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Allergenic characterization of best-selling personal lubricants

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Abstract

Personal lubricants vary appreciably in ingredient composition. Although some products are labeled hypoallergenic, these claims are seldom evidence-based. The objective was to determine the potential allergenicity of popular lubricants and elucidate the validity of hypoallergenic product claims. This cross-sectional study involved publicly available data on Amazon's 50 best-selling lubricants as of July 2023. Product ingredient lists were cross-referenced with the North American Contact Dermatitis Group and American Contact Dermatitis Society allergen series. Associations were explored between lubricant price per ounce, average customer rating, number of customer reviews, hypoallergenic claim, lubricant base, and allergen quantity using descriptive statistics, Kruskal-Wallis tests, Wilcoxon tests, χ^2 tests, and Spearman correlation analyses. Of all studied, 30% (n=15) of products were allergen-free. Nine personal lubricants (18%) were advertised as hypoallergenic, 5 of which were among the 15 products without allergens. Hypoallergenic products were less likely to contain allergens than lubricants without this claim ($P=0.03$). Silicone-based lubricants contained fewer allergens than water-based lubricants ($P<0.01$) but were more expensive ($P=0.01$). Understanding potential allergenicity of personal lubricants should inform clinicians' product recommendations and differential diagnosis of anogenital contact dermatitis. Silicone-based lubricants labeled as

hypoallergenic may be the safest option for sensitive skin but are not guaranteed to be allergen-free.

Introduction

The subacute to chronic pruritic nature of contact dermatitis (CD) can negatively impact patients' quality of life and may be exacerbated in cases involving the anogenital area.¹ Products such as personal hygiene wipes, latex, and inhaled nitrite poppers have previously been identified as causes of anogenital contact dermatitis.¹⁻³ Considering the current size and projected growth of the sexual wellness market, it is crucial for dermatologists to be aware of the role of sexual wellness products in the landscape of contact dermatitis.⁴

Personal lubricants are available in multiple formulations, with some containing fragrances and flavorings that can be contactants. Many personal lubricants are advertised as organic, hypoallergenic, or soothing to appeal to consumers. However, such claims are not evaluated during the US Food and Drug Administration's pre-market approval process and often lack supporting evidence.⁵ Cases of allergic contact sensitivity to propylene glycol in lubricants have been reported.⁶

Additionally, the spermicide used on spermicidal condoms, nonoxynol-9, is associated with pruritic perianal and genital dermatitides.⁷ Lubricant osmolality is associated with cytotoxicity and recruitment of inflammatory mediators.⁸ To our knowledge, a review of popular personal lubricant ingredients has not been performed. Herein, we aim to explore the prevalence of allergens in

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personal lubricants and their concordance with product marketing.

Methods

We searched for personal lubricants within all departments on Amazon and sorted the results by “best-sellers” on July 6, 2023. The first 50 products marketed for anogenital application were analyzed; irrelevant products (eg, lubricant applicators) and duplicated listings were excluded. One researcher (NG) extracted data about the lubricant price, average customer rating, number of customer reviews, hypoallergenic marketing claim, lubricant base, and ingredient list for each product. A second researcher (CC) verified the extracted data. Each lubricant’s ingredient list was compared to the allergens published by the North American Contact Dermatitis Group⁹ and the American Contact Dermatitis Society.¹⁰ We also searched the US Food and Drug Administration Adverse Event Reporting System for potential safety reports associated with each lubricant.

We examined the association of lubricant price per ounce, average customer rating, number of customer reviews, hypoallergenic claim, lubricant base, and quantity of allergens contained using descriptive statistics, Kruskal-Wallis tests, Wilcoxon tests, χ^2 tests, and Spearman correlation analyses. All analyses were performed in Stata SE Version 16. Statistical significance was set at $P < 0.05$.

Results

Of the 50 lubricants analyzed, 35 (70%) contained at least one allergen ([Figure 1](#)). Passion Lubes Maximum Strength Anal Desensitizing Lube contained the highest quantity (5) of allergens; XESSO Water-Based Creamy Lube contained four allergens total. In addition, 6 other lubricants contained three allergens total ([Figure 1](#)). Zero allergens were used in 15 products ([Table 1](#)). The most prevalent allergen was propylene glycol, a humectant and solvent, found in 19 lubricants ([Figure 2](#)). The antimicrobial agents methylparaben and sodium benzoate were both found in more than 25% of products (14 of 50 and 13 of 50, respectively). Passion Lubes Maximum Strength Anal Desensitizing Lube contained lidocaine. Astroglide Gel Water-Based Lubricant contained chlorhexidine gluconate. Preservatives—specifically, methylparaben, sodium benzoate, benzoic acid, propylparaben, diazolidinyl urea, and phenoxyethanol—constituted the most common class of allergens. The top selling lubricants in ascending order by number of allergens are listed in [Table 2](#).

Nine lubricants (18%) were advertised on Amazon as *hypoallergenic*. These products were less likely to contain allergens (median, 0; interquartile range [IQR], 0-1) than lubricants that did not advertise this claim (median, 1; IQR, 1-2; $P = 0.03$). Five hypoallergenic lubricants are among the 15 products identified with zero allergens, namely: Wet Platinum Silicone-Based Lube, Astroglide X

Premium Silicone Lubricant, Sliquid H2O Water-Based Lube, Swiss Navy Premium Silicone-Based Lubricant, and Penchant Premium Silicone Lube ([Table 1](#)). Additionally, silicone-based lubricants contained fewer allergens (median, 0; IQR, 0-0) than water-based lubricants (median, 1; IQR, 1-2; $p < 0.01$) but sold at a higher price per ounce (median [silicone], \$3.30 per ounce; IQR, \$2.25-\$6.00 per ounce; median [water], \$1.81 per ounce; IQR, \$1.25-\$2.89; $P = 0.01$). We did not find other relationships between lubricant price per ounce, average customer rating, number of customer reviews, and quantity of allergens contained. None of the 50 lubricants analyzed were registered in the US Food and Drug Administration Adverse Events Reporting System as of July 15, 2023.

Discussion

Among all products on the sexual wellness market, lubricants are predicted to demonstrate the fastest growth rate over the next 5 years.⁴ Online shopping may alleviate the embarrassment and shame felt from publicly purchasing sexual wellness products.¹¹ An Amazon search for personal lubricants currently yields over 1000 results, but the quality of internet-purchased personal care products represents a consumer health concern. Our results substantiate this concern, with 70% of the lubricants containing allergenic ingredients.

Propylene glycol (PG) was the most common allergen identified in this study as it was found in 38% of the analyzed lubricants. In personal care products, PG primarily serves as an emollient and emulsifier.¹² Estimates on the prevalence of PG allergy range from 0.8% to 3.5%.¹² It most commonly causes contact dermatitis of the face, but systemic cutaneous reactions to PG have also been described.¹³ One case series of allergic CD to PG in a lubricant jelly has been reported.⁶ Still, patch testing physicians should inform patients with a PG allergy about the allergenic potential of personal lubricants.

In our analysis, lubricants advertised as hypoallergenic contained fewer allergenic ingredients than those that were not. A similar study on feminine hygiene wipes did not identify a significant difference in the total number of allergens in products marketed as fragrance-free, soothing, or sensitive, as compared with products without these claims, suggesting a potential discrepancy in the advertising of personal care products.¹ An important distinction is that we examined the accuracy of hypoallergenic labeling exclusively. Despite our findings, there were several hypoallergenic products that contained allergenic ingredients. Therefore, we recommend cautioning against the use of these particular lubricants, especially in patients experiencing symptoms.

Our results demonstrate that silicone-based lubricants were less likely than water-based lubricants to contain known allergens. Allergic contact dermatitis to silicone is exceedingly rare and consumers report improved skin sensations when silicones are in cosmetic formulations.¹⁴ Providers can counsel patients that, compared with water-based products, silicone-based products may

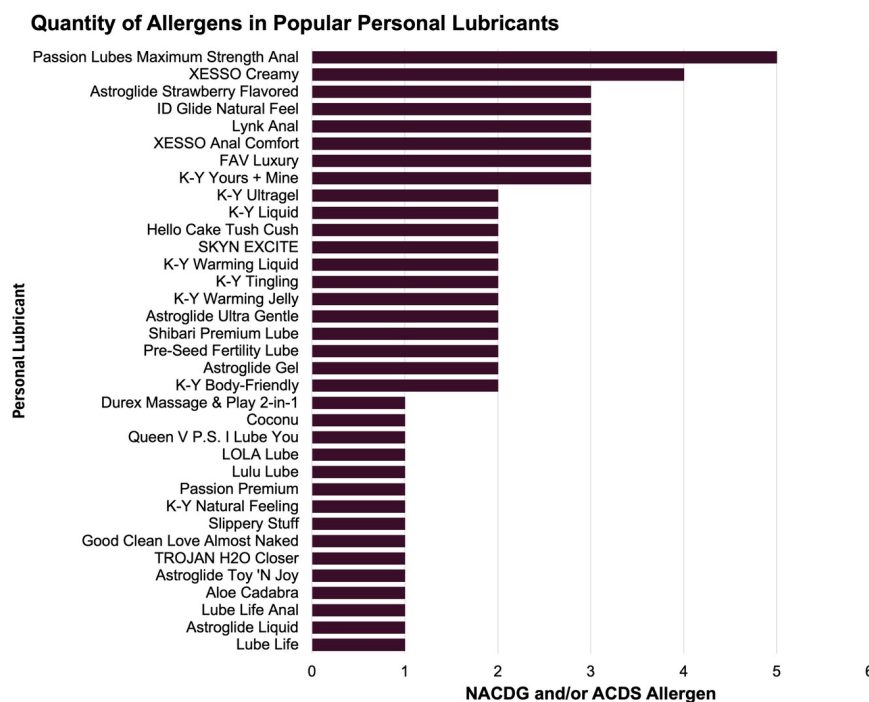


Figure 1. Quantity of North American Contact Dermatitis Group or American Contact Dermatitis Society allergens in popular personal lubricants.

Personal lubricant names are abbreviated. Products without allergens are omitted. The full names of all 50 lubricants reviewed are included in [Table 2](#). NACDG, North American Contact Dermatitis Group; ACDS, American Contact Dermatitis Society.

Table 1. Allergen-Free Lubricants in Alphabetical Order.

Allergen-Free Lubricants
Astroglide X, Premium Waterproof Silicone Lubricant ^{a,b}
K-Y True Feel Silicone Lube ^b
Lube Life Anal Silicone-Based Lubricant ^b
Lube Life Water-Based Strawberry Flavored Lubricant
Penchant Premium Silicone Lube ^{a,b}
pjur Original Silicone-Based Lubricant ^b
Replens Silky Smooth Personal Lubricant
SKYN All Night Long Premium Silicone-Based Lubricant ^b
Sliquid H2O Water-Based Lube [*]
Swiss Navy Premium Silicone-Based Lubricant ^{a,b}
Trojan Lubricants Arouses & Releases
Überlube Silicone Lubricant ^b
Vagisil Prohydrate Internal Vaginal Lubricant
Valm Silicone Lube ^b
Wet Platinum Silicone-Based Lube ^{a,b}

^aindicates a “hypoallergenic” lubricant. ^bindicates a silicone-based lubricant.

be less likely to cause CD. However, clinicians should take into account other considerations for choosing water-based lubricants. For example, they do not damage silicone sex toys, are nonstaining,¹⁵ and, according to our results, are less expensive than silicone-based products.

Contact dermatitis in the anogenital area can profoundly impact a patient’s daily quality of life. Anogenital irritation or pruritus may disrupt sleep, cause dyspareunia, and engender emotional distress. In a retrospective cross-sectional analysis of 28,481 patients who under-

Number of Popular Personal Lubricants Containing an Allergen

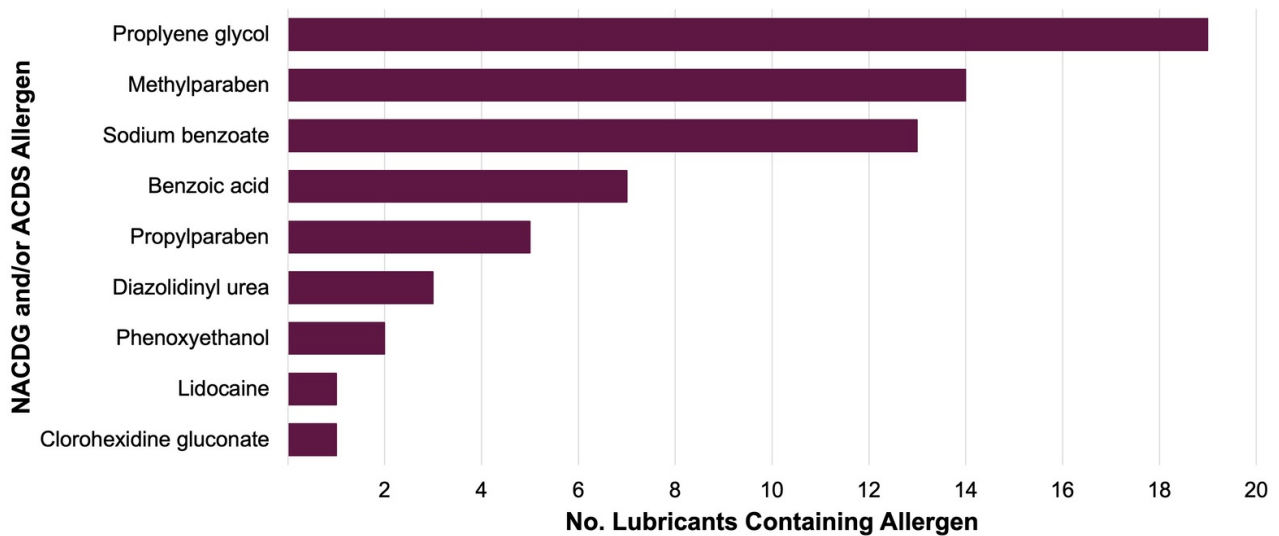


Figure 2. Number of popular personal lubricants containing a North American Contact Dermatitis Group or American Contact Dermatitis Society allergen.

Allergens listed in none of the ingredient lists are omitted. Passion Lubes Maximum Strength Anal Desensitizing Lube contained lidocaine. Astroglide Gel Water-Based Lubricant contained chlorhexidine gluconate. NACDG, North American Contact Dermatitis Group; ACDS, American Contact Dermatitis Society.

went patch testing between 2005 and 2016, 832 patients (2.9%) had anogenital involvement.¹⁶ Of these 832 individuals, 152 met the authors' criteria for anogenital allergic contact dermatitis. Notably, there is a higher frequency of male patients than female patients with anogenital allergic contact dermatitis.^{16,17}

Preservatives are well-documented anogenital skin sensitizers that can form immunogenic hapten-carrier complexes and lead to clinically relevant reactions.^{16,17} It is unsurprising, then, that 6 out of the 9 allergens we identified in this study are preservatives. When presented with a case of anogenital contact dermatitis, clinicians should have a high index of suspicion for a reaction to preservatives applied directly on the area or unintentionally transferred from the hands.

Our study represents a snapshot in time of potential contact allergens in lubricants. This study has several limitations. We surveyed one online retailer for 50 best-selling lubricants in July 2023. There is a wide range of lubricants available on the market globally and our study does not account for this. Moreover, Amazon refreshes its best-seller lists hourly to reflect real-time customer behavior, which may change the products of interest. Similarly, customer ratings, rankings, and listed prices are subject to change. Manufacturers continually update the ingredient lists of their products, and there may be

discrepancies between manufacturers and Amazon's information. We analyzed the ingredients included under each product's Amazon listing. Finally, we only identified those allergens listed on the American Contact Dermatitis Society Core Allergen Series or North American Contact Dermatitis Group Standard Allergen Series, but patients may have allergies that are not present on standard patch testing.¹⁸

Conclusion

Genital and perianal epithelia are susceptible to allergic contact dermatitis. When presented with patients experiencing CD in these areas, providers should consider personal lubricants as potential offending agents. Patients may be unaware of the allergic potential of lubricants and feel overwhelmed by the choices afforded by Amazon and other online retailers. For patients with sensitive skin, silicone-based lubricants labeled as hypoallergenic may be safer options, but this label does not guarantee the absence of allergens.

Potential conflicts of interest

The authors declare no conflicts of interest.

Table 2. Amazon's Top 50 Best-Selling Lubricants in Ascending Order by No. Allergens.

Amazon's Top 50 Best-Selling Lubricants in Ascending Order by No. Allergens	\$/Oz	Ingredients	Amazon Rating (Out of 5 Stars)	No. Customer Reviews	No. Allergens	NACDG or ACDS Allergens	Hypoallergenic Claim?	Lubricant Base	No. Adverse Events
Überlube Silicone Lubricant	10.75	Dimethicone, Dimethiconol, Cyclomethicone, Tocopheryl acetate	4.6	35857	0	N/A	No	Silicone	0
K-Y True Feel Silicone Lube	2.2	Silicone oil	4.4	3421	0	N/A	No	Silicone	0
Lube Life Water-Based Strawberry Flavored Lubricant	1.25	Water, Glycerin, Potassium sorbate, Hydroxyethylcellulose, Flavor, Sucralose, Sodium chloride, Citric acid	4.4	46797	0	N/A	No	Water	0
Lube Life Anal Silicone-Based Lubricant	1.62	Dimethicone, Dimethiconol	4.2	18271	0	N/A	No	Silicone	0
Vagisil Prohydrate Internal Vaginal Moisturizer	9.54	Water, Glycerin, Propanediol, Carbomer homopolymer type B, Sodium hyaluronate, Phenethyl alcohol, Ethylhexylglycerin, Sodium hydroxide	4.4	3947	0	N/A	No	N/A	0
Valm Silicone-Based Personal Lubricant	2.58	Cyclopentasiloxane, Dimethicone, Dimethiconol	4.6	6530	0	N/A	No	Silicone	0
Replens Silky Smooth Personal Lubricant	5.54	Dimethicone, Dimethiconol	4.6	1782	0	N/A	No	N/A	0

Amazon's Top 50 Best-Selling Lubricants in Ascending Order by No. Allergens	\$/Oz	Ingredients	Amazon Rating (Out of 5 Stars)	No. Customer Reviews	No. Allergens	NACDG or ACDS Allergens	Hypoallergenic Claim?	Lubricant Base	No. Adverse Events
SKYN All Night Long Premium Silicone-Based Lubricant	3.33	Cyclomethicone, Dimethiconol	4.4	2009	0	N/A	No	Silicone	0
Trojan Arouses & Releases Personal Lubricant	4.99	Dimethicone, Dimethiconol, Hexyl nicotinate, Vanillyl butyl ether	4.2	5909	0	N/A	No	N/A	0
pjur Original Silicone-Based Lubricant	6.91	Cyclopentasiloxane, Dimethicone, Dimethiconol	4.7	2853	0	N/A	No	Silicone	0
Wet Platinum Silicone-Based Lube	3.75	Dimethicone, Cyclopentasiloxane, Dimethiconol, Phenyl trimethicone, Tocopheryl acetate	4.5	32243	0	N/A	Yes	Silicone	0
Astroglide X, Premium Waterproof Silicone Lubricant	2.4	Cyclopentasiloxane, Dimethicone, Cyclohexasiloxane	4.6	15046	0	N/A	Yes	Silicone	0
Sliquid H2O Water-Based Lube	2.07	Purified water, Plant cellulose, Cyamopsis, Potassium sorbate, Citric acid	4.4	6967	0	N/A	Yes	Water	0

Amazon's Top 50 Best-Selling Lubricants in Ascending Order by No. Allergens	\$/Oz	Ingredients	Amazon Rating (Out of 5 Stars)	No. Customer Reviews	No. Allergens	NACDG or ACDS Allergens	Hypoallergenic Claim?	Lubricant Base	No. Adverse Events
Swiss Navy Premium Silicone-Based Lube	3.3	Cyclopentasiloxane, Dimethicone, Tocopheryl acetate	4.6	11827	0	N/A	Yes	Silicone	0
Penchant Premium Silicone Lube	6	Dimethicone, Cyclopentasiloxane, Dimethiconol, Phenyl trimethicone	4.5	10542	0	N/A	Yes	Silicone	0
Lube Life Water-Based Lubricant	1.25	Water, Propenediol, Gluconolactone, Hydroxyethylcellulose, Sodium benzoate, Citric acid	4.5	134598	1	Sodium benzoate	No	Water	0
Astroglide Liquid, Water-Based Lubricant	1.8	Purified water, Glycerin, Propylene glycol, Polyquaternium-7	4.6	37498	1	Propylene glycol	No	Water	0
Lube Life Water-Based Anal Lubricant	1.25	Water, Propanediol, Gluconolactone, Hydroxyethylcellulose, Sodium benzoate, Citric acid	4.5	11718	1	Sodium benzoate	No	Water	0
Aloe Cadabra Natural Water-Based Lubricant	3.99	Organic aloe barbadensis leaf juice, Vitamin E oil, Xanthan gum, Citric acid, Sodium benzoate, Potassium sorbate , Organic vanilla planifolia concentrate	4.4	45118	1	Sodium benzoate	No	Water	0
TROJAN Lubricants Water-Based H2O Closer	1.81	Deionized water, Glycerin, Hydroxyethylcellulose, Sodium hyaluronate, Sodium citrate, Sodium chloride, Methylparaben, Citric acid, Sodium hydroxide	4.4	5554	1	Methylparaben	No	Water	0

Amazon's Top 50 Best-Selling Lubricants in Ascending Order by No. Allergens	\$/Oz	Ingredients	Amazon Rating (Out of 5 Stars)	No. Customer Reviews	No. Allergens	NACDG or ACDS Allergens	Hypoallergenic Claim?	Lubricant Base	No. Adverse Events
Good Clean Love Almost Naked Personal Lubricant	2.5	Organic aloe barbadensis leaf juice, Xanthan gum, Agar, Lactic acid, Potassium sorbate, Sodium benzoate, Natural flavor	4.3	8248	1	Sodium benzoate	No	Water	0
Slippery Stuff Paraben Free Water-Based Lubricant	0.99	Deionized water, Polyoxyethylene, Sodium carbomer, Phenoxyethanol, Ethylhexylglycerin	4.5	3442	1	Phenoxyethanol	No	Water	0
K-Y Natural Feeling Water-Based Lube	4.72	Water, Glycerin, Propanediol, Xanthan gum, Benzoic Acid, Sodium hyaluronate, Potassium lactate, Lactic acid	4.5	1191	1	Benzoic acid	No	Water	0
Passion Premium Water-Based Personal Lubricant	1	Water, Propanediol, Hydroxypropyl methylcellulose, Xanthan gum, Hydroxyethylcellulose, Sodium benzoate, Potassium sorbate, Citric acid	4.4	10814	1	Sodium benzoate	No	Water	0
Lulu Lube Natural Water-Based Lubes	1.12	Purified water, Hydroxyethyl cellulose, Sodium PCA, Potassium sorbate, Propylene glycol, Citric acid	4.3	12387	1	Propylene glycol	No	Water	0

Amazon's Top 50 Best-Selling Lubricants in Ascending Order by No. Allergens	\$/Oz	Ingredients	Amazon Rating (Out of 5 Stars)	No. Customer Reviews	No. Allergens	NACDG or ACDS Allergens	Hypoallergenic Claim?	Lubricant Base	No. Adverse Events
Queen V P.S. I Lube You	2.73	Aloe barbadensis leaf juice, Propanediol, Tremella fuciformis extract, Gluconolactone, Sodium hyaluronate, Quinoa seed extract, Chenopodium cannabis sativa seed extract, Linum usitatissimum seed extract, Camellia sinensis leaf extract, Avena sativa kernel extract, Hydroxyethylcellulose, Xanthan gum, Sodium benzoate, Potassium sorbate, Citric acid	4.3	1895	1	Sodium benzoate	No	Water	0
Durex Massage & Play 2-in-1 Lubricant	1.47	Hydroxyethylcellulose, Benzoic acid, Aloe barbadensis leaf juice, Sodium saccharin, Sodium hydroxide	4.4	4171	1	Benzoic acid	No	Water	0
Astroglide Toy 'N Joy, Water-Based Personal Lubricant	2.19	Purified water, Butylene glycol, Propylene glycol, Xylitol, Polyquaternium-7	4.5	3968	1	Propylene glycol	Yes	Water	0
LOLA Personal Lubricant	5.87	Water, Propanediol, Gluconolactone, Hydroxyethylcellulose, Sodium benzoate, Citric acid	4.5	1219	1	Sodium benzoate	Yes	Water	0
Coconu Water-Based Personal Lubricant	10	Organic coconut water, Xanthan gum, Cellulose gum, Cyamopsis tetragonoloba gum, Potassium sorbate, Sodium benzoate	4.1	450	1	Sodium benzoate	Yes	Water	0
K-Y Jelly Personal Lubricant, Body-Friendly	1.36	Water, Propylene glycol, Hydroxyethylcellulose, Benzoic acid, Carbomer, Sodium hydroxide	4.6	5745	2	Propylene glycol, Benzoic acid	No	Water	0

Amazon's Top 50 Best-Selling Lubricants in Ascending Order by No. Allergens	\$/Oz	Ingredients	Amazon Rating (Out of 5 Stars)	No. Customer Reviews	No. Allergens	NACDG or ACDS Allergens	Hypoallergenic Claim?	Lubricant Base	No. Adverse Events
Astroglide Gel, Water-Based Lubricant	1	Purified water, Glycerin, Hydroxyethylcellulose, Chlorhexidine digluconate, Methylparaben, Gluconolactone, Sodium hydroxide	4.5	5587	2	Chlorhexidine digluconate, Methylparaben	No	Water	0
Pre-Seed Fertility Lubricant	13.81	Purified water, Hydroxyethylcellulose, Pluronic, Sodium chloride, Sodium phosphate, Carbomer, Methylparaben, Sodium hydroxide, Arabinogalactan, Potassium phosphate, Propylparaben	4.3	19672	2	Methylparaben, Propylparaben	No	N/A	0
Shibari Premium Personal Lubricant	1.25	Glycerin, Water, Cellulose gum, Methylparaben, Propylparaben	4.3	48348	2	Methylparaben, Propylparaben	No	Water	0
K-Y Warming Jelly Lube	2.25	Propylene glycol, PEG8, Hydroxypropylcellulose, Tocopherol	4.4	3376	2	Propylene glycol, Tocopherol	No	Silicone	0
K-Y Water-Based Lube Tingling	4.96	Water, Propylene glycol, Hydroxyethylcellulose, Flavor, Benzoic acid, Sodium saccharin, Sodium hydroxide	4	5198	2	Propylene glycol, Benzoic acid	No	Water	0
K-Y Warming Liquid Lube	4.47	Propylene glycol, Glycerin, Acacia honey Type O, Methylparaben	4.2	1452	2	Propylene glycol, Methylparaben	No	N/A	0
SKYN EXCITE Female Sexual Stimulating Gel	13.67	Purified water, Propylene glycol, Hydroxyethylcellulose L-arginine, Citric acid, Menthol, Methylparaben	4.1	1658	2	Propylene glycol, Methylparaben	No	Water	0

Amazon's Top 50 Best-Selling Lubricants in Ascending Order by No. Allergens	\$/Oz	Ingredients	Amazon Rating (Out of 5 Stars)	No. Customer Reviews	No. Allergens	NACDG or ACDS Allergens	Hypoallergenic Claim?	Lubricant Base	No. Adverse Events
Hello Cake Tush Cush	5.45	Propylene glycol, Water, Phenoxyethanol, Dimethicone, Cellulose gum, Cyclopentasiloxane, Sodium polyacrylate, Trideceth-6, PEG/PPG- 18/18 Dimethicone	4.3	1124	2	Propylene glycol, Phenoxyethanol	No	N/A	0
K-Y Liquid Personal Water-Based Lubricant	3.04	Water, PEG-400, Propylene glycol, Xanthan gum, Carbomer, Benzoic acid, Sodium saccharin, Sodium hydroxide	4.5	738	2	Benzoic acid, Propylene glycol	No	Water	0
K-Y Ultragel Lube	2.44	Water, PEG-400, Propylene glycol, Xanthan gum, Carbomer, Benzoic acid, Sodium saccharin, Sodium hydroxide	4.6	3970	2	Benzoic acid, Propylene glycol	No	Water	0
Astroglide Ultra Gentle Sex Lube	1.98	Purified water, Propylene glycol, Hydroxyethylcellulose, Sodium benzoate, Potassium sorbate, Polyquaternium-15, Lactic acid	4.4	7341	2	Propylene glycol, Sodium benzoate	Yes	Water	0
K-Y Yours + Mine Couples Lubricant	4.95	Water, Glycerin, Propylene glycol, Maltodextrin, Honey, Methylparaben, Sucralose, Polysorbate 20, Hydroxyethylcellulose, Benzoic acid, Menthyl lactate, Methyl salicylate, Fragrance, Sodium hydroxide	4.3	25043	3	Propylene glycol, Benzoic acid, Methylparaben	No	N/A	0
FAV Water-Based Luxury Lubricant	0.9	Water, Glycerin, Propylene glycol, Cellulose gum, Carbomer, PEG-90, Tetrahydroxypropyl ethylenediamine, EDTA, Methylparaben, Sodium benzoate, Potassium sorbate	4.4	21915	3	Propylene glycol, Sodium benzoate, Methylparaben	No	Water	0
XESSO Water-Based Anal Comfort Lube	1.81	Carboxymethylcellulose sodium, Diazolidinyl urea, Glycerin, Isopentyldiol, Methylparaben, Propylparaben, Water	4.4	4433	3	Methylparaben, Propylparaben, Diazolidinyl urea	No	Water	0

Amazon's Top 50 Best-Selling Lubricants in Ascending Order by No. Allergens	\$/Oz	Ingredients	Amazon Rating (Out of 5 Stars)	No. Customer Reviews	No. Allergens	NACDG or ACDS Allergens	Hypoallergenic Claim?	Lubricant Base	No. Adverse Events
Lynk Anal Water-Based Sex Lube	1.37	Water, Glycerin, Propylene glycol, Cellulose gum, EDTA, Carbomer, PEG-90M, Tetrahydroxypropyl ethylenediamine, Methylparaben, Sodium benzoate, Potassium sorbate	4.5	14117	3	Propylene glycol, Methylparaben, Sodium benzoate	No	Water	0
ID Glide Natural Feel Water-Based Personal Lubricant	1.6	Water, Glycerin, Propylene glycol, Cellulose gum, EDTA, Carbomer, PEG-90M, Tetrahydroxypropyl ethylenediamine, Methylparaben, Sodium benzoate, Potassium sorbate	4.6	11183	3	Sodium benzoate, Propylene glycol, Methylparaben	No	Water	0
Astroglide Strawberry Flavored Water-Based Lube	3.18	Purified water, Glycerin, Propylene glycol, Natural and artificial strawberry flavor, Hydroxyethylcellulose, Sodium gluconate, Sodium saccharin, Methylparaben, Sodium benzoate, Citric acid	4.5	6050	3	Propylene glycol, Sodium benzoate, Methylparaben	No	Water	0
XESSO Water-Based Creamy Lube	1.75	Purified water, Vegetable glycerin, Propylene glycol, Hydroxyethylcellulose, Citric acid, Diazolidinyl urea, Methylparaben, Propylparaben, Vegetable gum, Titanium dioxide	4.4	9629	4	Diazolidinyl urea, Propylene glycol, Methylparaben, Propylparaben	No	Water	0
Passion Lubes Maximum Strength Anal Desensitizing Lube	2.21	Cellulose gum, Diazolidinyl urea, Glycerin, Isopentylidol, Methylparaben, Propylene glycol, Propylparaben, Purified water, Lidocaine 3.5%	4.4	7691	5	Lidocaine, Diazolidinyl urea, Methylparaben, Propylparaben, Propylene glycol	No	Water	0

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