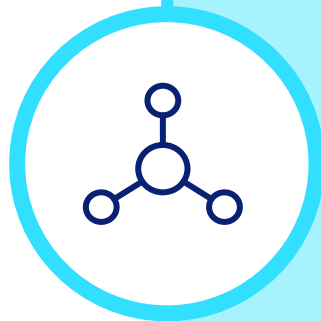




Our Brand Science & Product Principles



Roger J. Williams



The Science behind Bepanthen

Pantothenic Acid



The history

In 1931 Pantothenic acid, a member of the B complex vitamins (vitamin B5) was discovered by Roger J. Williams

In 1933, Williams & Saunders named it pantothenic acid

In 1934, it was shown that pantothenic acid has a profound stimulating effect on cell proliferation in yeast

Pantothenic acid participates in a wide array of key biological roles, e.g. synthesis of coenzyme A (CoA), citric acid cycle

Pantothenic acid is essential for normal skin function

Skin damage or disturbance of skin function increases the requirement of pantothenic acid

Dexpanthenol

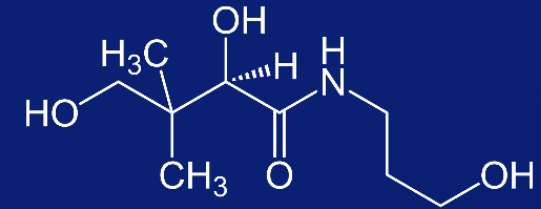
Bepanthen's signature ingredient is Dexpanthenol also known as Provitamin B5

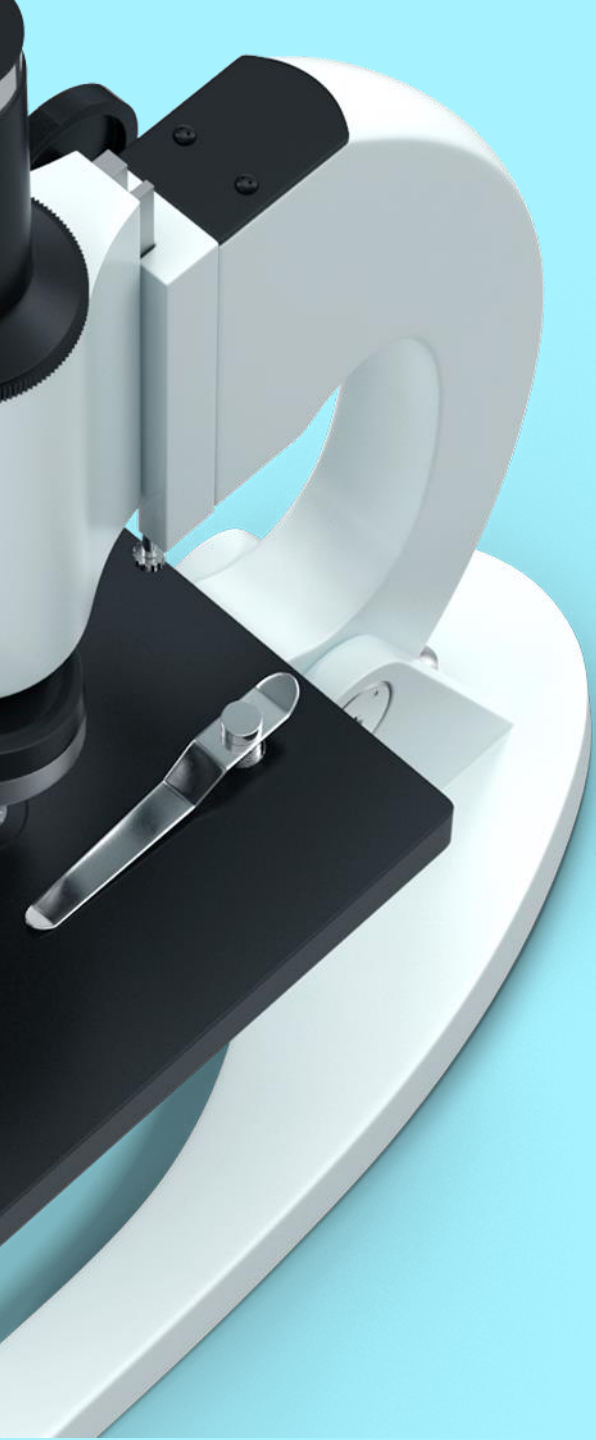
Dexpanthenol is a precursor of pantothenic acid, which is the active component

Dexpanthenol is chemically more stable than pantothenic acid and more readily absorbed after topical application

Two forms of pro-vitamin B5 exist: dexpanthenol and levopanthenol. Dexpanthenol's "brother" Levopanthenol is also a precursor of pantothenic acid yet not being biologically active.

When applied topically, dexpanthenol is converted after absorption to active pantothenic acid





Bepanthen

Over 80 years ago, the first topical dexpanthenol-containing formulation Bepanthen Ointment was developed (1944).

Topical dexpanthenol has emerged as frequently used ingredient in the field of dermatology and skin care.

Various studies confirmed dexpanthenol's moisturizing and skin barrier enhancing potential, providing support to skin's natural healing process at the cellular level.

Dexpanthenol promotes skin cell growth, reduces inflammation, retains hydration and protects skin cells from damage caused by external stressors.

Our Brand Science Principles

Bepanthen's Science Principles ensure we positively build on and protect our equity, maintaining the brand trust and credibility.

Our **Brand Science Principles inform product formulation development, in-licensing and proposition development.**



01.

**Dexpanthenol,
our signature
ingredient**



Bepanthen's overarching hero ingredient, dexpanthenol, is present across all product ranges. Dexpanthenol **brings to life the Brand Benefit POD and Brand Essence of "Healing From Within"** in a way that is uniquely Bepanthen.

02.

**Scientifically
proven skin
health solutions**



Bepanthen's reputation as a trusted skin health expert stems from decades of effort developing products backed by science, studies and tests with **our formulations to deliver robust and proven health benefits.**

03.

**Only the essential
ingredients,
nothing more**



Bepanthen is highly trusted for gentle, safe yet effective formulations that contain only the essential **ingredients that directly benefit the health of the skin** or the integrity of our formulas.

Our formulations are gentle and safe, even for fragile and sensitive skin.

Our "magic" skin healing effect thanks to Dexpanthenol

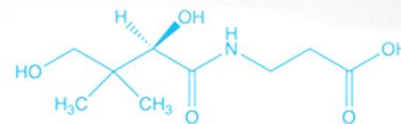
Dexpanthenol brings to life the Brand Benefit POD and Brand Essence of "Healing From Within" in a way that is credibly Bepanthen



Pantothenic acid participates in a wide array of biological roles, such as synthesis of coenzyme A (CoA) and citric acid cycle, and is essential in cell regeneration. Skin damage or impairment of the skin barrier function increases the need for pantothenic acid in the body.

Bepanthen's overarching hero ingredient, present across all product ranges, is Dexpanthenol, the alcoholic analog of pantothenic acid which is chemically more stable and readily absorbed in topical application. When applied topically, Dexpanthenol is converted into vitamin B5, also named pantothenic acid, in the skin to support its healing and regeneration. 80 years ago, the first-ever topical Dexpanthenol formulation, our original ointment, was developed. Since then, topical Dexpanthenol emerged as a frequently used ingredient in the field of dermatology.

Many studies confirm its healing, moisturizing, and skin barrier enhancing properties as a highly effective ingredient to care for skin irritation, stimulate skin regeneration, and promote skin healing, with beneficial effects observed in patients suffering from eczema, dry skin, burns, post laser therapies or tattoos. At Bepanthen **we incorporate at least 2.5% of Dexpanthenol** into our formulas to ensure highest efficacy.



Pantothenic acid (Vitamin B₅)

**LES NOUVELLES
DERMATOLOGIQUES**

ENGLISH-FRENCH INTERNATIONAL JOURNAL

Tiré à part - Nombre: 23 800
© New Dermatol. 1995; 14: 130-138


Skin health solutions proven to work

Our continued promise honouring our brand credibility driven by decades of research and dozens of clinical studies

Bepanthen's reputation as a **trusted skin health expert** stems not only from its mother company, Bayer, but from decades of effort developing products properly **backed by science, studies and tests with our formulations** to deliver robust health benefits.

That is why we pledge to continue building Bepanthen's legacy, **avoiding ingredients that lack efficacy data substantiation, or lacking skin health claims**. We are committed to each time initiate product development by identifying the biological processes that needed to be supported or fixed (e.g., the dry skin cycle) based on the latest understanding of the skin conditions and skin needs. We are **devoted to formulating products rooted in science and backed by data**.

This approach ensures **we deliver effective skin health solutions** that are **proven to work** and **to the latest scientific knowledge**. Ultimately, it leads to products that are loved by many more generations of consumers.



There are no FDA-approved products labeled as homeopathic; this means that any product labeled as homeopathic is being marketed in the U.S. without FDA evaluation for safety or effectiveness.



STAYING HEALTHY
CBD products are everywhere. But do they work?
Cannabidiol products may be helpful for some conditions, but evidence is lacking for others.

Gentle and safe formulations, even for the most fragile and sensitive skin

Effect of Bepanthen® Ointment in the prevention of diaper rash on premature and full-term babies : open pilot study

■ G. PUTET¹, B. GUY¹, S. PAGES¹, C. GIBAUD², P. ANDRES²,
A. SIRVENT², R. PUFFAY², R. DE BONY⁴, P. GIRARD² ■

Bepanthen is known as a non-nonsense brand with strong healing equity, and **highly trusted for gentle yet effective formulations that contain only the essential ingredients that contribute to skin health**, nothing more, and are safe and suitable for use even in the most fragile and sensitive of skins. HCPs prioritize products, especially for issues such as atopic eczema, that were developed in accordance with this principle.

Colorants, perfumes, allergens and irritants that can trigger skin reactions and irritation are not in line with the integrity of our formulations. These ingredients do not add value from a health standpoint, often being used just to broaden product line-ups and deliver different experiences, but at risk of negatively impacting the health of skin.

Bepanthen not only complies with Bayer's MSL (Material Stewardship List) but goes beyond it to ensure all formulas are fit with our brand equity and hold our pledge of **only using ingredients that directly benefit the health of the skin** or support the integrity of formulas.

This approach of ensuring our products contain only the essential ingredients and being in line with the latest scientific knowledge **enable us to avoid competitive disadvantage, backlash from consumers, customers, or broader society.** It also makes our formulations as future proof as possible avoiding risk of having to reformulate short-term due to regulatory scrutiny.



110

Published Scientific studies* on Bepanthen

- 42 on Wounds / Scars
- 18 on Atopic Dermatitis
- 15 on Mum & Baby
- 26 on Dry Skin
- 9 on Other Therapeutic Areas**

The robustness of our science

Scientific evidence

10+

Expert Panel Publications

- 2 on Wounds / Scars
- 5 on Atopic Dermatitis
- 2 on Mum & Baby
- 2 on Dry Skin
- 1 on Dexpanthenol



*Human in-vivo and in-vitro studies.

**Other therapeutic areas: nasal cavity, scalp, ophthalmology

A Legacy of Care

Serving Medical Needs

OUR COMMITMENT TO SERVE

Healthy skin is the foundation of well-being throughout life. With a legacy rooted in dermatological science, our products are designed to support skin health at every stage, from the delicate skin of newborns to the resilient skin of adults. Our commitment to quality and care has made us a trusted partner for families, addressing a range of skin health needs and ensuring that each life occasion is met with compassion and expertise.

How we serve?

Nappy Rash: Providing comfort for newborns and even premature babies, ensuring they feel secure and **protected from vulnerability.**

Baby & Kids Skin Health: Offering gentle care for delicate baby skin, inspired by the natural protective qualities of **Vernix Caseosa**, so that we can **embrace nature's wisdom.**

Minor Wounds: Healing with care, empowering us to live life to the fullest and **explore every possibility.**

Atopic Eczema: Delivering compassionate relief, so we can maintain our **confidence and comfort in every situation**

Dry Skin: Providing nurturing care for all ages, so we can **enjoy life all year round** with healthy, hydrated skin.

Tattoo Aftercare: Preserving the artistry on our skin, allowing us to **express** our individuality with **confidence and pride.**

What should Bepanthen's formulations look like?

In line with Bepanthen's Science Principles, the below guidance is intended to **support innovation development** and in-licensing in order to protect our equity and make our products, uniquely ours

PRODUCT PRINCIPLES - OUR FORMULAS ALWAYS:

- ✓ **Contain Dexpanthenol** (Provitamin B5) as a common thread connecting all our ranges.
- ✓ Are required to be **proven efficacious** to deliver on claims and backed by science.
- ✓ **Contain only ingredients that have** either (i) **a skin health benefit** or (ii) a reason for being in the formula to preserve its integrity. Anything beyond that has no reason to integrate our formulas, which promise gentle, clean formulations, only the essentials.
- ✓ Are required to be **dermatologically tested**.
- ✓ Are subjected to **toxicological evaluation** and **safety tests** meeting all industry standards.
- ✓ Need to be **checked for pH, high tolerability**, and in the case of baby products also for isotonic osmolality.
- ✓ Need to be **FTO fit**, ensuring no patent infringement.



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PRODUCT PRINCIPLES - OUR FORMULAS **DO NOT**:

- × Contain **restricted or banned ingredients from BCH's [Material Stewardship List](#)** applicable to all Bayer brands (click the link, request access, and do not share externally).
- × Contain **ingredients that may harm our equity of safety and gentleness**, either **due to the technical risk profile**, or **due to negative perception from consumers and public controversy** (even if technically safe), including but not limited to the below examples:
 - × Colorants
 - × Perfumes and fragrances
 - × Potential skin irritants (ie. essential oils)
 - × Classical preservatives (ie. parabens)
 - × Steroids
- × Contain **ingredients lacking safety or efficacy data** substantiation (ie. homeopathic remedies).
- × Undergo **testing on animals** unless mandated by authorities.
- × In the case of legacy pharmaceutical UIs use in new developments, a careful assessment is required as any potential weaknesses in data may trigger challenges with Health Authorities and endanger our existing marketing authorizations, jeopardizing core business. A thorough assessment is particularly required for UI 1610098 and 1600188 with NPD strategy pre-validated with RA.

What should Bepanthen's Product Experience be like?

Product Experience Principles guiding formula development

The below guidance is intended to **support our formula development for innovations** in order to protect our equity and make our products, uniquely ours

The perfect Daily Maintenance Product

Driving repeat purchase & routine usage through the delivery of the right sensorial experience

The Product Experience Principles have been created for any skin concern and target user - adult or baby and child-based on existing PX existing data across demand spaces of eczema, dry skin or baby & kids.

We're conscious that this guidance does not cover the full scope of products that we may want to develop.

For more information or guidance, **please contact:**

Rozenn Henaff - Product Experience

It's mostly about the skin feel and texture

TIP THE BALANCE

NICE TO HAVE

MUST HAVE

Body Moisturizers

'Dry touch' skin feel after application
'No fragrance' claim

Soft and smooth skin
Fluid but not watery
Easy to spread
Opaque and white/off-white
No white cast on skin

Immediate and long-lasting comfort
Not sticky or greasy
Fast and easy absorption
No unpleasant aroma

Body Washes

Long lasting comfort
'No fragrance' claim

High amount of lather and large bubbles
Not watery in hand

Visible lather and bubbles
Easy to rinse
No unpleasant aroma



Bepanthen[®]