

SAFETY DATA SHEET



Product Name: BioBlend® XP 24650 BioPolymer
Product No: BioBlend® XP 24650
Revision Date: 06 Jan 2021

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	BioBlend® XP 24650 BioPolymer
Common Names	BioBlend® XP
Product Use	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 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.
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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

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

SAFETY DATA SHEET



Product Name: BioBlend® XP 24650 BioPolymer
Product No: BioBlend® XP 24650
Revision Date: 06 Jan 2021

Name	CAS #	Concentration	GHS Hazard Codes
NuPlastiQ® GP BioPolymer		-	N/A
Poly(1-butene-co-ethylene)	25087-34-7	-	N/A
Adhesive Resin		-	N/A
Slip reagent and/or processing aid		<0.5%	
Acid Neutralizer		<0.1	
Talc*	14807-96-6	<0.75	

*contains < 0.5% quartz or crystalline silica

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 ₂ ; 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, carbon dioxide, carbon monoxide, formaldehyde, acetaldehyde, irritating smoke

SAFETY DATA SHEET



Product Name: BioBlend® XP 24650 BioPolymer
Product No: BioBlend® XP 24650
Revision Date: 06 Jan 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. 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.

SAFETY DATA SHEET



Product Name: BioBlend® XP 24650 BioPolymer
Product No: BioBlend® XP 24650
Revision Date: 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).

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.

Specific Exposure Limits/Guidelines

Talc (14807-96-60)	TWAs	ACGIH: 2mg/m ³ NIOSH: 2mg/m ³ OSHA: None
Quartz (14808-60-7)	TWAs	ACGIH: 0.025 mg/m ³ NIOSH: 0.05 mg/m ³ OSHA: None
Acid Neutralizer (Proprietary)	TWAs	ACGIH: 2 mg/m ³ NIOSH: 5 mg/m ³ OSHA: 5 mg/m ³ (fume) OSHA: 15 mg/m ³ (dust) OSHA: 5mg/m ³ (respirable)

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.

SAFETY DATA SHEET



Product Name: BioBlend® XP 24650 BioPolymer
Product No: BioBlend® XP 24650
Revision Date: 06 Jan 2021

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
Type	Mixture
Color	Opaque, off-white to tan
Odor	N/D
Odor Threshold	N/D

Important Health, Safety, and Environmental 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

SAFETY DATA SHEET



Product Name: BioBlend® XP 24650 BioPolymer
Product No: BioBlend® XP 24650
Revision Date: 06 Jan 2021

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, open flames.
Materials to Avoid	Strong oxidizers, fluorine.
Hazardous Decomposition Products	This product does not undergo spontaneous decomposition. Typical combustion products may include CO, CO ₂ , C, N, H ₂ O

SECTION 11. TOXICOLOGICAL INFORMATION

Product Toxicology

Component Name	CAS	Data
1-Butene, polymer with ethene (> 97%)	25087-34-7	Acute Toxicity: Ingestion/Oral-Rat LD50 • 4 g/kg; Sense Organs and Special Senses:Eye: Miosis (pupillary constriction); Sense Organs and Special Senses:Eye: Lacrimation; Gastrointestinal:Changes in structure or function of salivary glands
Antioxidants (0% TO 0.25%)	Proprietary	Acute Toxicity: Ingestion/Oral-Rat LD50 • >5000 mg/kg; Skin-Rabbit LD50 • >3160 mg/kg
Antioxidants (0% TO 0.25%)	Proprietary	Acute Toxicity: Ingestion/Oral-Rat LD50 • >5000 mg/kg; Lungs, Thorax, or Respiration:Dyspnea; Inhalation-Rat LC50 • >1800 mg/m ³ 4 Hour(s); Skin-Rat LD50 • >2000 mg/kg; Reproductive: Ingestion/Oral-Rat TD50 • 1750 mg/kg (multigeneration); Reproductive Effects:Effects on Newborn:Other neonatal measures or effects.

SAFETY DATA SHEET



Product Name: BioBlend® XP 24650 BioPolymer
 Product No: BioBlend® XP 24650
 Revision Date: 06 Jan 2021

Antioxidants (0% TO 0.25%)	Proprietary	Acute Toxicity: Ingestion/Oral-Rat LD50 • >6000 mg/kg; Irritation: Skin-Rat LD50 • >2000 mg/kg; Reproductive: Ingestion/Oral-Rat TDLo • 63000 mg/kg (multigeneration); Reproductive Effects: Paternal Effects: Other effects on male; Reproductive Effects: Maternal Effects: Other effects
Acid Neutralizer (< 0.1%)	Proprietary	Acute Toxicity: Ingestion/Oral-Mouse LD50 • 7950 mg/kg; Irritation: EyeRabbit • 500 mg 24 Hour(s) • Mild irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Mild irritation; Reproductive: Ingestion/Oral-Rat TDLo • 6846 mg/kg (1- 22D preg); Reproductive Effects: Specific Developmental Abnormalities: Homeostasis; Reproductive Effects: Effects on Newborn: Stillbirth; Reproductive Effects: Effects on Newborn: Growth statistics (e.g., reduced weight gain)
Talc (0% TO 1.5%)	14807-96-6	Irritation: Skin-Human • 300 µg 3 Day(s)-Intermittent • Mild irritation; Tumorigen / Carcinogen: Inhalation-Rat TCLo • 18 mg/m ³ 6 Hour(s) 2 Year(s)-Intermittent; Tumorigenic: Carcinogenic by RTECS criteria; Lungs, Thorax, or Respiration: Bronchiogenic carcinoma; Endocrine: Tumors
Quartz (0% TO 0.15%)	14808-60-7	Acute Toxicity: Inhalation-Human TCLo • 16 mppcf 8 Hour(s) 17.9 Year(s) Intermittent; Lungs, Thorax, or Respiration: Fibrosis, focal (pneumoconiosis); Lungs, Thorax, or Respiration: Cough; Lungs, Thorax, or Respiration: Dyspnea; Inhalation-Rat TCLo • 200 mg/kg; Lungs, Thorax, or Respiration: Fibrosis, focal (pneumoconiosis); Lungs, Thorax, or Respiration: Other changes; Nutritional and Gross Metabolic: Changes in Chemistry or Temperature: Fe; Multidose Toxicity: Inhalation-Hamster TCLo • 3 mg/m ³ 6 Hour(s) 78 Week(s)Intermittent; Lungs, Thorax, or Respiration: Fibrosis (interstitial); Lungs, Thorax, or Respiration: Changes in lung weight; Inhalation-Rat TCLo • 6.2 mg/m ³ 6 Hour(s) 6 Week(s)Intermittent; Lungs, Thorax, or Respiration: Other changes; Blood: Changes in spleen; Immunological Including Allergic: Increase in cellular immune response; Inhalation-Rat TCLo • 80 mg/m ³ 26 Week(s)Intermittent; Lungs, Thorax, or Respiration: Fibrosis, focal (pneumoconiosis); Blood: Changes in spleen; Immunological Including Allergic: Decrease in cellular immune response; Mutagen: Micronucleus test • Unreported Route-Hamster • Lung (Somatic cell) • 160 µg/cm ³ ; DNA damage • Unreported Route-Human • Other Cell Type • 120 mg/L 24 Hour(s); Micronucleus test • Unreported Route-Human • Lung (Somatic cell) • 40

SAFETY DATA SHEET



Product Name: BioBlend® XP 24650 BioPolymer
 Product No: BioBlend® XP 24650
 Revision Date: 06 Jan 2021

	µg/cm ³ ; Tumorigen / Carcinogen: Inhalation-Rat TCLo • 50 mg/m ³ 6 Hour(s) 71 Week(s) Intermittent; Tumorigenic: Carcinogenic by RTECS criteria; Liver: Tumors
GHS Properties	Classification
Acute toxicity	EU/CLP • OSHA HCS 2012 • WHMIS 2015 • NDA
Aspiration Hazard	EU/CLP • OSHA HCS 2012 • WHMIS 2015 • Not relevant
Carcinogenicity	EU/CLP • OSHA HCS 2012 • WHMIS 2015 • Classification criteria not met
Germ Cell Mutagenicity	EU/CLP • OSHA HCS 2012 • WHMIS 2015 • Classification criteria not met
Skin corrosion/Irritation	EU/CLP • OSHA HCS 2012 • WHMIS 2015 • Classification criteria not met
Skin sensitization	EU/CLP • OSHA HCS 2012 • WHMIS 2015 • Classification criteria not met
STOT-RE	EU/CLP • OSHA HCS 2012 • WHMIS 2015 • NDA
STOT-SE	EU/CLP • OSHA HCS 2012 • WHMIS 2015 • NDA
Toxicity for Reproduction	EU/CLP • OSHA HCS 2012 • WHMIS 2015 • Classification criteria not met
Respiratory sensitization	EU/CLP • OSHA HCS 2012 • WHMIS 2015 • Classification criteria not met
Serious eye damage/Irritation	EU/CLP • OSHA HCS 2012 • WHMIS 2015 • Classification criteria not met
Route(s) of entry exposure	Inhalation, Skin, Eye, Ingestion
Medical Conditions Aggravated by Exposure	Disorders of the lungs.
Potential Health Effects	

SAFETY DATA SHEET



Product Name: BioBlend® XP 24650 BioPolymer
 Product No: BioBlend® XP 24650
 Revision Date: 06 Jan 2021

Inhalation - Acute (Immediate)	Exposure to dust may cause irritation. Processes such as cutting, grinding, crushing, or impact may result in generation of excessive amounts of airborne dusts in the workplace. Nuisance dust may affect the lungs but reactions are typically reversible.
Inhalation - Chronic (Delayed)	Prolonged exposure to the dust may cause wheezing, chest tightness, productive cough nasal irritation and symptoms of chronic respiratory disease.
Skin - Acute (Immediate)	Exposure to dust may cause mechanical irritation.
Skin - Chronic (Delayed)	No data available.
Eye – Acute (Immediate)	Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.
Eye – Chronic (Delayed)	No data available.
Ingestion - Acute (Immediate)	Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.
Ingestion - Chronic (Delayed)	No data available
Carcinogenic Effects	
	CAS IARC NTP
Quartz (from talc)	14808-60-7 Group 1-Carcinogenic Known Human Carcinogen

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

SECTION 13. DISPOSAL CONSIDERATIONS
Disposal Recommendations

SAFETY DATA SHEET



Product Name: BioBlend® XP 24650 BioPolymer
Product No: BioBlend® XP 24650
Revision Date: 06 Jan 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.

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 Hazard Classifications:	None
California Prop 65	In compliance, no reportable substances

SECTION 16. OTHER INFORMATION

Created:	19 June 2020	Initial version
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)

- 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® XP BioPolymers: BioBlend® XP 24650 and BioBlend XP 24651.

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

SAFETY DATA SHEET



Product Name: BioBlend® XP 24650 BioPolymer
Product No: BioBlend® XP 24650
Revision Date: 06 Jan 2021

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.