 BioPolymer BioBlend<sup>®</sup> XP 22250 30 November 2020



#### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	BioBlend <sup>®</sup> XP 22250 BioPolymer
Common Names	BioBlend® XP 22250
Product Use	BioPolymer resin for blowing film
Manufacturer	BiologiQ, Inc. 3834 Professional Way Idaho Falls, ID 83402
Emergency Number	1-208-357-9650

#### SECTION 2. HAZARDS IDENTIFICATION

GHS Classification and Label Elemen	ts
Category	Combustible Dust (OSHA Defined)
Label Content	
Pictogram	Not required
Signal word	WARNING
Hazardous warnings	May form combustible dust concentrations in air.
Hazardous prevention measures	Not required
Other Hazards	
Physical / Chemical Hazards	
Combustible Dust	If small particles are generated during further processing, handling, or by other means, may form combustible dust concentrations in air.
Health Hazards	
Eye	H320: Causes eye irritation. Particles may cause mechanical irritation.
Skin Contact	H316: Causes skin irritation. Only when hot.
Inhalation	Low order of toxicity.
Ingestion	No hazard in normal industrial use.
Environmental Hazards	No significant hazard
NFPA Hazard ID Health: 1	Flammability: 1 Reactivity: 0
HMIS Hazard ID Health: 1	Flammability: 1 Reactivity: 0

Product Name: Product No: Date: BioBlend® XP 22250 BioPolymer BioBlend® XP 22250 30 November 2020



SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS			
Name	CAS #	Concentration	GHS Hazard Codes
NuPlastiQ <sup>®</sup> GP BioPolymer		-	N/A
LDPE Adhesive Resin		-	N/A
Ethylene-butene copolymer	25087-34-7	-	N/A
Additives		< 0.5%	N/A

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provision of paragraph (i).

SECTION 4. FIRST-AID M	IEASURES
Eye Contact	Flush eyes with large amounts of water until irritation stops. Seek medical attention if irritation persists.
Skin Contact	Wash with soap and water.
	For hot product: immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.
Inhalation	Remove individual to fresh air.
Ingestion	Not a probable route of exposure. However, in case of accidental ingestion, call a physician.

SECTION 5. FIREFIGHTING MEASURES	
Extinguishing Media	Dry chemical; CO <sub>2</sub> ; Water fog; Foam
Unsuitable Extinguishing Media	No applicable data available.
Specific Hazards	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Do not permit dust to accumulate.
Protective Equipment	Self-contained breathing apparatus.
Potentially Hazardous Combustion Products	Flammable hydrocarbons, aldehydes, ketones, incomplete combustion products, oxides of carbon, smoke, fumes
Flammability Properties	
Flash Point	No data

Product Name: Product No: Date: BioBlend<sup>®</sup> XP 22250 BioPolymer BioBlend<sup>®</sup> XP 22250 30 November 2020



Auto-ignition Temperature N/A	Flammability Limits	LEL: N/D	UEL: N/D	
	Auto-ignition Temperature	N/A		

SECTION 6. ACCIDENTAL RELEASE MEASURES		
Safeguards	Avoid the generation or accumulation of dust in the air. Good housekeeping practices should be used to avoid dust build up.	
Spill Clean	Spilled material is a slipping hazard on hard surfaces.	
	Sweep or scoop up pellets and remove.	
	Spills of fine material should be cleaned using gentle sweeping or vacuuming. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.	
<b>Environmental Precautions</b>	Do not discharge to streams, ponds, lakes, or sewers.	
Disposal Method	In accordance with existing local/state/federal regulations.	

SECTION 7. HANDLING AND STORAGE	
Handling	Minimize dust generation and accumulation. Institute routine housecleaning to ensure dust does not accumulate on surfaces.
	Pneumatic conveying and other mechanical handling operations can generate combustible dust. Avoid significant deposits of material which may become airborne and form combustible dust clouds. Handling this product may result in electrostatic accumulation. Use proper grounding procedures. Handling and processing operations should be conducted in accordance with best practices (e.g. NFPA-654).
Loading/Unloading Temperature	[Ambient]
Transport Temperature	[Ambient]
Transport Pressure	[Ambient]
Storage	Store in cool dry place with adequate ventilation.
Storage Temperature	[Ambient]
Storage Pressure	[Ambient]
Suitable Containers/Packing	Bulk containers, bags. Store sealed to prevent moisture absorption and decomposition.
Incompatible Materials	Strong oxidizing agents.

Product Name: Product No: Date: BioBlend® XP 22250 BioPolymer BioBlend® XP 22250 30 November 2020



#### **SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Exposure limit values for materials that can be formed when handling this product	For dusty conditions, OSHA recommends for particulates not otherwise regulated, an 8-hour TWA of 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction); ACGIH recommends for insoluble and poorly soluble particles not otherwise specified an 8-hour TWA of 10 mg/m3 (inhalable particles), 3 mg/m3 (respirable particles). NOTE: Limits/standards shown for guidance only. Follow applicable regulations.
	Under recommended processing conditions, this material has been shown to emit elevated concentrations of glycerol mist (CAS 56-81-5). This may cause smoke and possible odor during processing. OSHA does not list glycerol mist as a hazardous material with specific exposure limits.
Engineering Controls	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Processors of this product should assure that adequate ventilation or other controls are used to control exposure.
Personal Protection	
Hand Protection	If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, a long sleeve shirt or gauntlet-style gloves are recommended.
Eye Protection	If contact with hot material is likely, safety glasses with side shields are recommended.
Skin and Body Protection	If there is a potential for contact with hot product, thermally protective clothing and footwear is recommended.
Respiratory Protection	If engineering controls do not maintain acceptable airborne contaminate levels, an approved respirator may be appropriate. Typical type: Particulate air-purifying respirator approved for dust / oil mist is recommended.

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

General Information / Appearance	2	
Physical State	Solid	
Form	Resin Pellets	
Туре	Mixture	
Color	Opaque, off-white to tan	

Product Name: Product No: Date: BioBlend<sup>®</sup> XP 22250 BioPolymer BioBlend<sup>®</sup> XP 22250 30 November 2020



Odor	N/D
Odor Threshold	N/D
mportant Health, Safety, and Envi	
Relative Density	N/A
pH as is	N/A
pH in 1% Solution	N/A
Boiling Point	N/A
Partition Coefficient	N/A
	N/A N/D
Specific Gravity	N/A
Evaporation Rate	
Vapor Pressure (mm Hg)	N/A
Vapor Density	N/A
Volatiles	N/A
Volatile Organic Compounds	N/A
Auto-ignition Temperature	N/A
Flammability (solid, gas)	May form combustible dust concentrations in air.
Flash Point	N/D
Upper Explosion Limit	N/D
Lower Explosion Limit	N/D
Decomposition Temperature	N/D
Oxidizing Properties	N/A
Viscosity	N/A
Other Information	
Freezing Point	N/A
Melting Temperature	N/A
Molecular Weight	>10,000
Solubility in Water	Low

SECTION 10. STABILITY AND REACTIVITY	
Reactivity	0 = Insignificant
Stability	Material is stable under normal conditions.
Conditions to Avoid	Avoid elevated temperatures for prolonged periods of time.
Materials to Avoid	Strong acids and oxidizing agents

Product Name:	
Product No:	
Date:	

BioBlend® XP 22250 BioPolymer BioBlend® XP 22250 30 November 2020



 Hazardous Decomposition Products
 This product does not undergo spontaneous decomposition.

 Hazardous decomposition products may include but are

not limited to: Carbon dioxide (CO2), Carbon monoxide, Organic acids, Aldehydes, Alcohols, Acrolein, Formaldehyde, Acetaldehydes

#### SECTION 11. TOXICOLOGICAL INFORMATION

**Product Toxicology** 

Oral Toxicity	Low order of toxicity
Dermal Toxicity	Non-hazardous
Inhalation Toxicity	Non-hazardous
Eye Irritation	Mechanical irritation is possible.

#### Chronic (Long-Term) Effects of Exposure

Eye, skin, inhalation, ingestion
None
N/A
None known
May be irritating to the eyes and respiratory tract.
NTP, IARC, OSHA CARC

SECTION 12. ECOLOGICAL INFORMATION			
Ecotoxicity	N/D		
Biodegradability	N/D		
<b>Bioaccumulative potential</b>	N/D		
Mobility in soil	N/D		

#### SECTION 13. DISPOSAL CONSIDERATIONS

<b>Disposal Recommendations</b>	
Waste Disposal Methods:	In accordance with existing federal/state/local environmental regulations.
Empty Containers:	Empty container may contain product residue; follow SDS and label warnings even after containers have been emptied.

Product Name: Product No: Date: BioBlend® XP 22250 BioPolymer BioBlend® XP 22250 30 November 2020



#### **SECTION 14. TRANSPORT INFORMATION**

Land (DOT)	Not regulated for land transport
Sea (IMDG)	Not regulated for sea transport
Air (IATA)	Not regulated for air transport

#### **SECTION 15. REGULATORY INFORMATION U.S. Regulations** SARA (311/312) Reportable GHS Hazard Classes: Combustible Dust SARA 313 title III This material contains no chemicals with known CAS numbers that exceed the threshold levels required for reporting. **TSCA** Inventory List The components listed in section 3 are in compliance with TSCA Inventory requirements for commercial purposes **State Regulations** California Prop. 65 This product contains no known listed substances. **International Inventories** The components with known CAS numbers in Section 3 Canada DSL Inventory List are listed. The components with known CAS numbers in Section 3 China inventory of Existing Chemical Substances list: are listed

#### **SECTION 16. OTHER INFORMATION**

Modified:	30 November 2020	Updated company address.
Modified:	25 February 2019	Updated naming from NuPlastiQ <sup>®</sup> XP to BioBlend <sup>®</sup> XP.
Created:	6 November 2018	

N/D = Not determined, N/A = Not applicable

Key to The H-Codes Contained In Section 2 Of This Document (for information only): H316: Causes skin irritation - only when hot.

Product Name: Product No: Date: BioBlend<sup>®</sup> XP 22250 BioPolymer BioBlend<sup>®</sup> XP 22250 30 November 2020



H320: Causes eye irritation. Particles may cause mechanical irritation.

This SDS covers the following BioBlend<sup>®</sup> XP BioPolymers: BioBlend<sup>®</sup> XP 22250 and BioBlend<sup>®</sup> XP 22251.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance to safe handling, use, processing storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



Product Name:BioBlend® BioPolymers: XP 24250 and<br/>XP 24251Product No:BioBlend® XP 24250 and XP 24251

Revision Date: 26 March 2019

#### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Emergency Number	1-208-357-9650
Manufacturer	BiologiQ Inc. 3834 Professional Way Idaho Falls, ID 83402
Product Use	Resin for blowing film
Common Names	BioBlend XP
Product Name	BioBlend <sup>®</sup> BioPolymers: XP 24250 and XP 24251

#### SECTION 2. HAZARDS IDENTIFICATION

GHS Classification and Label Elements			
Category		Combustible Dust (OS	SHA Defined)
Label Content			
Pictogram		Not required	
Signal word		WARNING	
Hazardous warnir	ngs	May form combustible	e dust concentrations in air.
Hazardous prevention measures	on	Not required	
Other Hazards			
Physical / Chemical Haz	ards		
Combustible Dust			penerated during further or by other means, may form centrations in air.
Health Hazards			
Eye		H320: Causes eye irri mechanical irritation.	tation. Particles may cause
Skin Contact		H316: Causes skin irr	itation. Only when hot.
Inhalation		Low order of toxicity.	
Ingestion		No hazard in normal i	ndustrial use.
<b>Environmental Hazards</b>		No significant hazard	
NFPA Hazard ID Healt	h: 1	Flammability: 1	Reactivity: 0
HMIS Hazard ID Healt	h: 1	Flammability: 1	Reactivity: 0



Product Name:BioBlend® BioPolymers: XP 24250 and<br/>XP 24251Product No:BioBlend® XP 24250 and XP 24251

Revision Date: 26 March 2019

SECTION 2 CON	IDAGITIAN / INFADM	ATION ON INGREDIENTS
SECTION 5. COM		

Name	CAS#	Concentration	GHS Hazard Codes
NuPlastiQ <sup>®</sup> GP BioPolymer		-	N/A
Adhesive Resin	9002-88-4	-	N/A
LLDPE	9002-88-4	-	N/A

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provision of paragraph (i).

SECTION 4. FIRST-AID MEASURES	
Eye Contact	Flush eyes with large amounts of water until irritation stops. Seek medical attention if irritation persists.
Skin Contact	Wash with soap and water.
	For hot product: immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.
Inhalation	Remove to fresh air.
Ingestion	Not a probable route of exposure. However, in case of accidental ingestion, call a physician.

SECTION 5. FIREFIGHTING MEASURES	
Extinguishing Media	Dry chemical; CO <sub>2</sub> ; Water fog; Foam
Unsuitable Extinguishing Media	No applicable data available.
Specific Hazards	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Do not permit dust to accumulate.
Protective Equipment	Self-contained breathing apparatus.
Decomposition products	Flammable hydrocarbons, Hydrogen fluoride, Incomplete combustion products, Oxides of carbon, Smoke, Fume
Flammability Properties	



Product Name: BioBlend<sup>®</sup> BioPolymers: XP 24250 and XP 24251

Product No: BioBlend<sup>®</sup> XP 24250 and XP 24251

Revision Date: 26 March 2019

Flash Point	No data		
Flammability Limits	LEL: N/D	UEL: N/D	
Autoignition Temperature	N/A		

SECTION 6. ACCIDENTAL RELEASE MEASURES	
Safeguards	Avoid the generation or accumulation of dust in the air. Good housekeeping practices should be used to avoid dust build up.
Spill Clean	Spilled material is a slipping hazard on hard surfaces.
	Sweep or scoop up pellets and remove.
	Spills of fine material should be cleaned using gentle sweeping or vacuuming. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.
<b>Environmental Precautions</b>	Do not discharge to streams, ponds, lakes or sewers.
Disposal Method	In accordance with existing local/state/federal regulations.

SECTION 7. HANDLING AND STOR	AGE
Handling	Minimize dust generation and accumulation. Institute routine housecleaning to ensure dust does not accumulate on surfaces.
	Pneumatic conveying and other mechanical handling operations can generate combustible dust. Avoid significant deposits of material which may become airborne and form combustible dust clouds. Handling and processing operations should be conducted in accordance with best practices (e.g. NFPA-654).
Loading/Unloading Temperature	[Ambient]
Transport Temperature	[Ambient]
Transport Pressure	[Ambient]
Storage	Store in cool dry place with adequate ventilation.
Storage Temperature	[Ambient]
Storage Pressure	[Ambient]
Suitable Containers/Packing	Bulk Containers, Bags. Store sealed to prevent moisture absorption and decomposition.



BioBlend<sup>®</sup> BioPolymers: XP 24250 and Product Name: XP 24251 Product No:

BioBlend<sup>®</sup> XP 24250 and XP 24251

Revision Date: 26 March 2019

#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values for materials that can be formed when handling this product	For dusty conditions, OSHA recommends for particulates not otherwise regulated an 8-hour TWA of 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction); ACGIH recommends for insoluble and poorly soluble particles not otherwise specified an 8-hour TWA of 10 mg/m3 (inhalable particles), 3 mg/m3 (respirable particles). May contain cristobalite, a form of crystalline silica, as an additive that is encapsulated in the polymer. Inhaled crystalline silica in an occupational environment is recognized as a known human carcinogen. However, the potential for release of silica to the air when this polymer is handled has been assessed and the encapsulated silica within the polymer is not expected to pose a health hazard when processed under normal conditions of use. NOTE: Limits/standards shown for guidance only. Follow applicable regulations. Under recommended processing conditions, this material has been shown to emit elevated concentrations of glycerol mist (CAS 56-81-5). This may cause smoke and possible odor during processing. OSHA does not list Glycerol mist as a hazardous material with specific exposure limits.
Engineering Controls	Adequate ventilation should be provided so that exposure is minimized during processing.
Personal Protection	
Hand Protection	If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, a long sleeve shirt or gauntlet style gloves is recommended.
Eye Protection	If contact with hot material is likely, safety glasses with side shields are recommended.
Skin and Body Protection	If there is a potential for contact with hot product, thermally protective clothing and footwear is recommended.
Respiratory Protection	If engineering controls do not maintain acceptable airborne contaminate levels, an approved respirator may



Product Name: BioBlend<sup>®</sup> BioPolymers: XP 24250 and XP 24251

Product No: BioBlend<sup>®</sup> XP 24250 and XP 24251

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be appropriate. Typical type: Particulate air-purifying respirator approved for dust / oil mist is recommended.

SECTION 9. PHYSICAL AND CHEM	
General Information / Appearance	
Physical State	Solid
Form	Resin Pellets
Туре	Mixture
Color	Opaque, off-white to tan
Odor	N/D
Odor Threshold	No data available
Important Health, Safety, and Envi	ronmental Information
Relative Density	N/A
pH as is	N/A
pH in 1% Solution	N/A
Boiling Point	N/A
Partition Coefficient	N/A
Specific Gravity	N/D
Evaporation Rate	N/A
Vapor Pressure (mm Hg)	N/A
Vapor Density	N/A
Volatiles	N/A
Volatile Organic Compounds	N/A
Auto ignition Temperature	N/A
Flammability (solid, gas)	May form combustible dust concentrations in air.
Flash Point	N/D
Upper Explosion Limit	N/D
Lower Explosion Limit	N/D
Decomposition Temperature	N/D
Oxidizing Properties	N/A
Viscosity	N/A
Other Information	
Freezing Point	N/A



Product Name: BioBlend<sup>®</sup> BioPolymers: XP 24250 and XP 24251

Product No: BioBlend<sup>®</sup> XP 24250 and XP 24251

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Melting Temperature	N/A	
Molecular Weight	>10,000	
Solubility in Water	Low	

SECTION 10. STABILITY AND REACTIVITY	
Reactivity	0 = Insignificant
Stability	Material is stable under normal conditions.
Conditions to Avoid	Avoid elevated temperatures for prolonged periods of time
Materials to Avoid	Strong oxidizers
Hazardous Decomposition Products	This product does not undergo spontaneous decomposition.
	Typical combustion products may include CO, CO <sub>2</sub> , C, N, $H_20$

#### SECTION 11. TOXICOLOGICAL INFORMATION

Product Toxicology	
Oral Toxicity	Low order of toxicity
Dermal Toxicity	Non-hazardous
Inhalation Toxicity	Non-hazardous
Eye Irritation	Non-hazardous
Chronic (Long-Term) Effects of E	xposure
Route of Entry	Eye, skin, inhalation, ingestion
Effects of chronic exposure	None
Target Organs	N/A
Special Health Effects	None known
Other Information	
Dust	May be irritating to the eyes and respiratory tract.
Additives	Contains additives that are encapsulated in the polymer. Under normal processing conditions, the additives are not expected to pose any health hazard. However, grinding of the polymer is not recommended without the use of appropriate measures to control exposure.



BioBlend<sup>®</sup> BioPolymers: XP 24250 and Product Name: XP 24251

Product No: BioBlend<sup>®</sup> XP 24250 and XP 24251

Revision Date: 26 March 2019

Regulatory Lists Searched NTP, IARC, OSHA CARC

SECTION 12. ECOLOGICAL INFORMATION	
Biodegradability	N/D
Incinerability	Incinerable
Toxic Volatiles	None expected with complete combustion
Toxic Volatiles	None expected with complete combustion

SECTION 13. DISPOSAL CONSIDERATIONS	
<b>Disposal Recommendations</b>	
Waste Disposal Methods:	In accordance with existing federal/state/local environmental regulations.
Empty Containers:	Empty container may contain product residue; follow SDS and label warnings even after containers have been emptied.

SECTION 14. TRANSPORT INFORMATION	
Land (DOT)	Not regulated for Land Transport
Sea (IMDG)	Not regulator for Sea Transport
Air (IATA)	Not regulated for Air Transport

#### SECTION 15. REGULATORY INFORMATION

U.S. Regulations	
Osha Hazard Communication Standard:	This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.
SARA 302:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA (311/312) Reportable GHS Hazard Classes:	Combustible Dust
SARA 313 title III	This material contains no chemicals with known CAS numbers that exceed the threshold levels required for reporting.
CWA / OPA:	Plastic pellets are defined by the US EPA under the Clean Water Act (40CFR122.26) as a "significant material" which requires any industrial plant that may expose pellets to storm water to secure a storm water



Product Name: BioBlend<sup>®</sup> BioPolymers: XP 24250 and

XP 24251

Product No: BioBlend® XP 24250 and XP 24251

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	other Clean Water Act vi	rule carry the same penalties as olations. Pellets found in storm to EPA regulations with the ines and penalties.
The following ingredients are cited o	n the lists below	
Chemical Name	CAS Number	List Citations
1-PROPENE, 1,1,2,3,3,3- HEXAFLUORO POLYMER WITH 1,1- DIFLUOROETHENE	9011-17-0	2
SILICA, QUARTZ	14808-60-7	3
TALC	14807-96-6	5
Regulatory Lists Searched	- 	
1 = OSHA Z	3 = CA P65	5 = NJ RTK
2 = TSCA	4 = CA RTK	

#### SECTION 16. OTHER INFORMATION

Created:	18 Dec 2015	Initial version
Revision:	09 Apr 2018	Updated compound name. Updated Section 3, material list. Updated Section 8, Exposure limit values for dusty conditions. Updated Section 10 Conditions to avoid. Updated Section 10 Materials to avoid. Updated Section 15 OSHA communications standard.
Revision:	09 July 2018	Fixed an error for the CAS number for Trisnonyl Phenyl Phosphite.
Revision:	08 Nov 2018	Updated Section 8. Under recommended processing conditions this material may emit glycerol mist.
Revision:	15 Aug 2019	Updated naming from NuPlastiQ® XP to BioBlend® XP.
Revision:	06 Jan 2021	Updated company address.

N/D = Not determined, N/A = Not applicable

Key to the H-Codes contained in Section 3 of this document (for information only)



Product Name: BioBlend<sup>®</sup> BioPolymers: XP 24250 and XP 24251

Product No: BioBlend<sup>®</sup> XP 24250 and XP 24251

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H317: May cause allergic skin reaction; Skin Sensitization, Cat 1

H400: Very toxic to aquatic life: Acute Env Tox, Cat 1

H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

This SDS covers the following BioBlend<sup>®</sup> XP BioPolymers: BioBlend<sup>®</sup> XP 24250 and BioBlend XP 24251.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance to safe handling, use, processing storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XP 24850 BioPolymer BioBlend<sup>®</sup> XP 24850 06 Jan 2021



#### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	BioBlend® XP 24850 BioPolymer
Common Names	BioBlend® XP 24850
Product Use	BioPolymer Resin for blowing film, extrusion, or other conversion processes
Manufacturer	BiologiQ, Inc. 3834 Professional Way Idaho Falls, ID 83402
Emergency Number	1-208-357-9650

SECTION 2. HAZARDS IDENTIFICATION			
GHS Classification and Label Elements			
Category		Combustible Dust (OS	SHA Defined)
Label Content			
Pictogram		Not required	
Signal word		WARNING	
Hazardous war	nings	May form combustible	e dust concentrations in air.
Hazardous preven measures	tion	Not required	
Other Hazards			
Physical / Chemical H	azards		
Combustible Dust			enerated during further or by other means, may form centrations in air.
Health Hazards			
Eye		H320: Causes eye irri mechanical irritation.	tation. Particles may cause
Skin Contact		H316: Causes mild sk	in irritation. Only when hot.
Inhalation		Low order of toxicity.	
Ingestion		No hazard in normal in	ndustrial use.
Environmental Hazard	ds	No significant hazard	
NFPA Hazard ID Hea	alth: 0	Flammability: 1	Reactivity: 0
HMIS Hazard ID Hea	alth: 1	Flammability: 1	Reactivity: 0

Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XP 24850 BioPolymer BioBlend<sup>®</sup> XP 24850 06 Jan 2021



#### SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS #	Concentration	GHS Hazard Codes
NuPlastiQ <sup>®</sup> GP BioPolymer		-	N/A
Adhesive Resin		-	N/A
Ethylene-1-octene copolymer	26221-73-8	-	N/A

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provision of paragraph (i).

SECTION 4. FIRST-AID MEASURES	
Eye Contact	Flush eyes with large amounts of water until irritation stops. Seek medical attention if irritation persists.
Skin Contact	Wash with soap and water.
	For hot product: immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.
Inhalation	Remove to fresh air. If symptoms continue, get medical attention.
Ingestion	Not a probable route of exposure. However, in case of accidental ingestion, call a physician.

SECTION 5. FIREFIGHTING MEASURES		
Extinguishing Media	Dry chemical; CO <sub>2</sub> ; Water fog; Foam	
Unsuitable Extinguishing Media	No applicable data available.	
Specific Hazards	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Do not permit dust to accumulate.	
Protective Equipment	Self-contained breathing apparatus.	
Decomposition products	Flammable hydrocarbons, incomplete combustion products, oxides of carbon, smoke, and fumes	
Flammability Properties		
Flash Point	No data	

Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XP 24850 BioPolymer BioBlend<sup>®</sup> XP 24850 06 Jan 2021



Flammability Limits	LEL: N/D	UEL: N/D
Autoignition Temperature	N/A	

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

Safeguards	Avoid the generation or accumulation of dust in the air. Good housekeeping practices should be used to avoid dust build up.
Spill Clean	Spilled material is a slipping hazard on hard surfaces.
	Sweep or scoop up pellets and remove.
	Spills of fine material should be cleaned using gentle sweeping or vacuuming. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.
<b>Environmental Precautions</b>	Do not discharge to streams, ponds, lakes or sewers.
Disposal Method	In accordance with existing local/state/federal regulations.

SECTION 7. HANDLING AND STORAGE		
Handling	Minimize dust generation and accumulation. Institute routine housecleaning to ensure dust does not accumulate on surfaces.	
	Pneumatic conveying and other mechanical handling operations can generate combustible dust. Avoid significant deposits of material which may become airborne and form combustible dust clouds. Handling and processing operations should be conducted in accordance with best practices (e.g. NFPA-654).	
	Electrostatic charge may build up during handling. Equipment should be grounded and bonded.	
Loading/Unloading Temperature	[Ambient]	
Transport Temperature	[Ambient]	
Transport Pressure	[Ambient]	
Storage	Store in cool dry place with adequate ventilation.	
Storage Temperature	[Ambient]	
Storage Pressure	[Ambient]	
Suitable Containers/Packing	Bulk Containers, Bags. Store sealed to prevent moisture absorption and decomposition.	

Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XP 24850 BioPolymer BioBlend<sup>®</sup> XP 24850 06 Jan 2021



#### **SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Exposure Limit Values for materials that can be formed when handling this product	For dusty conditions, OSHA recommends for particulates not otherwise regulated an 8-hour TWA of 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction); ACGIH recommends for insoluble and poorly soluble particles not otherwise specified an 8-hour TWA of 10 mg/m3 (inhalable particles), 3 mg/m3 (respirable particles). NOTE: Limits/standards shown for guidance only. Follow applicable regulations.
	Under recommended processing conditions, this material has been shown to emit elevated concentrations of glycerol mist (CAS 56-81-5). This may cause smoke and possible odor during processing. OSHA does not list Glycerol mist as a hazardous material with specific exposure limits.
Engineering Controls	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Processors of this product should assure that adequate ventilation or other controls are used to control exposure.
Personal Protection	
Hand Protection	If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, a long sleeve shirt or gauntlet style gloves is recommended.
Eye Protection	If contact with hot material is likely, safety glasses with side shields are recommended.
Skin and Body Protection	If there is a potential for contact with hot product, thermally protective clothing and footwear is recommended.
Respiratory Protection	If engineering controls, such as adequate ventilation and/or enclosures do not maintain acceptable airborne contaminate levels, an approved respirator may be appropriate. Typical type: Particulate air-purifying respirator approved for dust / oil mist is recommended.

	SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES			
General Information / Appearance				
	Physical State	Solid		
	Form	Resin Pellets		
	Туре	Mixture		

**BiologiQ** Smart Solutions For A Sustainable World

Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XP 24850 BioPolymer BioBlend<sup>®</sup> XP 24850 06 Jan 2021

Color	Opaque, off-white to tan
Odor	N/D
Odor Threshold	No data available
Important Health, Safety, and Env	ironmental Information
Relative Density	N/A
pH as is	N/A
pH in 1% Solution	N/A
Boiling Point	N/A
Partition Coefficient	N/A
Specific Gravity	N/D
Evaporation Rate	N/A
Vapor Pressure (mm Hg)	N/A
Vapor Density	N/A
Volatiles	N/A
Volatile Organic Compounds	N/A
Auto ignition Temperature	N/A
Flammability (solid, gas)	May form combustible dust concentrations in air.
Flash Point	N/D
Upper Explosion Limit	N/D
Lower Explosion Limit	N/D
Decomposition Temperature	N/D
Oxidizing Properties	N/A
Viscosity	N/A
Other Information	
Freezing Point	N/A
Melting Temperature	N/A
Molecular Weight	>10,000
Solubility in Water	Low

SECTION 10. STABILITY AND REACTIVITY		
Reactivity	0 = Insignificant	
Stability	Material is stable under normal conditions.	
Conditions to Avoid	Avoid elevated temperatures for prolonged periods of time.	
Materials to Avoid	Strong Oxidizers	

Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XP 24850 BioPolymer BioBlend<sup>®</sup> XP 24850 06 Jan 2021



 Hazardous Decomposition Products
 This product does not undergo spontaneous decomposition.

 Hazardous decomposition products may include but are not limited to: Carbon dioxide (CO<sub>2</sub>), Carbon monoxide, Organic acids, Aldehydes, Alcohols, Acrolein, Formaldehyde, Acetaldehydes

SECTION 11. TOXICOLOGICAL INFORMATION			
Product Toxicology			
Oral Toxicity	Low order of toxicity		
	Single dose oral LD50 has not been determined.		
	Typical for this family of materials. LD50, Rat, > 5,000 mg/kg Estimated.		
Dermal Toxicity	No adverse effects anticipated by skin absorption.		
	The dermal LD50 has not been determined.		
	Typical for this family of materials. LD50, Rabbit, > 2,000 mg/kg Estimated.		
Inhalation Toxicity	No adverse effects are anticipated from single exposure to dust. The LC50 has not been determined.		
Eye Irritation	Mechanical irritation is possible.		
Chronic (Long-Term) Effects of E	xposure		
Route of Entry	Eye, skin, inhalation, ingestion		
Effects of chronic exposure	None		
Target Organs	N/A		
Special Health Effects	None known		
Other Information			
Dust	May be irritating to the eyes and respiratory tract.		
Regulatory Lists Searched	NTP, IARC, OSHA CARC		

SECTION 12. ECOLOGICAL INFORMATION		
Ecotoxicity	N/D	
Biodegradability	N/D	

er BiologiQ Smart Solutions For A Sustainable World

Product Name:BiofProduct No:BiofRevision Date:06 J

BioBlend<sup>®</sup> XP 24850 BioPolymer BioBlend<sup>®</sup> XP 24850 06 Jan 2021

Bioaccumulative potential	N/D
Mobility in soil	N/D

#### SECTION 13. DISPOSAL CONSIDERATIONS

<b>Disposal Recommendations</b>	
Waste Disposal Methods:	In accordance with existing federal/state/local environmental regulations.
Empty Containers:	Empty container may contain product residue; follow SDS and label warnings even after containers have been emptied.

#### **SECTION 14. TRANSPORT INFORMATION**

Land (DOT)	Not regulated for Land Transport	
Sea (IMDG)	Not regulator for Sea Transport	
Air (IATA)	Not regulated for Air Transport	

#### **SECTION 15. REGULATORY INFORMATION U.S. Regulations** SARA 311/312 Reportable GHS **Combustible Dust** Hazard Classes SARA 313 Title III This material contains no chemicals with known CAS numbers that exceed the threshold levels required for reporting. The components listed in section 3 are in compliance with **TSCA** Inventory List TSCA Inventory requirements for commercial purposes. **State Regulations** California Prop. 65 This product contains no known listed substances. International Inventories Canada DSL Inventory List The components with known CAS numbers in Section 3 are listed. The components with known CAS numbers in Section 3 China inventory of Existing Chemical Substances list: are listed.

SECTION 16. OTHER INFORMATION				
Created:	16 May 2018	Initial version		
Modified:	25 Feb 2019	Updated naming from NuPlastiQ <sup>®</sup> XP to BioBlend <sup>®</sup> XP.		

Product Name:

**Revision Date:** 

Product No:

BioBlend® XP 24850 BioPolymer BioBlend® XP 24850 06 Jan 2021



Modified: 06 Jan 2021 Updated company address

N/D = Not determined, N/A = Not applicable

#### Key to the H-Codes contained in Section 3 of this document (for information only)

H316: Causes mild skin irritation. Only when hot.

H320: Causes eye irritation. Particles may cause mechanical irritation.

This SDS covers the following BioBlend<sup>®</sup> XP BioPolymers: BioBlend<sup>®</sup> XP 24850 and BioBlend XP 24851.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance to safe handling, use, processing storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XP 24875 BioPolymer BioBlend<sup>®</sup> XP 24875 8 January 2021



SECTION 1. PRODUCT AND COMPANY IDENTIFICATION				
Product Name	BioBlend® XP 24875 BioPolymer			
Common Names	BioBlend® XP 24875			
Product Use	BioPolymer Resin for blowing film, extrusion, or other conversion processes			
Manufacturer	BiologiQ Inc. 3834 Professional Way Idaho Falls, ID 83402			
Emergency Number	1-208-357-9650			

SECTION 2. HAZARDS IDENTIFICATION				
GHS Classification and Label Elements				
Category		Combustible Dust	Combustible Dust (OSHA Defined)	
Label Content	t			
Pictogram		Not required		
Signal wor	d	WARNING		
Hazardous	warnings	May form combust	ible dust concentrations in air.	
Hazardous pro measures	evention	Not required		
Other Hazards				
Physical / Chemical Hazards				
Combustible Dust		processing, handli	If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.	
Health Hazards				
Eye			H320: Causes eye irritation. Particles may cause mechanical irritation.	
Skin Contact		H316: Causes mild	H316: Causes mild skin irritation. Only when hot.	
Inhalation		Low order of toxici	Low order of toxicity.	
Ingestion		No hazard in norm	No hazard in normal industrial use.	
Environmental Hazards		No significant haza	No significant hazard	
NFPA Hazard ID	Health: 0	Flammability: 1	Reactivity: 0	
HMIS Hazard ID	Health: 1	Flammability: 1	Reactivity: 0	

Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XP 24875 BioPolymer BioBlend<sup>®</sup> XP 24875 8 January 2021



#### **SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS**

Name	CAS #	Concentration	GHS Hazard Codes
NuPlastiQ <sup>®</sup> GP BioPolymer		-	N/A
Adhesive Resin	9002-88-4	-	N/A
Proprietary Blend of Polyethylene Polymers	Various	-	N/A

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provision of paragraph (i).

SECTION 4. FIRST-AID MEASURES	
Eye Contact	Flush eyes with large amounts of water until irritation stops. Seek medical attention if irritation persists.
Skin Contact	Wash with soap and water.
	For hot product: immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.
Inhalation	Remove to fresh air. If symptoms continue, get medical attention.
Ingestion	Not a probable route of exposure. However, in case of accidental ingestion, call a physician.

SECTION 5. FIREFIGHTING MEASURES		
Extinguishing Media	Dry chemical; CO <sub>2</sub> ; Water fog; Foam	
Unsuitable Extinguishing Media	No applicable data available.	
Specific Hazards	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Do not permit dust to accumulate.	
Protective Equipment	Self-contained breathing apparatus.	
Decomposition products	Flammable hydrocarbons, incomplete combustion products, oxides of carbon, aldehydes, ketones, smoke, and fumes	
Flammability Properties		

BioLog BioBlend<sup>®</sup> XP 24875 BioPolymer



Product Name: Product No: **Revision Date:** 

BioBlend<sup>®</sup> XP 24875 8 January 2021

Flash Point	No data	
Flammability Limits	LEL: N/D	UEL: N/D
Autoignition Temperature	N/A	

SECTION 6. ACCIDENTAL RELEASE MEASURES	
Safeguards	Avoid the generation or accumulation of dust in the air. Good housekeeping practices should be used to avoid dust build up.
Spill Clean	Spilled material is a slipping hazard on hard surfaces.

Spilled material is a slipping hazard on hard surfaces.

Sweep or scoop up pellets and remove.

Spills of fine material should be cleaned using gentle sweeping or vacuuming. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

**Environmental Precautions** Do not discharge to streams, ponds, lakes or sewers. **Disposal Method** In accordance with existing local/state/federal regulations.

SECTION 7. HANDLING AND STORAGE		
Handling	Minimize dust generation and accumulation. Institute routine housecleaning to ensure dust does not accumulate on surfaces.	
	Pneumatic conveying and other mechanical handling operations can generate combustible dust. Avoid significant deposits of material which may become airborne and form combustible dust clouds. Handling and processing operations should be conducted in accordance with best practices (e.g. NFPA-654).	
	Electrostatic charge may build up during handling. Equipment should be grounded and bonded.	
Loading/Unloading Temperature	[Ambient]	
Transport Temperature	[Ambient]	
Transport Pressure	[Ambient]	
Storage	Store in cool dry place with adequate ventilation.	
Storage Temperature	[Ambient]	
Storage Pressure	[Ambient]	
Suitable Containers/Packing	Bulk Containers, Bags. Store sealed to prevent moisture absorption and decomposition.	

Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XP 24875 BioPolymer BioBlend<sup>®</sup> XP 24875 8 January 2021



#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values for materials that can be formed when handling this product	For dusty conditions, OSHA recommends for particulates not otherwise regulated an 8-hour TWA of 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction); ACGIH recommends for insoluble and poorly soluble particles not otherwise specified an 8-hour TWA of 10 mg/m3 (inhalable particles), 3 mg/m3 (respirable particles). NOTE: Limits/standards shown for guidance only. Follow applicable regulations.
	Under recommended processing conditions, this material has been shown to emit elevated concentrations of glycerol mist (CAS 56-81-5). This may cause smoke and possible odor during processing. OSHA does not list Glycerol mist as a hazardous material with specific exposure limits.
Engineering Controls	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Processors of this product should assure that adequate ventilation or other controls are used to control exposure.
Personal Protection	
Hand Protection	If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, a long sleeve shirt or gauntlet style gloves is recommended.
Eye Protection	If contact with hot material is likely, safety glasses with side shields are recommended.
Skin and Body Protection	If there is a potential for contact with hot product, thermally protective clothing and footwear is recommended.
Respiratory Protection	If engineering controls, such as adequate ventilation and/or enclosures do not maintain acceptable airborne contaminate levels, an approved respirator may be appropriate. Typical type: Particulate air-purifying respirator approved for dust / oil mist is recommended.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES		
General Information / Appea	irance	
Physical State	Solid	
Form	Resin Pellets	

BioBlend<sup>®</sup> XP 24875 BioPolymer



Product Name: Product No: Revision Date:

BioBlend<sup>®</sup> XP 24875 8 January 2021

TypeMixtureColorOpaque, off-white to tanOdorN/DOdor ThresholdNo data availableImportant Health, Safety, and Environmental InformationRelative DensityN/ApH as isN/ApH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/ASpecific GravityN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatileOrganic CompoundsN/AN/AVapor DensityN/AVolatile Organic CompoundsN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DOxidizing PropertiesN/AViscosityN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureN/ANicosityN/ANaViscosityN/ANaNetting TemperatureN/ANa </th <th></th> <th></th>		
OdorN/DOdor ThresholdNo data availableImportant Health, Safety, and Environmental InformationRelative DensityN/ApH as isN/ApH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/ASpecific GravityN/DEvaporation RateN/AVapor Pressure (mm Hg)N/AVolatilesN/AVolatilesN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DLover Explosion LimitN/DLover Explosion LimitN/DOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/ANaNo data availableImportant Health, Safety, and EnvironN/ARepresented to the presenter of	Туре	Mixture
Odor ThresholdNo data availableImportant Health, Safety, and Environmental InformationRelative DensityN/ApH as isN/ApH as isN/ApH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/ASpecific GravityN/DEvaporation RateN/AVapor Pressure (mm Hg)N/AVolatilesN/AVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DLower Explosion LimitN/DDecomposition TemperatureN/AViscosityN/AViscosityN/AViscosityN/AFreezing PointN/AFreezing PointN/A	Color	Opaque, off-white to tan
Important Health, Safety, and Environmental InformationRelative DensityN/ApH as isN/ApH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/ASpecific GravityN/DEvaporation RateN/AVapor Pressure (mm Hg)N/AVolatilesN/AVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DLower Explosion LimitN/DDecomposition TemperatureN/AViscosityN/AViscosityN/AViscosityN/AFreezing PointN/A	Odor	N/D
Relative DensityN/ApH as isN/ApH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/ASpecific GravityN/DEvaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesN/AVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DLower Explosion LimitN/DDecomposition TemperatureN/AViscosityN/AViscosityN/AOther InformationN/AFreezing PointN/A	Odor Threshold	No data available
pH as isN/ApH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/ASpecific GravityN/DEvaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesN/AVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DOxidizing PropertiesN/AViscosityN/AOther InformationN/A	Important Health, Safety, and Envir	onmental Information
pH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/APartition CoefficientN/ASpecific GravityN/DEvaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesN/AVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DOxidizing PropertiesN/AViscosityN/AOther InformationN/A	Relative Density	N/A
JerN/ABoiling PointN/APartition CoefficientN/ASpecific GravityN/DEvaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesN/AVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DOxidizing PropertiesN/AViscosityN/AOxidizing PropertiesN/AFreezing PointN/A	pH as is	N/A
Partition CoefficientN/ASpecific GravityN/DEvaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesN/AVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/AViscosityN/AViscosityN/AViscosityN/AFreezing PointN/A	pH in 1% Solution	N/A
Specific GravityN/DEvaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesN/AVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/A	Boiling Point	N/A
Evaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesN/AVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/AViscosityN/AOxidizing PropertiesN/AViscosityN/AOther InformationN/A	Partition Coefficient	N/A
Vapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesN/AVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/AVolatizing PropertiesN/AViscosityN/AViscosityN/AFreezing PointN/A	Specific Gravity	N/D
Vapor DensityN/AVolatilesN/AVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/A	Evaporation Rate	N/A
VolatilesN/AVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationFreezing PointN/A	Vapor Pressure (mm Hg)	N/A
Volatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationFreezing PointN/A	Vapor Density	N/A
Auto ignition TemperatureN/AFlammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationFreezing PointN/A	Volatiles	N/A
Flammability (solid, gas)May form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationFreezing PointN/A	Volatile Organic Compounds	N/A
Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/A	Auto ignition Temperature	N/A
Upper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationFreezing PointN/AN/A	Flammability (solid, gas)	May form combustible dust concentrations in air.
Lower Explosion LimitN/DDecomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationFreezing PointFreezing PointN/A	Flash Point	N/D
Decomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/A	Upper Explosion Limit	N/D
Oxidizing PropertiesN/AViscosityN/AOther InformationFreezing PointN/AN/A	Lower Explosion Limit	N/D
ViscosityN/AOther InformationN/AFreezing PointN/A	Decomposition Temperature	N/D
Other Information       Freezing Point       N/A	Oxidizing Properties	N/A
Freezing Point N/A	Viscosity	N/A
	Other Information	
Melting Temperature N/A	Freezing Point	N/A
5	Melting Temperature	N/A
Molecular Weight >10,000	Molecular Weight	>10,000
Solubility in Water Low	Solubility in Water	Low

SECTION 10. STABILITY AND REACTIVITY	
Reactivity	0 = Insignificant
Stability	Material is stable under normal conditions.
Conditions to Avoid	Avoid elevated temperatures for prolonged periods of time.

BiologiQ Smart Solutions For A Sustainable World

Product Name:
Product No:
Revision Date:

BioBlend<sup>®</sup> XP 24875 BioPolymer BioBlend<sup>®</sup> XP 24875 8 January 2021

Materials to Avoid	Strong Oxidizers
Hazardous Decomposition Products	This product does not undergo spontaneous decomposition.
	Hazardous decomposition products may include but are not limited to: Carbon dioxide (CO <sub>2</sub> ), Carbon monoxide, Organic acids, Aldehydes, Alcohols, Acrolein, Formaldehyde, Acetaldehydes

SECTION 11. TOXICOLOGICAL INFORMATION		
Product Toxicology		
Oral Toxicity	Low order of toxicity	
	Single dose oral LD50 has not been determined.	
	Typical for this family of materials. LD50, Rat, > 5,000 mg/kg Estimated.	
Dermal Toxicity	No adverse effects anticipated by skin absorption.	
	The dermal LD50 has not been determined.	
	Typical for this family of materials. LD50, Rabbit, > 2,000 mg/kg Estimated.	
Inhalation Toxicity	No adverse effects are anticipated from single exposure to dust. The LC50 has not been determined.	
Eye Irritation	Mechanical irritation is possible.	
Chronic (Long-Term) Effects of Exposure		
Route of Entry	Eye, skin, inhalation, ingestion	
Effects of chronic exposure	None	
Target Organs	N/A	
Special Health Effects	None known	
Other Information		
Dust	May be irritating to the eyes and respiratory tract.	
Regulatory Lists Searched	NTP, IARC, OSHA CARC	

SECTION 12. ECOLOGICAL INFORM	ΛΑΤΙΟΝ
Ecotoxicity	N/D

Product Name:	BioBlend <sup>®</sup> XP 24875 BioPolymer
Product No:	BioBlend <sup>®</sup> XP 24875
Revision Date:	8 January 2021



Biodegradability	N/D	
<b>Bioaccumulative potential</b>	N/D	
Mobility in soil	N/D	

#### SECTION 13. DISPOSAL CONSIDERATIONS

<b>Disposal Recommendations</b>	
Waste Disposal Methods:	In accordance with existing federal/state/local environmental regulations.
Empty Containers:	Empty container may contain product residue; follow SDS and label warnings even after containers have been emptied.

#### SECTION 14. TRANSPORT INFORMATION

Land (DOT)	Not regulated for Land Transport
Sea (IMDG)	Not regulator for Sea Transport
Air (IATA)	Not regulated for Air Transport

#### **SECTION 15. REGULATORY INFORMATION**

U.S. Regulations		
SARA 311/312 Reportable GHS Hazard Classes	Combustible Dust	
SARA 313 Title III	This material contains no chemicals with known CAS numbers that exceed the threshold levels required for reporting.	
TSCA Inventory List	The components listed in section 3 are in compliance with TSCA Inventory requirements for commercial purposes.	
State Regulations		
California Prop. 65	This product contains no known listed substances.	
New Jersey	This product contains the following chemicals regulated by New Jersey's Worker and Community Right to Know Act:	
	557-05-01 Zinc Stearate	
Massachusetts	This product contains the following chemicals regulated by Massachusetts' Right to Know Law: 557-05-01 Zinc Stearate	
Pennsylvania	This product contains the following chemicals regulated by Pennsylvania's Right to Know Act: 557-05-01 Zinc Stearate	

er BiologiQ Smart Solutions For A Sustainable World

Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XP 24875 BioPolymer BioBlend<sup>®</sup> XP 24875 8 January 2021

#### International Inventories

Canada DSL Inventory List

China inventory of Existing Chemical Substances list:

The components with known CAS numbers in Section 3 are listed. The components with known CAS numbers in Section 3 are listed.

company address

#### **SECTION 16. OTHER INFORMATION**

Created:	21 March 2019	Original
Revisions:	08 Jan 2021	Updated

N/D = Not determined, N/A = Not applicable

#### Key to the H-Codes contained in Section 3 of this document (for information only)

H316: Causes mild skin irritation. Only when hot.

H320: Causes eye irritation. Particles may cause mechanical irritation.

This SDS covers the following BioBlend® XP BioPolymers: BioBlend® XP 24875.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance to safe handling, use, processing storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XD 25250 BioPolymer BioBlend<sup>®</sup> XD 25250, XD25251 8 January 2021

SECTION 1. PRODUCT AND CO	
Product Name	BioBlend XD 25250 BioPolymer
Common Names	BioBlend XD25250, XD25251
Product Use	Plastic resin for rigid products such as injection molding, thermoforming, sheet extrusion, etc.
Manufacturer	BiologiQ Inc. 3834 Professional Way Idaho Falls, ID 83402
Emergency Number	1-208-357-9650
SECTION 2. HAZARDS IDENTIFI	CATION
GHS Classification and Label El	ements
Category	Combustible Dust (OSHA Defined)
Label Content	
Pictogram	Not required
Signal word	WARNING
Hazardous warnings	May form combustible dust concentrations in air.
Hazardous prevention measures	Not required
Other Hazards	
Physical / Chemical Hazards	
Combustible Dust If small particles are generated during ful processing, handling or by other means, combustible dust concentrations in air.	
Health Hazards	
Eye	H320: Causes eye irritation. Particles may cause mechanical irritation.
Skin Contact	H316: Causes skin irritation. Only when hot.
Inhalation	Low order of toxicity.
Ingestion	No hazard in normal industrial use.
Environmental Hazards	No significant hazard
NFPA Hazard ID Health: 1	Flammability: 1 Reactivity: 0
HMIS Hazard ID Health: 1	Flammability: 1 Reactivity: 0



Product Name:	BioBlend® XD
Product No:	BioBlend® XD
Revision Date:	8 January 202

BioBlend® XD 25250 BioPolymer BioBlend® XD 25250, XD25251 8 January 2021

#### SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS #	Concentration	GHS Hazard Codes
NuPlastiQ <sup>®</sup> GP BioPolymer	-	-	N/A
Adhesive Resin	-	-	N/A
Polypropylene	9010-79-1	-	N/A
Additives	Trade secret	<1%	N/A

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provision of paragraph (i).

SECTION 4. FIRST-AID N	IEASURES
Eye Contact	Flush eyes with large amounts of water until irritation stops. Seek medical attention if irritation persists.
Skin Contact	Wash with soap and water.
	For hot product: immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.
Inhalation	Remove to fresh air.
Ingestion	Not a probable route of exposure. However, in case of accidental ingestion, call a physician.

SECTION 5. FIREFIGHTING MEASURES		
Extinguishing Media	Dry chemical; Water fog	
Unsuitable Extinguishing Media	No applicable data available.	
Specific Hazards	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Do not permit dust to accumulate.	
Protective Equipment	Self-contained breathing apparatus.	
Decomposition products	Hazardous decomposition products such as carbon oxides (CO, CO2), aldehydes, ketones, hydrocarbons and organic vapors are possible.	
Flammability Properties		
Flash Point	No data	



Product Name:	BioBlend <sup>®</sup> XD 25250 BioPolymer
Product No:	BioBlend <sup>®</sup> XD 25250, XD25251
Revision Date:	8 January 2021

Flammability Limits	LEL: N/D	UEL: N/D
Autoignition Temperature	N/A	

SECTION 6. ACCIDENTAL RELEASE MEASURES		
Safeguards	Avoid the generation or accumulation of dust in the air. Good housekeeping practices should be used to avoid dust build up.	
Spill Clean	Spilled material is a slipping hazard on hard surfaces.	
	Sweep, scoop or vacuum up pellets and remove.	
	Spills of fine material should be cleaned using gentle sweeping or vacuuming. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.	
<b>Environmental Precautions</b>	Do not discharge to streams, ponds, lakes or sewers.	
Disposal Method	In accordance with existing local/state/federal regulations.	

SECTION 7. HANDLING AND STORAGE		
Handling	Minimize dust generation and accumulation. Institute routine housecleaning to ensure dust does not accumulate on surfaces.	
	Pneumatic conveying and other mechanical handling operations can generate combustible dust. Avoid significant deposits of material which may become airborne and form combustible dust clouds. Handling and processing operations should be conducted in accordance with best practices (e.g. NFPA-654).	
	Ensure good ventilation of the work station. Wear protective equipment. Do not overheat the product. Avoid contact with heated product to avoid burns.	
Loading/Unloading Temperature	[Ambient]	
Transport Temperature	[Ambient]	
Transport Pressure	[Ambient]	
Storage	Store in cool dry place with adequate ventilation.	
Storage Temperature	[Ambient]	
Storage Pressure	[Ambient]	
Suitable Containers/Packing	Bulk Containers, Bags. Store sealed to prevent moisture absorption and decomposition.	



Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XD 25250 BioPolymer BioBlend<sup>®</sup> XD 25250, XD25251 8 January 2021

#### **SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Exposure Limit Values for materials that can be formed when handling this product	For dusty conditions, OSHA recommends for particulates not otherwise regulated an 8-hour TWA of 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction); ACGIH recommends for insoluble and poorly soluble particles not otherwise specified an 8-hour TWA of 10 mg/m3 (inhalable particles), 3 mg/m3 (respirable particles). NOTE: Limits/standards shown for guidance only. Follow applicable regulations.
	Under recommended processing conditions, this material has been shown to emit elevated concentrations of glycerol mist (CAS 56-81-5). This may cause smoke and possible odor during processing. OSHA does not list Glycerol mist as a hazardous material with specific exposure limits.
Engineering Controls	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Processors of this product should assure that adequate ventilation or other controls are used to control exposure.
	Provide readily accessible eye wash stations and safety showers.
Personal Protection	
Hand Protection	If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, a long sleeve shirt or gauntlet style gloves is recommended.
Eye Protection	If contact with hot material is likely, safety glasses with side shields are recommended.
Skin and Body Protection	If there is a potential for contact with hot product, thermally protective clothing and footwear is recommended.
Respiratory Protection	If engineering controls do not maintain acceptable airborne contaminate levels, an approved respirator may be appropriate. Typical type: Particulate air-purifying respirator approved for dust / oil mist is recommended.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES		
General Information / Appearance		
Physical State	Solid	
Form	Resin Pellets	
Туре	Mixture	
Color	Opaque, off-white to tan	



Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XD 25250 BioPolymer BioBlend<sup>®</sup> XD 25250, XD25251 8 January 2021

Odor	N/D
Odor Threshold	No data available
mportant Health, Safety, and Env	ironmental Information
Relative Density	N/A
pH as is	N/A
pH in 1% Solution	N/A
Boiling Point	N/A
Partition Coefficient	N/A
Specific Gravity	N/D
Evaporation Rate	N/A
Vapor Pressure (mm Hg)	N/A
Vapor Density	N/A
Volatiles	N/A
Volatile Organic Compounds	N/A
Auto ignition Temperature	N/A
Flammability (solid, gas)	May form combustible dust concentrations in air.
Flash Point	N/D
Upper Explosion Limit	N/D
Lower Explosion Limit	N/D
Decomposition Temperature	N/D
Oxidizing Properties	N/A
Viscosity	N/A
other Information	
Freezing Point	N/A
Melting Temperature	N/A
Molecular Weight	>10,000
Solubility in Water	Low

#### SECTION 10. STABILITY AND REACTIVITY

Reactivity	No applicable data available.
Stability	Material is stable under normal conditions.
Conditions to Avoid	Temperatures > 300°C (>572°F)
Materials to Avoid	Strong Oxidizers



Product Name: Product No: Revision Date: BioBlend<sup>®</sup> XD 25250 BioPolymer BioBlend<sup>®</sup> XD 25250, XD25251 8 January 2021

 Hazardous Decomposition Products
 This product does not undergo spontaneous decomposition.

 Hazardous decomposition products may include but are not limited to: Carbon dioxide (CO<sub>2</sub>), Carbon monoxide, Organic acids, Aldehydes, Alcohols, Acrolein, Formaldehyde, Acetaldehydes

SECTION 11. TOXICOLOGICAL INFORMATION			
Product Toxicology	Product Toxicology		
Oral Toxicity	Not classified		
Dermal Toxicity	Not classified		
Inhalation Toxicity	Not classified		
Eye Irritation	Not classified		
Chronic (Long-Term) Effects of Exposure			
Route of Entry	Eye, skin, inhalation, ingestion		
Effects of chronic exposure	None		
Target Organs	N/A		
Special Health Effects	None known		
Other Information			
Carcinogenicity	Not classified		
Dust	May be irritating to the eyes and respiratory tract.		
Additives	Contains additives that are encapsulated in the polymer. Under normal processing conditions, the additives are not expected to pose any health hazard. However, grinding of the polymer is not recommended without the use of appropriate measures to control exposure.		

SECTION 12. ECOLOGICAL INFORMATION	
N/D	
Incinerable	
None expected with complete combustion	

#### SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal Recommendations** 



Product Name:	BioBlend <sup>®</sup> XD 25250 BioPolymer
Product No:	BioBlend <sup>®</sup> XD 25250, XD25251
Revision Date:	8 January 2021

Waste Disposal Methods:	In accordance with existing federal/state/local environmental regulations.
Empty Containers:	Empty container may contain product residue; follow SDS and label warnings even after containers have been emptied.

Land (DOT)	Not regulated for Land Transport
Sea (IMDG)	Not regulated for Sea Transport
Air (IATA)	Not regulated for Air Transport

#### **SECTION 15. REGULATORY INFORMATION**

U.S. Regulations	
SARA 313 title III	ND
SARA 311/312 Hazard Class	Combustible Dust
TSCA Inventory List	ND
US State Regulations	
No additional information available.	
International Inventories	
Canada DSL Inventory List	ND
China inventory of Existing Chemical Substances list:	ND

Created:	30 Jan 2019	Original
Modified:	25 Feb 2019	Updated naming from NuPlastiQ <sup>®</sup> XD to BioBlend <sup>®</sup> XD.
Revision:	08 Jan 2021	Updated company address.

N/D = Not determined, N/A = Not applicable

#### Key to the H-Codes contained in Section 3 of this document (for information only)

H316: Causes mild skin irritation. Only when hot.

H320: Causes eye irritation. Particles may cause mechanical irritation.



Product Name:	BioBlend <sup>®</sup> XD 25250 BioPolymer
Product No:	BioBlend <sup>®</sup> XD 25250, XD25251
<b>Revision Date:</b>	8 January 2021

This SDS covers the following BioBlend<sup>®</sup> XD BioPolymers: BioBlend<sup>®</sup> XD 25250 and BioBlend XD 25251.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance to safe handling, use, processing storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



Product Name: Product No: Revision Date: BioBlend<sup>®</sup> BC 27134 BioPolymer BioBlend<sup>®</sup> BC 27134 17 November 2021

### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Names	BioBlend <sup>®</sup> BC 27134 BioPolymer, BioBlend <sup>®</sup> BC 27154 BioPolymer
Common Names	BC 27134, BC 27154
Product Use	Plastic pellets for industrial use - to create film.
Manufacturer	BiologiQ Inc. 3834 Professional Way Idaho Falls, ID 83402
Emergency Number	1-208-357-9650

SECTION 2. HAZARDS IDENTIFICATION	ON	
GHS Classification and Label Elements		
Category	Combustible Dust (OSHA Defined)	
Label Content		
Pictogram	Not required	
Signal word	WARNING	
Hazardous warnings	May form combustible dust concentrations in air.	
Hazardous prevention measures	Not required	
Other Hazards		
Physical / Chemical Hazards		
Combustible Dust	If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.	
Health Hazards		
Eye	H320: Causes eye irritation. Particles may cause mechanical irritation.	
Skin Contact	H316: Causes skin irritation. Only when hot.	
Inhalation	Low order of toxicity.	
Ingestion	No hazard in normal industrial use.	
Environmental Hazards	No significant hazard	
NFPA Hazard ID: Health: 1	Flammability: 0 Reactivity: 0	
HMIS Hazard ID: Health: 1	Flammability: 0 Reactivity: 0	



Product Name: Product No: Revision Date: BioBlend<sup>®</sup> BC 27134 BioPolymer BioBlend<sup>®</sup> BC 27134 17 November 2021

#### SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS #	Concentration	GHS Hazard Codes
NuPlastiQ <sup>®</sup> GP BioPolymer	-	-	May form a combustible dust in air
Biodegradable Polyester	55231-08-8	-	Non hazardous

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provision of paragraph (i).

SECTION 4. FIRST-AID MEASURES	
Eye Contact	Flush eyes with large amounts of water until irritation stops. Seek medical attention if irritation persists
Skin Contact	Wash with soap and water.
	For hot product: immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.
Inhalation	Remove to fresh air. If difficulties occur after dust has been inhaled, remove to fresh air and seek medical attention.
Ingestion	No adverse effects to ingestion are expected.
Hazards	No hazard is expected under intended use and appropriate handling.

### SECTION 5. FIREFIGHTING MEASURES

Extinguishing Media	Dry chemical; CO2; Water fog; Foam
Unsuitable Extinguishing Media	No applicable data available.
Specific Hazards	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Do not permit dust to accumulate.
Protective Equipment	Self-contained breathing apparatus.
Decomposition products	Decomposition products will depend on fire conditions. CO, CO <sub>2</sub> , tetrahydrofuran, fumes/smoke, carbon black, harmful vapors, and other hydrocarbons are possible.



Product Name:
Product No:
Revision Date:

BioBlend® BC 27134 BioPolymer BioBlend® BC 27134 17 November 2021

Flammability Properties		
Flash Point	No data	
Flammability Limits	LEL: N/D	UEL: N/D
Autoignition Temperature	N/A	

SECTION 6. ACCIDENTAL RELEASE MEASURES	
Safeguards	Avoid the generation or accumulation of dust in the air. Good housekeeping practices should be used to avoid dust build up.
Spill Clean	Spilled material is a slipping hazard on hard surfaces.
	Sweep or scoop up pellets and remove.
	Spills of fine material should be cleaned using gentle sweeping or vacuuming. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.
Environmental Precautions	Do not discharge to streams, ponds, lakes or sewers.
Disposal Method	In accordance with existing local/state/federal regulations.

SECTION 7. HANDLING AND STORAGE		
Handling	Minimize dust generation and accumulation. Institute routine housecleaning to ensure dust does not accumulate on surfaces.	
	Processing equipment must be fitted with local exhaust ventilation.	
	Pneumatic conveying and other mechanical handling operations can generate combustible dust. Avoid significant deposits of material which may become airborne and form combustible dust clouds. Handling and processing operations should be conducted in accordance with best practices (e.g. NFPA-654).	
	Wash thoroughly after handling.	
Loading/Unloading Temperature	[Ambient]	
Transport Temperature	[Ambient]	
Transport Pressure	[Ambient]	
Storage	Store in cool dry place with adequate ventilation.	
Conditions	Protect against moisture. Avoid extreme heat and sources of ignition: heat, sparks, open flame.	
Storage Temperature	[Ambient]	



Product Name: Product No: Revision Date: BioBlend<sup>®</sup> BC 27134 BioPolymer BioBlend<sup>®</sup> BC 27134 17 November 2021

Storage Pressure	[Ambient]
Suitable Containers/Packing	Bulk Containers, Bags. Store sealed to prevent moisture absorption and decomposition.

#### **SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Exposure limit values for materials that can be formed when handling this product	For dusty conditions, OSHA recommends for particulates not otherwise regulated an 8-hour TWA of 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction); ACGIH recommends for insoluble and poorly soluble particles not otherwise specified an 8-hour TWA of 10 mg/m3 (inhalable particles), 3 mg/m3 (respirable particles). NOTE: Limits/standards shown for guidance only. Follow applicable regulations.
	Under recommended processing conditions, this material has been shown to emit elevated concentrations of glycerol mist (CAS 56-81-5). This may cause smoke and possible odor during processing. OSHA does not list Glycerol mist as a hazardous material with specific exposure limits.
Engineering Controls	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Processors of this product should assure that adequate ventilation or other controls are used to control exposure.
Personal Protection	
Hand Protection	If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, a long sleeve shirt or gauntlet style gloves is recommended.
Eye Protection	If contact with hot material is likely, safety glasses with side shields are recommended.
Skin and Body Protection	If there is a potential for contact with hot product, thermally protective clothing and footwear is recommended.
Respiratory Protection	If engineering controls do not maintain acceptable airborne contaminate levels, an approved respirator may be appropriate. Typical type: Particulate air-purifying respirator approved for dust / oil mist is recommended.

#### **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**General Information / Appearance** 



Product Name: Product No: Revision Date: BioBlend<sup>®</sup> BC 27134 BioPolymer BioBlend<sup>®</sup> BC 27134 17 November 2021

Physical StateSolidFormResin PelletsTypeMixtureColorTranslucent, off-white to tanOdorMild Cereal odorOdor ThresholdNo data availableImportant Health, Safety, and Environmental InformationRelative DensityN/ApH as isN/ApH in 1% SolutionN/ABoiling PointN/ASpecific Gravity1.4 +/- 0.03 gm/ccEvaporation RateN/AVapor Pressure (mm Hg)N/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlamability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DOxidizing PropertiesN/AViscosityN/AOxidizing PropertiesN/AMelting TemperatureA/AMolecular Weight>10,000Solubility in WaterLow		
TypeMixtureColorTranslucent, off-white to tanOdorMild Cereal odorOdor ThresholdNo data availableImportant Health, Safety, and Enviromental InformationRelative DensityN/ApH as isN/ApH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/ASpecific Gravity1.4 +/- 0.03 gm/ccEvaporation RateN/AVapor Pressure (mm Hg)N/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/AVidizing PropertiesN/AOxidizing PropertiesN/AVisosityN/AOther InformationN/AOther InformationN/AOther InformationN/AOther InformationN/AOther InformationN/AOther InformationN/AOther InformationN/APare NointN/DDecomposition TemperatureN/AOther InformationN/APreseng PointN/AOther InformationN/APreseng PointN/AOther InformationN/AProve Nolocular Weight>10,000	Physical State	Solid
ColorTranslucent, off-white to tanOdorMild Cereal odorOdor ThresholdNo data availableImportant Health, Safety, and Environmental InformationRelative DensityN/ApH as isN/ApH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/ASpecific Gravity1.4 +/- 0.03 gm/ccEvaporation RateN/AVapor Pressure (mm Hg)N/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/AVidizing PropertiesN/AVolidizing PropertiesN/AOxidizing PropertiesN/AOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Form	Resin Pellets
OdorMild Cereal odorOdor ThresholdNo data availableImportant Health, Safety, and Environmental InformationRelative DensityN/ApH as isN/ApH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/ASpecific Gravity1.4 +/- 0.03 gm/ccEvaporation RateN/AVapor Pressure (mm Hg)N/AVolatilesNoneVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DDecomposition TemperatureN/AViscosityN/AOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Туре	Mixture
Odor ThresholdNo data availableImportant Health, Safety, and Environmental InformationRelative DensityN/ApH as isN/ApH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/ASpecific Gravity1.4 +/- 0.03 gm/ccEvaporation RateN/AVapor Pressure (mm Hg)N/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DDecomposition TemperatureN/AViscosityN/AOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Color	Translucent, off-white to tan
Important Health, Safety, and Environmental InformationRelative DensityN/ApH as isN/ApH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/ASpecific Gravity1.4 +/- 0.03 gm/ccEvaporation RateN/AVapor Pressure (mm Hg)N/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DDecomposition TemperatureN/AViscosityN/AOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Odor	Mild Cereal odor
Relative DensityN/ApH as isN/ApH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/ASpecific Gravity1.4 +/- 0.03 gm/ccEvaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Odor Threshold	No data available
pH as isN/ApH in 1% SolutionN/ABoiling PointN/APartition CoefficientN/ASpecific Gravity1.4 +/- 0.03 gm/ccEvaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/AViscosityN/AOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Important Health, Safety, and Envir	onmental Information
HN/ABoiling PointN/APartition CoefficientN/ASpecific Gravity1.4 +/- 0.03 gm/ccEvaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Relative Density	N/A
Boiling PointN/APartition CoefficientN/ASpecific Gravity1.4 +/- 0.03 gm/ccEvaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	pH as is	N/A
Partition CoefficientN/ASpecific Gravity1.4 +/- 0.03 gm/ccEvaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	pH in 1% Solution	N/A
Specific Gravity1.4 +/- 0.03 gm/ccEvaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Boiling Point	N/A
Evaporation RateN/AVapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/AViscosityN/AOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Partition Coefficient	N/A
Vapor Pressure (mm Hg)N/AVapor DensityN/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/AViscosityN/AOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Specific Gravity	1.4 +/- 0.03 gm/cc
Vapor DensityN/AVapor DensityN/AVolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/AViscosityN/AOxidizing PropertiesN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Evaporation Rate	N/A
VolatilesNoneVolatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Vapor Pressure (mm Hg)	N/A
Volatile Organic CompoundsN/AAuto ignition TemperatureN/AFlammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/AOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Vapor Density	N/A
Auto ignition TemperatureN/AFlammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Volatiles	None
Flammability (solid, gas)Not flammable, but may form combustible dust concentrations in air.Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Volatile Organic Compounds	N/A
Flash PointN/DUpper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationFreezing PointFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Auto ignition Temperature	N/A
Upper Explosion LimitN/DLower Explosion LimitN/DDecomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Flammability (solid, gas)	
Lower Explosion LimitN/DDecomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Flash Point	N/D
Decomposition TemperatureN/DOxidizing PropertiesN/AViscosityN/AOther InformationFreezing PointFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Upper Explosion Limit	N/D
Oxidizing PropertiesN/AViscosityN/AOther InformationFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Lower Explosion Limit	N/D
ViscosityN/AOther InformationN/AFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Decomposition Temperature	N/D
Other InformationFreezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Oxidizing Properties	N/A
Freezing PointN/AMelting TemperatureApprox. 160°CMolecular Weight>10,000	Viscosity	N/A
Melting TemperatureApprox. 160°CMolecular Weight>10,000	Other Information	
Molecular Weight >10,000	Freezing Point	N/A
	Melting Temperature	Approx. 160°C
Solubility in Water Low	Molecular Weight	>10,000
	Solubility in Water	Low

#### SECTION 10. STABILITY AND REACTIVITY

Reactivity

0 = Insignificant (NFPA Hazard Class)



Product Name: Product No: Revision Date: BioBlend<sup>®</sup> BC 27134 BioPolymer BioBlend<sup>®</sup> BC 27134 17 November 2021

Stability	Material is stable under normal conditions.
Conditions to Avoid	Avoid extreme heat
Materials to Avoid	Strong oxidizing agents
Hazardous Decomposition Products	This product does not undergo spontaneous decomposition at ambient temperatures.
	At prolonged and/or strong thermal stressing above the decomposition temperature, hazardous decomposition products may be formed.

#### SECTION 11. TOXICOLOGICAL INFORMATION

### Product Toxicology

Oral Toxicity	Low order of toxicity.	
	LD50 rat (oral): > 4,000 mg/kg (OECD Guide 423)	
Dermal Toxicity	No specific data available.	
Inhalation Toxicity	No specific data available.	
Eye Irritation	No specific data available.	
Chronic (Long-Term) Effects of E	xposure	
Route of Entry	Eye, skin, inhalation, ingestion	
Effects of chronic exposure	No specific data available.	
Target Organs	N/D	
Special Health Effects	None known	

Special Health EffectsNone knownOther informationDustDustMay be irritating to the eyes and respiratory tract.

SECTION 12. ECOLOGICAL INFORMATION		
Toxicity	No specific data available.	
Persistence and degradability	No specific data available.	
Bioaccumulative potential	No specific data available.	
Mobility in soil	No specific data available	
Results of PBT and vPvB assessment	No specific data available	



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**Additional Information** 

At the present state of knowledge, no negative ecological effects are expected.

#### SECTION 13. DISPOSAL CONSIDERATIONS

Disposal	Recommendations
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Waste Disposal Methods:	In accordance with existing federal/state/local environmental regulations.
Empty Containers:	Empty container may contain product residue; follow SDS and label warnings even after containers have been emptied.

### SECTION 14. TRANSPORT INFORMATION

Land (DOT)	Not regulated for Land Transport
Sea (IMDG)	Not regulated for Sea Transport
Air (IATA)	Not regulated for Air Transport

SECTION 15. REGULATORY INFORM	IATION
CAS Registry Nos.	Listed components only: 55231-08-8
U.S. Regulations	
SARA 313 title III	Not listed
TSCA Inventory List	Not listed
State Regulations	
Proposition 65 listed material	Not listed
International Inventories	
Canada DSL Inventory List	Not listed.
EU EINECS List	The components of this product listed in Section 3 are listed
China inventory of Existing Chemical Substances list:	The components of this product listed in Section 3 are listed.
China Catalog of Hazardous Chemicals (2015	Not listed

6. OTHER INFORMA	ION	
25 May 2021	Original	
		6. OTHER INFORMATION25 May 2021Original



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Revision: 17 November 2021 Updated Product Number and formatting.

#### Key to The H-Codes Contained In Section 2 and 3 Of This Document (for information only):

H316: Causes skin irritation. Only when hot.

H320: Causes eye irritation. Particles may cause mechanical irritation.

N/D = Not determined, N/A = Not applicable

This SDS covers a range of BioBlend<sup>®</sup> BC BioPolymer Mulch Resins manufactured by BiologiQ, Inc. These include resins with the following designations: BC27134, BC27154

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance to safe handling, use, processing storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.