

A Water Lover's Guide To Product Ingredients

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STREAM2SEA

— Reef-Friendly • Biodegradable —



What goes on your body, and into the water matters.

Your body is incredible. It wanders, swims, climbs, runs, rows. Your skin feels, regulates body temperature and is your first line of immune defense. Protecting it from the elements is a vital part of being able to safely and happily explore this planet.

What you put on your body has the potential to be absorbed into your body. It's important to understand the effects of the ingredients in body care products and make an educated decision based on the balance between healthy and safe.

In this guide...

- What "Organic" really means
- What "Biodegradable" really means
- What's truly "Ocean Safe?"
- Ingredients to avoid
- Ingredients dictionary
- A new standard is being set!



What “organic” really means

When most people think of organic sunscreen, they think natural, wholesome and safe. But, you might remember from high school chemistry that “organic” can also mean carbon-based chemicals—and some sunscreen ingredients are labeled under this presumption, which can still be cause for concern to the environment and to our health.

The manufacturers aren’t lying, but they certainly aren’t telling the whole truth.

Take oxybenzone, also known as **benzophenone-3**, for example. According to the manufacturer, oxybenzone is an organic compound and is commonly added to sunscreens for its UVA- and UVB-absorbing properties. Controversy abounds regarding these ingredients: The U.S. Centers for Disease Control (CDC) reports that oxybenzone is found in urine samples of 97% of Americans and linked it to allergies, hormone disruption and cell damage. According to the Environmental Working Group, oxybenzone is “ineffective and harmful,” but lists nearly 600 products containing it, including sunscreens commonly found in local drug stores, outdoor outfitters and marketed towards water-enthusiasts. Other studies show that oxybenzone can trigger outbreaks of viral infection in coral reefs, and can disrupt hormones in fish.

This is definitely not the kind of “organic” ingredient most of us would want in our skincare products. These chemicals have the potential to bioaccumulate in our bodies and in our environment – a 2010 study by Margaret Schlumpf of the University of Zurich found at least one “organic sunscreen chemical” in 85 percent of mother’s milk samples.

These reports include **oxybenzone** and **octyl methoxycinnamate** – both carbon-based chemicals that could be labeled as organic compounds.

The bottom line: Know your ingredients!

An underwater scene with a blue gradient background. In the foreground, there are several small, colorful fish (yellow, orange, and red) swimming. In the background, there are some yellow and orange coral-like structures. The overall scene is bright and clear.

What “biodegradable” really means

Just because a product is biodegradable does not mean it is safe for aquatic ecosystems, particularly if it contains oxybenzone, octyl methoxycinnamate or other harsh ingredients.

Biodegradability means that the product will eventually break down within **28-60 days**, but our question remains what kind of damage can be done to the environment or our bodies during that time?

It's all in the test.

There are several tests to measure a product's biodegradability, and most are designed to analyze its ability to break down in wastewater treatment facilities with high levels of microbes and enzymes.

When submitting our products to the lab, we requested a test method that would be more in line with what we were trying to prove: test in freshwater and saltwater to ensure they would be biodegradable in streams, lakes and rivers, as well as our oceans...not just sewers and septic systems.

We were very excited to get the test results showing that not only our sunscreens biodegrade, but also our shampoo, conditioner, lotion, gel... our complete product line is readily biodegradable in both fresh and saltwater.

You should know how products were tested, and why they can claim the things they do!

An underwater photograph showing a vibrant coral reef in the foreground and several colorful fish swimming in the clear blue water above. The fish include a prominent black and white striped fish, and several smaller orange and yellow fish.

What's truly reef safe?

There are no government regulations on labeling reef-safe sunscreens. It really boils down to taking the time to understand the ingredients: if it contains anything like oxybenzone, avobenzone, octinoxate, or clear zinc, then it is not truly reef-safe.

Just as a few examples...

Oxybenzone has been proven to kill coral larva at a concentration of 62 parts per trillion, or one drop in 6.5 Olympic swimming pools. Even sunscreens who include it as a secondary ingredient to zinc are harming the oceans.

Clear zinc is listed as “Acute Aquatic Toxicity” in red on the first page of its material safety data sheet. We were disappointed because we really wanted a clear sunscreen like what you get with chemical formulas, but not at the expense of using an ingredient clearly labeled as toxic in an aquatic ecosystem; we went with **non-nano titanium dioxide** instead.

Now that consumers are demanding reef-safe sunscreen, manufacturers across the country are simply removing oxybenzone or relabeling their formulas - and since zinc oxide sounds so safe, clear zinc has become the ingredient of choice in many lines.

It's more important than ever to educate yourself on harmful ingredients.

On the next pages, you'll find a list of known ingredients you should do your best to avoid when purchasing sunscreen and skin care products.

INGREDIENTS TO AVOID

Benzophenone-3 (Oxybenzone)

A common ingredient in FDA-approved sunscreens, oxybenzone is very effective at reducing UV exposure - but it is also classified as a hazardous irritant for eye contact and slightly hazardous for direct skin contact. According to the Center for Disease Control (CDC), 97% of Americans have this chemical circulating in our bodies. It is also listed as a direct cause of coral bleaching.

Cyclopentasiloxane (Cyclomethicone)

Silicone-based ingredients that are used in skin and hair care products, **cyclopentasiloxane** and **cyclomethicone** soften the skin and smooth hair follicles, but they've also been shown to be toxic and to bio-accumulate in aquatic organisms. They are also suspected to be reproductive toxins and endocrine disruptors in humans.

Formaldehyde

Formaldehyde and products that release formaldehyde including **Diazolidinyl Urea**, **Quaternium-15**, **DMDM Hydantoin** and **Hydroxymethylglycinate**. Many of the preservatives that replace parabens release formaldehyde! The International Agency for Research on Cancer has classified formaldehyde as a human carcinogen. It is also an ecotoxin.

Homosalate

Another common sunscreen ingredient with strict FDA limits for use, **homosalate** is a UV absorber that helps sunscreen ingredients penetrate your skin. It bioaccumulates in the body faster than it can be eliminated and is considered a hormone disruptor.

Methylisothiazolinone

A widely used and very effective preservative. Considered a sensitizer and irritant that may cause allergic reactions. Recent studies suggest that it may be a neurotoxin, and it is toxic in aquatic ecosystems.

Nanoparticles

Although zinc and titanium are natural materials, **nanoparticles** of common minerals are insoluble and bio-persistent. Their tiny size—*up to 100,000 times smaller than a human hair*—means they can react differently than natural substances. A recent study has shown that zinc oxide nanoparticles, even in extremely low concentrations, caused significant developmental disorders in sea life. If you are using a mineral sunscreen, make sure it is non-nano grade.

INGREDIENTS TO AVOID

Octocrylene

A synthetic UV absorber and SPF booster, **octocrylene** may cause allergic reactions in sensitive skin and has been shown to bio-accumulate in the body.

Oxtinoxate (Octyl Methoxycinnamate)

Commonly used UV filters, **oxtinoxate** and **octyl methoxycinnamate** are absorbed through the skin. They have been found in human urine, blood and breast milk, where they become endocrine disruptors. They are also indicated as a direct cause of coral bleaching.

Parabens

Parabens including **propylparaben**, **benzylparaben**, **methylparaben** and **butylparaben** are commonly used to prevent the growth of bacteria, yeast and molds in personal care products. They mimic hormones, including estrogen which has been shown to contribute to breast cancer. They are also listed as a direct cause of coral bleaching.

Phthalate

Commonly found in synthetic fragrances, **phthalates** block male hormones and can interfere with normal genitalia development. High levels can cause sluggish sperm and low testosterone levels in adult males. They are also classified as endocrine disruptors that can interfere with normal brain function. You will not see phthalates listed on an ingredient label, but they are often hidden in fragrances. Look for fragrances that are designated as 'natural' or derived from essential oils. Some may be labeled as phthalate-free.

Sodium Lauryl & Laureth Sulfate

Sodium lauryl and **laureth sulfate** are surfactants, detergents and emulsifiers that create lather in shampoos and body washes. Although SLS is 'derived from coconuts, nearly 16,000 studies in the PubMed science library question the safety of the resulting molecule. Although suppliers maintain that actual health risk varies based on the level of exposure to the ingredient, it is believed that it is the gradual, long-term exposure that causes the most damage. SLS is also listed as 'toxic to aquatic organisms.'

Zinc Oxide

Zinc is found naturally in the environment and in seawater but not all zinc is created equal. Uncoated, non-nano zinc, appears to pose no threats; but those promoted as 'clear' or 'transparent' - including the all-natural versions - often have ingredients known to be highly toxic to aquatic organisms.



Ingredient Dictionary

Our ingredients are extremely important to us.

We are serious about transparency and full disclosure of our mineral sunscreens and natural products.

Do not be alarmed if some of our very natural ingredients have not-so-natural sounding names, because we label to INCI standards which is the globally approved International Nomenclature of Cosmetic Ingredients.

All Stream2Sea product ingredients are consciously chosen! We've put together this ingredient dictionary to help you understand the logic behind the ingredients in our mineral sunscreens and natural skincare products. Safety data is obtained from the Material Safety Data Sheets when made available by our suppliers.

A

Acrylates Copolymer: *(Film Former)*

Offers excellent long-lasting water and rub-off resistance properties as well as improved skin feel at very low concentrations. **Safety Data:** Although the polymers are not biodegradable, they adsorb to biosolids and are unlikely to accumulate in the food chain. Shown to be practically non-toxic to aquatic organisms on an acute basis with an LC50>100 mg/L in the most sensitive species tested. We purchase this as a liquid solution to reduce any inhalation concerns during manufacturing.

Alaria Esculenta (Wakame Seaweed): *(Plant Extract)*

A species of seaweed considered to be a potent antioxidant ingredient for purifying and fortifying the body. Used for its high mineral, vitamin, and fiber content.

Alaria Esculenta (Wakame Seaweed) Bioferment: *(Plant Extract)*

A unique antioxidant ingredient derived from activated and cultured Wakame cells. Research has shown that Wakame Seaweed Bioferment minimizes damage at the cellular level where aging starts..

Aloe Barbadensis Leaf Juice Powder: *(Plant Extract)*

Taken from the inner fillet of the aloe plant. It is used topically for soothing sunburns, and for its nourishing and moisturizing benefits. We consider aloe to be one of the most universally effective ingredients, which is why it is a key ingredient in all our products. I.

Alumina: *(Surface Treatment)*

Not to be confused with Aluminum Chloride often used in deodorants, Alumina or **aluminum oxide**, is used to enhance water resistance, reduce oiliness and increase transparency onto the skin. Rated by the Environmental Working Group as 'Good' with a score of '2', which means minimal risk to humans or the environment.

B

Beeswax: *(Thickening Agent)*

A substance made by bees to build the walls of their honeycomb. It is a thickening agent that has some emollient and emulsifying properties. Ours is a golden yellow, smells of honey and is organically and sustainably obtained.

Behentrimonium Chloride: *(Conditioning Agent)*

Naturally occurring in rapeseed plants, ours is a naturally derived detangler and softening agent used to condition hair without leaving a residue build-up.

B

Benzyl Alcohol: *(Preservative)*

A natural alcohol found in many fruits and teas, it is part of our natural preservative system to prevent microbial contamination.

Considered a contact irritant in high concentrations, we use **less than 1%** in our formulas.

Bromelain: *(Plant Enzyme)*

A natural enzyme found in pineapples that has a long history of use in traditional medicine. It functions as a skin soothing and conditioning agent. We have found this to work brilliantly in our after-sting gel.

Butyrospermum Parkii (Shea Butter): *(Emollient)*

Extracted from African shea nuts, this emollient is rich in fatty acids and provides relief for dry, dehydrated skin.

C

Calendula Officinalis (Calendula) Flower: *(Plant Extract)*

Also known as pot marigold, calendula is a well known medicinal herb with many beneficial properties including reducing heat and sunburn.

Camellia Sinenis (Green Tea) Extract: *(Plant Extract)*

Natural plant-based extract used for its antioxidant and powerful skin-soothing properties. We consider green tea to be one of the most universally effective antioxidants, which is why it is a key ingredient in all our products.

Caprylic/Capric Triglycerides: *(Emollient)*

Natural emollient derived from vegetarian glycerin and coconut oil. It is a lightweight moisturizer that helps improve the spreadability of minerals and promotes the delivery of other beneficial nutrients onto the skin.

Cetearyl Alcohol: *(Emulsifier)*

Naturally derived fatty alcohols from coconut and palm used to stabilize and thicken emulsion systems, while the fatty alcohols leave an emollient feel on the skin.

Cetyl Palmitate: *(Emollient)*

Naturally derived from plant-based fatty acids, this ester acts as a thickener and emollient for creams and lotions. Helps smooth the skin and reduce moisture loss.

C

Cinnamidopropyltrimonium Chloride: *(UV absorbent)*

High activity UV absorber that protects hair color from the sun. It has been shown to prevent UV-B damage while improving the strength and ease of combing the hair.

Cinnamomum Zeylanicum (Cinnamon) Bark Oil: *(Essential Oil)*

Natural oil extracted from cinnamon bark is used to stimulate circulation to affected areas and for its aromatherapy benefits.

Citric Acid: *(Plant Extract)*

Derived from citrus fruits, it is used to naturally pH balance our products.

Citrus Medica Limonum (Lemon) Peel Oil: *(Essential Oil)*

Cold pressed oil often used medicinally, in cleaning products and for flavoring, lemon adds a lovely flavor to our lip balms.

Cocodimonium Hydrolyzed Keratin: *(Plant Extract)*

Keratin protein makes up about 90% of human hair and a large portion of skin. Keratin contains complex proteins that bind to the hair, forming a protective coating that rebuilds tensile strength, helping to protect hair from breakage. Keratin is particularly useful for repairing hair that may have been damaged by environmental stressors. This ingredient binds readily to the hair, helping to repair and seal damaged hair, improving wet and dry combing and increasing manageability. **Safety data:** Biodegradable, is unlikely to accumulate in the food chain and tested non-toxic on aquatic organisms analyzed.

Cocoglycerides: *(Emollient)*

Naturally extracted emollient used for excellent skin feel and emulsion stability. **Safety data:** Readily biodegradable, and tested non-toxic on several aquatic organisms analyzed.

Cocos Nucifera (Coconut) Oil: *(Emollient)*

Expelled from coconuts, this oil is an excellent moisturizer and nourishing conditioner.

D

Dimethiconol Panthenol: *(Humectant)*

A functional silicone complex with panthenol (pro-vitamin b5) to aid in the solubility, spreadability and moisturizing effects on the hair's surface. It smoothes the hair cuticle, helps detangle, add shine and helps protect color- treated hair.

E, F, G

Eucalyptus Globulus Oil: *(Essential Oil)*

Natural oil with powerful aromatherapeutic properties including stimulating the skin's natural defense response.

Fragrance: *(Natural Fragrance)*

Naturally derived scents made up of essential oils, isolates from essential oil and isolates from bio-fermentation. Ours are always paraben and phthalate-free.

Gluconolactone: *(Preservative)*

Naturally occurring and gluten-free, this is a broad spectrum preservative that also has moisturizing and soothing effects on the skin.

Glycerin: *(Humectant)*

Kosher, food-grade lubricant extracted from vegetable oils that acts as a humectant and conditioning agent to skin and hair. Glycerin helps hold moisture to the skin.

H

Helianthus Annuss (Sunflower) Seed Oil: *(Emollient)*

From sunflower seeds, this oil is an excellent moisturizer that quickly absorbs, offers great emolliency and is high in Vitamin E, linoleic and oleic fatty acids.

Hydrogenated Vegetable Oil: *(Emollient)*

Derived from natural vegetable oil, used as a natural replacement for petroleum jelly.

Hydrolyzed Glycosaminoglycans: *(Marine Extract)*

Found naturally in many epidermis cells, this polysaccharide is derived from the shells of shrimp. It increases hydration deep within the layers of the skin. Its powerful moisturizing properties make it ideal for anti-aging, moisturizing, and anti-stress skin formulations.

Hydrolyzed Guar: *(Plant Extract)*

Derived from guar beans, helps to thicken and stabilize emulsion system.

Hydroxypropyl Guar: *(Thickener)*

Derived from guar beans, helps to thicken and stabilize emulsion system.

H

Hydrolyzed Keratin: *(Protein)*

Naturally occurring in human hair, ours is sustainably derived from sheep's wool. Keratin contains complex proteins that bind to the hair, forming a protective coating that rebuilds tensile strength, helping to protect hair from breakage. Keratin is particularly useful for repairing hair that may have been damaged by environmental stressors. Keratin also smooths the hair cuticle to reduce frizz and increase shine.

I, J, M

Iron Oxides: *(Tint)*

Natural color made from iron and oxygen. Rust is a very common iron oxide, but ours is specially blended to match skin tones.

Jojoba Esters: *(Emollient)*

The buttery esters from jojoba oil improves skin and hair feel without greasiness. Because jojoba oil is chemically similar to our skin's sebum oil, it can be used to balance our natural oil production..

Lavandula Angustifolia (Lavender) Oil: *(Essential Oil)*

Obtained from Lavender flowers, this lovely smelling oil is added for its skin soothing and aromatherapeutic benefits.

Melaleuca Alternifolia (Tea Tree) Oil: *(Essential Oil)*

Naturally occurring essential oil from the Australian Melaleuca tree, it has very powerful skin and aromatherapeutic properties.

Magnesium Aluminum Silicate: *(Thickener)*

A naturally occurring, mineral-rich smectite clay used as a stabilizer and thickener for cosmetic products. Mined in the southwest United States, ours is certified for use in organic products by EcoCert™.

Safety Data: naturally mined mineral that does not biodegrade. Processed with no harmful solvents, it is not expected to bioaccumulate and is considered non-hazardous to the environment.

Mentha Piperita (Peppermint) Oil: *(Essential Oil)*

Obtained from Lavender flowers, this lovely smelling oil is added for its skin soothing and aromatherapeutic benefits.

Methyl Gluceth 10: *(Humectant)*

Natural glucose derivative that acts as a mild humectant and emollient. **Safety Data:** Moderately biodegradable, is unlikely to accumulate in the food chain and tested non-toxic on the aquatic organisms analyzed.

M, N, O

Methylcellulose: *(Film Former)*

Natural polymer produced from cellulose used as a film former, thickener and emulsion stabilizer.

Safety Data: expected to slowly degrade in the environment, is unlikely to accumulate in the food chain and is practically non-toxic to aquatic organisms on an acute basis.

Natural Flavor: *(Flavor)*

Derived from essential oils, oleoresins and other plant extracts, our flavors are compatible for use in organic products.

Ocimum Tenuiflorum (Tulsi) Leaf: *(Plant Extract)*

Also known as **Holy Basil**, this plant is revered in India for its healing properties of the mind, body and spirit. Known as an adaptogen, it helps the body and skin adapt and overcome environmental stress. As a powerful antioxidant, Tulsi helps counter the cellular oxidative damage caused by sun exposure.

Olea Europa (Olive) Leaf Extract: *(Plant Extract)*

Extremely rich in phenolic compounds exhibiting unique antioxidant properties that condition and provide nourishment to the skin and hair.

Olea Europa (Olive) Leaf Ferment: *(Plant Extract)*

A unique antioxidant ingredient produced by fermenting olive leaves with **Lactobacillus lactis**. Research has shown that Olive Leaf Ferment has superoxide-scavenging properties. Used in all of our biodegradable mineral sunscreens and natural products.

Olive Squalene: *(Emollient)*

Emollient found naturally in human sebum with soothing, moisturizing, and nourishing properties.

Squalene is often obtained from shark liver oil, but can also be derived from olives.

Olive squalene is more stable, more compatible and definitely more sustainable.

Please question the sourcing of every product that you see listing squalene on the label.

P

Panthenol: *(Humectant)*

Also known as Pro Vitamin B5, used in hair and skin care products to provide humectancy and emolliency, improving hair texture and strength.

Papain: *(Plant Extract)*

Sourced from papaya fruit, this enzyme acts as a skin conditioning agent. We have found this to work brilliantly in our sun & sting gel.

P,R

Polyhydroxystearic Acid: *(Solubilizer/Stabilizer)*

Vegetable-derived ester approved by EcoCert used to enhance the performance of SPF formulas. An excellent dispersant and stabilizer for titanium dioxide, improves the spreadability and aids in UV absorption.

Polysorbate: *(Emulsifier)*

Vegetarian grade derived from sorbitan and lauric acid. Listed as a low hazard ingredient, we use small quantities to disperse botanicals.

Potassium Sorbate: *(Preservative)*

Potassium salt of sorbic acid, used as a mild, food-grade preservative to protect cosmetic products from spoilage.

Rosmarinus Officinalis (Rosemary) Leaf: *(Plant Extract)*

Often used as a natural antioxidant, rosemary improves the heat stability and longevity of other oils.

S

Salicylic Acid: *(Preservative)*

Multi-functional ingredient, often used in higher concentrations in acne formulas. We utilize salicylic acid as a beneficial preservative booster to protect products from spoilage at low levels that are not irritating to the skin.

Sodium Benzoate: *(Preservative)*

A salt of benzoic acid, this natural, food-grade preservative helps protect products from spoilage. Some have said that sodium benzoate can release benzene – this only occurs under extremely high temperatures and extreme pressure, situations that do not occur in cosmetic products.

Sorbic Acid: *(Preservative)*

Natural derivative of Potassium Sorbate, used in cosmetic products as a gentle food grade preservative.

Sorbitan Laurate: *(Emulsifier)*

EcoCert approved emulsifier derived from sorbitol and lauric acid from berries and other plant sources.

Sorbitan Palmitate: *(Solubilizer/Stabilizer)*

Functions as an emulsion stabilizer and improves the effectiveness of sunscreen formulations.

S

Sorbitan Stearate: *(Emulsifier)*

EcoCert approved, naturally derived from berries and other plant sources. An emulsifier that offers emulsion stability.

Stearic Acid: *(Emulsifier)*

Naturally derived fatty acid used as an emulsion stabilizer and thickening agent. Stearic acid can be plant or animal sourced. Ours is vegetarian.

T,X

Theobroma Cacao (Cocoa) Seed Butter: *(Emollient)*

Rich butter extracted from the seeds of the cacao plant used for its moisturizing and soothing properties. A rich source of antioxidant polyphenols, shown to improve skin elasticity and promote healthy collagen production. Ours is certified organic.

Titanium Dioxide: *(Sunscreen Active)*

Naturally occurring mineral used for its high UV light reflection capabilities. Rather than absorbing like chemical sunscreens, titanium dioxide remains on the surface of your skin to deflect the sun's burning rays offering significant protection from UVA/UVB rays. We use only **non-nano particles** which means a slightly whiter experience, but a safer one for you and our environment.

Tocopherol: *(Vitamins)*

Powerful antioxidant, this Vitamin E blend protects the skin from free radicals and helps prevent oxidation and rancidity of the other oils in the product.

Xanthan Gum: *(Thickener)*

Natural polysaccharide derived from beneficial bacterias and glucose used to thicken & stabilize products.



#dontoxybenzone

Our formulas will never contain: Parabens, DEAs/MEAs/TEAs (diethanolamines / methanolamines/triethanolamines), SLS or SLES (sodium laurel or laureth sulfates), phthalates, dyes, cinnamates, benzophenones (BP-2), or camphor derivatives



We've set a new standard for ecoconscious sunscreen & skin care

Along with the required human safety and SPF tests, Stream2Sea products are proven to be readily biodegradable in both salt and fresh water and have passed a comprehensive series of aquatic toxicity tests.

Formulated with powerful antioxidant blends to protect skin from sun damage, our line includes safe sunscreens, conditioning shampoo and body wash, leave-in conditioner, nourishing body lotion and lip balms.



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— Reef-Friendly • Biodegradable —

www.Stream2Sea.com