

Reddit but in Non-Reddit Links

- Laundry 101 with u/KismaiAesthetics

[Original Link](#) All credit is due to the OP on Reddit u/KismaiAesthetics. It was only brought here due to some people not having access to Reddit.

[r/laundry](#) is filled with tales of woe - smelly armpits, mystery stains, socks the color of cream of mushroom soup - complete with mysterious embedded dark chunks. I personally love solving these problems (and the reactions when people post the process and results of disaster recovery are extremely popular there).

But what of people who just have normal laundry and want a little tune-up? Or have never done their own laundry before? How about some love and guidance for the non-smelly, non-stained, non-crusty? Here's something for them. How I do normal laundry day-to-day.

Getting Personal:

What people are often surprised to learn is that I really don't enjoy doing laundry. I don't think it's an act of service - I think it's survival, and I further think expending the minimal amount of time and effort that respects my textiles (and the human and resource inputs that went in to making them) is the best use of my time. It just needs to be done right the first time, every time, so I can watch cat videos on the Internet.

There's no one right way to do laundry, just like there's no one right way to make a grilled cheese sandwich. Much like slightly-stale sourdough with a skim of dijon mustard inside and a blend of sharp cheddar and either fontina or Monterey Jack, fried in Whirl is my favorite way to do the latter, this is my laundry default method, developed over the years of contending with my messes. 95%+ of the loads I do fall in this rubric. Also note that I'm in North America with water softer than about 75% of households.

There are endless corner cases, including silk, wool, down, GoreTex and other waterproof technical fabrics, semi-synthetics like rayon, viscose, "bamboo", modal, Lyocell and Tencel, silver-infused, FR and anti-static, pillows and stuffed toys, shoes and rugs. I'll get to those later.

This is for:

- Towels
- Sheets / Duvet Covers / Pillowcases
- Clothing (other than Dry Clean Only pieces)
- Which are at least 95% the following fibers:
 - Cotton
 - Linen
 - Hemp
 - Ramie
 - Polyester / Dacron
 - Nylon / Polyamide

- Acrylic
- Lycra / Spandex / Elastane

Laundry Apartheid: Separating The Whites And The Colors

Please note: I have a problem. I don't think you absolutely need to do this much to have very good results. You could easily combine the dark and lights in a color family, for example, especially if you use a detergent with anti-redeposition or use color catchers. It's also likely you could combine neutrals and embellished whites successfully.

I have **a lot** of laundry categories. I also don't look good in yellow or orange, so I don't own it. If you do, good for you, and you could aim at the red loads and move the purples to the dark blues and greens. I wear a lot of plum and purple. I have a bunch of IKEA Frakta/Storstomma 80 liter bags hanging up, and stuff gets sorted into them daily. When they're mostly full, I run the load.

- Black, charcoal, navy and dark brown
- Dark blues and greens
- Dark reds and purples
- Light blues and greens
- Light reds and purples
- Neutrals like khaki, tan, ecru, light grey and taupe
- Whites with stripes / embellishment
- Absolute plain white
- Socks & Underwear (cotton blends, mostly white)
- Sheets (by color)
- People Towels (by color)
- Kitchen & Pet Towels (all white, presoaked with chlorine bleach for sanitizing in my world)

The towels and sheets get isolated in this scheme because for me, I need to dry the sheets on Delicate and the towels on High. Your sheets may be more durable or you may be willing to separate them between the wash and dry. They're both full loads for me, without the need to combine to make a good load.

Sorting like this gives me flexibility in the choice of chemistry, and doesn't require me to take any special precautions to prevent color transfer in anything but the first wash of an item. I also care a lot less about lint, because the lint is largely invisible when it's between items of like color and intensity.

Pretreat: Don't Make Your Detergent Do Everything

I am a pretreater. One of the first laundry tasks I was ever trusted with by my legendarily persnickety mother was identifying stains for pretreating, and eventually I was trusted with her can of old-skool Spray 'n' Wash with solvents. Detergents and equipment have improved a lot in the years since mumblemumble, but I still pretreat, in exchange for not having to check every garment for lingering stains between wash and dry.

The Usual: Stains from Food, Plants and Animals Including Myself

This is the most common cause of stains on my laundry. It's like I never learned to use cutlery as a toddler. It's also the most common cause of spots on most textiles for most people.

My not-so-secret weapon against these stains? Enzyme pretreater. They're safe on the listed fabrics regardless of color, they're not smelly or environmentally sketchy, they work extremely well and there are many to choose from. There's a list on the spreadsheet linked at [The Lipase List](#) (google drive link) on the Pretreater tab. Pick whichever one sounds good - they all work about the same because their formulae are about the same.

I've got a stockpile of old-formula Tide Rescue that I'm emotionally attached to in a less-than-healthy way, but I've also been happy with Whole Foods and Open Nature. I'll pick up a bottle of the President's Choice next time I'm in Canada.

Spritz or squirt the stains at least a half-hour before laundering, up to about a week. These removers are working so long as they're damp, and once they've worked, the stain washes out with detergent - so don't be discouraged if the stain still appears to be there before washing.

The Not Uncommon: Mineral Oils

I work on cars and do motorsports. I get automotive grease on me. Enzyme pretreaters are nothing special on this kind of oily soil. What works is nonionic surfactant, the active ingredient in many heavy-duty liquid detergents. Anything can work here. I usually have some Tide or Persil around for this purpose. If you get these spots, hit them with some liquid detergent at least fifteen minutes before washing. Penetration is improved if you dilute 1:1 with tap water. Tamping the mixture in with a brush or spoon can help improve first-wash removal. This is also a solid pretreater for waterproof/water resistant makeup stains.

The Woes Of Living With Someone Who Takes Notes In Ink

Ink merits special consideration. While many inks and markers and crayons will come out with standard wash, many will not. If I see an ink mark on something, I pretreat it with a specialist product, either Amodex or Carbona Stain Devil 3, Ink, Marker & Crayon, following the label directions carefully.

These three categories cover 99% of my laundry woes. Ask [r/laundry](#) or [DM me](#) for advice if you have something else on your textiles. Don't dump v1negar on it as a default.

Check. Your. Pockets.

I argue that it's the responsibility of whoever wore the garment to check the pockets before things go in the hamper, barring some debility or being too young to understand the risks of not doing so (which in my case could rise to capital punishment). But it behooves the launderer to give a final check. The launderer is entitled to keep anything they find that they want, including cash, jewelry, electronics and snacks. Consider it a tip.

Load The Machine:

I have a 4.5 ft^3 LG front loader. Truly middle of the pack. If I'm using powders in the wash cycle, they go in the back of the drum now. We'll come back to that topic.

I add enough textiles to reach at least 75% of the way up the opening but not so many there isn't a fist worth of space open at the top of the drum. Loading this full optimizes the mechanical action of the wash. I check the door seal drains for lint or hair or debris before shutting the door.

If something has straps narrower than about 2" or is of delicate construction that could be prone to stretching (a sweater like a knit cotton cardigan, not a sweatshirt), it goes in a mesh delicates bag, alone. If it has screen printed graphics or is denim, it gets turned inside out to protect the surface appearance. If you want your jeans to exhibit more character at friction points, wash right side out. Zippers are zipped. Buttons and snaps are unfastened. Velcro is adjusted so no scratchy part is exposed. Hoodie strings are tied.

When I still use a conventional top loader, like on vacation, I loosely load it dry to the water fill line that you can usually see on the agitator. I would then adjust the water fill level so, after a couple minutes of agitation, the textiles have between 3/4 and two inches of water above them. 1.5 is perfect.

Chemistry:

I'm a sweaty greasy mess who drops food. So obviously I use an enzyme detergent. I maintain a list at [The Lipase List](#) (google drive link) where you can find something you like that works with your water. I don't care about the presence or absence of fragrance one way or the other, but if the product is fragranced it has to be unobtrusive. From an olfactory perspective, I really don't want \$5 of my perfume overpowered by \$0.02 worth of laundry fragrance.

As of this writing, I'm doing 60+% of my loads with 1.5 oz of Wegmans Free & Clear liquid "with stainfighting enzymes", and either a label dose of Febu or an ounce of 365 Sport detergent plus a dose of an oxi booster of the Biz/OxiClean/Kirkland Signature/365 types. The Wegmans liquids all have optical brightener in them.

Anything darker than "medium navy" is getting Tide liquid (currently the dregs of a jug of Hygienic Clean I forgot I owned) + Febu. No OBA. That works out to about 25% of my loads when darks are seasonally appropriate.

The other 15% of these animal-fiber-free loads get 4.5T / 70ml of Tide with Bleach powder. It's purely vibes and color that define which gets which when. Only things qualifying as lights or lighter get the TwB. I also use TwB on kitchen towels because they don't get a lot of benefit from DNase - might as well save a little cash.

Automotive loads get 3 oz / 90ml of Tide/Persil liquid and a cup/ 250mL of ammonia. You can't beat the cleaning of a high-performance conventional-surfactant liquid on petrochemical soils. Ammonia helps the grease removal.

I am a massive fan of citric acid rinsing. It leaves my cottons cottonier, my polyesters slicker and my animal fibers softer and smoother. I use a shade over 2 tsp / 10g citric acid crystals right in the softener dispenser. My machine likes the dry just fine and I don't get residual crunchies after the wash. YMMV. Details of the Why of citric rinsing [here](#) (reddit link).

Wash (Finally):

TL;DR - warm water, Normal cycle, extra rinses, adjusting soil level as appropriate with just enough detergent to do the job, citric acid in the rinse.

Wash Action:

I generally wash on Normal because these items are Normal. I usually set the soil level to the maximum - this extends the agitation to get maximum cleaning with no downside except a time penalty.

Temperature:

I usually select a warm wash for clothing and a hot wash for socks/underwear, towels and sheets. The exception to this is clothing with automotive soils - it gets much cleaner on hot wash because of the nature of the soils. My warm wash is about 102F/39C. Barely over body temperature, slightly cooler than I like my bathwater or shower, completely appropriate for bathing an infant. Using water of this temperature lets me use half the agitation time as I would at 82F/28C to get the same cleaning results, and one fourth the agitation time as would be required at 62F/17C. Rinses are always cold on my machine.

Rinse:

Yes, please. All of them. As many as the machine will let me select. Even with perfectly dosed detergent, you're going to get some carryover from wash to rinse, and at the end of the first rinse, my clothes are still of higher pH than my tap water. That's a definitive indication that there is still wash chemistry in there. pH is easy to measure on finished fabrics (just touch pH paper to the damp textiles and see for yourself) and it's therefore the best proxy for rinse thoroughness. Three gallons of extra water for each rinse cycle is pocket lint compared to the other ways we use water in the US, and it's respectful to your skin and the textiles to get them thoroughly rinsed. My machine dispenses the softener cup in the last selected rinse, so my final pH is lower than tap water thanks to the citric acid.

Spin Speed:

Send it. Unless an item is stuffed or of extremely delicate construction (like a \$500 bra), spin speed is a synonym for "how much detergent-infused water would you like to get rid of?" I'd like to maximize that. High speed spin it is.

I then go off and ignore the machine for 2:07. It's laboring. I don't need to. I come here and talk about laundry.

How (Not) Dry I Am:

For as much time as I want my clothes to spend in the washer, and my longstanding enthusiasm for warmer wash temperatures, my feelings about the dryer go the other way.

The dryer is where clothes (especially natural and semisynthetic fibers) go to die. Hot dry air is lethal to clothing. Overdrying is so much worse than any notional “overwashing”.

Unless it's a towel, if it's going in the dryer, it's going on Delicate, Sensor Dry, set to “less dry”, and all the “wrinkle guard”/cool down my 1987 Kenmore can muster. This leaves most cotton-rich fabrics barely damp to the touch, slightly damper at the seams. At the end of the cycle, they are room temperature and that trace of dampness ensures they never got too hot during the cycle to come up to “damaged fiber”. As a result, my lint screen has barely the faintest trace of lint from clothing loads (although, admittedly, we don't wear a ton of fleece). Shirts and pants get hung out of the dryer, other clothing gets piled loosely in an open basket to acclimate / finish drying at ambient.

Sheets get dried all the way to dry on delicate (a tiny fraction closer to the “dry” setting than the “less dry” and sometimes they need an hour laid out on the bed before they're completely dry.

Towels get dried sensor dry hot as a final microbial kill step and come out hot to the touch.

If the item is more than about 75% synthetic content, it's getting hung to dry right out of the washer. My laundry room is warm and dry and these fibers dry so quickly. Limiting exposure to heat is especially important for blends with Lycra/spandex/elastane. It's like the fountain of youth for elastics to avoid dry heat. // **That's it. That's how I do laundry.**//

Products mentioned here are mentioned because I like them; I haven't been paid to mention any of them. Trademarks are those of the trademark holders. The work is my original work and I retain copyright. My financial disclosure information and how I get paid for this work can be found at <https://www.kismai.com/about-kismai/Money>

- Sunscreen stains- what cause them, how to prevent & remove them

[Original Link](#) by Reddit u/Fair-Shift-1962 **Editors Note:** This will include a fair amount of images that apparently refuse to load. I also fixed some formatting from the original post.

So- im making this post as fellow photo-protection & laundry geek because ammount of post about these stains is just litte too much

<Image of a white shirt with yellow stains on it here>

r/laundry - typical sunscreen stain- pic taked by u/Practical_Water_6040 typical sunscreen stain- pic taked by u/Practical_Water_6040

so- whats are sunscreen stains?

sunscreen stains are special & mixed type of stain

they are based on 4 things

1. uv filters which have yellow color (mostly chemical/organic ones)

2. reaction of copper/iron ions coming from tap water with these uv filters which after oxidation makes stain even more orange/ yellow , its just rust stain
3. film formers, polymers which keeps sunscreen film on the skin making sunscreen water resistant, they unfortunately also binds into fabrics and keeps sunscreen on the fabric
4. oil phase of the emulsion which dissolves oil soluble uv filters but makes oil stains as well

so first thing- uv filters

<Image of a traditional color wheel here> (similar to [This one](#) with image text: color pallete- as u see yellow counteracts violet/purple

almost all chemical/ organic filters are yellow because they need to absorb ultra violet rays, and as u see- yellow absorbs violet color (the only organic filters i know to have white color are: tinosorb m - white powder which works like in-organic (mineral) & organic filter in the same time, second organic uv filter i know to have white color is HAA299 - aka basf competitor to loreal's mexoryl 400 / mce, and the third one is uvinul a2b)

for example:

- MEXORYL 400 is yellow powder which dissolves in both oil& water phase
- octisalate is yellow liquid
- tinosorb s is yellow powder which dissolves in oil phase (which btw is gonna be approved by fda next year)
- avobenzene is yellow powder which dissolves in oil phase

unfortunately, higher spf = higher % of yellowish uv filters= higher risk of yellow color of sunscreen and higher risk of yellow stains

Second thing- reaction of uv filters with copper & iron ions

so older organic uv filters like oxybenzone, avobenzene , octocrylene reacts with iron & copper ions coming from water when sunscreen stained fabric is getting washed , and during drying these iron/ copper ions gets oxidised and they turn orange/yellow aka they turn into rust stain

thankfully new generation uv filters like mexoryls (sx, xl, 400), tinosorbs (s, m) , uvinuls (t150, a plus, a2b) are less likely to react with these ions (thats why korean sunscreens which are often based only on new gen uv filters doesnt cause sunscreen stains)

Third thing- film formers , polymers

film formers & polymers , like netlock technology in loreal groupe sunscreens (C12-22 Alkyl Acrylate/ Hydroxyethylacrylate Copolymer) are added into sunscreen to make film of sunscreen which more resistant to sweat, water, rubbing from skin so you are longer protected if u forget to reapply them (but even when they are more resistant- u need to reapply them). They also make sunscreen more lightweight.

But due increased resistancy when sunscreen got transfered into fabric, its also harder to remove from fabric

if more water resistant is sunscreen than its harder to remove

some sunscreens also includes polyquaternium as polymers

and polyquats are very well known to cause stains

i reccomend look into [u/KismaiAesthetics](https://www.reddit.com/r/laundry/comments/1m8r0lv/polyquat_spots/) post about polyquats
https://www.reddit.com/r/laundry/comments/1m8r0lv/polyquat_spots/

(korean sunscreens due less resistant film formers are not resistant to sweat& water are more appropriate to city use, not beach use. And if u gonna use them on beach u must to reapply every 2 h)

And fourth thing- oil phase of sunscreen

since 95% of chemical uv filters are dissolved in oils, they are in oil phase

and the emollients ,waxes , esters can cause oily stain on fabrics.

So what can be do to prevent sunscreen stains?

- wait 20 min after applying sunscreen to allow sunscreen to form film on skin and reduce sunscreen transfer from skin to fabric
- if u think about applying sunscreen on whole body/hands: look for upf clothing/hats/gloves
- wear dark clothing to reduce visibility of stain on fabric - black fabrics dosnt show sunscreen stain (unless sunscreen is mineral/inorganic aka titanium dioxide/zinc oxide based)
- pretreat your sunscreen contaminated fabrics with liquid detergent before every wash , apply liquid on contaminated areas and leave for 30 min minimum
- use water softener like calgon due chelators in it chelating metal ions from water

1 year ago i did it test with calgon

- *<Image of a white tshirt and text across stating: 'a tshirt with a tag will be washed with calgon, and a tshirt without a tag will be washed without clagon' here>* with text: i taked 2 same 100% white cotton tshirts
- *<Image of Sun ozon 30 LSF H0CH (suncscreen) here>* with text: i applied/used this sunscreen which uses: avobenzone, octisalate, octocrylene, titanium dioxide

i applied/used this sunscreen which uses: avobenzone, octisalate, octocrylene, titanium dioxide

- *<Image of the back of the sunscreen bottle with text over it stating: ' Uses: Octocrylene Avobenzone Octisalate Titanium Dioxoide' here>* with text:Sunscreen stains- what cause them, how to prevent & remove them
- *<Image of taped off square on a tshirt with text over it stating: 'On this squire i will put 1 teaspoon of sunscreen' here>* with text: on specially maded square i applied 1 teaspoon of spf on each shirt
- *<Image of 3 tshirts, 3 taped outlines, all with sunscreen inside the tape on the shirt here>* with text: i left shirts like that overnight for sunscreen to set
- *<Image of shirts inside of a washing machine here>* with text: then i washed them both in a same cycle- 1h daily wash in 40*c
- *<Image of Laundry detergent Denk mit vollwaschmittel with text 'As*

detergent' here> with text: which have lipase, to both cycles i used same ammount of detergent aka 50 ml

- *<Image of blue bottle of Denk mit Anti-kalk-gel with text written over it 'and ofc' here> with text: but to one cycle i added 50 ml of calgon dupe from dm which uses polycarboxylates and sodium citrate*
- *<Image of white tshirt with slight yellow stain with text over it saying 'without calgon' here> with text: as u see calgon one have less visible stain*
- *<Image of white tshirt with slightly less visible yellow stain and text that says 'with calgon' here> with text: washed with calgon so as u see calgon reduces sunscreen stains*
- *<Image of another with and without tshirt, with calgon tshirt has less taining here>*

How to remove sunscreen stains?

so personally i had success with removing this stains with laundry detergent pretreatment, washing and than rust remover from carbona/dr beckmann and again washing

but there are few ways-

- one includes rubbing alcohol to remove polymers, than washing in liquid detergent, than applying rust remover and washing again
- another method is sun, since sun can degrade yellow uv filters, but this will not work on polymers & iron / copper ions and personally i didnt find it effective
- third method is simmlar to mine method i use, but instead of oxalic acid rust remover u gonna use citric acid.
- fourth method is using reducing agent, for example iron out in wash / as presoak

what about oxygen/chlorine bleach? while some persons claims that oxi clean or clorox removed sunscreen stain its more likely these methods will cause that [I think they meant this] pink stains:

<Image of white button up shirt with pink stains here> with text:@slapstick_18 from twitter.com @slapstick_18 from twitter.com

- When The Rinse Washes You Clean, You'll Know - Citric Acid Rinses

Original Post: [Here](#) by u/KismaiAesthetics

Revised by [u/KismaiAesthetics](#) 9/07/2026

Why Add Something To The Rinse?

There's a Goldilocks point of how much detergent a particular load needs. Not enough, the soils in clothing don't get removed. Too much, and you're not only wasting detergent, but you can get buildup in the textiles due to modern laundry equipment being really good at washing and sort of crap

at rinsing, as well as buildup in the machine because there are nooks and crannies that don't regularly get exposed to much more than a splash of water. In a perfectly-dosed load of laundry, the detergent all rinses away and the final rinse water is indistinguishable from tap.

Nobody's load of laundry is perfectly dosed. We either tolerate some residual detergent or we don't have clean clothes. Further, alkali residues in laundry contribute to skin irritation and texture problems in fabrics. You could rinse and rinse and rinse, but that's a waste of drinking water. There's a better answer than dilution: neutralization.

Souring On pH Imbalances

Commercial laundries have known about the importance of wash and rinse pH since the dawn of automatic laundry. They use extremely alkaline processes to get off oily soils and then they use automatically dosed acids called "laundry sour" to neutralize the alkali. That's why hotel towels get so white and so fluffy - they blast the dirt and oil off at pH 12+, neutralize it to slightly acidic (pH 6 is optimal) and dry. High pH also helps dry cleaners get starched shirts free of things like that floozy from accounting's lipstick on the collar of a shirt that is very much not her husband's.

The problem with these highly acidic and alkaline commercial chemistries is that they're incredibly corrosive to skin and machines if splashed or overdosed. Commercial users monitor the pH of the final rinse water and subtly adjust the dose of these acids to get it right, and humans never touch the raw material. Home launderers do not have that luxury.

Acid, In MY HOUSE? -It's Not Just A Problem Faced By Concerned Mothers Of Teenagers In The 1960s!

Big Laundry has figured out that they can get in this game for home launderers with acidic products that neutralize overdosed detergent, improve texture, and optionally add a final hit of fragrance. Selling you another thirty to fifty cents of product is good for their bottom lines, and keeps you from trying to dial down the detergent they're selling you to the bare minimum to avoid residue. Win/Win.

There's a bunch of these products out there. P&G was the innovator with Downy Rinse Out Odor (née Rinse & Refresh) / Tide Clean Boost / Gain Rinse & Renew. They're all identical save the fragrance package - mixtures of citric acid, sodium citrate, a glycol to give it some thickness / reduce splashing, and some preservatives so it lasts forever on the shelf. The concentration is designed so that a fabric softener dispenser holds the right amount for a given machine's capacity, and the pH is buffered so that it's more friendly to skin and eyes if it's splashed on full-strength and won't be particularly harmful if swallowed. r/laundry - Downy Rinse Out Odor, née Rinse & Refresh

<Image of: Downy Rinse Out Odor, née Rinse & Refresh>

I can't overstate how much of a laundry advance these products are: they're probably the biggest thing to hit home laundry since Liquid Tide in 1985. They are remarkably effective at neutralizing detergent and alkaline residues in laundry. They're safe to handle, they smell nice if you want them to, and they very much improve laundry texture and fragrance. They incidentally keep machines cleaner and reduce the risk of hard water residue on textiles, even with perfectly dosed detergent.

What's even more interesting about these products is their role in reducing odor rebloom - the citrate ions help remove transition metal cations from laundry. These include copper, iron and manganese.

Copper is near-ubiquitous in tap water, iron and manganese aren't exactly rare. Transition metals have been found to catalyze rancidity in oil components. Trace oil left on fabrics is a major cause of odor rebloom - chelating these metals out of the rinse water and off of the oily residues directly reduces rancidity, which prevents malodor. Vinegar can't do that either.

If you like the fragrance and don't mind the money, use them. The store brand and dollar store knockoffs work about as well - you may need to adjust dosing a little.

Martha Stewart Meets Mister Wizard

If you don't care about April Fresh fragrance or the 401(k)s of P&G execs, you can just replace the active ingredient in these water-clear rinse products, citric acid. Because it comes in a convenient powdered form, you can make it fresh for every load of laundry and save some money. There's no worry about spills because it's a dry powder.

Citric acid powders or crystals are available where home food canning or soap making supplies are sold, in Middle Eastern and Eastern European speciality food markets or online. If you're buying it by the ton, buy technical grade and save 10%, but food grade is fine in this application and is generally cheaper in small quantities - more competition. It has an indefinite shelf life as a dry product, and if it clumps up due to atmospheric moisture, a whack of the bag will separate it again. Literally any brand is fine - \$5/pound or so, delivered, is a reasonable price. One pound should do approximately 90 loads of laundry in a front loader or HE top-loader, 40 or so in a conventional top-loader.

<Image of: Spicy World 2lb Bag! Citric Acid> with text: This happened to be the cheapest 2# bag of citric acid on Amazon with fast delivery the last time I needed a new one. They're all the same.

You don't need much. It's pretty much a factor of your washer's water use. Most HE machines need about 6-8 grams - which is about 1.5 -2 measuring teaspoons. I sort of eyeball it with a fat heaped teaspoonful right in the softener drawer of my LG washer, dry. Most top loaders need at least double - somewhere between a level and heaping Tablespoon - 15-20 grams would be a good starting point. If your water is known to be hard, use more. Increase by about 50% of the base dose for every 100ppm of hardness past 150 in your tap water.

Your machine adds the water if it's an HE machine with a drawer or compartment-type dispenser. You add the water to the fill line if it's a conventional top-loader with an agitator-top dispenser or if you use [The Downy Ball](#) because you don't have a dispenser. Most HE machines tolerate the dry powder in the dispenser just fine. If you find residue in yours, just top off the dispenser with tap water after adding the acid.

How To Tell It's Working:

You'll feel the difference in the first wash. Whether homemade or prerolled, this is not a subtle difference. Towels are fluffier, cotton knits are drape-ier, sheets are smoother. It's not the greasy slick feel of liquid softener or dryer sheets - rather, a cottony-soft slightly fluffy feel. Synthetics have a slicker smoother feel without any hint of greasiness.

Liquid Assets:

If you have a dispensing system that takes an entire jug of softener at a time, or don't have a water source close by, and want to use a DIY liquid form, you can just dissolve the right amount of citric acid in water in advance. It's VERY unlikely you'll get microbial growth in a pH 3.5 solution like this (in fact, citric acid solutions are an EPA-registered limited disinfectant against many microorganisms) , but it still behooves you to not mix up more than you'll use in a month or two. Use room temperature tap water and dissolve the citric acid in the water (always add acid to water, not water to acid!), and store in a labeled glass or plastic container out of the reach of children.

The question becomes "how much"? And that's left as an exercise to the reader. It's easier for conventional top-loader / Downy Ball users: measure how much liquid the dispenser holds to the fill line. Put that much water time how many doses you want to make in the glass or plastic container. Now add enough acid for each dose times the number of doses.

An example: if your top-loader agitator-top dispenser holds 4 fl oz / 125 mL to the fill line, and you're making 32 doses, fill up a gallon jug with 120 oz of water, add 512 grams of powder, and top off with water until the jug is full. Use 4 oz in each load and you'll get 16 grams of acid in each load, no measuring required. Sorry for mixing metric and freedom units. Die mad about it.

For drawer type dispensers, measure how much water it takes to the fill line, multiply that by how many doses you want to make, and add six to eight grams of powder to the water.

For a fancy tank dispenser, Read The Fine Manual and see how much it expects to dose in each load. Six to eight grams of acid per load times the dispensed volume in water per load, multiplied by the number of doses the tank holds .

If you want to add some fragrance to these liquids, you can. Essential oils generally tolerate some acid well, but maybe make a little up and see how it smells after it sits awhile. You'll also want to shake the jug well before each use as the oils will tend to behave as oils do and float on top of the watery component.

Congratulations: you've done what took P&G an approximate eternity to figure out, for a fraction of the money. Get yourself a little sweet treat as a reward.

V1negar Is For Salads

The Salad Dressing Mafia dumps white v1negar into the rinse cycle to neutralize the detergent. And it works for that. But it smells like an Italian sub sandwich while it's wet and it takes a lot of mass to do a good job because household distilled white v1negar is only 5% acid. Moreover, acetic acid neutralizes one hydroxide ion for every molecule of acid. So one cup of v1negar can neutralize about a teaspoon of a strong alkali. Readers, know that your laundry is generally much more alkaline than that. One teaspoon of citric acid powder neutralizes more alkali than that same cup of v1negar, without the weight, the smell or the endless plastic jugs. And again, acetate ions are not effective chelators of calcium or the transition metals. You're only getting modest pH reduction - not the calcium removal or the rancidity protection.

But What About The Seals?

There's a persistent belief that citric acid is bad for the seals. I don't know what aquatic mammals have to do with laundry aside from being cute on the bag of Foca detergent. But know that this chemistry doesn't actually leave the machine or the rinse water strongly acidic. It leaves it within the range of normal tap water instead of strongly alkaline like unneutralized detergent residues do.

Cautions:

Last One In Is A Rotten Egg:

If your water has sulfur in it, the lowered pH can cause a faint rotten egg smell. This will usually flash off when the textiles are dried. You may want to use a commercial product with fragrance in it if this is a sustained issue. Bummer about your water.

It's A Laundry Product, Not A Beverage or Eyewash:

This is slightly more acidic than lime juice, but if it gets on your skin, or in your eyes, rinse thoroughly with tap water. If swallowed, contact poison control for guidance.

Counteroffers:

Don't let the liquid or powder remain on stone or concrete countertops or floors. Citric acid dissolves calcium. Stone and concrete surfaces contain calcium. Rinse promptly.

Financial/AI Disclosures:

None of the links are affiliate links. Nobody is paying me to write these posts. I don't make a dime from any of this. This is all 100% produced by a semi-sentient actual human.

- Polyquat Spots

Original Post: [here by u/KismaiAesthetics](#) **Editors Note:** there are images in here that will not transfer over. I did my best to include descriptions.

You've been sent here because it's likely the mystery stains on your clothes that develop in the wash and won't come out are Polyquat Spots.

This document was last updated on 07/25/25 (on reddit by [u/KismaeAesthetics](#))

< An image of: Child's Ivory-Colored Cotton Sweatshirt Displaying Characteristic Polyquat Spots With Blue-Violet Polyquat Stains >

What are Polyquat Spots?

Polyquat Spots are areas on fabric that attract dirt and soil in the wash, caused by exposure to a

class of clear flexible polymers called polyquaterniums, referred to in the rest of the document as **polyquat**. **Polyquat Spots** should be suspected when garments develop stains after wet washing processes that don't come out with standard stain removal treatments. Polyquat Spots and their associated **Polyquat Stains** often have a distinctive look and feel - slightly shiny, transparent to translucent, not raised or rough. They are never lighter in color than the fabric underneath. They typically do not penetrate the fabric completely unless the textile is very lightweight and the contamination was direct (like from a conditioner bottle leaking in a suitcase). They cannot generally spread from one garment to another unless there's enough concentrated wet polyquat in direct contact with a second item.

What are Polyquats?

There are currently 116 registered polyquat compounds - while not all are known to cause staining, many do. The common characteristic is structural - there is a quaternary ammonium compound in the center of the molecule with various moieties hanging off it. While this framework is structurally and chemically similar to the quaternary ammonium compounds used in laundry sanitizers, disinfectants and antibacterial skin preparations, they impart no direct antibacterial benefit in polyquat polymers. The diagram below represents Polyquaternium-7, one of the most notorious of the class for causing stains.

<An image of: A Chemical Structure Diagram Of Polyquaternium-7, A Notorious Source Of Polyquat Spots>

Functionally, polyquats are used when a product needs to form a thin, smooth layer upon application to the skin or hair. They're also used to ensure good foaming performance by strengthening bubble walls. This latter capability is exploited by manufacturers of commercial bubble solution in children's toys and for use in bubble machines. Polyquat-enriched bubbles are often large, long-lasting and pleasantly iridescent in color. This film forming capability can deliver conditioning, moisturizing and product feel benefits in personal care products that last throughout the expected period of use. Importantly, they are positively charged (cationic) and seek out negative charges, frequently found in damaged hair or dry skin.

<An image of: Pure Polyquaternium-7 Before It Destroys Clothing in a petri dish>

Where Is The Polyquat Coming From?

The most common offenders are:

- Shampoos (especially 2-in-1 formulae)
- Conditioners
- Heat Protection Sera
- Anti-Frizz/Anti-Static Sera
- Liquid Hand Soaps Including Softsoap Brand
- Bubble Bath
- Hair Mousse
- Gel
- Hairsprays
- Beard Smoothing Serum
- Conditioning / Moisturizing Bar Soaps and Shampoo Bars

- Sunscreens
- Personal Lubricants For Adult Purposes

And, most notorious in r/Laundry,

- Commercial bubble solutions for bubble guns, wands and machines

How Do Polyquats Get On Fabric?

They get on fabrics by direct contact, by diluted drips or rubs off hair or skin, from contaminated hands, or by indirect contact with drops on a bathroom floor, counter or other hard surface.

What Happens When Polyquats Touch Fabric?

These polymers electrically bond to negatively-charged regions of fibers (especially cotton and semi-synthetics like rayon, viscose, acetate, “bamboo”, modal, Tencel and Lyocell). They then leave an invisible layer with a residual positive charge that is electrically attracted to dirt and dye in the wash water. These clear **Polyquat Spots** then become “color catchers”, attracting and bonding a color layer to the clear spot, making them visible as a **Polyquat Stain**. They often appear “wet” or “greasy” but can be any shade found in the wash water. Thus, a light-colored garment with clear **Polyquat Spots** might pick up blue-grey color when washed with black and blue items, resulting in a dull blue-grey stain layer. A red item with clear **Polyquat Spots** washed with a green item that is contributing fugitive dye may appear to have dark grey or black **Polyquat Stains**. A white item with **Polyquat Spots** washed with an item soiled with red clay may get a **Polyquat Stain** that looks like rust or red clay.

Great Explanation, Nerd - What Can Be Done?

This is where the bad news starts.

Polyquat Spots and the associated colored **Polyquat Stains** are some of the hardest to address at home or by professional dry cleaners. [r/Laundry](#) contributors have tried everything known to mankind to remove these, and there’s no practical one-shot treatment that consistently removes the Polyquat Spot and keeps it from returning.

What you can do sometimes is remove the color a Polyquat Spot has acquired and then be very careful on subsequent washes to keep it from picking up color again. Eventually, with normal laundering, the polyquat can fall off or become less attractive to fugitive dye and soils in the wash, and the garment may then be laundered with progressively decreasing risk of recurrence. This requires on the order of 12-20 perfect washes.

Decoloring Polyquat Stains:

<Image of: Sodium Dithionite Powder in a jar - The Path To Turn Polyquat Stains Back To Polyquat Spots

The recommended method of decoloring Polyquat Stains is with a class of chemicals known as reduction bleaches. They are commonly sold as color run or dye removers. There's an extensive document with brand recommendations from around the world at [r/laundry/s/QaKkCN3faz](https://wiki.slrpnk.net/cleanit:reddit-non-reddit-links?rev=1791468711) along with comprehensive instructions. You'll basically soak the affected garments in a warm solution of this color run remover just long enough to remove the surface color and turn the Stains back to clear Spots, then stop the action by soaking in cold water. This method does not work if the dye forming the stain color layer is an indigo or other leuco dye such as vat dye, common in denim and garment-dyed cottons. Finally, you'll wash using detergents with specific ingredients and color catcher sheets to complete the neutralization and hopefully keep color off the stains.

Relapse Prevention:

The decoloring process only removes the color layer off the stained top of the clear Polyquat Spot. It does not remove the polyquat entirely (although there's some rational basis that it may help make it less attractive to dye and soil from wash water). After the decoloring process, it's imperative that your wash process not expose the contaminated garments to new color sources.

Step 1: Sorting Aggressively

Garments that have Polyquat Spots need to be washed with like colors only. An example sort would be:

- Blacks, charcoals, navy blues and dark browns
- Dark blues and greens
- Dark reds and purples
- Light blues and greens
- Light reds and purples
- Neutrals like khaki, tan, ecru, light grey and taupe
- Whites with stripes / embellishments
- Absolute plain whites

Less stringent sorting raises the risk of making the clear Polyquat Spot become colored and visible again.

New clothing should always be washed separately the first time, but it's especially important to avoid washing new items with items with treated or untreated Polyquat Spots.

It's also important to avoid washing garments with Polyquat Spots in loads with high levels of particulate soils like clay, dirt, dust, automotive grime and soot.

Step 2: Using The Right Detergent

Garments with clear Polyquat Spots need to be washed with detergents that contain anti-redeposition agents - these are surfactants and polymers that keep removed dirt and fugitive dye up in the wash water and unavailable to the clear spots. Most top-tier detergents contain one or more antiredeposition agents such as carboxymethylcellulose, anionic polyesters and polyacrylic acids. They may be described as "cleaning aids" or "antiredeposition agents" on labels. Many discount or plant-based products omit antiredeposition agents. The omission makes washing with them more likely to allow fugitive dye and removed soils to recolor the clear Polyquat Spots. An alternative method is to use a small amount of a dye-suspending detergent called Synthrapol, available at art supply stores, speciality quilt and yarn shops and online, to each load of laundry. One tablespoon per

front loader or HE wash or two tablespoons per conventional top loader should be sufficient.

Detergents with anionic surfactants may help reduce the color-attractiveness of the clear spots with consistent use. These will be described on the label as either “anionic surfactants” generally, or will have names with sulfate, sulfonate, and gluconate high in the ingredient list.

Step 3: Using Color Catchers

<Image of: Shout, A Popular Brand Of Color Catcher Sheet. 1 unused white, 1 used dark gray with image text: New And After Exposure To A Load Of Darks

The most important adjunct to keeping Polyquat Spots from recoloring while the polyquat washes and wears out are disposable color catchers. These are usually white non-woven textile sheets, like a dryer sheet, that go in the wash with the laundry and are themselves coated with polyquats or similar positively-charged polymers to provide a more attractive target for the negatively-charged dye or dirt in the wash water. You should use one per light or white load and two per colored load if the load contains a garment with a suspected or treated clear Polyquat Spot. Whatever color they turn in the wash water is the color that the Polyquat Spot would have taken had the color catcher not been used, and the used sheets can be useful to identify which items in a load are giving up color to the wash water. There are several brands including Shout Color Catcher, Carbona Color Grabber and many others including store brands and generics. They all work about the same - buy whatever's cheap and available to you. If you have a front-loading washer, as a precaution, it's a good practice to put the color catcher sheets in a mesh delicates bag. This keeps them from slipping out of the wash and getting between the basket and drum, or ending up in the filter or pump or down the drain.

You may be tempted to reuse a color catcher that doesn't look particularly discolored. This is fine for a few washes. They will absorb a finite amount of material, though, and the polymer may come off over several washes, diminishing effectiveness. Don't push it too far.

There are “permanent” or “reusable” color catchers, often based on a surface-treated synthetic fiber. While they work well in typical wash conditions to prevent frank bleeding from dying victim garments, they aren't attractive enough to fugitive dye to outcompete a clear Polyquat Spot for the attention of fugitive dye and soils.

Can Polyquat Spots and Stains Be Prevented?

Yes, with an asterisk. The best prevention is to meticulously avoid contact between polyquats in their wet state and textiles that you care about. Make sure that containers of polyquat-containing products in suitcases or gym bags are isolated from vulnerable textiles, dry hair thoroughly before it touches fabrics and make bubble solution for kids using dish soap, glycerin and non-quat polymers such as carboxymethylcellulose.

However, we're all human and shit happens.

If you believe that a textile has been exposed to polyquats, there is strong evidence from industry testing that soaking it in a solution of anionic surfactants and water before laundering in a process where it could be exposed to fugitive dye or suspended soils can neutralize the polyquat charge. The easiest method would be a tablespoon of dish detergent such as Dawn or a laundry detergent with declared anionic surfactants as described above, per gallon of tepid water, soaked eight to twelve hours before washing. Wash with color catchers in a well-sorted load or completely separately as a precaution.

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Last update: **2026/10/08 14:11**

