



A Closer Look at Pampers® Baby Wipes

Clinical, Technical and Safety Booklet

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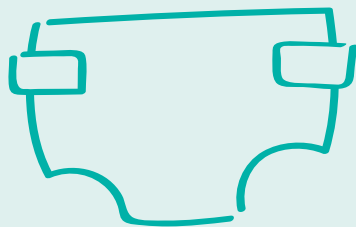
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CHAPTER 1

Supporting Parents at the Changing Table and Beyond



Supporting Parents at the Changing Table and Beyond

Pampers® continues to invest in innovation and research to provide parents with mild, effective and clinically-proven products that support moms and dads at the changing table. However, baby skin is delicate, especially in the diaper area, and parents often have questions and concerns about how best to care for it. Over recent decades, much clinical research has been carried out to establish best practice in infant skin care, and at Pampers® we understand that healthcare professionals are usually the first point of contact for parents who want advice.

This resource is therefore designed to provide you with up-to-date information and comprehensive clinical data on all aspects of maintaining infant skin health, baby wipe composition and ingredients, and the efficacy, safety and environmental sustainability credentials of the Pampers® Baby Wipes range.

On average, a baby
will have around

4000
diaper changes

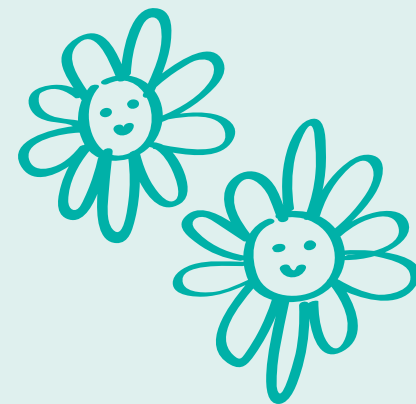
by the time they are potty trained¹, and while diaper changes are an essential part of baby care, they also offer valuable opportunities for parents to share special bonding moments with their babies.





CHAPTER 2

The History of Baby Wipes



The History of Baby Wipes

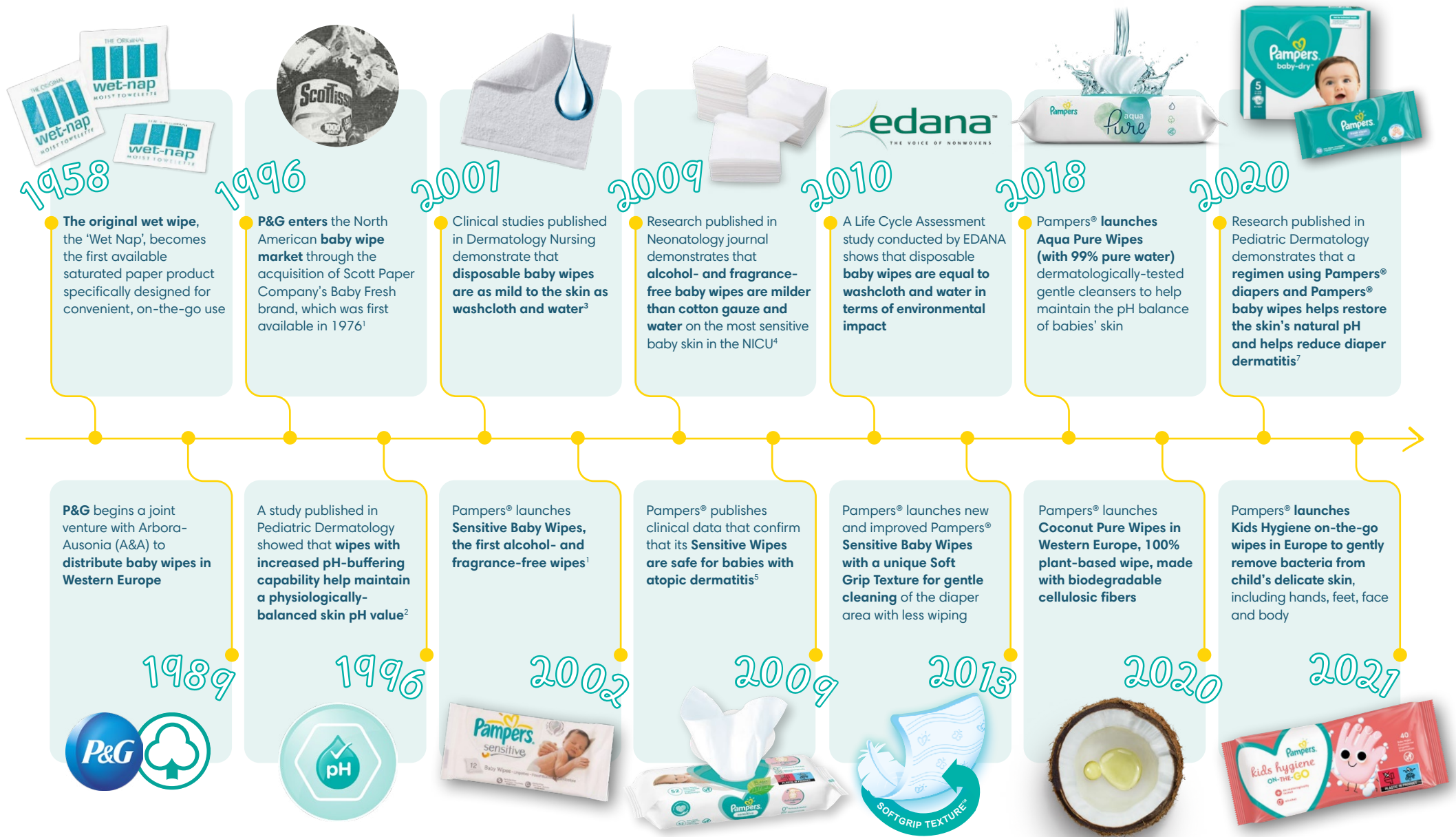
At Pampers®, we have been making gentle and effective disposable baby wipes for around 30 years, so parents can have complete confidence that our products will thoroughly clean and care for their little ones' skin. Our ongoing program of research and development, together with clinical studies, allows us to continually evolve our product range to ensure we are developing high performance products that deliver real skin health benefits.

The timeline highlights the key milestones in baby wipe development and Pampers® baby wipe heritage that have transformed the diaper-changing experience for parents.

Over the decades, Pampers® has been a leader in baby wipe innovation, responsible for enhancements such as the addition of buffering solutions to help restore the skin's natural pH in the diapered area and the introduction of the first wipes designed specifically for sensitive skin.



Baby Wipe History and our Heritage



EDANA (The International Association of Nonwovens and Related Industries)

¹ P&G data on file. ² Priestley G, McVittie E, Aldridge R. Changes in skin pH after the use of baby wipes. *Pediatric Dermatology*. 1996; 13(1):14-17. ³ Ehretsmann C, Schaefer P, Adam R. Cutaneous tolerance of baby wipes by infants with atopic dermatitis, and comparison of the mildness of baby wipe and water in infant skin. *J EADV*. 2001; 15(1): 16-21. ⁴ Visscher M, Odio M, Taylor T, White T, Sargent S, Sluder L, Smith L, Flower T, Mason B, Rider M, Huebner A, Bondurant P. Skin care in the NICU patient: effects of wipes versus cloth and water on stratum corneum integrity. *Neonatology*. 2009; 96:226-234. ⁵ Adam R, Schnetz B, Mathey P, Pericoi M, de Prost Y. Clinical demonstration of skin mildness and suitability for sensitive infant skin of a new baby wipe. *Pediatric Dermatology*. 2009; 26(5):506-513. ⁶ EDANA. LCA for baby wet wipes, September 2010. <http://www.edana.org/content/default.asp?PageID=75&DocID=4482>. ⁷ Gustin J, Bohman L, Ogle J, Chaudhary T, Li L, Fadayeel G, Mitchell M, Narendran V, Visscher MO, Carr AN. Use of an emollient-containing diaper and pH-buffered wipe regimen restores skin pH and reduces residual enzymatic activity. *Pediatric Dermatology*. 2020. 37(4):626-631.









CHAPTER 3

Our Baby Wipe Portfolio at a Glance



Our Baby Wipe Portfolio at a Glance

Our baby wipe range includes a wide variety of features to meet many different parental and infant requirements.

	Proven Skin Care	Natural & Minimalistic	Multi-Purpose		Cleaning at a Value	
	Sensitive	Aqua Pure	Expressions Fragrance Free	Expressions Botanical Rain and Fresh Bloom	Baby Fresh	Fragrance Free
						
Scented				✓	✓	
Soft plant-based materials		✓				
With premium cotton		✓				
With 99% water		✓				
pH balancing lotion	✓	✓	✓	✓	✓	✓
Soft & strong	✓	✓	✓	✓	✓	✓
Suitable from birth	✓	✓	✓	✓	✓	✓
0% alcohol	✓	✓	✓	✓	✓	✓
Dermatologically tested	✓	✓	✓	✓	✓	✓



All of our Pampers wipes
have these great features

Our Portfolio Highlights: Thoughtful Ingredients and Skin Protection Benefits



Safe for newborns



Help restore the skin's natural pH



MIT, paraben, alcohol-, dye- and fragrance-free



Hypoallergenic



Made with plant-based ingredients including cotton



99% water



Pampers® Sensitive Wipes



Pampers® Aqua Pure Wipes



Clinically Proven for Sensitive Skin ¹



Hypoallergenic



Safe for newborns



Paraben, alcohol-, dye-, chlorine bleaching- and fragrance-free



Approved by dermatologists of the Skin Health Alliance (SHA)

¹ P&G data on file. ² Presented by Dr. Regina Fölster-Holst at the World Congress of Pediatrics, July 2017 in Chicago. ³ Presented by Dr. Stefanie-Christen at the ESPD Congress in Palma, Oct 2017. ⁴ Shared at the ESPD Congress in London June 2018 through the materials at the booth. ⁵ Presented by Dr. Dirk van Gysel at the Egyptian Society of Dermatology and venereology, and at foster course of the EADV, Budapest.

CHAPTER 4

Baby Wipes An On-the-Go Tool for Everyday Life



Baby Wipes: An On-the-Go Tool for Everyday Life

Baby wipes have come a long way from the original disposable wipe, and as the technology evolves so has consumers' perceptions of baby wipes and how they use them in their busy lives.

As part of its ongoing commitment to meeting the needs of parents worldwide, Pampers® conducts regular research to drive deeper understanding of product needs, usage, and preferences, to ultimately offer the parents an extensive portfolio of wipes, with different features.

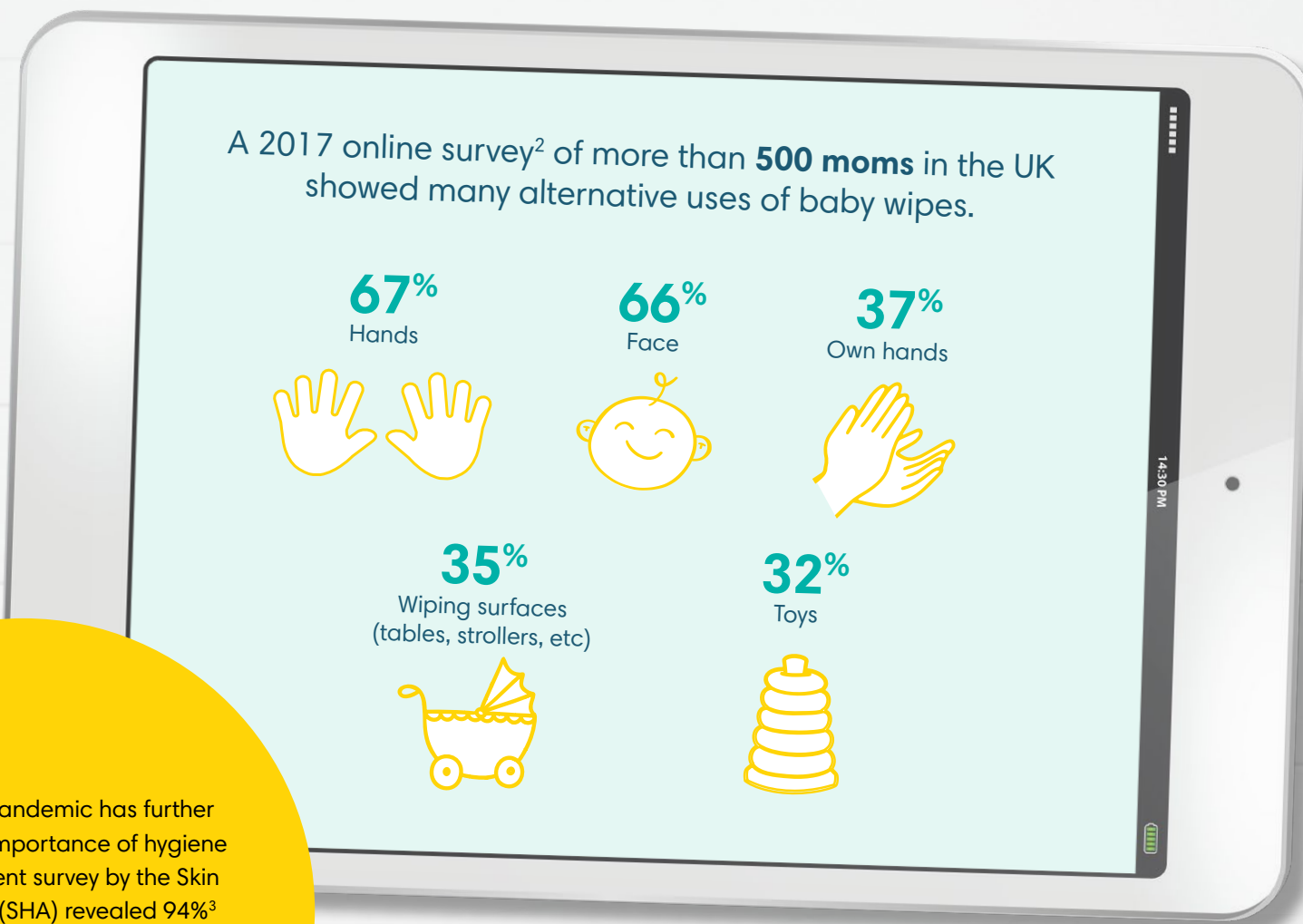
Disposable wipes play an important role in helping parents conveniently maintain and improve hygiene standards for themselves and their families, being highly valued not only for their cleaning ability, but often for their gentleness, convenience, and portability.¹



¹ EDANA. LCA for baby wet wipes, September 2010. <http://www.edana.org/content/default.asp?PageID=75&DocID=4482>.

Diaper changes are not the only time when baby wipes are useful to have around. With busy schedules and more time spent out of the home, baby wipes are frequently found in diaper bags, in the car and around the house.

The Covid-19 pandemic has further highlighted the importance of hygiene practices; a recent survey by the Skin Health Alliance (SHA) revealed 94%³ of parents are more concerned about their children's hygiene now than before the pandemic.



CHAPTER 5

The Science Behind Healthy Infant Skin

Anatomy of Baby Skin

The Important Role of Baby Skin pH

Diaper Dermatitis

Caring for Diapered Skin

Using washcloth and water

**Clinical Studies on the Skin Health
Benefits of Pampers® Baby Wipes**



The Science Behind Healthy Infant Skin

The skin is not just a baby's biggest sensory organ, it is also the most important, especially in the early days of life. Right from birth the skin has a broad range of functions, including^{1,2}:



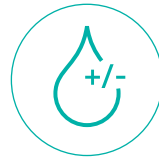
Protection against
the environment
and irritants



Sensory perception
including touch,
temperature and pain



Temperature
regulation of
the body



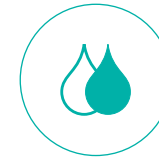
Water and
electrolyte
homeostasis



Infection
control



Protection from
mechanical trauma



Acid mantle
formation



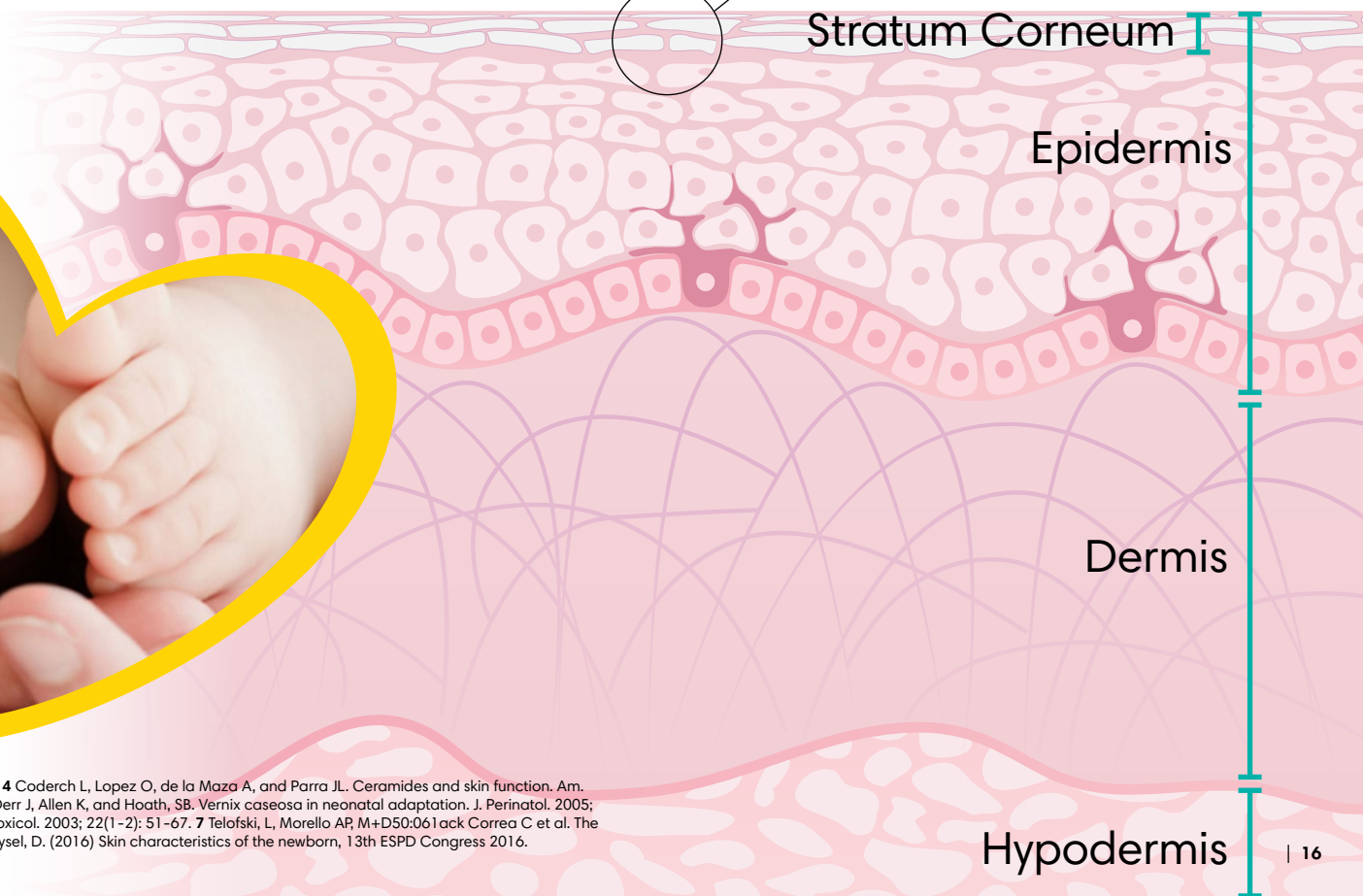
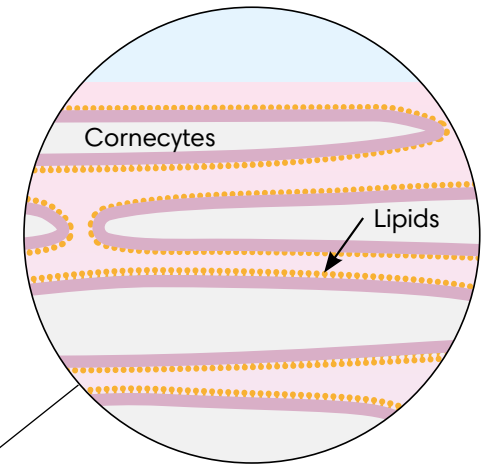
Anatomy of Baby Skin

The barrier function of skin is supported by the stratum corneum (SC), the top layer of the epidermis, which in healthy full-term newborn skin forms a protective boundary between the body's moist internal tissues and the dry external environment helping prevent water loss and restrict the entrance of pathogenic external microbes^{3,4}.

Although skin development begins during the first trimester of pregnancy, only during the third trimester is when the stratum corneum starts to achieve its maturity in tandem with the vernix caseosa, a protective covering made from sebaceous secretions and sloughed skin cells forming a complex mixture of water, lipids and proteins^{3,5}. Full-term newborn skin, although not fully mature, is well developed and functional at birth, and the stratum corneum accomplishes an effective barrier function, while adjusting quickly to the challenging dry conditions of the postnatal environment and further developing⁶.



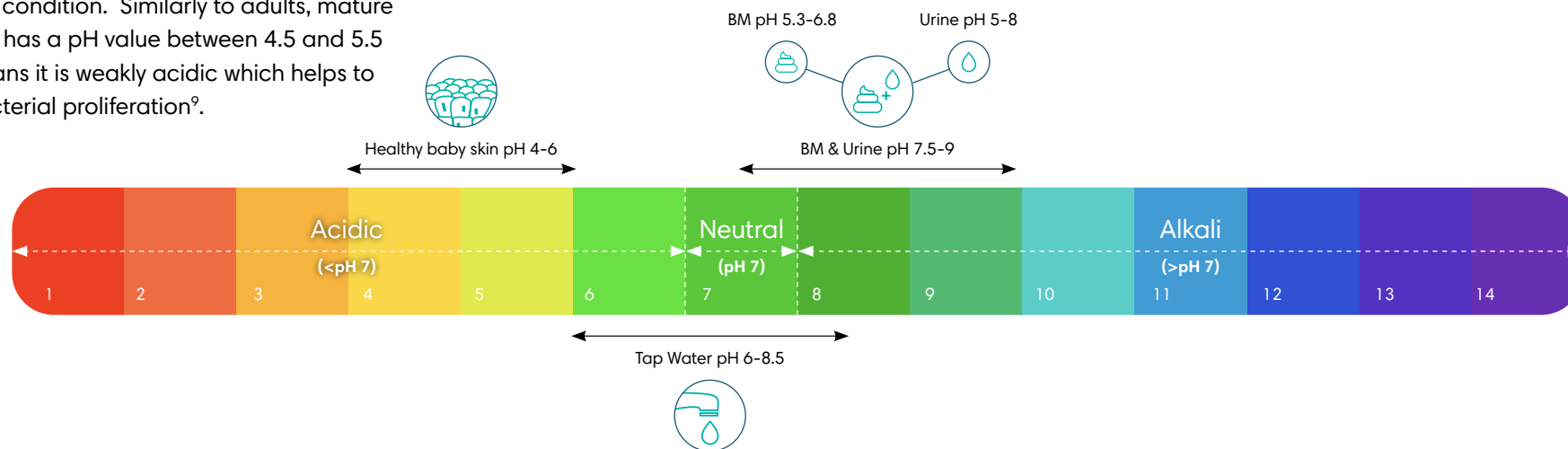
The stratum corneum consists of a lipid matrix which has layers of corneocytes (flattened dead cells) embedded within it. The structure is similar to that of a wall, where the corneocytes and lipid matrix are arranged in a 'bricks and mortar' formation^{7,8}.



³ Visscher M, Narendran V. The Ontogeny of Skin. *Adv Wound Care* (New Rochelle). 2014;3(4):291-303. ⁴ Coderch L, Lopez O, de la Maza A, and Parra JL. Ceramides and skin function. *Am. J. Clin. Dermatol.* 2003; 4(2): 107-29. ⁵ Visscher MO, Narendran V, Pickens WL, La-Ruff a AA, Meizen-Derr J, Allen K, and Hoath, SB. Vernix caseosa in neonatal adaptation. *J. Perinatol.* 2005; 25(7): 440-6. ⁶ Weinberger B, Hanna N, Gropper CA et al. Transdermal xenobiotics in newborn skin, *J Toxicol.* 2003; 22(1-2): 51-67. ⁷ Telofski, L, Morello AP, M+D50:061ack Correa C et al. The infant skin barrier: can we preserve, protect and enhance the barrier? *Dermatol Res and Pract.* ⁸ Van Gysel, D. (2016) Skin characteristics of the newborn, 13th ESPD Congress 2016.

The Important Role of Baby Skin pH

The skin's pH level plays a critical role in maintaining its healthy condition. Similarly to adults, mature infant skin has a pH value between 4.5 and 5.5 which means it is weakly acidic which helps to inhibit bacterial proliferation⁹.



However, in the diaper area, exposure to urine and feces causes the formation of ammonia which can increase the skin's pH level¹⁰. Importantly, newborn baby skin pH levels can already be between 6.3 - 7.5, additionally increasing its susceptibility to infections^{9,11,12}. Elevated skin pH (above 6.0) alters the microbiological flora, and increases the activity of fecal proteases and lipases, which further increases skin pH, damages the stratum corneum barrier and increases the risk of infection¹³.

Maintaining the natural pH balance of the skin can be achieved through the use of a **'buffer'**, an **aqueous solution that can adjust and neutralize pH change** if an acidic or alkali component is added to it.



In Pampers® Baby Wipes lotion, a **citric acid-based buffering system** helps restore the skin's natural pH, and thus decreases fecal enzyme activity in the diaper area, which is one of the common causes of diaper rash.

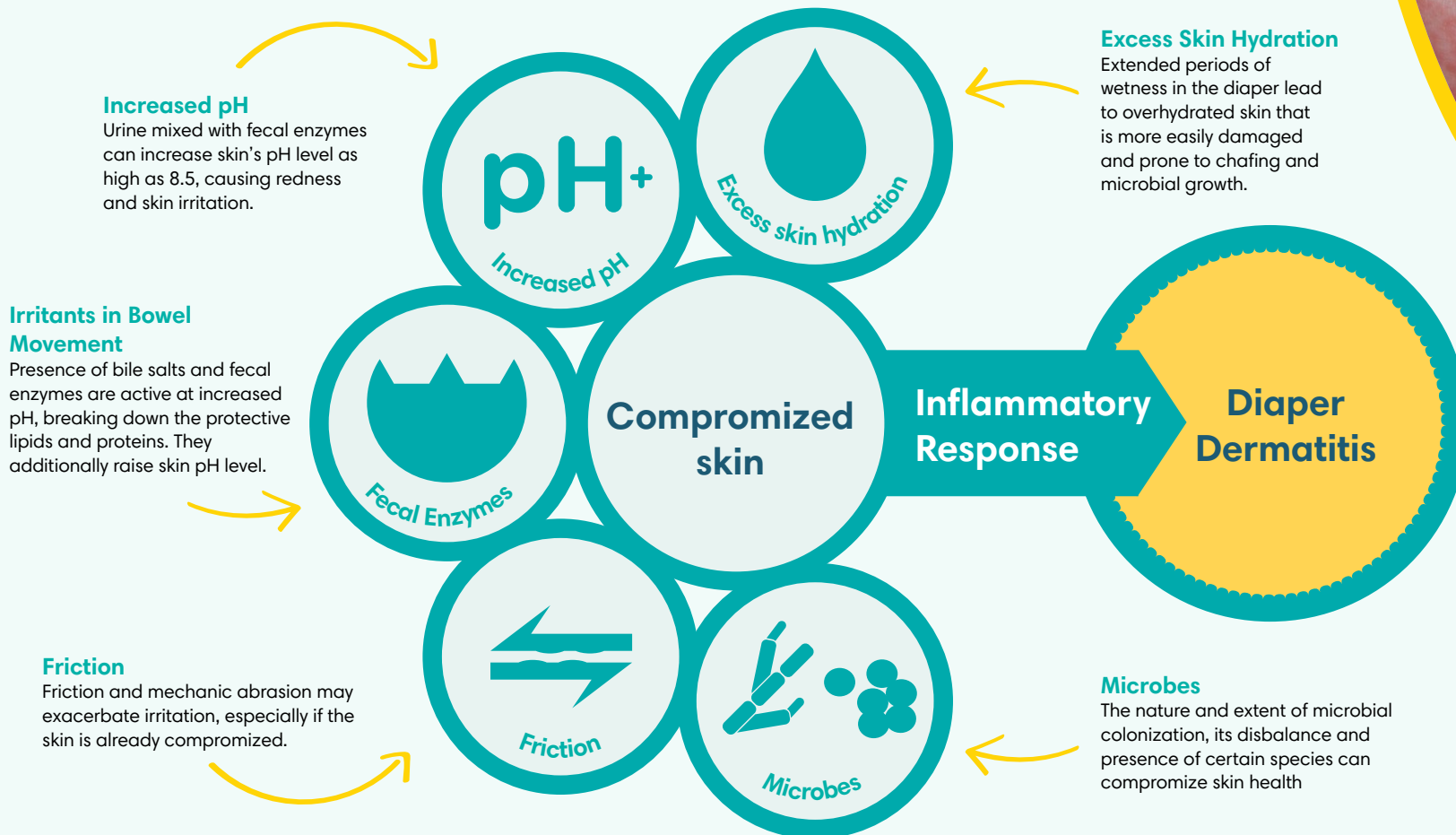


⁹ Stamatatos GN, Nikolovski J, Luedtke MA, et al. Infant skin microstructure assessed In vivo differs from adult skin in organization and at the cellular level. *Pediatr Dermatol* 2010;27:125-131 ¹⁰ Adam R. Skin care of the diaper area. *Pediatric Dermatology*. 2008; 25(4):42-433. ¹¹ G. Yosipovitch, A. Maayan-Metzger, P. Merlob, and L. Sirota, "Skin barrier properties in different body areas in neonates," *Pediatrics*, vol. 106, no. 1, part 1, pp. 105-108, 2000. ¹² C. Lund, J. Kuller, A. Lane, J. W. Lott, and D. A. Raines, "Neonatal skin care: the scientific basis for practice," *Neonatal Network*, vol. 18, no. 4, pp. 15-27, 1999. ¹³ Gustin J, Bohman L, Ogle J, Chaudhary T, Li L, Fadayeel G, Mitchell M, Narendran V, Visscher MO, Carr AN. Use of an emollient-containing diaper and pH-buffered wipe regimen restores skin pH and reduces residual enzymatic activity. *Pediatric Dermatology*. 2020. 37(4):626-631

Diaper Dermatitis

Diaper dermatitis (also known as nappy rash) is an acute, inflammatory reaction causing redness and irritation of the skin in diapered area. It is one of the most common pediatric conditions, **affecting more than 50% of babies**, and can be caused by a number of factors, but not by a diaper itself^{7,14,15,16}.

A combination of multiple factors causes diaper dermatitis^{7,14,15,16}



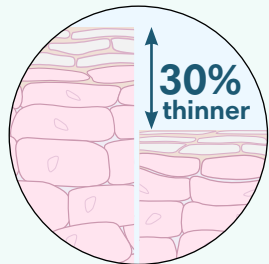
⁷ Telofski, L, Morello AP, M+D50:061ack Correa C et al. The infant skin barrier: can we preserve, protect and enhance the barrier? *Dermatol Res and Pract.* **14** Nikolovski J, Stamatias G, Kollias N, Wiegand B. Infant skin barrier maturation in the first year of life. *J Am Acad Dermatol.* 2007;56(suppl. 2):AB153 (Abstract P2400). ¹⁵ Odio M and Friedlander S. Diaper dermatitis and advances in diaper technology. *Curr Opin Pediatr.* 2000; 12(4)342-6. ¹⁶ Teufel A, Howard B, Hu P, Carr AN. Characterization of the microbiome in the infant diapered area: Insights from healthy and damaged skin. *Experimental Dermatology.* 2020.

Caring for Diapered Skin

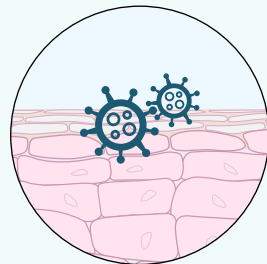
At birth, full-term babies' skin is functional, but still delicate as it is still developing and does not have all the characteristics and functionalities of adult skin until the age of 2 to 3 years old (e.g. thickness and functionalities of SC, sweat gland development, etc.)^{7,9,17,18}. In general, caring for the skin in the diaper area is more challenging than caring for skin in other areas of the body. A combination of exposure to urine and feces, prolonged periods of wetness and occlusion, and the greater numbers of folds and creases in the area make it more difficult to maintain good skin hygiene which can lead to local irritation or diaper dermatitis.

Why baby skin needs special care

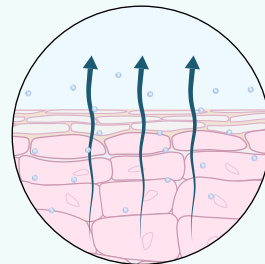
In healthy, full-term newborn skin, the stratum corneum is well-developed and functional, however, it is still not fully mature; the maturation process can take several months^{9,17}. To understand why baby skin needs special care, it is important to know the key differences between the skin of an infant and that of an adult:



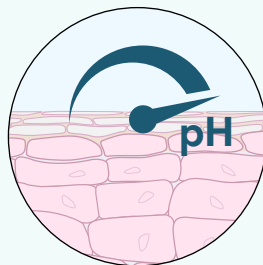
30% thinner stratum corneum⁹



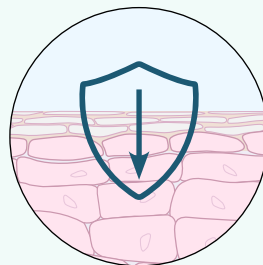
Incomplete antimicrobial defense^{17,18}



Higher trans-epidermal water loss^{7,17,18}



Higher pH of stratum corneum⁹



Decreased protection from mechanical/chemical injury¹⁷

Although it can cause babies significant discomfort, there is a number of **simple hygiene strategies for keeping baby's skin healthy**:



Regular control if a diaper needs to be changed



Cleaning the skin thoroughly but gently during each diaper change to remove urine and fecal enzymes from the skin and help restore the skin's natural pH level



Appropriately managing skin humidity, as it is important to keep newborn skin dry to promote healthy skin



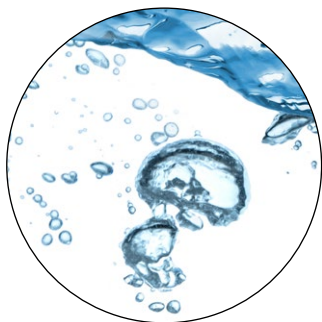
Applying a diaper rash cream or ointment*

*only in case of irritation, if persists, seek advice from a health care professional

7 Telofski, L, Morello AP, M+D50:061ack Correa C et al. The infant skin barrier: can we preserve, protect and enhance the barrier? *Dermatol Res and Pract.* **9** Stamatias GN, Nikolovski J, Luedtke MA, et al. Infant skin microstructure assessed In vivo differs from adult skin in organization and at the cellular level. *Pediatr Dermatol* 2010;27:125-131. **17** Oranges T, Dini V, Romanelli M. 16 Skin Physiology of the Neonate and Infant: Clinical Implications. *Adv Wound Care* (New Rochelle). 2015 Oct 1; 4(10): 587-595. **18** Darmstadt GL, Dinulos JG. Neonatal skin care. *Pediatr Clin North Am.* 2000;47(4):757-782.

Using washcloth and water

Using a washcloth and water is often intuitively thought to be the most gentle option for cleaning baby skin, however, **multiple clinical studies and research has shown that water alone cannot care for delicate skin:**



Water has a **pH level higher** than that of healthy baby skin and is **incapable** of providing a **pH buffering action**^{7,19}



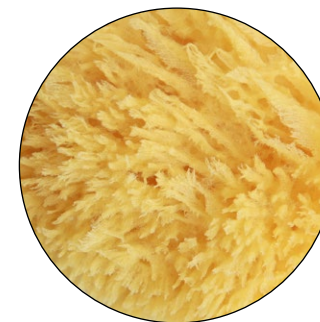
Water can **increase the skin's pH** for up to six hours after exposure before returning to its natural level^{7,19}



The polar nature of water **limits its ability to remove lipophilic substances** from the skin¹⁹



Depending on bathing frequency and quality of water used, washing with water alone **can have a drying effect** on infant skin^{7,20}



Washcloths or sponges can be a **challenge from a hygiene perspective**. If reused, they can cause skin irritation, especially if the skin is already compromised^{21,22}



⁷ Telofski, L, Morello AP, M+D50:061ack Correa C et al. The infant skin barrier: can we preserve, protect and enhance the barrier? *Dermatol Res and Pract*. ¹⁹ Lambers H, Piessens S, Bloem A, Pronk H, Finkel P. Natural skin surface pH is on average below 5, which is beneficial for its resident flora. *International Journal of Cosmetic Science*. 2006; 28:359-370. ²⁰ Blume-Peytavi U, Cork MJ, Faergemann J, Szczapa J, Vanaclocha F, Gelmetti C. Bathing and cleansing in newborns from day 1 to first year of life: recommendations from a European round table meeting. *Journal of the European Academy of Dermatology and Venereology*. 2009;23(7):751-759. ²¹ Tsai TF, Maiback HI. How irritant is water? An overview. *Contact Dermatitis*. 1991; 41:311-314. ²² Bornkessel A, Flach M, Arens-Corell M et al. Functional Assessment of a washing emulsion for sensitive skin; mild impairment of stratum corneum hydration, pH barrier function, lipid content, integrity and cohesion in a controlled washing test. *Skin Research and Technology*. 2005; 11:53-60.

Clinical Studies on the Skin Health Benefits of Pampers® Baby Wipes

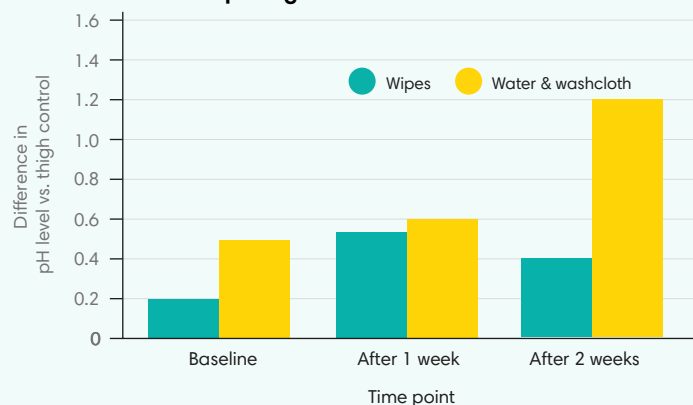
In numerous studies conducted over recent decades, wipes have been proven to be mild, safe and effective cleaning products that can help care for infant skin. Over the years, mildness and effectiveness of Pampers® Baby Wipes have been **tested clinically in a variety of settings, including in preterm babies, babies with atopic dermatitis, infants in the neonatal intensive care unit (NICU), and in babies with diaper dermatitis²³⁻²⁶.**

Pampers® Baby Wipes help restore the skin's natural pH better than washcloth and water

A 1996 study published in *Pediatric Dermatology*, showed that Pampers® Baby Wipes with increased pH-buffering capability helped maintain a physiologically-balanced skin pH value in the diaper region and were well-tolerated²³.

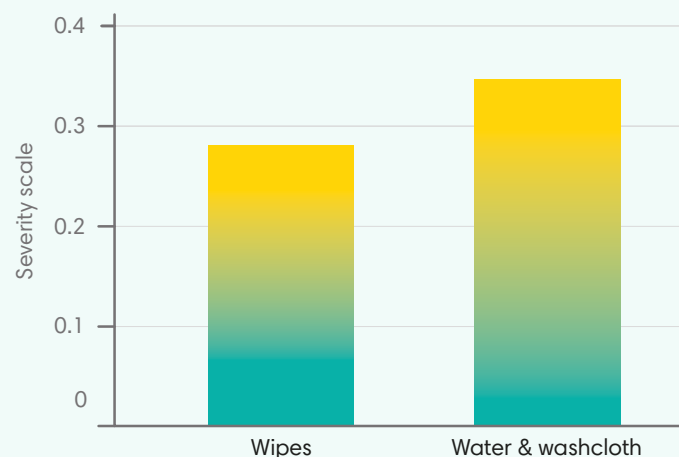
A randomized, double-blinded, parallel design on-baby study with more than 300 infants in 2009, found that **Pampers® Sensitive Wipes maintained skin pH at healthy baseline levels, while washcloth and water actually raised skin pH²⁴**

Skin pH measured after use of Pampers® Sensitive Baby Wipes against washcloth and water



Pampers® Baby Wipes are less irritating to skin with atopic dermatitis than washcloth and water

Severity of erythema and diaper dermatitis measured after use of wipes vs. washcloth and water



In a 2001 clinical study, Pampers® Sensitive Wipes achieved **lower scores on a severity scale measuring diaper rash and erythema compared to washcloth and water**, in infants with atopic dermatitis²⁵.

A 2009 clinical study performed in the NICU, showed that in babies with atopic dermatitis, **Pampers® Sensitive Baby Wipes helped maintain skin health better than washcloth and water**. The use of wipes showed **less erythema in the perineum as compared with washcloth and water** after just five days of use²⁶.

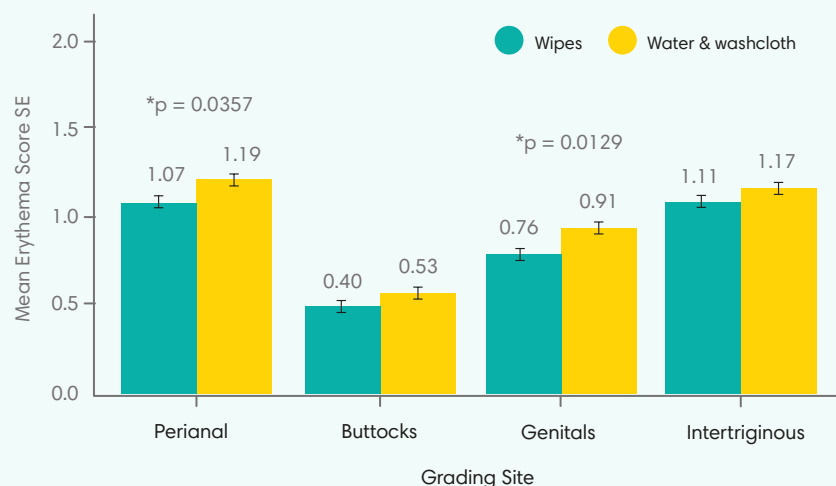
²³ Priestley G, McVittie E, Aldridge R. Changes in skin pH after the use of baby wipes. *Pediatric Dermatology*. 1996; 13(1):14-17. ²⁴ Adam R, Schnetz B, Mathey P, Pericci M, de Prost Y. Clinical demonstration of skin mildness and suitability for sensitive infant skin of a new baby wipe. *Pediatric Dermatology*. 2009; 26(5):506-513. ²⁵ Ehretsmann C, Schaefer P, Adam R. Cutaneous tolerance of baby wipes by infants with atopic dermatitis, and comparison of the mildness of baby wipe and water in infant skin. *J EADV*. 2001; 15(1): 16-21. ²⁶ Visscher M, Odio M, Taylor T, White T, Sargent S, Sluder L, Smith L, Flower T, Mason B, Rider M, Huebner A, Bondurant P. Skin care in the NICU patient: effects of wipes versus cloth and water on stratum corneum integrity. *Neonatology*. 2009; 96:226-234. ²⁷ P&G data on file.

Clinical Studies on the Skin Health Benefits of Pampers® Baby Wipes

Pampers® Aqua Pure Wipes are at least as mild/gentle as washcloth and water

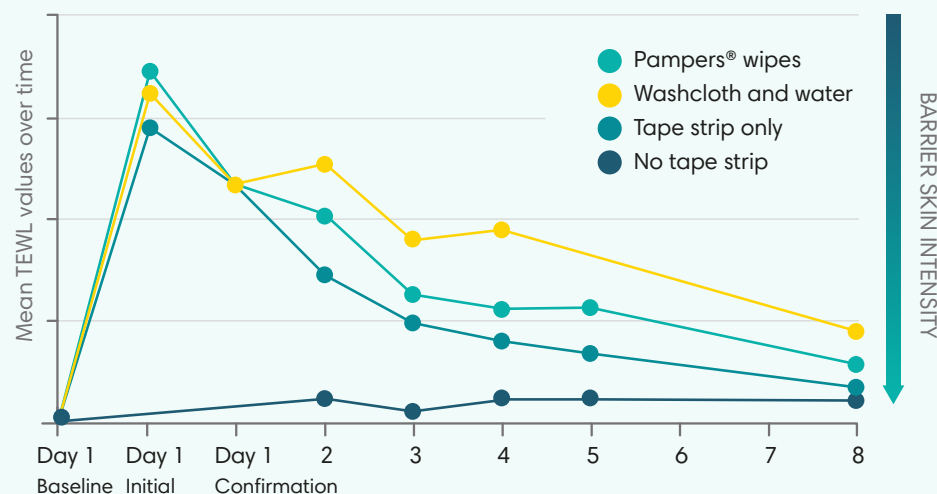
In collaboration with the ESPD*, Pampers® conducted a clinical study comparing Pampers® Aqua Pure Wipes with washcloth and tap water²⁸. **Pampers® Aqua Pure Wipes were demonstrated to be at least as mild/gentle as washcloth and water over the two-week usage period.** Skin of subjects using the wipes also showed **significantly lower pH than skin of subjects using washcloth and tap water**, which could provide long term benefits for skin health.

Erythema Score at different sites when using Wipes vs. Washcloth and water



Pampers® Sensitive™ Wipes showed better recovery of skin barrier integrity compared to washcloth and water

A study of more than 30 subjects **demonstrated the mildness** of Pampers® Sensitive Wipes compared to washcloth and water with transepidermal water loss (TEWL**). 34 adult women had their volar forearm tape stripped to compromise skin barrier integrity and then repeatedly wiped with Pampers® Sensitive Wipes™ at the site stripped tapes and a typical 100% cotton washcloth and water at another site.



Repeated wiping has less impact on the repair process of compromised stratum corneum in comparison with washcloth and water when tested in the tape-strip testing on adult forearm and measuring skin integrity following the treatment.

Clinical Studies on the Skin Health Benefits of Pampers® Baby Wipes

Pampers® Baby Wipes are non-irritating and gentle to infant's skin

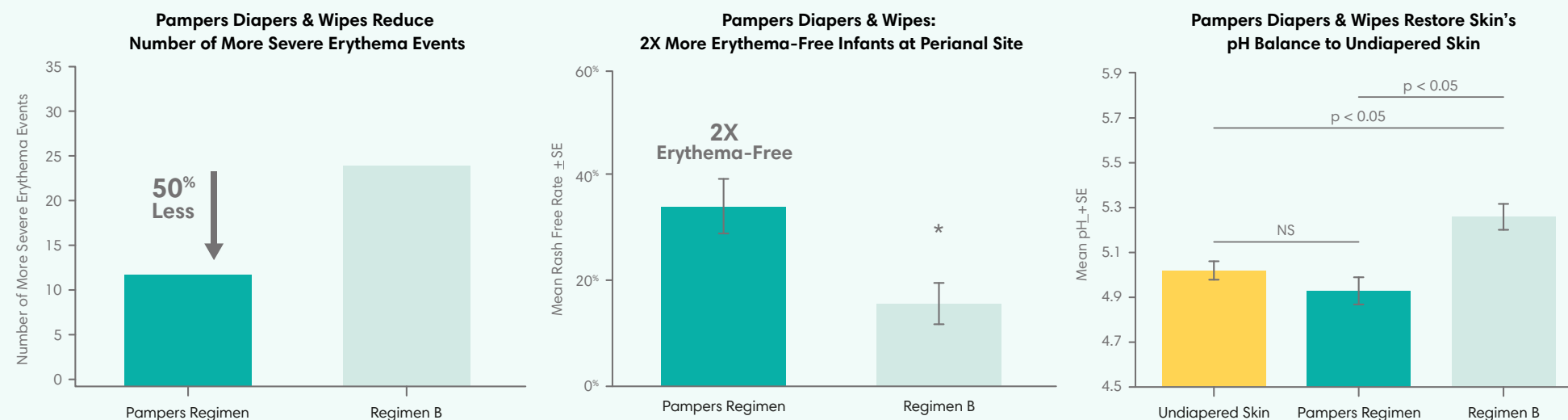
Studies have shown that Pampers® baby wipes[†] are **at least as mild and 'non-irritant' to the infants' skin as washcloth and water**, and their use is associated with:

- Better recovery of skin barrier integrity and improvement for erythema
- Reduced levels of transepidermal water loss – a measure of skin barrier health
- Helping restore the skin's natural pH compared to washcloth and water²⁷.



Pampers® Baby Wipes (used in combination with Pampers® Diapers) help reduce diaper dermatitis*

A 2020 study comparing two unique diaper and wipe combinations, showed that the **use of an emollient-containing diaper* and pH-buffered wipe regimen helped restore the skin's natural pH and reduced residual enzymatic activity.**^{13**}




*North America Hospital line-up, with increased level of emollient. **Vs US major competition regimen which is non emollient-containing diaper and limited pH-buffering wipe. † Sensitive, Aqua Pure and Coconut Pure.

¹³ Gustin J, Bohman L, Ogle J, Chaudhary T, Li L, Fadayeel G, Mitchell M, Narendran V, Visscher MO, Carr AN. Use of an emollient-containing diaper and pH-buffered wipe regimen restores skin pH and reduces residual enzymatic activity. *Pediatric Dermatology*. 2020. 37(4):626-631.



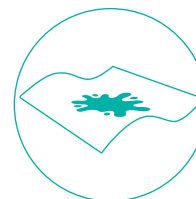
CHAPTER 6
The Science and
Technology
Behind our Wipes

The Science and Technology Behind our Wipes



Pampers® Baby Wipes perform four essential functions to remove mess and dirt away from the skin quickly, conveniently and gently, helping restore the skin's natural pH.

At Pampers®, we continuously strive to improve the performance of our wipes through an ongoing program of innovation and development.



Remove mess and dirt

- The surface area of the wipe is optimized to maximize contact with the skin
- Wipes are flexible to pick up mess/dirt from every crease and curve of the skin
- Soft so as not to irritate the skin



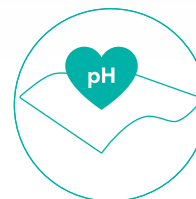
Dissolve mess and dirt

- Wipes are wet enough to loosen water-soluble sticky mess/dirt
- Lotion contains emollient surfactants to help attract oily mess that water won't pick up



Absorb liquid

Absorbent fibers and sponge-like spaces in the wipes soak up liquid



Help Restore pH

Lotion's buffering system helps restore the skin's natural pH better than water and washcloth^{1,2}

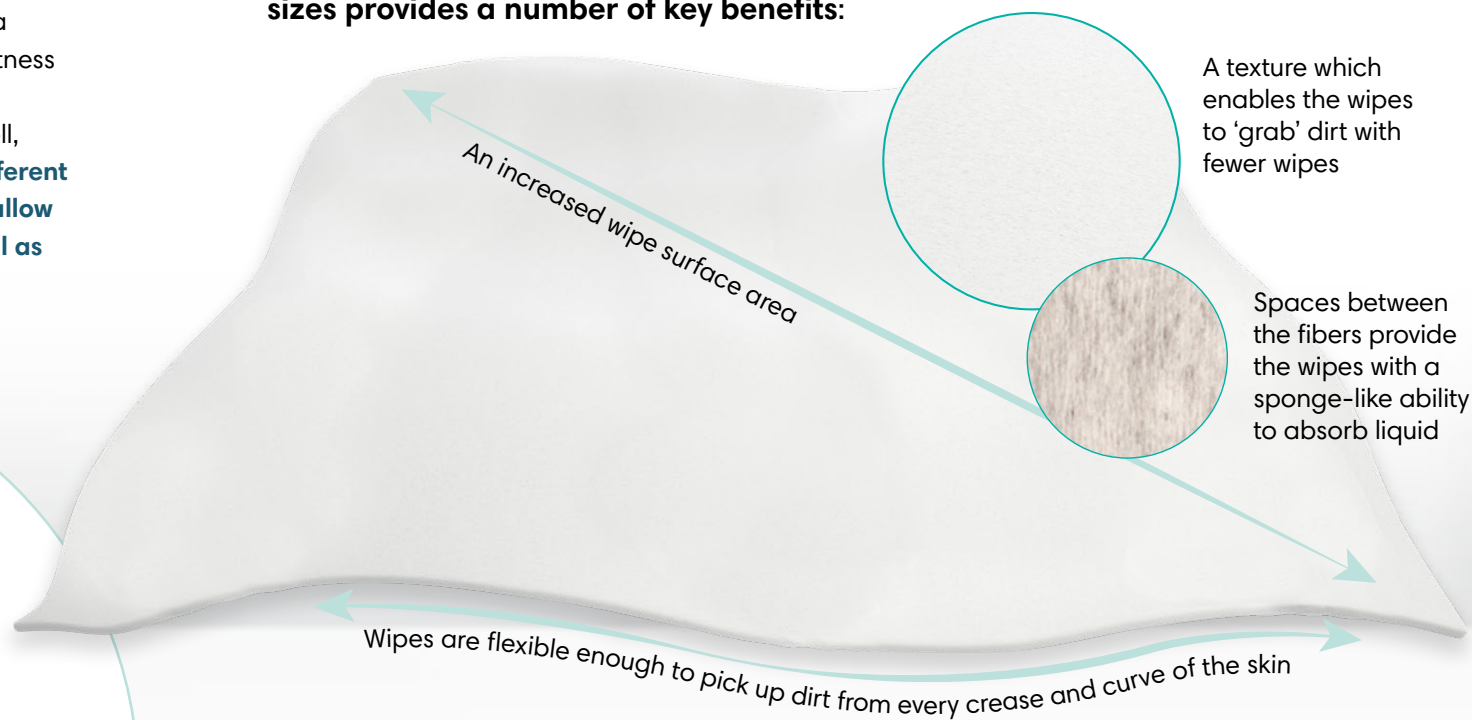
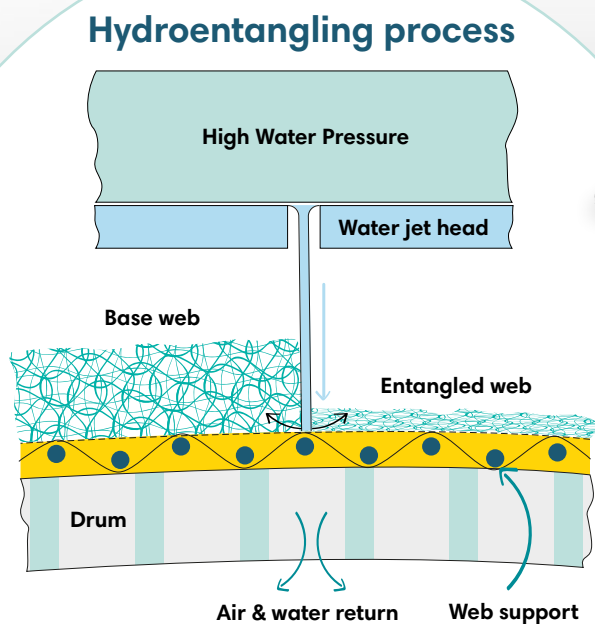
Anatomy of a Baby Wipe

Pampers® Baby Wipes deliver gentle but thorough cleaning through the combination of a soft, nonwoven cloth-like substrate and a pH buffering water-based lotion. Although wipes may appear to have a very basic design, each component is carefully selected to ensure optimal efficacy.

Soft nonwoven cloth-like substrate

The foundation of every Pampers® Baby Wipe is a cloth-like substrate, specifically designed for softness and flexibility. Substrates of our wipes are based on **trusted and safe for skin fibers** such as lyocell, polypropylene, viscose, polyester and cotton; **different combinations of fibers with unique properties allow to generate a wipe with a cloth-like feel, as well as multiple benefits.**

This unique blend of fiber shapes and sizes provides a number of key benefits:



A process called '**hydroentangling**', where different fibers are interlaced without chemical binders, allows to create a soft, stretchy and cushioned fabric that feels gentle on the skin but is strong enough to protect parents' hands from mess.

Anatomy of a Baby Wipe

Mild Cleansing Lotion

The water-based lotion in Pampers® Baby Wipes is designed to aid dirt removal while conditioning and caring for delicate skin. **All of the lotion components have a specific function and are mild enough to be used with newborns and on sensitive skin. They include:**

pH buffering system

The lotion in Pampers® Baby Wipes contains a citric acid-based buffering system which helps restore the skin's natural pH level and therefore lowers the irritant activity of the fecal enzymes, caused by elevated pH levels in the diaper area^{1,3}.



Water

The lotion in Pampers® Baby Wipes contains up to 99% water which helps to loosen and dissolve mess that is stuck to the skin, including dried urine⁴.



Emulsifying agents / Surfactants

The lotion also contains gentle emulsifying cleansers, which pick up any non-water-soluble oily mess; the emulsifiers help the lotion attract these oily components to the wipe for removal⁵.



Skin care ingredients / conditioners

These agents help restore the baby's natural skin appearance and feel⁵.



Preservatives

Each wipe contains a small amount of safe preservatives, which keeps the wipes fresh before use and helps prevent cross contamination from microbial contaminants while the package is open.



Sensory ingredients

Perfumes are used to provide a light refreshing scent for a fresh feeling and enjoyable experience. Thickening agents help stabilize minor ingredients in the formula, influencing the lotion feel.



Safety is key

All our baby wipes and their ingredients undergo rigorous safety, risk and performance testing, to ensure they are safe, effective, and gentle for babies' delicate skin, even before they come in contact with it.

¹ Priestley G, McVittie E, Aldridge R. Changes in skin pH after the use of baby wipes. *Pediatric Dermatology*. 1996; 13(1):14-17. ² Adam R, Schnetz B, Mathey P, Pericoi M, de Prost Y. Clinical demonstration of skin mildness and suitability for sensitive infant skin of a new baby wipe. *Pediatric Dermatology*. 2009; 26(5):506-513. ³ Gustin J, Bohman L, Ogle J, Chaudhary T, Li L, Fadayeel G, Mitchell M, Narendran V, Visscher MO, Carr AN. Use of an emollient-containing diaper and pH-buffered wipe regimen restores skin pH and reduces residual enzymatic activity. *Pediatric Dermatology*. 2020. 37(4):626-631. ⁴ Odio M and Friedlander S. Diaper dermatitis and advances in diaper technology. *Curr Opin Pediatr*. 2000; 12(4):342-6. ⁵ P&G data on file.

CHAPTER 7
Baby Wipe Safety
- from Inception
Through to Finished
Product



Baby Wipes Safety - from Inception Through to Finished Product

Ensuring the safety and comfort of babies is at the heart of everything we do. Parents need to feel confident that the baby wipes they use on their children's skin will not cause any harm; we therefore work tirelessly to earn parents' trust by providing safe, high-quality products.

Our priority is to create wipes that are mild, gentle and non-irritating, and safety is a key consideration throughout our product development process.

All our Pampers® Baby Wipes are **suitable for newborns** and are **free from alcohol and dyes**



Baby Wipe Safety - from Inception Through to Finished Product

All our ingredients, materials and finished products undergo rigorous safety and performance testing, to ensure they are safe, effective, and gentle for babies' delicate skin, even before they come in contact with it.

The materials and ingredients we use in our baby wipes strictly comply with safety requirements from the EU Scientific Committee on Consumer Safety concerning the safe use of substances, as well as those of the Food and Drug Administration (FDA), the Environmental Protection Agency (EPA), and World Health Organization (WHO).

The ingredients used in Pampers® Baby Wipes are also frequently found in other skin care products and have a long history of safe use on all types of skin¹, while the fibers, which are formed into a nonwoven fabric that is gentle for skin, are considered safe with no inherent toxicity issues. Furthermore, our researchers often work in collaboration with pediatricians, pediatric dermatologists and toxicologists to confirm product safety through clinical and dermatological studies on finished products.



¹ P&G data on file.

Baby Wipes Safety - from Inception Through to Finished Product

All of our baby wipes **undergo a rigorous four-step assessment process, following principles established by the National Academy of Sciences and WHO**, to ensure they are safe for use.

Step 1

Risk assessment

- All of our baby wipe ingredients undergo a comprehensive risk assessment process including hazard identification, dose-response assessment, exposure assessment and risk characterization.



Step 2

Product safety and compatibility in adult skin model

- Our wipes are tested against distilled water or normal saline solution in a 21-day 'cumulative irritation' skin patch test to confirm that the finished product is compatible with adult skin.
- In all patch testing studies, Pampers® Baby Wipes have consistently demonstrated that they are non-irritating under test conditions¹.

Step 3

Clinical testing on babies' skin

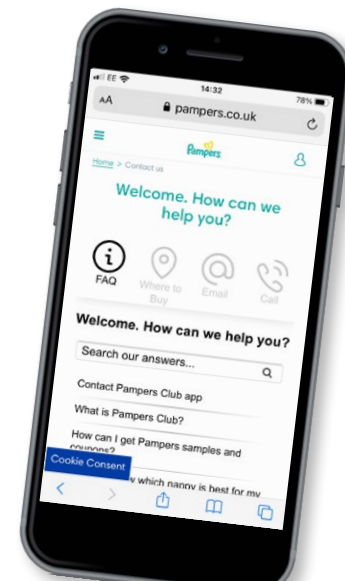
- In addition to extensive testing on adult skin, a number of clinical studies have also confirmed the safety, tolerability, effectiveness, and mildness of our wipes on babies' skin in the diapered area under consumer usage conditions. These studies assessed critical endpoints such as:
 - Skin dryness
 - Skin pH
 - Skin enzymes
 - Absence of erythema
 - Absence of mechanical irritation

[Click to go to Clinical Studies](#)

Step 4

In-market monitoring

- We continuously gather consumer feedback by monitoring, recording and following up any safety-related concerns raised by parents using our wipes.
- We also provide caregivers with a number of ways including (but not limited to) a toll-free telephone number on the package, by letter, by email, and via the manufacturer's sponsored social media and websites to report any concerns that they may have.



¹ P&G data on file.



CHAPTER 8

Our Commitment to Sustainability

Putting Sustainability into Action

Consumer Education on Wipe Disposal



Our Commitment to Sustainability

For Pampers®, caring for babies also means **caring for the environment** they will grow up in.

As part of our responsibility to help improve the health of the planet, we continually review all of the stages in our manufacturing process – from sourcing sustainable materials through to our packaging and waste disposal.

One example of our commitment to sustainability is that all of our baby wipe manufacturing sites are now certified 'zero waste to landfill', which means that any production waste is either recycled, repurposed or recovered, but does not end up in landfill sites.



Putting Sustainability into Action

Parents around the world have told us they want great products made with care for the environment. Today, like many disposable wipe brands, Pampers® baby wipes are made with both naturally-derived and synthetic materials which are commonly used in many other products such as clothing.

Our vision is for our baby wipes to be plastic free, and while some of our products still rely on the great performance benefits of synthetic materials, we are constantly exploring ways to reduce their environmental impact.

As we accelerate our progress towards a plastic-free future, we are increasingly designing our products and packaging using responsibly-sourced, sustainable materials:



Our Pampers® Aqua Pure wipes use plant-based materials, including cotton



Our ambition is to continue to offer additional plastic-free options, without compromising on the safety and skin benefits that parents rightly expect from our products.

Consumer Education on Wipe Disposal

At Pampers®, we are committed to educating consumers on the correct disposal of our baby wipes, which, like most other wipes, are not designed to be flushable regardless of their composition.



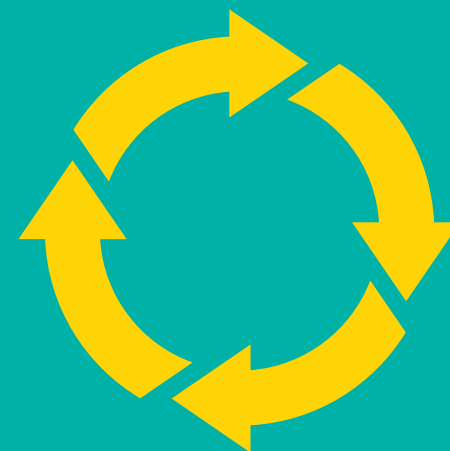
Our packaging features guidelines on the safe disposal of wipes and we follow the voluntary Code of Practice developed by EDANA*, which includes placing a highly visible “Do Not Flush” symbol on our packs. We acknowledge the need for wider consumer habit change, and we fully support EDANA in their consumer awareness efforts to encourage the correct disposal of wipes.



FAQ: Baby Wipes are Equal to Washcloth and Water in Terms of Environmental Impact

A life cycle assessment (LCA) carried out on baby wipes by EDANA in 2010¹, compared the environmental performance of an average baby wipe (European industry average) with alternative products such as cotton wool balls and washcloths.

The LCA results show that the environmental impact of cotton wool balls is generally higher than baby wipes and washcloths, which had a similar potential impact when compared to each other.



*European industry association for Absorbent Hygiene Products and baby wipes

¹ 2010: A Life Cycle Assessment study conducted by EDANA (The International Association of Nonwovens and Related Industries) shows that disposable baby wipes are equal to washcloth and water in terms of environmental impact

CHAPTER 9

Wrapped up in the Package



Wrapped up in the Package

For diaper changes and cleaning dirty hands and faces, disposable wipes are a portable and reliable tool for clearing up mess/dirt quickly and gently; **however, the efficacy and convenience of wipes is reliant on good packaging.**

The lotion and substrate components of Pampers® Baby Wipes are carefully designed to have the optimal combination of wetness, flexibility, and soft texture. To allow for this, their packaging has two crucial functions:

To maintain freshness:

The lotion within Pampers® Baby Wipes is up to 99% water and so specially-designed polymer films in the packaging prevent moisture vapor escaping and ensure that each wipe remains wet even in hot, dry climates for up to 30 months¹. All our packs are equipped with solid plastic lids, which additionally ensure wipe freshness.

To provide dispensing convenience:

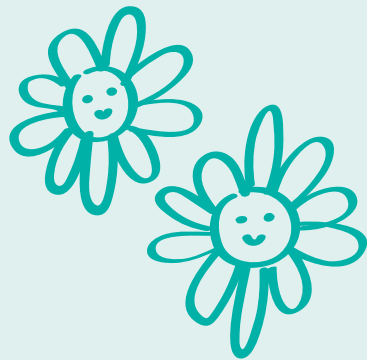
Wipes are folded in the package in a way that allows moms and dads to get the number of wipes they need, conveniently and without product wastage.



CHAPTER 10

Annex:

Pampers® Baby Wipe
Ingredients



Pampers® Sensitive™ Wipes

INCI Name*	Function
Aqua	Solvent – maximizes cleaning
Citric Acid	Buffering – citrus fruit acid helps restore the skin's natural pH balance
PEG-40 Hydrogenated Castor Oil	Emulsifying – helps remove oily mess and act as a skin-conditioning agent
Sodium Citrate	Buffering – helps restore the skin's natural pH balance
Sodium Benzoate	Preservative – prevents microbial contamination
Sorbitan Caprylate	Emulsifying – removes oily mess and acts as a skin-conditioning agent
Disodium EDTA	Chelating – prevents the deterioration of the product
Isoamyl laurate	Skin conditioning
Xanthan Gum	Viscosity controlling and emulsion stabilizing – improves the texture of the product and its feeling on the skin



*The International Nomenclature of Cosmetic Ingredients (INCI), are the unique identifiers for cosmetic ingredients such as waxes, oils, pigments, and other chemicals that are assigned in accordance with the rules established by the Personal Care Products Council (PCPC).

Pampers® Aqua Pure™ Wipes

INCI Name*	Function
Aqua	Solvent – maximizes cleaning
Citric Acid	Buffering – citrus fruit acid helps restore the skin's natural pH balance
Sodium Citrate	Buffering – helps restore the skin's natural pH balance
Sorbitan Caprylate	Emulsifying – removes oily mess and acts as a skin-conditioning agent
PEG-40 Hydrogenated Castor Oil	Emulsifying – helps remove oily mess and acts as a skin-conditioning agent
Sodium Benzoate	Preservative – prevents microbial contamination
Disodium EDTA	Chelating – prevents the deterioration of the product



*The International Nomenclature of Cosmetic Ingredients (INCI), are the unique identifiers for cosmetic ingredients such as waxes, oils, pigments, and other chemicals that are assigned in accordance with the rules established by the Personal Care Products Council (PCPC). **in France

Pampers® Expressions Fragrance Free

INCI Name*	Function
Aqua	Solvent – maximizes cleaning
Citric Acid	Buffering – citrus fruit acid helps restore the skin's natural pH balance
PEG-40 Hydrogenated Castor Oil	Emulsifying – helps remove oily mess and act as a skin-conditioning agent
Sodium Citrate	Buffering – helps restore the skin's natural pH balance
Sodium Benzoate	Preservative – prevents microbial contamination
Sorbitan Caprylate	Emulsifying – removes oily mess and acts as a skin-conditioning agent
Disodium EDTA	Chelating – prevents the deterioration of the product
Xanthan Gum	Viscosity controlling and emulsion stabilizing – improves the texture of the product and its feeling on the skin



*The International Nomenclature of Cosmetic Ingredients (INCI), are the unique identifiers for cosmetic ingredients such as waxes, oils, pigments, and other chemicals that are assigned in accordance with the rules established by the Personal Care Products Council (PCPC).

Pampers® Expressions Botanical Rain & Fresh Bloom

INCI Name*	Function
Aqua	Solvent – maximizes cleaning
Citric Acid	Buffering – citrus fruit acid helps restore the skin's natural pH balance
PEG-40 Hydrogenated Castor Oil	Emulsifying – helps remove oily mess and act as a skin-conditioning agent
Sodium Citrate	Buffering – helps restore the skin's natural pH balance
Sodium Benzoate	Preservative – prevents microbial contamination
Sorbitan Caprylate	Emulsifying – removes oily mess and acts as a skin-conditioning agent
Disodium EDTA	Chelating – prevents the deterioration of the product
Xanthan Gum	Viscosity controlling and emulsion stabilizing – improves the texture of the product and its feeling on the skin
Parfum	Perfuming – provides a light refreshing scent



*The International Nomenclature of Cosmetic Ingredients (INCI), are the unique identifiers for cosmetic ingredients such as waxes, oils, pigments, and other chemicals that are assigned in accordance with the rules established by the Personal Care Products Council (PCPC).

Pampers® Baby Fresh

INCI Name*	Function
Aqua	Solvent – maximizes cleaning
Citric Acid	Buffering – citrus fruit acid helps restore the skin's natural pH balance
PEG-40 Hydrogenated Castor Oil	Emulsifying – helps remove oily mess and act as a skin-conditioning agent
Sodium Citrate	Buffering – helps restore the skin's natural pH balance
Sodium Benzoate	Preservative – prevents microbial contamination
Sorbitan Caprylate	Emulsifying – removes oily mess and acts as a skin-conditioning agent
Disodium EDTA	Chelating – prevents the deterioration of the product
Xanthan Gum	Viscosity controlling and emulsion stabilizing – improves the texture of the product and its feeling on the skin
Parfum	Perfuming – provides a light refreshing scent



*The International Nomenclature of Cosmetic Ingredients (INCI), are the unique identifiers for cosmetic ingredients such as waxes, oils, pigments, and other chemicals that are assigned in accordance with the rules established by the Personal Care Products Council (PCPC).

Pampers® Fragrance Free

INCI Name*	Function
Aqua	Solvent – maximizes cleaning
Citric Acid	Buffering – citrus fruit acid helps restore the skin's natural pH balance
PEG-40 Hydrogenated Castor Oil	Emulsifying – helps remove oily mess and act as a skin-conditioning agent
Sodium Citrate	Buffering – helps restore the skin's natural pH balance
Sodium Benzoate	Preservative – prevents microbial contamination
Sorbitan Caprylate	Emulsifying – removes oily mess and acts as a skin-conditioning agent
Disodium EDTA	Chelating – prevents the deterioration of the product
Xanthan Gum	Viscosity controlling and emulsion stabilizing – improves the texture of the product and its feeling on the skin



*The International Nomenclature of Cosmetic Ingredients (INCI), are the unique identifiers for cosmetic ingredients such as waxes, oils, pigments, and other chemicals that are assigned in accordance with the rules established by the Personal Care Products Council (PCPC).



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