

# BD PureWick™:

An innovative and sustainable approach to manage female urinary incontinence.

BD PureWick™ Environmental Life Cycle Analysis (LCA)



**Advancing the management of urinary incontinence solutions**  
Shaping the future of incontinence management with PureWick™



In 2021, approximately 39 billion<sup>1</sup> incontinence products were sold around the world.

This significant contribution to environmental waste underscores the pressing challenge of managing the ecological footprint of these products, a challenge that is set to grow as the global population ages.



The range of products in question includes absorbent pads, diapers, catheters, and other specialised external devices. The environmental toll of disposing these products is considerable, contributing to increased carbon emissions and substantial financial costs.

Due to the increased focus on sustainable practices, particularly in the healthcare sector, the environmental impact of incontinence products demands immediate attention. This action is crucial for aligning with the Sustainable Development Goals (SDG) set by the United Nations in 2015. Adopted by all 193 UN member states, these goals aim to secure a sustainable future for everyone by the year 2030.

## Introducing a new eco-solution: BD PureWick™

PureWick™ System is a female external catheter. It has been developed for non-invasive urine output management and serves as an alternative to pads and Foley catheters. It is intended to aid undisturbed sleep, reduce the need for carer intervention at night, reduce the risk of night-time falls, keep skin dry and increase comfort.

### How does the PureWick™ System work?

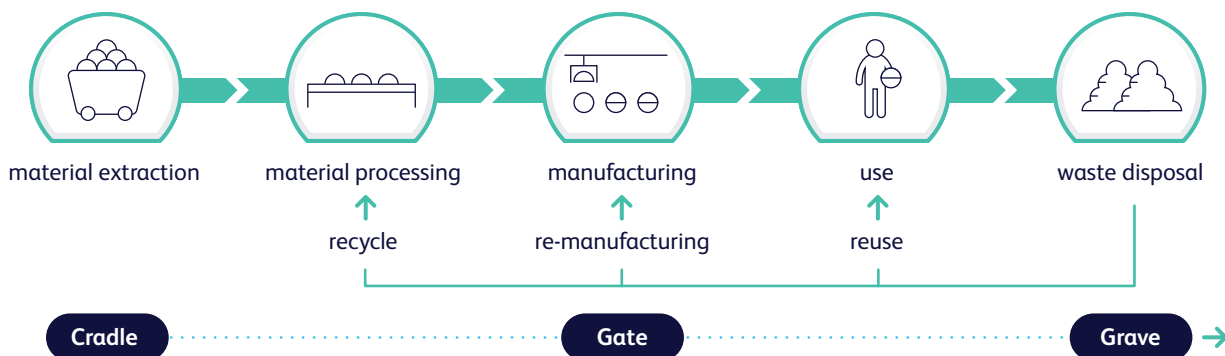
Positioned externally between the labia and gluteal muscles, it uses gentle suction to draw urine into a separate collection container, keeping the user dry and comfortable.



The PureWick™ System is optimized for sustainable use: whilst the external catheter is disposable and replaced every 8-12 hours, the PureWick™ Urine Collection System is designed for a minimum of three years.

## BD PureWick™ Life Cycle Assessment (LCA)

What is Life Cycle Assessment (LCA)? A holistic view of the environmental impacts :



**Cradle-to-gate** - Raw materials, processing and manufacturing.

**Cradle-to-grave** - Raw materials to end-of-life.

## Conducting a LCA<sup>3</sup> is one of the most effective method to evaluate the eco-viability of a practice.

It offers a holistic evaluation of the environmental footprint of a product throughout its entire lifespan, from production to disposal. For an objective and impartial evaluation, this LCA has undergone rigorous examination by **two independent entities**.<sup>4</sup>

This process ensures that the findings are both credible and unbiased, offering a clear comparison between the environmental impacts of different incontinence management solutions. The aim of this LCA is to closely compare the environmental implications of two specific scenarios: **a new and innovative BD solution, PureWick™ and a solution that is still widely used today, disposable diapers/pads**<sup>5</sup>:

### BD PureWick™

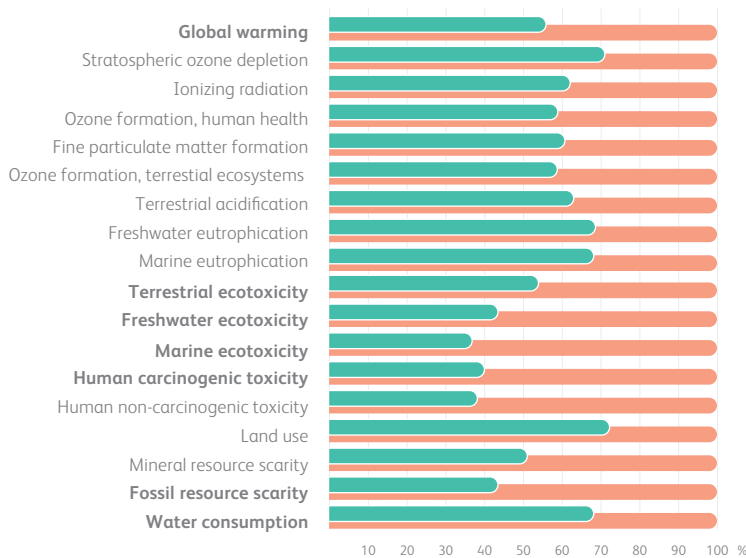
### Disposable diapers/pads



\* It is estimated that two adult diapers are needed overnight to manage urinary incontinence for an average adult patient to match PureWick™ capacity.

When comparing the two scenarios, it is clear that the PureWick™ system offers a significantly lower environmental impact than traditional diaper use, highlighting its eco-friendly advantage.

#### Comparative LCA between using PureWick™ (without battery) and two diapers for one night



■ Use of PureWick™ device (without battery) for one night    ■ Use of two diapers for one night

#### When opting for PureWick™ instead of diapers (for 2 years and 10 months), the notable areas of environmental savings are<sup>6</sup>:



**Global warming**  
It saves 2,556 kg of CO<sub>2</sub>, akin to skipping a car trip around the globe



**Environmental toxicity**  
It saves 8,098 kg of 1,4-DCB, preventing the death of 1% of fish in lake Tahoe (US)



**Human toxicity**  
It saves 2,649 kg of 1,4-DCB equivalent to eliminating the use of 1.7 million mothballs.



**Use of fossil resources**  
It saves 1,4 tons of oil and 8,71 kg of copper



**Water consumption**  
It saves 26,000 liters of water, the equivalent of a swimming pool

## PureWick™ is a green solution

The PureWick™ system stands out as a green, sustainable option for incontinence care, addressing critical environmental concerns such as water conservation, global warming, resource depletion, and toxicity. Its environmental impact is significantly lower compared to using two diapers overnight and generates much less waste than traditional absorbent hygiene products.

PureWick™ appears to be a highly reliable ecological and medical solution that addresses the issue of female urinary incontinence.



## References :

1. *An Urge to Act, the Health, socio-economic and environmental costs of continence problems in the EU*, p.13.
2. *Life Cycle Assessment, BD PureWick™*, 2024, p.61.
3. The LCA methodology for the BD PureWick™ system is meticulously designed to align with ISO 14040 and ISO 14044 standards, ensuring a comprehensive evaluation of the environmental impacts throughout the product's lifecycle. This assessment employs SimaPro software alongside the ecoinvent database to analyze the environmental performance specifically for women with urinary incontinence over a single night. The assessment focuses on the global "ReCipe 2016 Midpoint (H)" impacts, ensuring the study covers a broad spectrum of environmental concerns.
4. Those two entities are Primum Non Nocere and Covivance.
5. *Life Cycle Assessment, BD PureWick™*, 2024, p. 7.
6. *Life Cycle Assessment, BD PureWick™*, 2024, p. 66.



Agence Primum focuses on CSR, sustainable development, and health, providing RSE diagnostics, technical audits, and training to promote sustainability.



Covivance is a firm focused on CSR, ecological transitions, and reducing digital environmental impacts, helping businesses embrace sustainability.

For more information, please contact us :  
[Tannaz.Mirbaha@bd.com](mailto:Tannaz.Mirbaha@bd.com)



**BD Switzerland Sarl**, Terre-Bonne Park - A4, Route de Crassier 17, 1262 Eysins, Switzerland

BD, the BD Logo and PureWick are trademarks of Becton, Dickinson and Company © 2024 BD and its subsidiaries. All rights reserved BD. BD-122495  
Please consult product labels and instruction for use for indications, contraindications, hazards, warnings, and precautions