

Lube! An In-Depth Look at Personal Lubricants

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follow along with the slides here <http://bit.ly/1UV0jWz>

Water based lube is by no means the safest type of lube. They contain lots of ingredients and use preservatives, all of which can be potentially irritating.

You'll never find an organic silicone based lube because silicone is not a naturally occurring liquid.

Hybrid lubes not researched, only anecdotes.

Petroleum based oils create breeding ground for bacteria. Plant oils can be great though. Coconut oil is anti microbial. Oil based good for atrophy and decrease in elasticity.

Most vaginal mucous membranes not keratinized. So water can flow in and out from cell walls. They're water soluble cells, so water pressure makes a big impact on how they function and their health.

TWO IMPORTANT QUALITIES OF WATER BASED LUBE

Osmolality – how much is diluted in water, how concentrated is it

If lube's osmolality is similar to that of mucous membranes, the integrity of the cell is not compromised. They co-exist reciprocally.

If you have a lube with a significantly lower osmolality than the body, fluid from lubricant saturates cells so much that there is potential for them to rupture. Specifically important with sperm cells and conception concerns.

If lube has higher osmolality, mucous cells push out their water to dilute the lube -- basically the osmotic pressure of a hyperosmotic lube squeezes the water out of the mucous cells. Sheets of skin cells die and slough off. Increases likelihood of STI transmission and causes irritation. Esp if you have compromised mucous membranes. Most widely available water based lube is hyper osmotic.

Science didn't know how osmolality related to lube for a long time. World Health Organization released advisory note in 2012 about osmolalities and PH levels. Suggested osmolality to be less than 380. Anything over 1500 definitely causes cell death.

PH is other important quality

ph is next line of defense to bacterial infection and sperm. Ph of water-based lube directly effects ph it's going into. But if someone has a ton of mucuous already, they might be able to use a lube with diff ph than someone with compromised mucuous membranes and not producing their own lubricant.

If lube is more acidic than vagina it can sting. Like Good Clean Love Restore. Like putting lemon juice in a cut.

pH of rectum is neutral (6-7) so many lube formulated for vaginas can be stingy in butts.

POTENTIALLY HARMFUL INGREDIENTS

Glycerin – sugar alcohol. Nobody can prove glycerin leads to yeast infection, but glycerin definitely increases osmolality of product. 10% or more glycerin in lube = hyper osmotic. Because of that, it strips the epithelial layer and stips any healthy yeast too. Skin compromised. Can feel like a yeast infection without there being an increase in the amount of yeast.

Propylene glycol – chemical derived from petroleum. Linked to bacterial vaginosis here and there, but again probably linked to osmolality. Same as above. Also is a sensitizer so the more you're exposed to it over time, the more likely you are to develop a reaction to this chemical.

If these two are in the beginning of ingredient list then you're very likely to have a hyper osmotic product and therefore an unsafe lubricant.

Nonoxynol 9 spermicide. This is a surfactant, a surface acting agent. It changes the cell membrane's integrity, making it more permeable and less structurally sound. Kills healthy bacteria and skin cells and causes irritation. Still would kill a viral cell (as it should) but also kills everything else.

Chlorhexidine Gluconate – similar to above. Only in mouthwash and KY jelly. Also in Surgilube which is sterile and used in hospitals and in pap smears etc. Makes sense to have something that kills viruses and bacteria in that environment but again bad because it kills everything. Surgilube also doesn't list ingredients. Surgilube actually makes you more vulnerable to pathogen transmission for 2-4 days after use.

Petroleum Oils breed bacteria inside of the body.

Polyquaternium-15 is in Astroglide Liquid and Astroglide Warming Liquid). A study showed that this ingredient increased HIV-1 transmission. Similar chemical structure to something that is used in labs to increase viral activity (infect animals).

Benzocaine – numbing agent, also potentially irritating.

Sugars – increase osmolality, irritate skin, and can feed yeast.

OTHER INGREDIENTS OF NOTE

Citric Acid can also acidify lube and make it feel stinging and uncomfortable. Often used as an "organic" preservative.

Parabens can be carcinogenic, but the exposure through personal lubricant use alone would never be enough to cause cancer. Most studies about parabens are not crafted well. 10% of people have allergic reaction to parabens on genitals, 90% won't.

Carageenan: slipperier texture and longevity. Used as microbicide. Prevalent ingredient in processed food, especially organic ones. Very benign. Instead of killing cells they just stick in cell receptors. Safer than other stuff to decrease transmission rate. Looks promising as a microbicide but not completely figured out yet.

Degraded carrageenan is used in a lot of lab testing and has been shown to be carcinogenic and potentially harmful to the gastrointestinal tract (causing ulcers, cancers, inflammation) in some studies, most of which are not very well done. *Undegraded* carrageenan is much less harmful and that is the type that is in food, lube, and cosmetics.

Plant gums are good as humectants instead of glycerin as they don't increase osmolality. Every added ingredient increases osmolality; plant gums don't as drastically as glycerine or PG.

Aloe vera helps heal skin and promote immune function (feeds parts of cells that do immune functions). Hydrating and moisturizing as well.

More combinations of things in the circles in the chart, the more irritating the lube is likely to be. Yeah, you need a preservative, but you could just decrease the number of ingredients in water based lubes to make it a better lube. Get one ingredient to do multiple jobs.

REGULATION

Comes down to semantics. If you use a medical claim on label then it will be regulated by FDA. Two classes of medical devices: Condom Safe (predicts whether product will degrade a condom) or Medical Device (never tested on genitals, only rabbit's eyeball. Same testing that brought Nonoxynol 9 into bodies. Can't predict irritation in genitals, doesn't take mucuous membranes into account. Testing does not equal safety in use).

FDA approval is expensive - \$15,000-\$300k depending on size of company. Usually \$30k. There seems to be no way around animal testing. Sarah is looking into it.

Whoever can pay first gets approval fairly easily. No transparency from FDA about priorities about who they approve etc. If they manufacture aboutside of the US it's even harder.

Yes brand lube siezed because not FDA approved. Yes submitted all the paperwork and have been waiting for years.

"ORGANIC"

Sliquid Organics has organic botanical extracts. Rest of ingredients not USDA approved organic.

Words "natural" and "organic" don't mean anything on labels unless they're backed up by a certification.

Organic isn't always best. if something is loaded with plant extracts and you ahve seasonal allergies, you can still have an allergic reaction on your genitals. Some tocopherols are derived from soy or gluten so if you have a very intense allergy to those there's a tiny chance you could react.

Find a silicone based lube with 2-3 ingredients if you are easily irritated.

Which ingredients can make a water-based lube last longer? Carageenan and hyaluronic acid. Sutil has hyaluronic acid which is a naturally occuring acid that is great for atrophying skin.

Silicone lube on silicone toys: Silicone lube bonding takes about 10 minutes if it's gonna bond. Depends on ion stability. Pjur lube tends to be good with a lot of higher quality silicone toys. A lot of variables you can't know.