



Ingredients Starting With P

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In the ingredient descriptions: **Good** means that I like to see this in a product's list of ingredients. **Okay** means this product appears safe for a curly person like me to use. **Caution** means that this ingredient may not be good in some hair care products, or for some people. **Avoid** means this ingredient may hurt your hair. If you see this ingredient in a hair product, it's best to put it down and walk away.

Please select a letter to search for ingredients:

0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Palmamidopropyl

[Okay](#)

A derivative made from the oil that comes from the fruit or seed of the African palm tree *Elaeis guineensis* [Winter pg 383].

Source(s): Winter

Palmamidopropyl Trimonium Methosulfate

[Okay](#)

Used for conditioning hair, and it comes from both plant and synthetic sources [Gottschalk (12th ed.) pg 1757]. *This has been a mystery ingredient. I have searched all my books, and even online, and I haven't been able to find any information on it yet. I will put here what I've gathered about the separate components of this ingredient. However, until I can find information on the entire ingredient, this can only be an educated guess. I even called Aveda (they are about the only company I see using this ingredient), and they said this was a conditioning ingredient. This isn't an objective source for information, though (it's not like they'd tell me if it was a bad ingredient or anything). This ingredient's name has an identical structure to Babassuamidopropyltrimonium methosulfate, which is a conditioning ingredient made from the seeds of the Babassu palm tree. So it's looking like Palmamidopropyl trimonium methosulfate is a similar conditioning agent that's made from the oil of a different kind of Palm as the only difference.* —T

Update: I looked it up in my big new CTFA dictionary, and really all it had to say was that it was a hair conditioner from plant and synthetic sources. But I am proud I'd guessed about as much on my own.—T

See also: *Babassuamidopropyltrimonium methosulfate* *Palmamidopropyl*

Source(s): Winter Gottschalk http://www.hort.purdue.edu/newcrop/duke_energy/elaeis_guineensis.html

Palm butter (aka Palm oil; Palm tallow; Elaeis guineensis oil; Elaeis melanococca oil; Astrocaryum murumuru)

[Good](#)

Please see Palm oil.

See also: Palm oil

Palmitic acid

[Okay](#)

Emollient.

Palmitamidopropyltrimonium chloride

[Okay](#)

Emulsifier: keeps product from separating into its oil and water components. Thickener.

Source(s): <http://www.allbusiness.com/north-america/canada/206952-1.html>

Palmitic acid (aka Hexadecanoic acid)

[Okay](#)

Emollient. Waxy fatty acid used to keep product from separating.

Source(s): <http://www.safersolutions.org.au> <http://medical.merriam-webster.com>

Palmitoyl glutamic acid

[Okay](#)

Mild cleanser.

Source(s): Nnanna pg 233

Palm kernel oil (aka Elaeis guineensis oil; Elaeis melanococca oil)

[Good](#)

Palm kernel oil is made from the food of the seed embryo (sort of like the white of a chicken's egg) of the *Elaeis guineensis* palm tree. Similar to coconut oil, it's light-ish yellow, and is edible. It's used to make edible fats, ice cream, baked goods, mayonnaise, and even soaps.

See also: Palm oil

Source(s): http://www.hort.purdue.edu/newcrop/duke_energy/elaeis_guineensis.html

Palm oil (aka Palm butter; Palm tallow; Elaeis guineensis oil; Elaeis melanococca oil; Astrocaryum murumuru)

[Good](#)

Excellent moisturizing oil. Similar to coconut oil. Will penetrate cortex, so it may make hair stronger. However, it has little effect on cuticle, so you still need a slippery ingredient in the conditioner to comb through hair. Nothing can repair hair once it has been damaged, however [Beauty Brains pg 7].

Rich oil made from the middle layer of the fruit of the palm that's yellow to orange-red in color. When the oil is being processed for food, it's bleached first [Horticulture Purdue site].

A fatty oil with the faint scent of violets [Winter 7th ed., pg 390].

See also: Palm kernel oil

Source(s): Beauty Brains Winter http://www.hort.purdue.edu/newcrop/duke_energy/elaeis_guineensis.html

Palm tallow (aka Palm oil; Palm oil; Elaeis guineensis oil; Elaeis melanococca oil; Astrocaryum murumuru)

[Good](#)

Please see Palm oil.

See also: Palm oil

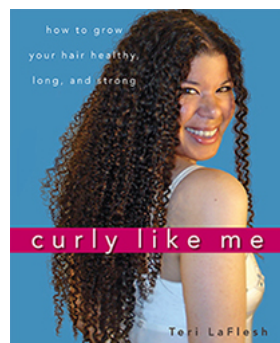
Panax ginseng root extract (aka Ginseng root extract)

[Okay](#)

Ginseng is used in many hair and skin care products. See Ginseng for more information [Winter (7th Ed) pg 392].

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See also: Ginseng
Source(s): Winter

Panthenol (aka Pantothenic acid, Vitamin B5; Pro-vitamin B5)

Good

Panthenol is a form of vitamin B. Functions as a hair conditioner only. Works better in a leave-in product because otherwise it's easily rinsed away. Can moisturize the hair to make it feel softer. Pantothenic acid is able to penetrate deeply into the cortex of the hair, but it is not able to repair hair, nor make hair strands thicker [Begoun Pgs 75, 85]. Per Johnson [pages 81-82], panthenol converts to pantothenic acid on the hair, which penetrates into the cortex and may help repair hair. But this is when it was used directly on the hair in a 5% solution. *However, nothing, not even panthenol, will repair hair that's damaged in any meaningful way or help it grow longer once it's been hurt. The only way to repair damage and grow long healthy hair is to prevent hurting it in the first place. Otherwise, it's easy to feel like you can do anything to your hair and then pay lots of money for a product that promises to repair hair and it will fix everything you've done. It won't, and all you're left with is less money and damaged hair.--T* Per Hunting [(Conditioning) pages 307-308], this is included in products for conditioning and sales appeal (because it's a natural ingredient). Okay, I'm going to geek out a bit here. Interestingly, there are two forms of panthenol, a D-form and a DL-form, and only the D-form has vitamin activity. Products often include both forms. The D-form is a thick liquid that absorbs water, while the DL-form is a white, crystalline powder, that dissolves in water. Per Hunting, Panthenol is actually the DL-form. Panthenol is a provitamin, which means it's used to create pantothenic acid, which is what actually does the work on your hair. It is supposed to increase pliability and luster on the hair. Per Hunting, though there are many patents for panthenol out there, it is by no means certain that applying panthenol to hair by a conditioning rinse has a beneficial result.

See also: Pantothenic acid
Source(s): Begoun Hunting Johnson

Panthenyl ethyl ether (aka Pantyl; Pantothenyl Ethyl Ether)

Good

This is made from Panthenol, and is used for it's emollient and conditioning properties [Hunting (Conditioning) pg 308].

This is in one of my favorite, go to conditioners that I've been using for well over ten years. It has not caused any problems as far as conditioning and defining my hair. That's why I'm calling it a

*** Tried and true ingredient ***

See also: Panthenol Ether
Source(s): Hunting

Pantothenic acid (aka Panthenol, Vitamin B5)

Okay

Can moisturize the hair to make it feel softer. Pantothenic acid is able to penetrate deeply into the cortex of the hair, but it is not able to repair hair, nor make hair strand thicker. Pgs 75, 85.

See also: Panthenol
Source(s): Begoun

Papaya (aka Carica papaya)

Caution

Papaya is a tropical fruit, and it is often used in hair conditioners as well as a base in organic makeup. It contains papain, an enzyme that is used as a meat tenderizer because it works by digesting protein and even dissolving dead tissue (and I think it used to be in my contact lens enzyme solution from the '80s). If it's cooked, it's deactivated. Because of this it may cause allergic reactions and tends to dry out hair. [Begoun (Hair) Pg 73; Winter (7th de.) pg 392]. — *This was in a conditioner that dried out my hair and made it mat.—T*

See also: Irritant
Source(s): Begoun Winter

Parabens

Caution

A group of food grade preservatives such as butylparaben, propylparaben, methylparaben, and ethylparaben. Research is inconclusive about whether these are harmful. However, it's agreed that it is more harmful to use products with no preservatives in them than products with these in them. For more information, check out: **Parabens**.

The Parabens are widely used to preserve cosmetics because they cause less irritation than other preservatives. Many of the studies on Parabens found them to possibly cause breast cancer, but many of these tests were on animals, and were given orally or through injections (which is not how humans usually come in contact with them). To keep things in perspective, many plants produce similar chemicals in our bodies (estrogen in high levels may cause breast cancer in some women) that are believed to increase cancer risk such as soy.

Though traces of parabens were found in breast tumor tissues, there haven't been studies to find out if the same levels of parabens are present in healthy breast tissues. No one is yet certain if the presence of parabens in cosmetics is the problem (since they are also used in foods, the parabens found in human tissue may be from parabens that were eaten instead). The European trade association has said that the four main parabens used in cosmetics in Europe have been studied and found safe. [Begoun (Cosmetics) pgs 1132-1133, Winter 7th ed., pgs 392-393].

See also: Preservative
Source(s): Begoun Winter

Paraffinum liquidum (aka Mineral oil; Huile Mineralé; Liquid Petrolatum; Paraffin oil; White oil)

Okay

See Mineral oil.
See also: Mineral oil

Passiflora Incarnata Extract (aka Passionflower Extract; Passionflower)

Okay

Extract made from the flowers of one of the species of *Passiflora* [Winter 7th ed. pg 394]. *On a plant-geeky note, this is the same plant family that produces passion fruit, used as a major flavoring, including Hawaiian Punch.—T*

Source(s): Winter

Passionflower Extract (aka Passiflora Incarnata Extract; Passionflower)

Okay

See Passiflora Incarnata Extract.
See also: Passiflora Incarnata Extract

Pathenyl Hydroxypropyl Steardimonium Chloride

Okay

According to Skin Deep (see link, below), it's used for hair conditioning, and to reduce static. —*This looks like a new ingredient, so there isn't much objective information on it yet. What it looks like, from comparing other ingredients*

made from similar components, is that it's a derivative of Panthenol, while "Hydroxypropyl" indicates it's reacted with Propylene Oxide [Hunting (Conditioning pgs 308, 240]. Steardimonium Chloride seems to be a Quaternium ammonium compound [Winter pg 491].—T

See also: Panthenol Propylene Oxide Quaternium ammonium compound

Source(s): Hunting Winter <http://www.cosmeticsdatabase.com/ingredient.php?ingred06=704438~hanks=1>

PEG 7 dimethicone C8-C18 ester

[Okay](#)

Conditioning ingredient.

Source(s): <http://www.thebeautybrains.com>

PEG 100 stearate

[Okay](#)

Thickens product.

Source(s): Begoun

PEG (aka Polyethylene glycol; Ethylene Glycol)

[Okay](#)

Abbreviation for polyethylene glycol [Winter Pg 389].

See also: Polyethylene glycol

Source(s): Winter

PEG-3 Dimethicone

[Okay](#)

Hair conditioning ingredient. Increases suppleness.

See also: Dimethicone copolyol Silicone

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG-3 dioleoyl amidoethylmonium methosulfate

[Caution](#)

PEG is the acronym for polyethylene glycol. Depending on what it is mixed with, it could be a cleanser, stabilizer, or an emollient.—So far I haven't found any information on this ingredient, so I'm listing it as a Caution until I can get more data.—T

See also: Polyethylene glycol

PEG-3 to -200 Castor Oil

[Okay](#)

These are commonly used for emollients, conditioning, and to help oils rinse off better in water. They are also found in makeup. This is made from a combination of Polyethylene Glycol and Castor Oil. The higher the number, the more solid the ingredient is [Winter pg 389].

See also: Polyethylene glycol Castor oil

Source(s): Winter

PEG-4,-6, -8, -9, -10, -12, -14, 16, -18, -32, -40, -150, -200, -350

[Okay](#)

PEG is the abbreviation for polyethylene glycol. This is usually mixed with fatty acids and fatty alcohols in different amounts to create a liquid or waxy ingredient. The number refers to how liquid it is, with the higher numbers meaning the substance is harder, and the lower numbers mean it is more liquid. These are often used as cleansers, emollients, and to keep the products from separating [Begoun pgs 1318, 1322-1323. Winter pg 389].

See also: Polyethylene glycol Fatty acid Fatty alcohol

Source(s): Begoun Winter

PEG-4 through -150 dilaurate (aka Polyethylene glycol)

[Okay](#)

Made from Lauric acid and Polyethylene glycol. The higher the number after PEG, the more solid the ingredient [Winter 7th ed., pg 396].

See also: Polyethylene glycol Lauric acid

Source(s): Winter PEG-150 dilaurate PEG-150 dilaurate

PEG-7 Dimethicone

[Caution](#)

This leaves a thin film on the hair. These are best avoided in shampoo and conditioners because they can build up and get sticky.

See also: Dimethicone copolyol Film-former Silicone

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG-7 glyceryl cocoate

[Okay](#)

Used for conditioning and as an emollient. It also helps products from separating into its oil and water components.

Made from coconut acid (from coconut oil) and polyethylene glycol. Not considered toxic or irritating. It's a yellowish, clear oily liquid that's soluble in water [Hunting (Conditioning) pg 318; Winter pg 390].

See also: Polyethylene glycol Coconut oil

Source(s): Hunting Winter

PEG-8

[Okay](#)

Humectant.

See also: Humectant

PEG-8 Dimethicone

[Okay](#)

Hair conditioning ingredient. Increases suppleness.

See also: Dimethicone copolyol Silicone

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG-8 Distearate

[Okay](#)

Used as a conditioner, thickener, an emollient, and to keep the product from separating. This ingredient is known to be "superfating", which means it's very emollient because it contains extra oil or fat [Hunting (Conditioning) pg 316].

Source(s): Hunting

PEG-9 Dimethicone

[Okay](#)

Hair conditioning ingredient. Increases suppleness.

See also: Dimethicone copolyol Silicone

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG-10 Dimethicone

Okay

Hair conditioning ingredient. Increases suppleness.

See also: Dimethicone copolyol Silicone

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG-12 Dimethicone

Okay

Hair conditioning ingredient. Often referred to as dimethicone copolyol. Silicone used to increase suppleness.

See also: Dimethicone copolyol Silicone

Source(s): Winter http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=811

PEG-14 Dimethicone

Okay

Hair conditioning ingredient. Increases suppleness.

See also: Dimethicone copolyol Silicone

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG-14 M (aka PEG-14000)

Avoid

This is a synthetic polymer (a substance with a large number of similar units bound together) of ethylene oxide that is used as a binder to keep the mixture together, such as keeping oil and water mixed together. It also increases the thickness of a product [Gottschalk page 1881]. *I'm putting this as an avoid because ethylene oxide is considered dangerous and this is made up of lots of ethylene oxide --T*

See also: Polymer Ethylene oxide

Source(s): Gottschalk

PEG-17 Dimethicone

Okay

Hair conditioning ingredient. Increases suppleness.

See also: Dimethicone copolyol Silicone

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG-40 Castor Oil (aka Polyethylene Glycol 200 Castor Oil)

Okay

It's used to keep the product from separating into its oil and water components, as a conditioner, and as an emollient. Not known as a big skin or eye irritant. This is a somewhat thick, yellowish to amber colored liquid that's water soluble. Known for being very mild, but may become unstable at an extreme pH, and it also has a particular odor, according to Hunting (Conditioning) [pgs 313-314]. Made from Polyethylene Glycol and Castor Oil [Winter pg 389].

See also: PEG Polyethylene glycol Castor oil PEG-3 to -200 Castor Oil

Source(s): Hunting Winter

PEG-40 Hydrogenated Castor Oil

Okay

Used for conditioning, thickener, and to keep product from separating into oil and water components. This is made from Castor oil that's been thickened by hydrogenation, then processed with polyethylene glycol.

This is an off-white solid that's water soluble in warm water, considered to be safe and mild in cosmetics. The main difference between PEG-40 Hydrogenated Castor Oil and PEG-40 Castor Oil is that the Hydrogenated Castor Oil is more solid at room temperature, and it has less of a "Castor" scent. [Hunting (Conditioning) pg 318].

See also: PEG Hydrogenation Castor oil PEG-40 Castor oil

Source(s): Hunting

PEG-60 almond glycerides

Okay

Slightly conditioning and emollient, cleanser, emulsifier (keeps product from separating into oil and water components).

Source(s): http://www.cosmeticsdatabase.com/ingredient.php?ingred06=704637&refurl=/product.php?prod_id=67439&-hanks=1

<http://thebeautybrains.com/2006/07/02/beauty-review-new-herbal-essences-shampoo-drama-clean-and-more/>

PEG-75 Lanolin

Good

Made from processed lanolin so that it's water soluble. Used to keep products from separating into its oil and water components. Also used as a conditioning ingredient. It isn't believed to be irritating to the skin or eyes, and some claim it may even reduce irritation caused by other ingredients. It's soft, waxy, and yellow colored [Hunting (Conditioning) pgs 319-320].

See also: Polyethylene glycol Fatty acid Fatty alcohol Lanolin

Source(s): Hunting

PEG-80 sorbitan laurate

Okay

Gentle cleanser.

Source(s): Begoun

PEG-120 methyl glucose dioleate

Okay

Cleanser that's found in bath soaps, facial cleansing creams, shampoos, conditioners, and other hair products. It can be made from plant, animal, or synthetic sources [Gottschalk (12th ed) pg 1886].

Source(s): Gottschalk

PEG-150 dilaurate

Okay

Made from Polyethylene glycol and Lauric acid. Used as an emollient, a thickener. A water soluble, white-ish cream, or a waxy solid. Known as being mild, and may often be used in other products to reduce the irritation of other ingredients [Hunting (Conditioning) pg 314-315].

See also: Polyethylene glycol Lauric acid

Source(s): Hunting

PEG-150 distearate

Okay

Thickener.

Source(s): <http://www.cosmeticscop.com/>

PEG/PPG-3/10 Dimethicone[Okay](#)

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-4/12 Dimethicone[Okay](#)

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-6/11 Dimethicone[Okay](#)

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-8/14 Dimethicone[Okay](#)

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-14/4 Dimethicone[Okay](#)

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-15/15 Dimethicone[Okay](#)

Anticaking ingredient. Keeps any powders or grainy substances from clumping in a product.

See also: Dimethicone copolyol Silicone

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-16/2 Dimethicone[Okay](#)

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-17/18 Dimethicone[Okay](#)

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-18/18 Dimethicone[Okay](#)

Belongs to the group of ingredients referred to as dimethicone copolyols. Cleanser that helps keep the product from separating.

See also: Dimethicone copolyol Silicone

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=822

PEG/PPG-18/18 Dimethicone[Okay](#)

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-19/19 Dimethicone[Okay](#)

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-20/6 Dimethicone[Okay](#)

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-20/15 Dimethicone[Okay](#)

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-20/20 Dimethicone[Okay](#)

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-20/23 Dimethicone[Okay](#)

Keeps a product from separating into its oil and water components. Also used as a hair conditioning ingredient.

Increases suppleness and adds slipperiness. Also added to a product to either help the product attract or repel water better. It's used to help one ingredient dissolve inside another one.

See also: Dimethicone copolyol Emulsifier Silicone

Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-20/29 Dimethicone[Okay](#)

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant
Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-22/24 Dimethicone*Okay*

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant
Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-23/6 Dimethicone*Okay*

Keeps a product from separating into its oil and water components. Adds slipperiness. Also added to a product to either help the product attract or repel water better. It's used to help one ingredient dissolve inside another one.

See also: Dimethicone copolyol Emulsifier Silicone
Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-23/23 Dimethicone*Okay*

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant
Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-25/25 Dimethicone*Okay*

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant
Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

PEG/PPG-27/27 Dimethicone*Okay*

Cleanser that works by helping water mix with dirt and oil so they can be rinsed away.

See also: Dimethicone copolyol Silicone Surfactant
Source(s): http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1437

Pelargonic acid (aka *Nonanoic acid*)*Caution*

Flavoring ingredient that's found in the oil of (*geraniums and*) lavender, but can be made synthetically. It can cause strong skin irritation [Winter pg 392]. This is clear, oily liquid that isn't water soluble. It's also used as a natural, environmentally friendly herbicide [Chemicaland21.com]. This is also found in many common foods we eat, so it's safe for food [epa.gov].

See also: Irritant Pelargonium oil
Source(s): Winter <http://chemicaland21.com/industrialchem/organic/n-NONANOIC%20ACID.htm>
http://www.epa.gov/pesticides/biopesticides/ingredients/factsheets/factsheet_217500.htm

Pelargonium oil (aka *Geranium oil*)*Caution*

Scented oil from the leaves of the rose geranium (*Pelargonium*). May cause allergic reactions in those sensitive to geraniums [Winter pg 255]. May cause skin irritation and/or sun sensitivity. Best not to use on a baby's skin [Begoun pg 94].

See also: Irritant
Source(s): Winter Begoun

Pentaerythrityl*Okay*

Used as a skin conditioner [Winter pg 393].

Source(s): Winter

Pentaerythrityl tetracaprylate/tetracaprate*Okay*

This is an emollient that's often used to condition skin. It works by making a barrier so water loss doesn't occur. It's also used to thicken a product. It isn't soluble in water. It's made from a form of Pentaerythritol and a blend of Caprylic and Capric acids.

See also: Pentaerythritol Caprylic acid Capric acid
Source(s): <http://www.cosmeticdatabase.com/ingredient.php?ingred06=704738&hanks=1>

Pentasodium pentetate*Avoid*

Can be alkaline and drying to the hair and scalp.

See also: Irritant
Source(s): Begoun

Peppermint (aka *Mentha piperita*; *Mentha piperita leaf extract*; *Brandy mint*)*Caution*

Can be drying to the hair and irritating to the scalp. Best not to put it on a baby's skin. Though it is often marketed as "invigorating" the skin or scalp, the tingling you feel is actually skin irritation [Begoun (Hair) pg 73].

The oil from the peppermint plant that can often be invasive in gardens. Can cause allergic reactions such as hay fever and rash [Winter (7th ed) pg 401].

See also: Irritant
Source(s): Begoun Winter

Peppermint oil (aka *Mentha piperita oil*)*Caution*

Oil made from the leaves of the peppermint plant. Often used in toothpaste and as a flavoring. May cause allergic reactions like hay fever and skin rashes. The tingling you feel is actually skin irritation [Begoun (Hair) pg 73; Winter (7th ed) pg 401].

See also: Peppermint Irritant
Source(s): Winter Begoun

Peptide*Okay*

Two or more amino acids (the building blocks of proteins) linked together, head-to-tail. Peptides are usually larger than simple amino acids (made up of up to 45 amino acids strung together).

Peptides are mainly used for signaling in the body (such as pain control) [Winter 7th ed., pg 401].

Though they are important in the body, they can't help repair hair, because hair is dead. Once hair is damaged, nothing can repair it.

See *also*: Amino acids

Source(s): Winter

Persea gratissima oil (aka *Avocado oil*)

Good

Excellent moisturizing plant oil. It can penetrate the hair's cortex, so it may make hair stronger. However, it has little effect on the cuticle, so you still need a slippery ingredient in the conditioner to comb through hair. And nothing can repair hair once it's been damaged [Beauty Brains book pg 7 (quoting from an article from the Journal of Cosmetic Science 52, pgs 169-184), 2001) ; Winter (7th edition) page 92].

Source(s): Winter Beauty Brains

Petitgrain oil (aka *Citrus aurantium oil*)

Avoid

Fragrant oil made from the unripe fruit, leaves, and twigs of the bitter orange tree. It has a bittersweet scent often used in flavoring food. According to Winter (7th edition, page 403), it "supposedly dissolves in sweat, and under the influence of sunlight becomes an irritant. May cause allergic skin reactions."

Source(s): Winter

Petrolatum (aka *Vaseline; Petroleum jelly; Paraffin jelly; Mineral jelly*)

Caution

Vaseline is petrolatum. It's an emollient, more specifically as an occlusive, meaning it makes a barrier on top of your skin so it prevents evaporation. No scientific research to show this is bad for you. [Begoun (Cosmetics) page 1319]. Petrolatum is made from a purified mixture of hydrocarbons from petroleum. It is a yellowish semisolid oily/ ointment-like mass that is nearly odorless and tasteless, and is nearly impossible for it to dissolve in water. It gives shine to lipsticks and the film of it helps prevent evaporation. It can cause allergic reactions in very sensitive skin [Winter (7th edition) page 403-404].

Hunting [(Conditioning) page 327-328] agrees with the above, also mentioning it makes a water proof barrier on the skin and hair.

It's okay if it's lower on an ingredient list and you're rinsing it out, and you're fine with its chemical origins and all, or you're putting it on very dry skin. However, I'd be cautious if it were high on the ingredient list, or it was in a hair dressing because it's so thick and heavy and can be really sticky. It may also cause breakouts. --T

Source(s): Begoun Winter Hunting

Phellodendron amurense bark extract (aka *Amur corktree*)

Okay

This is made from the powdered bark of the phellodendron, also known as a Amur corktree. There is no reported function of this ingredient for skin or hair [Gottschalck pg 1362]. A native tree to China, Manchuria, and Japan, it has leaves with a turpentine aroma when they are crushed. It looks like it may have some antimicrobial action. *I'm thinking that since there is no reported function for this ingredient for hair, it is added mainly to sound exotic, or because there is some "buzz" about it perhaps helping with cancer, but in a hair care product, it has no real purpose. --T*

Source(s): Gottschalck <http://plants.usda.gov/java/profile?symbol=PHAM2>

<http://www.hort.uconn.edu/Plants/p/pheamu/pheamu1.html> <http://www.raysahelian.com/phellodendron.html>

Phenethyl Benzoate

Okay

A synthetic flavoring ingredient that adds a fruit or honey taste to food, or a rose/honey/floral scent to products.

Source(s): <http://food.oregonstate.edu/glossary/p/phenethylbenzoate.html>

<http://www.thegoodscentscompany.com/data/rw1012671.html>

Phenoxyethanol

Okay

Preservative believed to be less irritating than others. Can also be used as a fragrance [Winter pg 399].

Phenoxyethanol is mild to the skin but can be hugely irritating to eyes—though it isn't found to be irritating in the tiny amounts normally used in products. Surprisingly, it also has some conditioning and emollient properties.

This is an oily, white to off-white liquid that smells a bit like roses. It doesn't dissolve easily in water, but will in ethanol or alkaline environments. Though Phenoxyethanol kills bacteria, it doesn't kill all types of them, so it's often combined with other anti-bacterial ingredients to kill all bacteria that may form in a product. Because it is conditioning, Phenoxyethanol may be found more often in conditioners or cosmetics, or shampoos meant to be moisturizing. The problem with Phenoxyethanol is that you do have to use higher amounts to do the job, and since it smells like roses, it may be hard to cover up the scent (if you aren't wanting your product to smell rosy) [Hunting (Shampoo) pg 317-318]. This is in one of my favorite, go to conditioners that I've been using for well over ten years. It has not caused any problems as far as conditioning and defining my hair. That's why I'm calling it a

*** Tried and true ingredient ***

See *also*: Preservative

Source(s): Winter Hunting

Phenylalanine

Okay

Amino acid found in hair. This can be a humectant, but it can't repair hair, since hair is dead. Pg 84.

See *also*: Amino acid

Source(s): Begoun

Phenyl functional siloxane (aka *Polydimethylcyclsiloxane; Silicone*)

Good

A group of modified Silicones (this means that other molecules have been added to the silicone that changes its function or characteristics). Used as a hair and skin conditioner and increases slip in products. This type of silicone gives greater sheen to hair than other silicones. They also tend to cut down on the white foam that may occur when a product is rubbed in, as well as decreasing any residue a product might leave behind [Schueller pg 179].

See *also*: Silicone Phenyl functional siloxane

Source(s): Schueller

Phenyl trimethicone (aka *Polydimethylcyclsiloxane; Phenyl functional siloxane*)

Good

A type of Silicone. Used as a hair and skin conditioner and increases slip in products. This type of silicone gives greater sheen to hair than other silicones [Schueller pg 179].

This is in one of my favorite, go to conditioners that I've been using for well over ten years. It has not caused any problems as far as conditioning and defining my hair. That's why I'm calling it a

*** Tried and true ingredient ***

See *also*: Silicone Phenyl functional siloxane

Source(s): Schueller

Phosphoric acid

Caution

Used to protect the appearance of products, as well as used as an antioxidant. An acid that's colorless and odorless, made from phosphate rock that's water soluble. It's often found in hair products, nail polish, and skin care products. In high concentrations it can be irritating to the skin [Winter (7th ed., pg 409)].

Source(s): Winter

Phthalates

Caution

Phthalates such as Dibutyl phthalate (DBP), Dimethyl phthalate (DMP), Diethylhexyl phthalate (DEHP) and Diethyl phthalate (DEP) are mainly used to make products more flexible, like rubber, plastic, cosmetics, toys, or even nail polishes. Each one is a bit different, but these have been studied for years about their safety. There are concerns that these may be cancer-causing, and effect human reproduction, among other issues. Phthalates are hardly being used any longer, though the FDA found them to be generally safe for use in small doses. They are now found mostly in fragrances, most surprisingly fragrances that are in baby products (such as baby lotion, shampoo, and baby powder).

There is still ongoing disagreement and testing of Phthalates throughout the world. One reason for the confusion is that different Phthalates seem to be made differently, so a Phthalate that's found chemically safe in one country might be found to have risks in other countries because they are chemically different. The FDA has said they are safe, but there are still ongoing studies by other groups and in other countries to discover it's health risks [Winter 7th ed., pgs 410-411].

Source(s): Winter

Phytantio

Okay

An emollient conditioning ingredient, made from chlorophyll [Hunting (Conditioning) pg 330].

Source(s): Hunting

Pineapple juice

Caution

Can be drying to the hair and irritating to the scalp. Pg 352. — *This was in a conditioner that dried out my hair and made it mat.—T*

Source(s): Begoun

Piper myristicum (aka Kava kava extract)

Okay

May be anti-inflammatory, but also may cause skin irritation. Pg 537.

Source(s): Begoun

Piroctone olamine

Okay

New treatment for dandruff available in Europe.

Source(s): Begoun

Placenta

Okay

If these were active, it could hurt your hair's cuticle. Otherwise, they do nothing in a product.

Source(s): Begoun

Placenta enzymes

Okay

If these were active, it could hurt your hair's cuticle. Otherwise, they do nothing in a product.

Source(s): Begoun

Poloxamer 101- 407 (aka Poloxalene)

Caution

A liquid composed of a chain many smaller molecules that gives it strength and stretch. Used to help bind water and oils together. This is on the CIR (Cosmetic Ingredient Review) Panel as top priority to review for safety [Winter pg 410].

Source(s): Winter

Poloxamer 407

Avoid

Used to help bind water and oils together. A liquid composed of a chain many smaller molecules that gives it strength and stretch. Known to build up in the environment and in humans.

See also: Poloxamer 101- 407

Source(s): http://www.cosmeticsdatabase.com/ingredient.php?ingred06=722343&refurl=/product.php?prod_id=100628&-hanks=1

Polybutane

Okay

Type of hydrocarbon that mimics silicones. Gives product slip.

See also: Silicone

Source(s): <http://www.thebeautybrains.com>

Polyethylene glycol (aka PEG; Ethylene Glycol)

Okay

This is used mainly as a humectant. Keeps products stable, and provides slip. Similar to glycerin [Begoun (Cosmetics) pg 1322-1323]. PEG is found in antiperspirants, baby products, hair tonics, and lipsticks. It's used to hold the product together, and is found as the cream base for cosmetics and ointments. Keeps product from going bad [Winter 7th ed., pg 419].

Source(s): Begoun Winter

Polyethylene Oxide (aka Ethylene Oxide)

Avoid

See Ethylene Oxide

See also: Ethylene Oxide

Polygala senega (aka Senega extract; Polygala senega root extract; Snake root)

Avoid

Made from the root of a native herb Polygala senega that grows in many parts of the US. Contains foaming ingredients, resin, and salicylic acid [Winter (7th ed) pgs 419, 461]

Because it contains resins and salicylic acid, I'm going to be cautious (paranoid) and say this is probably best avoided

—T

See also: Salicylic Acid

Source(s): Winter

Polyglyceryl 10 oleate

Okay

Conditioning ingredient .

Source(s): <http://www.thebeautybrains.com>

Polyglycerylacrylates

Caution

Sticky film formers. These are best avoided in shampoo and conditioners because they can build up and get sticky.

Source(s): Begoun

Polymers

Okay

Long molecular chains, not easily absorbed by hair or broken down. Linking and lightweight, they work by binding to the hair, creating a film between and around two or more hair shafts.

Source(s): Begoun

Polyoxypropylene Glycol

Avoid

Used as an emollient, antistatic ingredient, and to keep products from separating. Made up of a mixture of Ethylene Oxide and Propylene Glycol [Winter pg 414]. *Since Ethylene Oxide is banned in Europe and Canada for use in Cosmetics, I'm giving this an "Avoid" status. —T*

See also: Ethylene Oxide Propylene glycol

Source(s): Winter

Polypropylene Glycol (aka 1, 2-Propanediol)

Caution

Used as a humectant. It absorbs into the skin better than Glycerin, and it's also less expensive. However, it seems to irritate the skin more than Glycerin does. This is a clear, thick liquid that absorbs moisture. It's use in cosmetics is being phased out and replaced by less irritating substances such as Butylene Glycol and Polyethylene Glycol [Winter pg 414].

See also: Glycerin Butylene glycol Polyethylene glycol

Source(s): Winter

Polyquaternium-4 (aka Celquat)

Okay

Polyquaternium-4 forms a glossy film on hair and it's also supposed to create good curl retention, even in humidity [Johnson page 75].

See also: Quaternary ammonium compound

Source(s): Johnson

Polyquaternium-6

Okay

It doesn't work well in most shampoos, so it's mostly found in conditioners, where it helps with detangling as well as improved combing for both dry and wet hair without a greasy feel [Schueller page 262-263].

See also: Quaternary ammonium compound

Source(s): Schueller

Polyquaternium-7 (aka Quaternium-41)

Okay

Used for conditioning, and to make the hair more slippery so it combs better. It helps thicken a product and to keep it from separating, and to help product foam better. It isn't thought to be irritating. [Hunting (Shampoo) pgs 322, 343; Schueller page 263]. *This is made from polyquaternium-6 with acrylamide, which makes me nervous. However, it doesn't seem to have the sticky properties that cause scary buildup according to my research, so for now I'll put it as okay. —T*

See also: Quaternary ammonium compound

Source(s): Hunting Schueller

Polyquaternium-10 (aka Quaternium-19)

Okay

Per Winter [7th edition, pg 422 & Gottschalck (pg 2122); Johnson page 75], this is used to prevent static, to hold hair in place and to leave a smooth feel to the skin. Per Begoun [(Hair) page 95], some companies may list polyquaternium-10 as "plant cellulose" to make it sound more natural, but this isn't really true. Polyquaternium-10 is not actually plant cellulose, but was derived from plant cellulose by some rather unnatural ingredients to turn it into polyquaternium-10. That being said, this doesn't change its effectiveness in what it does.

Source(s): Gottschalck Hunting Winter Begoun Johnson

Polyquaternium-11 (aka Quaternium-32)

Caution

This clings to hair to make it feel thicker. It also helps make hair easier to comb [Begoun (Beauty) Pg 303]. Made from cellulose. Used as a film-former (coats the hair) and to keep product from separating. Gives hair shine [Winter pg 435]. This is a resin that produces some build up. Used for conditioning, to increase ease of combing, and to give body. It isn't found to be toxic [Hunting (Conditioning) pg 335]. Per Johnson [page 79], this forms a clear, non-sticky, glossy film on the hair and it's used to provide conditioning in styling products as well as providing excellent curl retention.—*I'm putting this as a caution because it looks like it may build up in our hair and become sticky over time. That's fine in a styling aid, where you expect hold, but be cautious of it in shampoos and conditioners. Also, this is known to increase body, which is not what those of us with really curly hair needs.*

I'm fine with polyquaternium-10 which is an old friend that's in most of my favorite conditioners. But it looks like polyquaternium-11 is a bit stronger, and is beginning to lean towards being a styling /hold ingredient. But it isn't there yet. It's borderline. Now, polyquaternium-16 is a definite avoid, because it's fully crossed over to the sticky/styling product side. Polyquaternium-11 is almost sticky, but it's also smoothing - I guess it's smicky? It looks like, though it's stronger than 10, it hasn't crossed that fine line into totally being a hold ingredient. Well, not one I'd avoid I don't think. As of 12/31/2016 I'm trying out a product that has this in it, so I'm seeing how I feel about this. —T

Source(s): Begoun Hunting Winter Johnson

Polyquaternium-16

Avoid

Made from PVP and methylvinylimidazoline. There are three different versions of polyquaternium-16 with different amounts of the two ingredients it's made from. The more methylvinylimidazoline, the harder the film is that it makes as well as the more conditioning [Schueller page 262]. Reduces static [Begoun (Hair) page 95].

Source(s): Begoun Schueller

Polyquaternium-22**Caution**

Made from polyquaternium 6 and acrylic acid. Found mainly in conditioning shampoos which are supposed to have easier combing for wet or dry hair, as well as making hair softer to the touch, have more body, and is less likely to have static build up [Schueller page 263]. *I'm putting this as a caution because it has acrylic acid in it, and it's supposed to increase body. Low down on the ingredient list it may be okay, and in a shampoo since you rinse it out, it shouldn't affect the product too much. But still. I wouldn't be thrilled to see this in a product.--T*

Source(s): Schueller

Polyquaternium-24**Okay**

Provides conditioning, especially helping with wet combing, reduces static, and provides a silky soft feel.

Polyquaternium-24 also increases the stability of oil-in-water mixtures [Johnson page 76].

Source(s): Johnson

Polyquaternium-28**Avoid**

Polyquaternium-28 is made from PVP and methacrylamidopropyl trimethylammonium chloride. It provides conditioning and manageability to hair, but will build up with continued use [Schueller pages 261-262].

Source(s): Schueller

Polyquaternium-29**Avoid**

Made with chitosan (so it is not a vegan ingredient), polyquaternium-29 is used as a hair fixative [Johnson page 76].

Fixatives build up in the hair and mean you will have to use a stronger shampoo to get them out of your hair.

See also: Chitosan

Source(s): Johnson

Polyquaternium-32**Avoid**

Known for controlling fly-aways from static electricity. This is also a hair fixative, which means it can be sticky, and build up on the hair. This ingredient is also known to be somewhat irritating, and is on the Environmental Canada Domestic Substance List as being toxic to wildlife as well as the environment.

Source(s): http://www.cosmeticsdatabase.com/ingredient.php?ingred06=705111&refurl=/product.php?prod_id=49485&-hanks=1

Polyquaternium-37**Avoid**

Used to keep down fly-aways due to static electricity. Also used as a hair fixative, so this means it can build up in your hair with repeated use, making it sticky or crunchy. Fine in gels or styling products, but use caution in shampoos and conditioners. There is also concern that it tends to build up in the environment.

See also: Quaternary ammonium compound

Source(s): <http://www.cosmeticdatabase.com/ingredient.php?ingred06=705113&-hanks=1>

Polyquaternium-46**Caution**

Used for holding hair in place (may cause flaking when combined with beeswax).

See also: Quaternary ammonium compound

Source(s): Begoun

Polyquaternium-57 (aka Zenigloss Q)**Okay**

Conditioning ingredient. Made from castor oil.

See also: Quaternary ammonium compound

Source(s): <http://www.cosmeticsbusiness.com/story.asp?storyCode=871>

Polysaccharides**Okay**

Polysaccharides are carbohydrates (sugars such as starch, dextrin, glycogen, and cellulose) that naturally occur in the skin, and are great at moisturizing [Begoun (Cosmetics 7th ed., pg 1138, Winter 7th ed., pg 422)].

See also: Starch

Source(s): Begoun Winter

Polysorbate 20**Okay**

Slight foaming and cleansing ingredient. Also used as an emulsifier, and for conditioning. This is too mild to be used on it's own as a cleanser, so it's often used with a stronger cleanser, or in baby products [Hunting (Conditioning) pg 336-337 and (Shampoo) pg 322-323]. Lather creator [Begoun (Hair) pg 74].

Source(s): Begoun Hunting

Polysorbate 40**Okay**

Slight foaming and cleansing ingredient. Also used as an emulsifier, and for conditioning. This is too mild to be used on it's own as a cleanser, so it's often used with a stronger cleanser, or in baby products [Hunting (Conditioning) pg 337-338 and (Shampoo) pg 323].

Source(s): Hunting

Polysorbate 60**Okay**

Used to keep products mixed together. Tends to be waxy [Winter pg 415]. Used for conditioning. A thick, yellow liquid or gel that's water soluble [Hunting (Conditioning) pg 338].

Source(s): Winter Hunting

Polysorbate 80**Okay**

Slight foaming and cleansing ingredient. Also used as an emulsifier, and for conditioning. This is too mild to be used on it's own as a cleanser, so it's often used with a stronger cleanser, or in baby products [Hunting (Conditioning) pg 338-339 and (Shampoo) pg 323]. Used to keep products mixed together. Tends to be a thick liquid that smells a bit like caramel. Winter pg 415.

Source(s): Winter Hunting

Polysorbates**Okay**

Group of ingredients that are slippery, create lather, and helps to dissolve ingredients inside the product.

Source(s): <http://www.thebeautybrains.com>

Polyurethane**Caution**

Holds hair in place. Can make the hair feel stiff and coated. Pg 225.

Source(s): Begoun

Polyvinyl acetate**Caution**

Film-forming/ plasticizing polymer. These are best avoided in shampoo and conditioners because they can build up and get sticky.

Polyvinyl alcohol**Caution**

Plasticizer. This will make your hair feel sticky and can build up over time.

Polyvinylpyrrolidone (aka PVP; 1-Vinyl-2-Pyrrolidone)**Caution**

See PVP.

See also: PVP

Potassium Chloride (aka KCl)**Caution**

Used in products as a cheap thickener. Considered to make the product a bit more stable than using Sodium Chloride as a thickener instead.

Potassium Chloride is a salt. Comes in colorless crystals that are salty in taste. Used in food as well as in cosmetics [Winter (7th ed) pg 426; Hunting (Conditioning) pg 339]. *It's sort of okay to use in products you will rinse out, but because I'm paranoid, I'd avoid using it in products you are going to leave in your hair, since salt is often corrosive.*

See also: Salt

Source(s): Winter Hunting

Potassium cocoyl glutamate**Okay**

Mild cleanser. Pg 233.

Source(s): Nnanna

Potassium hydroxide (aka Lye; Caustic potash)**Avoid**

Often found in "no-lye" relaxers and texturizers. It is still as harshly alkaline as lye. Highly caustic. Denatures hair and can dissolve it. Can cause severe burns on skin. Often of the same pH found in oven cleaners, drain cleaners and hair removers [Begoun (Hair) pages 155, 166, 350, Begoun (Cosmetics) page 1324]. Per Winter [(7th edition) page 427], this is used to keep ingredients that wouldn't otherwise mix together mixed together, as well as making the ingredient more alkaline. It is extremely corrosive. Winter states: "Concentrations above 5 percent can destroy fingernails as well".

See also: Lye

Source(s): Begoun Winter

Potassium lauroyl glutamate**Okay**

Mild cleanser. Pg 233.

Source(s): Nnanna

Potassium myristate**Avoid**

Cleanser that is drying.

Source(s): <http://www.cosmeticscop.com/>

Potassium myristoyl glutamate**Okay**

Mild cleanser. Pg 233.

Source(s): Nnanna

Potassium sorbate**Okay**

Used as a mild food grade preservative to prohibit the growth of yeast and mold, often used to preserve wine. May cause mild irritation to the skin, but otherwise found to be safe for use in cosmetics [Winter 7th ed., pg 429].

See also: Preservative

Source(s): Winter <http://www.answers.com/topic/potassium-sorbate>

Potassium stearate**Avoid**

Per Winter [(7th edition) page 429], this ingredient is "strongly alkaline". Which makes me nervous. It's used as a defoaming ingredient.

Source(s): Winter

PPG**Avoid**

PPG is an abbreviation for Polyoxypropylene Glycol and Polypropylene Glycol [Winter pg 414]. This often functions as a humectant. *Since this product contains Polyoxypropylene Glycol, that means it contains Ethylene Oxide, which is banned in Europe and Canada for use in Cosmetics, so I'm giving this an "Avoid" status.* —T

See also: Polyoxypropylene Glycol Polypropylene Glycol Ethylene Oxide

Source(s): Winter

PPG-1 Trideceth-6**Caution**

An emollient often used for skin conditioning. It also prevents a product from separating. *Since the PPG part of this product contains Polyoxypropylene Glycol, that means it contains Ethylene Oxide. Ethylene Oxide is banned in Europe and Canada for use in Cosmetics, so I'm giving this a "Caution" status, since I'm not sure how much Ethylene Glycol is in this ingredient (I'm not sure whether or not there's enough in here to cause a problem, since this ingredient will be in a product with lots of other ingredients).* —T

See also: Polyoxypropylene Glycol Polypropylene Glycol Ethylene Oxide

Source(s): [http://www.cosmeticsdatabase.com/ingredient.php?](http://www.cosmeticsdatabase.com/ingredient.php?ingred06=705236&refurl=%2Fscoring%2Fdraw_brand.php%3Fbrand_id%3D619%26)

[ingred06=705236&refurl=%2Fscoring%2Fdraw_brand.php%3Fbrand_id%3D619%26](http://www.cosmeticsdatabase.com/ingredient.php?ingred06=705236&refurl=%2Fscoring%2Fdraw_brand.php%3Fbrand_id%3D619%26)

PPG-2 Methyl Ether (aka Methylene glycol, Dipropylene glycol methyl ether)**Caution**

Used as a fragrance ingredient and a solvent (helps to dissolve one product into another) in hair sprays. Has a mild,

pleasant scent. *Since the PPG part of this product contains Polyoxypropylene Glycol, that means it contains Ethylene Oxide. Ethylene Oxide is banned in Europe and Canada for use in Cosmetics, so I'm giving this a "Caution" status, since I'm not sure how much Ethylene Glycol is in this ingredient (I'm not sure whether or not there's enough in here to cause a problem, since this ingredient will be in a product with lots of other ingredients).* —T
 See also: Polyoxypropylene Glycol Polypropylene Glycol Ethylene Oxide
 Source(s): <http://www.cosmeticdatabase.com/ingredient.php?ingred06=705255&-hanks=1>
http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1705

PPG-5-Ceteth-20*Okay*

The PPG stands for polypropylene glycol and polyoxypropylene glycol [Winter (7th edition) page 430]. This is used as a wetting agent and to help mix together normally un-mixable ingredients (such as oil and water). [Gottschalck pg 2202]

See also: Polypropylene glycol Polyoxypropylene glycol Ceteth-2

Source(s): Winter Gottschalck

PPG-10 Butanediol*Caution*

I haven't been able to find any objective information on this ingredient. Right now I will put an educated guess about it based on similar ingredients. When I find out more about it, I'll add it here. —T Based on the information I've found about PPG-10 Cetyl Ether and other PPG compounds, it looks like this is a mixture of PPG-10 and Butanediol. The PPG-10 is used as an emollient, and the Butanediol is used as a humectant. [Winter pgs 414,424; Hunting (Conditioning) pgs 130, 341]. See also PPG and Butylene Glycol. *Since the PPG part of this product contains Polyoxypropylene Glycol, that means it contains Ethylene Oxide. Ethylene Oxide is banned in Europe and Canada for use in Cosmetics, so I'm giving this a "Caution" status, since I'm not sure how much Ethylene Glycol is in this ingredient (I'm not sure whether or not there's enough in here to cause a problem, since this ingredient will be in a product with lots of other ingredients).* —T

See also: PPG Butylene glycol Ethylene Oxide

Source(s): Hunting Winter

PPG-10 Cetyl Ether*Caution*

Made from processed Cetyl Alcohol. Used for conditioning and to keep product from separating. Considered nontoxic and nonirritating to eyes and skin. A light yellow to colorless liquid that's insoluble in water. It will dissolve in mineral oil. It's mild, stable and odorless [Hunting (Conditioning) pg 341]. *Since the PPG part of this product contains Polyoxypropylene Glycol, that means it contains Ethylene Oxide. Ethylene Oxide is banned in Europe and Canada for use in Cosmetics, so I'm giving this a "Caution" status, since I'm not sure how much Ethylene Glycol is in this ingredient (I'm not sure whether or not there's enough in here to cause a problem, since this ingredient will be in a product with lots of other ingredients).* —T

See also: Cetyl alcohol PPG Ethylene Oxide Polyoxypropylene Glycol

Source(s): Hunting

PPG-14 Butyl Ether*Caution*

Used as a conditioning ingredient. *Since the PPG part of this product contains Polyoxypropylene Glycol, that means it contains Ethylene Oxide. Ethylene Oxide is banned in Europe and Canada for use in Cosmetics, so I'm giving this a "Caution" status, since I'm not sure how much Ethylene Glycol is in this ingredient (I'm not sure whether or not there's enough in here to cause a problem, since this ingredient will be in a product with lots of other ingredients).* —T

See also: PPG Ethylene Oxide Polyoxypropylene Glycol

Source(s): <http://www.cosmeticscop.com/>

PPG-Ceteth-20*Okay*

Made from condensing Cetyl alcohol. Used as an emulsifier, and for conditioning. Comes as a pale yellow to almost colorless liquid that's water soluble and odorless [Hunting (conditioning pg 340)].

See also: Cetyl alcohol

Source(s): Hunting

Preservative*Okay*

Used to keep microbes such as bacteria, mold and fungus from growing in your products. Though many are controversial, it's believed to be much better to use products with them than without. For more information, see Paula Begoun's Problems With Preservatives?.

Source(s): <http://www.cosmeticscop.com/>

Proline*Okay*

Amino acid found in hair. This can be a humectant, but it can't repair hair, since hair is dead. Pg 84.

See also: Amino acid

Source(s): Begoun

Propolis*Okay*

Waxy substance gathered by bees. Pg 406.

Source(s): Begoun

Proprietary essential oil blend (aka Natural fragrance)*Caution*

A secret blend of essential oils. Use extreme caution as many of the oils can cause skin irritation, and since what's being used is not being disclosed, do not use any product with this on the ingredients list on any being not able to tell you something is hurting its skin.

See also: Essential oils

Source(s): Winter Hunting

Propylene glycol (aka 1,2-Propanediol)*Okay*

Humectant. This is a clear, colorless, thick liquid. Can penetrate the skin better than glycerin, but is less expensive.

Second in moisture-carrying abilities only to water. Can also be used to dissolve ingredients (in the way that water can dissolve them). Winter pg 428. Rumors have circulated that it is bad, but there is no research validating this. For more information, check out Propylene Glycol Begoun pg 1326.

Source(s): Begoun Winter

Propylene glycol dicaprate*Okay*

Used as a conditioning ingredient. It works by preventing water loss. It's also used to thicken products. Made from Propylene glycol and capric acid [Gottschalck pg 1566].

Source(s): Gottschalck

Propylene glycol dicaprylate

Okay

Used to condition. Works by preventing water loss. Made from Propylene glycol and caprylic acid [Gottschalck pg 1566].

See also: Occlusive

Source(s): Gottschalck

Propylene glycol dicaprylate/dicaprate

Okay

Used as an emollient. Works by preventing water loss. Odorless and colorless. This is a mixture of Propylene glycol dicaprylate and Propylene glycol dicaprate [Gottschalck pg 1566].

See also: Occlusive

Source(s): Gottschalck http://www.cosmeticsinfo.org/ingredient_details.php?ingredient_id=1186

[http://whatsinproducts.com/searchIngredients_result.php?](http://whatsinproducts.com/searchIngredients_result.php?chemicalId=1553&PHPSESSID=78543447c210514ae9edc47db2470503)

[chemicalId=1553&PHPSESSID=78543447c210514ae9edc47db2470503 http://www.in-cosmetics.com/ExhibitorLibrary/579/Inolex_ProductList_2.pdf](http://www.in-cosmetics.com/ExhibitorLibrary/579/Inolex_ProductList_2.pdf)

Propylene glycol oleate

Okay

Per Gottschalck (page 2285), this is used as a skin conditioner, emollient, and it helps keep un-mixable ingredients together (such as oils and water).

Source(s): Gottschalck

Propylene glycol stearate (aka Propylene glycol monostearate; PPG-1 stearyl ether)

Okay

Per Hunting (Conditioning) pg 347, propylene glycol stearate is used for conditioning and softening, but is sort of weak doing that. It also helps water-in-oil emulsions stay together - but only if there is a stronger product doing most of the keeping together. It's a white to cream-colored waxy solid that isn't water soluble.

Source(s): Hunting

Propylene Oxide (aka Methyl ethylene oxide; Propene oxide; Propylene epoxide)

Avoid

Propylene Oxide is mainly used to make other ingredients. It's a water soluble, colorless liquid that evaporates quickly at room temperature, and is sometimes used to sterilize food or medical equipment. There seems to be significant research showing Propylene Oxide to be a skin irritant and there are concerns about it possibly causing cancer after long exposures.

Source(s): http://docs.google.com/gview?a=v&q=cache:lmKPx_C9-uAJ:www.dow.com/webapps/include/getdoc.aspx%3Fobjectid%3D%26filepath%3Dpropyleneoxide/pdfs/noreg/117-01786.pdf%26pdf%3Dtrue+propylene+oxide+cosmetics&hl=en&gl=us

<http://www.inchem.org/documents/hsg/hsg/hsg015.htm>

Propylparaben

Okay

Used as a preservative. Widely used in cosmetics to kill bacteria and fungi. It's considered low in toxicity (but may still cause some skin irritation in those who are sensitive), and is active across any pH. Less toxic than benzoic or salicylic acid. A white, stable, odorless powder which is slightly water soluble (less water soluble than methylparaben. Often used with methylparaben as a blend of the two works better together. [Winter (7th edition) page 436; Hunting (Conditioning) pages 348-349].

See also: Preservative Parabens Methylparaben

Source(s): Hunting Winter

Protein

Okay

Proteins mostly function as humectants, and as emollients and moisturizers. These can give a smooth feel to hair and skin, but they can't repair hair. They also are too big to be absorbed into the hair shaft, but are often processed to make them small enough to cling better to the hair.

Proteins work by coating the outside of your hair, filling in any gaps in the cuticles. This can make your hair feel softer. However, even though proteins are building blocks to our hair and bodies, it can't repair our hair. —*This is the same thing as dumping yarn on a wool sweater and expecting your sweater to be repaired*—T Protein in no way can permanently attach to hair, and in no way can repair hair. To say otherwise is purely magical thinking [Begoun (Hair) pg 83].

Used for conditioning, and many believe it can repair hair. Protein is known to improve hair gloss, give hair body, moisturizer, and even make hair easier to comb. It may even help reduce some irritation from harsher surfactants. Because they are film forming, they temporarily can "glue" together split ends. They also can make hair feel better after damaging treatments such as bleaching, perming, and rough combing. Proteins are often put in products because of their marketing appeal.

Protein is derived from animal sources, such as collagen, elastin, milk, and keratin or from silk, soy, vegetables, yeasts, and even marine animals. Interestingly, egg, beer or milk conditioners are usually not marketed as protein conditioners, even though they actually do contain true proteins.

Some studies have found that protein can actually penetrate hair and deposit on the cortex (*though nothing can bring back severely damaged hair once it has been damaged*—T). The more damaged your hair, the more protein it absorbs. What most affects how much protein is absorbed into the hair is the damage in the hair (the more damaged, the more porous, so the more it can soak up), the size of the molecules, the pH, how long the protein has been left in the hair, and the concentration of the protein being used. The most absorption occurs within 15 minutes. Concentrations up to 5% seem to work best on damaged hair.

Sometimes proteins may contain Sodium chloride (salt). This happens during the chemical reaction of breaking them down to make them water-soluble. The high salt content may mess up the stability of the products they are used in. The good news is that salt free versions are available. (*The trick is finding out which variety is in a product*—T).

When proteins are used in a product, it's actually a broken-down form of protein (peptides). The protein is able to dissolve in water only after it's gone through a process that breaks it down (by hydrolysis). However, so long as the form of protein used doesn't fall below a certain size, it still qualifies as protein (if the protein keeps getting broken down, eventually it becomes the amino acids that compose it. Amino acids are the building blocks of protein—long chains of amino acids are what make proteins. However, these are no longer considered proteins, and have different properties). First the protein is broken down into somewhat smaller chains of amino acids known as polypeptides. When the chains are further broken down, then they are amino acids.

When proteins are broken down by hydrolysis, they become water-soluble. This is necessary because if they are still made up of the long chains of amino acids, they are too big to really be of any use to hair. They are too big to stick to the hair. The molecules work best between a very narrow range of sizes, smaller generally being better. There is an

optimum protein size that sticks best to hair (but they can't get too small because then they no longer qualify as protein, but are now amino acids) [Hunting (Conditioning) Pages 349-352].

See also: Amino acids Keratin Keratin amino acids Hydrolyzed elastin Collagen Hydrolyzed

Source(s): Begoun Hunting

Pro-vitamin B5 (aka Panthenol)

Good

Please see panthenol for a bunch of information on it. Maybe way more information than you ever wanted.

See also: Panthenol

Prunus amygdalus dulcis oil (aka Sweet almond oil)

Okay

See sweet almond oil

See also: Sweet almond oil

Prunus armeniaca (aka Apricot oil; Apricot kernel oil)

Good

Please see Apricot kernel oil.

See also: Apricot kernel oil

Prunus armeniaca kernel oil (aka Apricot kernel oil.)

Okay

Please see Apricot kernel oil.

See also: Apricot kernel oil

PVP (aka Polyvinylpyrrolidone; 1-Vinyl-2-Pyrrolidone; PVP K90)

Caution

Used as a fixative, to hold hair together, to keep a product from separating. PVP has the consistency of egg whites [Winter (7th ed) pg 438; Gottschalk pg 2317-8]. *Fine in gels, mousses and hairsprays, whose function is to keep your hair in place. May build up and make your hair sticky if used in shampoos or conditioners. —T*

See also: PVP

Source(s): Winter Gottschalk

PVP/VA copolymer

Caution

Film-forming/ plasticizing polymer. These are best avoided in shampoo and conditioners because they can build up and get sticky.

PVP copolymer

Caution

Film-forming/ plasticizing polymer. These are best avoided in shampoo and conditioners because they can build up and get sticky.

PVP K90 (aka Polyvinylpyrrolidone; PVP)

Caution

See PVP.

See also: PVP

Pyridoxine dipalmitate (aka Vitamin B6, Pyridoxine hydrochloride)

Okay

Though necessary in the body, this does nothing for the hair. Often in the form of a white or colorless crystalline powder. Pgs 433, 540.

Source(s): Winter

Pyridoxine HCL (aka Vitamin B6, Pyridoxine hydrochloride)

Okay

This occurs in milk, liver, eggs, and cereal. There is no research showing it can help the skin, and it isn't able to heal the hair. It's put in products mostly because it sounds good. Since it's a vitamin people assume that it will have some benefit to them. [Begoun (Cosmetics) pg 1351, Hunting pg 336].

See also: Vitamin B6

Source(s): Begoun

Pyridoxine hydrochloride (aka Vitamin B6, Pyridoxine HCL)

Okay

This occurs in milk, liver, eggs, and cereal. There is no research showing it can help the skin, and it isn't able to heal the hair. It's put in products mostly because it sounds good. Since it's a vitamin people assume that it will have some benefit to them. [Begoun (Cosmetics) pg 1351, Hunting pg 336].

Source(s): Begoun

Pyrimidine n-oxides

Okay

Amino acid.

See also: Amino acid

Pyrus malus fruit extract (aka Apple extract)

Caution

Apple extract may contain malic acid, which is a colorless, crystalline substance with a strong acid taste that is naturally occurring in apples, as well as other fruits, including cherries. Can be used as an antioxidant in cosmetics, but when used in "hair lacquers" it can be irritating to the skin [Winter (7th edition) pages 83 & 338]. However, if it's just apple juice, per Hunting [(Shampoo) page 153], it functions as an astringent, and is often included for it's folkloric appeal. *This would be okay in something you rinse out, but not good in a product you'll leave in. --T*

See also: Malic acid

Source(s): Winter Hunting

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