BURGWELL
玮博杰生物材料(浙江)有限公司
BURGWELL Biomaterials(Zhejiang) Co., Ltd.

BURGWELL Biomaterials (Zhejiang) Co., Ltd. was established in 2021. Our headquarter is located in Shaoxing City, Zhejiang Province, covering an area of 112 mu.

We are committed to the research, development, production, and sales of eco-friendly degradable polymers, which are in high demand across strategic emerging industries such as new materials, new energy, and biomedicine—aligned with the national carbon neutrality goals.

Burgwell provides support to enable the properties of caprolactone series products to be exploited fully in our customers' most demanding applications. The synergy of our customers' specialized application know-how and our own product expertise helps to guarantee that Burgwell' s caprolactone series are the cutting-edge solution, aimed with precision to ensure optimum performance.

公司官网

招贤纳士研发

## Product Portfolio

Burgwell provides self-developed CL, PCL Polyols, and high molecular weight PCL in various grades to help customers address complex challenges.

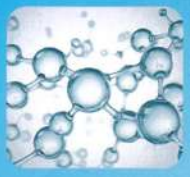
ε-caprolactone
**CL**

Poly(ε-caprolactone) polyol
**PCL polyol**

Poly(ε-caprolactone)
**PCL**

## Product series

**PCL Diol Series**
Low viscosity
Easy processing
Ideal for premium elastomers



**PCL Polyol Series**
High flexibility
Superior heat resistance
Enhances material stability

**Functionalized PCL Polyols**
Tailored molecular structures
Empowering advanced materials

## Application exploration

**Eco-Packaging**
Replaces traditional plastics
Safeguarding our planet

**Agricultural Innovation**
Degradable capsules for controlled fertilizer release
Driving green farming

**Medical Devices**
Biocompatible
Reliable
The future of healthcare

**3D Printing**
Precision, flexibility
Unlocking endless possibilities

**High-Performance Coatings**
Low VOC and environmentally friendly, excellent solvent, chemical and UV resistance, durable
Redefining sustainable finishes.

**Sportswear**
Ultra-soft, breathable
Merging comfort with performance.

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## Monomer & PCL Diols from Burgwell

The ε-caprolactone monomer produced via Burgwell's unique processes, achieving low acid value, low color index, and ultra-low moisture content. A proprietary continuous ring-opening polymerization process converts the monomer into PCL polyols with narrow molecular weight distribution. Compared to conventional polyols of equivalent molecular weight, these PCL polyols demonstrate lower viscosity, reduced residual acid value, ultra-low moisture content (<0.02%), and enhanced transparency. These polyols are designed for high-performance polyurethane (PU), low-VOC coatings, and compostable adhesives, enabling applications in high-end industrial.

| BW Grade | $M_w$ | Func. | OH Value [mgKOH/g] | Acid Value [mgKOH/g] | Color index [Hazen] | Appearance [@25℃] | Point DSC [℃] | Viscosity@60℃ [mPa·s] |
|---|---|---|---|---|---|---|---|---|
| ε-caprolactone | 114.14 | -- | -- | ≤0.10 | ≤5 | Liquid | -- | -- |
| BW 2052 | 540 | 2 | 207 | <0.25 | <50 | Liquid | 18-23 | 60 |
| BW 2053 | 540 | 2 | 207 | <0.25 | <50 | Liquid | 18-23 | 60 |
| BW 2101 | 1000 | 2 | 112 | <0.25 | <50 | Pasty | 30-40 | 100 |
| BW 2201 | 2000 | 2 | 56 | <0.25 | <50 | Waxy | 40-50 | 480 |
| BW 2501 | 5000 | 2 | 22.5 | <0.25 | <50 | Waxy | 50-60 | 1435 |
| BW 2101A | 1000 | 2 | 112 | <0.05 | <50 | Pasty | 20-30 | 150 |
| BW 2201A | 2000 | 2 | 56 | <0.05 | <50 | Waxy | 40-50 | 480 |

## Branched PCL Polyols from Burgwell

The unique combination of crosslinking density and flexibility imparts enhanced abrasion and scratch resistance to coatings. Low-viscosity polyols in high-solids coating formulations significantly reduce solvent demand, lowering VOC levels while effectively improving chemical resistance and gloss retention.

| BW Grade | $M_w$ | Func. | OH Value [mgKOH/g] | Acid Value [mgKOH/g] | Color index [Hazen] | Appearance [@25℃] | Point DSC [℃] | Viscosity@60℃ [mPa·s] |
|---|---|---|---|---|---|---|---|---|
| BW 3051 | 550 | 3 | 306 | <1.0 | <50 | Liquid | 0-10 | 160 |
| BW 3053 | 590 | 3 | 285 | <3.0 | <50 | Liquid | 0-10 | 165 |
| BW 4101 | 1000 | 4 | 225 | <1.0 | <50 | Liquid | -20 | 260 |
| BW 4102 | 1050 | 4 | 215 | <1.0 | <50 | Liquid | -- | 280 |

## Specialty/Modified PCL Polyols from Burgwell

Burgwell can design and produce specialty/modified polyols at the molecular-level using advanced polymerization technology. By employing advanced copolymerization techniques, we integrate high-performance polyols and functionalized groups into PCL polyol structures. This integration achieves synergistic performance enhancements by combining the superior properties of different polyol categories, thereby delivering significant competitive advantages to end-use products.

| BW Grade | $M_w$ | Func. | OH Value [mgKOH/g] | Acid Value [mgKOH/g] | Color index [Hazen] | Appearance [@25℃] | Point DSC [℃] | Viscosity@60℃ [mPa·s] | Application advantages |
|---|---|---|---|---|---|---|---|---|---|
| BW 2204 | 2000 | 2 | 56 | <0.25 | <50 | Waxy | 30-35 | 310 | Overcoming PTMEG's limitations in low-temperature applications |
| BW 2205 | 2000 | 2 | 56 | <0.25 | <50 | Waxy | 25-35 | 1050 | Reduce PCDL viscosity for easier processing |
| BW 1051 | 460 | 1 | 122 | <3.0 | <50 | Liquid | -- | 150 | Broadening the application fields of PCL polyols via end-group functionalization |
| BW 1052 | 472 | 1 | 119 | <3.0 | <50 | Liquid | -- | 135 | |

## High Molecular Weight Polycaprolactone

Through accumulated expertise in continuous ring-opening polymerization and progressive process optimization, Burgwell has successfully completed pilot-scale validation of high molecular weight polycaprolactone (HMW PCL) with molecular weights of 50,000 and 80,000 and is now advancing to mass production.

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