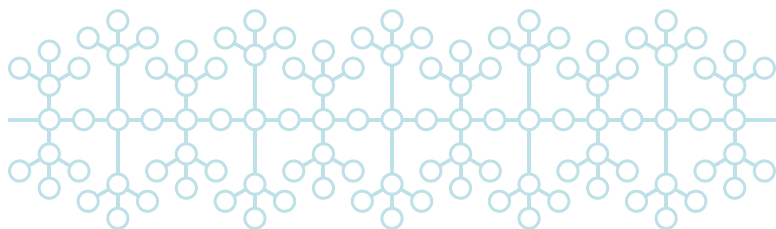


Dimethicone



Dimethicone molecules are stable, symmetrical webs that allow skin to function efficiently while delivering active ingredients evenly.

Included in:



Intensive
Redox
Serum



Ultra
Replenishing
Moisturizer

Dimethicone and other silicones are among the most misunderstood ingredients in skincare. There are 62 different versions approved for use in foods and/or cosmetics. All are safe. No credible study has been found to support popular internet rumors to the contrary.

ORIGIN



Over 90% of the earth's crust is composed of silicate minerals, making silicon the second-most abundant element found there (about 28% by mass) after oxygen. Dimethicone is a polymer derived from silicon, specifically quartz silica (commonly known as sand), oxygen, and carbon.

Ever dug your toes into the soft sand of a beach? How can a mineral feel so soft? The answer lies in the shape of silica molecules.

Dimethicone was first introduced in cosmetic products in the early 1950s. It has been safely in use for over 60 years. Remember Silly Putty? This iconic toy introduced in 1950 became the first silicone oil-based children's toy.

DESCRIPTION

Polydimethylsiloxane (PDMS) belongs to a group of polymeric organosilicon compounds that are commonly referred to as silicones. PDMS is the most widely used silicon-based organic polymer and is particularly known for its unusual rheological (or flow) properties. PDMS is optically clear and, in general, is inert, non-toxic, and non-flammable. It is also called dimethicone and is one of several types of silicone oil (polymerized siloxane). Its applications range from contact lenses and medical

devices to elastomers; it is also present in shampoos (as dimethicone makes hair shiny and slippery), food (antifoaming agent), caulking, lubricants, kinetic sand, and heat-resistant tiles.

Silicones can also be used to reduce the irritation of other cosmetic ingredients because they are non-reactive and non-toxic.

SAFETY

The U.S. FDA approved dimethicone for personal care products, and it is generally considered to be safe to use. The Cosmetic Ingredient Review (CIR) also evaluated the scientific data and concluded that it was safe for use in cosmetics. The Skin Deep Database also marks this ingredient with a low hazard rating.

International Journal of Toxicology

Safety Assessment of Dimethicone Crosspolymers as Used in Cosmetics

Abstract:

The Cosmetic Ingredient Review Expert Panel reviewed the safety of 62 dimethicone crosspolymer ingredients as used in cosmetics. These ingredients function mostly as absorbents, bulking agents, film formers, hair-conditioning agents, emollient skin-conditioning agents, slip modifiers, surface modifiers, and non-aqueous viscosity-increasing agents. The Panel reviewed available animal and human data related to these polymers and addressed the issue of residual monomers. The Panel concluded that these dimethicone crosspolymer ingredients are safe in the practices of use and concentration as given in this safety assessment.

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European Commission, Directorate-General for Health & Consumers

Scientific Committee on Consumer Safety, June 7, 2010

Opinion on Cyclomethicone (D4/D5):

The SCCS is of the opinion that cyclomethicone (D4, D5) does not pose a risk for human health when used in cosmetic products. Other uses were not considered in this risk assessment. This conclusion is based on the currently available in-use concentrations as cited in this opinion.

ALLERGEN INFORMATION

Most people are not allergic to sand (silica) and therefore few are allergic to dimethicone or other silica-based ingredients. These ingredients are used as the base for medical products to efficiently, safely deliver medicine. It is considered safe even for those with sensitive skin. Topical medications for eczema, psoriasis and other skin conditions routinely use dimethicone as a delivery system.

COMMON USES

- › Gel used for ultrasound technology
- › Skin protectant for wound healing
- › Antacids
- › Artificial joints
- › Medical devices
- › Pharmaceuticals
- › Food and beverages
- › Skincare and haircare products
- › Household supplies

POPULAR MYTHS

Internet Myth: Traps everything under it, clogs pores, and coats skin so it can't breathe.

www.drfranklipman.com/the-truth-behind-the-common-cosmetics-ingredient-dimethicone/

The source of this particular rumor does not cite research to back up this assertion.

Here are the facts:

1. These molecules are created from silica (sand). They have a larger molecular weight (bigger molecules), meaning they have more space between them. Their size creates a supportive web, allowing the skin to breathe while delivering active ingredients to the skin.

2. Dimethicone increases skin flexibility without clogging pores. When referring to the ingredient's ability to "seal," it is in reference to haircare products. Those products use a different type of dimethicone to seal and shine hair.

www.thedermreview.com/dimethicone/

beautifulwithbrains.com/2012/11/27/do-silicones-prevent-other-ingredients-from-sinking-into-the-skin/

Internet Myth: A silicone emollient, which coats the skin not allowing toxins out. May promote tumors and accumulate in the liver and lymph nodes.

www.purezinc.com/living/toxins/living_toxins_dangerousingredients.html

No research has been found to support claims of tumors or organ accumulation. This website does not offer any reliable source information. This is clearly an attempt to manipulate readers.

Here are the facts:

Silicone emollients like dimethicone do not coat skin with a solid layer. These molecules are woven structures that allow skin to function normally (see molecule graphic at top of page 1).

NOTES

umm.edu/health/medical/drug-notes/notes/dimethicone-on-the-skin

www.cosmeticsandtoiletries.com/formulating/function/feelenhancer/premium-Ingredient-Profile-Dimethicone.html

WebMD Information on Dimethicone

This medication is used as a moisturizer to treat or prevent dry, rough, scaly, itchy skin and minor skin irritations (e.g., diaper rash, skin burns from radiation therapy). Emollients are substances that soften and moisturize the skin and decrease itching and flaking. Some products (e.g., zinc oxide, white petrolatum) are used mostly to protect the skin against irritation (e.g., from wetness).

Dry skin is caused by a loss of water in the upper layer of the skin. Emollients/moisturizers work by forming an oily layer on the top of the skin that traps water in the skin. Petrolatum, lanolin, mineral oil and dimethicone are common emollients. Humectants, including glycerin, lecithin, and propylene glycol, draw water into the outer layer of skin. Many products also have ingredients that soften the horny substance (keratin) that holds the top layer of skin cells together (e.g., urea, alpha hydroxy acids such as lactic/citric/glycolic acid, and allantoin). This helps the dead skin cells fall off, helps the skin keep in more water, and leaves the skin feeling smoother and softer.

How to use dimethicone topically

Use this product as directed. Some products require priming before use. Follow all directions on the product package. If you are uncertain about any of the information, consult your doctor or pharmacist.

Some products need to be shaken before use. Check the label to see if you should shake the bottle well before using. Apply to the affected areas of the skin as needed or as directed on the label or by your doctor. How often you apply the medication will depend on the product and your skin condition. To treat dry hands, you may need to use the product every time you wash your hands, applying it throughout the day.

If you are using this product to help treat diaper rash, clean the diaper area well before use and allow the area to dry before applying the product.

If you are using this product to help treat radiation skin burns, check with radiation personnel to see if your brand can be applied before radiation therapy.

Follow all the directions on the label for proper use. Apply to the skin only. Avoid sensitive areas such as your eyes, inside your mouth/nose, and the vaginal/groin area, unless the label or your doctor directs you otherwise. Check the label for directions about any areas or types of skin where you should not apply the product (e.g., on the face, any areas of broken/chapped/cut/irritated/scraped skin, or on a recently shaved area of the skin). Consult your doctor or pharmacist for more details.

Use this medication regularly to get the most benefit from it. Most moisturizers need water to work well. Apply the product after bathing/showering while the skin is still damp. For very dry skin, your doctor may instruct you to soak the area before using the product. Long, hot, or frequent bathing/washing can worsen dry skin.

If your condition persists or worsens, or if you think you may have a serious medical problem, seek immediate medical attention.

Most emollients can be used safely and effectively with no side effects. However, burning, stinging, redness, or irritation may occur. If any of these effects persist or worsen, tell your doctor or pharmacist promptly.

If your doctor has prescribed this medication, remember that he or she has judged that the benefit to you is greater than the risk of side effects. Many people using this medication do not have serious side effects.

Tell your doctor right away if any of these unlikely but serious side effects occur: unusual changes in the skin (e.g., turning white/soft/soggy from too much wetness), signs of skin infection.

A very serious allergic reaction to this drug is rare. However, seek immediate medical attention if you notice any symptoms of a serious allergic reaction, including: rash, itching/swelling (especially of the face/tongue/throat), severe dizziness, trouble breathing.

This is not a complete list of possible side effects. If you notice other effects not listed above, contact your doctor or pharmacist.