

Technical Data Sheet (TDS)

Biodegradable Nitrile Gloves

1. Product Description

Premium-quality biodegradable nitrile examination gloves engineered to deliver superior protection, comfort, and durability while significantly reducing environmental impact. Incorporates BDG® additive technology, which accelerates biodegradation in anaerobic landfill conditions without compromising glove performance, safety, or shelf life.

2. Key Features

- Biodegradable: 90%+ biodegradation - 490 days under ASTM D5511
- Chemical Resistance: Protection against common solvents, lubricants, oils, and cleaning agents.
- High Tensile Strength: 31 MPa (exceeds ASTM and EN minimums).
- Enhanced Comfort: Soft formulation for superior fit and tactile sensitivity.
- Powder-Free, Latex-Free, and Non-Sterile.
- Ambidextrous with Beaded Cuff for easy donning and tear prevention.
- Single-use Disposable PPE.

3. Applications

- Facilities Management & Industrial Maintenance
- Healthcare & Medical Examinations
- Food Handling & Hospitality
- Engineering, Manufacturing, and Laboratory Environments
- Chemical and Equipment Maintenance

4. Materials & Composition

- Material: Nitrile Butadiene Rubber (NBR) with BDG® additive.
- Color: Light Green / Violet Blue.
- Finish: Finger-textured for improved grip.
- Design: Ambidextrous, cuffed, single-use.

5. Dimensions & Physical Properties

Property	Standard	Typical Result
Length	EN 455-2	≥ 240 mm
Palm Thickness	ASTM D6319	0.08 – 0.10 mm
Finger Thickness	ASTM D6319	0.10 – 0.12 mm
Tensile Strength (Before Aging)	ASTM D412	31 MPa
Elongation (Before Aging)	ASTM D412	560%
Force at Break (After Aging)	EN 455-2	≥ 6 N

6. Biodegradable Performance

- Standard: ASTM D5511 (Anaerobic Biodegradation under High-Solids Conditions).
- Result: 90% biodegradation in 490 days (accelerated test conditions).
- Control Comparison: Standard nitrile showed negligible degradation under the same test conditions.
- Mechanism: BDG® additive attracts microbial activity that breaks polymer chains into biogas (CH₄, CO₂) and inert biomass.

7. Standards & Certifications

- EU Type Examination Certificate – compliant with PPE Regulation (EU) 2016/425.
- EN 374-1 / EN 374-5: Chemical & Microorganism Protection.
- EN 455-1 / 2 / 3 / 4: Medical Examination Gloves.
- ISO 13485: Medical Device Quality Management System.
- ASTM D6319: Nitrile Examination Gloves for Medical Application.
- ASTM D5511: Biodegradability Validation.

8. Shelf Life & Storage

- Shelf Life: 3 years from manufacturing date.
- Storage Conditions: Store in a cool, dry place below 40°C. Avoid direct sunlight and ozone sources.

9. Packaging

- Box: 100 gloves (by weight)
- Carton: 10 boxes (1,000 gloves)
- Carton Dimensions: 26.2cm (L) x 25.2cm (W) x 25.7cm (H)
- Carton Weight: 5.5 kg (approx.)

10. Country Of Origin

- Malaysia



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