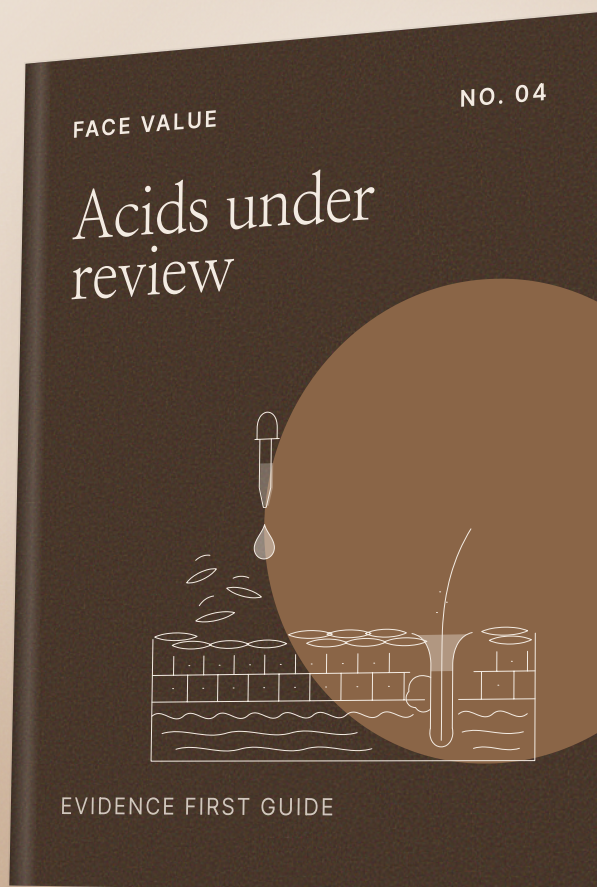




EVIDENCE GUIDE · FORMULAS

Acid exfoliation, decoded step by step

Percent on the label tells you little without pH, molecule size and spacing. This guide translates the evidence into a cautious routine that protects the barrier while testing what acids can do.

- **Dose low**
One formula at a time, spaced out, increased only with tolerance.
- **Match target**
Surface texture or pore debris decides the solubility you need.
- **Watch barrier**
Sting, tightness and shine signal a pause, not stronger treatment.

By Madeline Hawkins · Updated Jul 30, 2026 · 9 min read

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Many buyers choose by percent, yet pH and molecule size determine how much free acid reaches skin. That single point should reset every routine built around a strong sounding label. Once solubility, molecular weight, acidity and interval are understood, weekly exfoliation can stay measured and reversible.

01

How acids release held cells

Skin clears spent cells daily by desquamation. That clearance slows with aging, arid air, and reduced renewal, so retained cells remain and reflect light unevenly. Rough feel, flat tone, and visibly full pores follow when keratin plus sebum residue gathers near openings.

Grain scrubs detach cells through abrasion. Chemical exfoliants weaken intercellular links so cells detach more uniformly. Control explains why many easily irritated users select the chemical route. A leave on liquid or brief rinse contact allows set dosing, set intervals, and prompt withdrawal, while particles continue to abrade during massage.

Acid activity depends on a sufficiently acidic vehicle to keep the molecule in free active form. At fixed pH, higher concentration raises irritation, and at fixed concentration, lower pH raises irritation. That interaction outweighs the number printed on packaging. A modest concentration at strongly acidic pH may act more intensely than a larger concentration buffered nearer neutrality, and labels seldom report free acid content. Individual tolerance varies too, so no ideal percent with ideal pH can be inferred from promotion for any skin type.

Consultant dermatologist Dr Justine Kluk notes that exfoliating acids have grown more popular with skincare fans and people seeking better skin over the past couple of years. Her starting advice applies to the full routine: begin slowly and keep the rest of the routine calm and basic.

02

AHAs, BHAs, PHAs and LHAs compared

AHAs comprise glycolic acid, lactic acid, tartaric acid, citric acid, malic acid and mandelic acid and dissolve in water and work at the surface. Picture them as workers tending topsoil. They fit dull tone, coarse patches, and faint surface lines where renewal matters more than pore

clearance.

Molecular size alters conduct inside this group. Glycolic acid carries the smallest AHA structure, enters most quickly, and exfoliates most forcefully when pH and concentration match larger AHAs. Lactic acid is bigger and milder than glycolic acid and also functions as a humectant that adds water alongside exfoliation. Mandelic acid is the largest widely used AHA, with the slowest and softest effect, appropriate for easily sensitized skin and tones vulnerable to post inflammatory hyperpigmentation.

BHAs dissolve in oil, reach lipid rich pores, and assist removal of keratin plus sebum material linked to congestion. Salicylic acid is the most widely used BHA in skincare and is used for acne, blackheads, calluses and warts. Stratum corneum from human upper arm treated with 2 percent salicylic acid comes off with tape stripping much more readily than control sites treated with vehicle. The anti inflammatory action of salicylic acid is strongest at 0.5 percent to 5 percent w/w. One point for label readers: salicylic acid is described as a BHA in skincare sources but one pharmacology overview notes Yu and Van Scott classify it as a phenolic aromatic acid rather than a true beta hydroxy acid. Practical guidance remains unchanged.

PHAs comprise gluconolactone, lactobionic acid and maltobionic acid and possess larger molecular structures than AHAs so they penetrate less and work more slowly. LHAs come from salicylic acid, dissolve more readily in fat than BHA, enter more slowly, and treat acne more gently in sensitive skin. Both fit reactive skin seeking gradual action, or any user seeking refinement without an aggressive beginning.

A short comparison helps:

FAMILY	SOLUBILITY AND PACE	BEST SUITED FOR
AHA	Water soluble, surface action, pace set by molecule size	Dull tone, uneven texture, dry surface roughness
BHA	Oil soluble, enters lipid rich pores	Oily skin, congestion, blackheads, blemish prone areas
PHA	Large molecule, slower surface action	Sensitive feeling skin, first acid, dry skin wanting mild renewal
LHA	Salicylic derived, more fat soluble, slower penetration	Congestion in sensitive skin, gentle acne care

Products with acid sounding names do not always exfoliate. Hyaluronic acid adds water without exfoliating, tranexamic acid acts on pigment signaling, and azelaic acid eases visible redness by another pathway.

FROM THE EDITORS

A lower pH frees more acid and a smaller molecule moves faster, so strength is not the same as suitability. Gentleness follows from size, formula, and spacing rather than from a plant name or a low number alone.

03

Concentration, acidity and spacing made explicit

Potency ranking starts with molecular dimensions. Within AHAs, glycolic ranks first, lactic occupies the middle with added humectant softness, and mandelic follows with a slow effect. With salicylic acid, formulation pH directs outcome. Salicylic acid has a pKa of 2.98 and formulas with pH near the pKa exfoliate markedly more than formulas with pH well above the pKa. Hence a higher percent does not guarantee greater strength. Available acid reflects pH, base, contact duration, and skin itself.

AHAs may raise sun sensitivity during use and for up to a week after stopping, according to FDA advice on labeling cosmetics with AHAs. An acid guide led by dermatology recommends adding acid exfoliants slowly at 2 to 3 times per week and using broad spectrum SPF 30 or higher with AHAs or BHAs. Evening application fits AHAs, while sunscreen remains mandatory each morning. Salicylic acid has sun protective properties but daily SPF is still recommended with AHA and BHA because exfoliation can briefly raise UV sensitivity. Daily SPF covers both views.

Published starting schedules differ, so begin conservatively and adjust to response. Acid exfoliation belongs at two to three times per week at most, and once or twice per week for sensitive skin. One esthetician guide suggests two to three times per week for oily skin, once or twice per week for normal or combination skin, and once per week or every two weeks for dry or sensitive skin. A brand safe use guide suggests beginning AHAs and BHAs at 1 to 2 times per week and increasing over several weeks, while PHAs may begin at 3 to 4 times per week because they are milder. How fast a person can safely raise frequency without barrier trouble is unproven, so keep each stage for two to three weeks.

Test on a limited area first. Apply a small amount behind the ear or along the jaw, then wait a full day. Brief tingling for one or two minutes may occur with a first acid. Burning, spreading redness, itching, or swelling does not belong in a normal response. Rinse, simplify, and avoid that formula again.

04

Pairings to avoid and ways to separate

Retinoids and acids both exfoliate and should not be applied together, and strong AHAs should not share a night with retinol until skin has adjusted. Even once adjusted, many users tolerate the pair better on separate evenings. Place them on alternating nights or assign acids to one or two fixed evenings and retinoid to other evenings, with rest nights between.

Vitamin C belongs in the morning with SPF and acids belong at night because exfoliants reduce pH and may weaken vitamin C and raise irritation risk. Separation also respects light exposure. Antioxidant plus SPF in daylight aids daytime defense, acid at night aids renewal as skin rests.

Benzoyl peroxide may weaken retinol when applied together and add dryness, so use on alternate nights if both are used. Niacinamide needs context. Niacinamide is said to suit many ingredients yet is also named as possibly too harsh with exfoliating acids in sensitive skin, so context and strength count. With resilient skin, a plain niacinamide moisturizer on acid evenings may feel acceptable. Reserve niacinamide for non acid nights when skin is delicate and watch for flushing or sting.

Keep surrounding care minimal while acids are introduced. Gentle cleanser, basic moisturizer, and SPF keep variables low. Whether a given combination product suits a routine cannot be judged without the full formula, so introduce one active at a time.

05

Overuse signals and a cautious weekly plan

Signs of over exfoliating include irritation, redness, peeling, sensitivity to other products, tightness, dryness, and a shiny yet not oily look. Barrier harm signs include lasting dryness and tightness, redness, stinging or burning when products go on, flaking and rough texture, and breakouts with dryness and sensitivity. Heightened reaction to a familiar moisturizer frequently appears earliest. From a distance skin can seem polished while feeling thin and thirsty on close inspection.

Stop every exfoliating acid and retinoid when those signs show up. Go back to gentle cleanser, moisturizer, and broad spectrum SPF. Leave out fragrance, strong vitamin C, and benzoyl peroxide until calm is back. How long barrier recovery takes for a given person after over exfoliation is unproven, so wait until tightness, sting, and flaking have eased for several days before retrying one acid at half the prior frequency. Get professional care for swelling, crusting, spreading rash, pain, or breakouts that grow worse after pausing.

A stable week relies on a single acid. Acid cleansers rinse off and suit oily skin for short contact. Toners, pads, and serums remain longer and suit focused treatment. Select one vehicle, not a stack.

If your skin is dry or sensitive, use PHA or mandelic or lactic once weekly in the evening. Cleanse gently, spread a thin layer, moisturize well, and use SPF daily. Hold for three weeks. Shift to twice weekly only if mornings feel soft and calm.

For normal or combination skin, use lactic or a mild glycolic or salicylic once or twice weekly in the evening, on fixed nights. Leave the other nights clear of retinoid and benzoyl peroxide. If pores around the nose and chin stay clogged while cheeks feel fine, a salicylic formula on the T zone only can keep the action local.

For oily or congested skin, use salicylic on two evenings per week with rest days between. A PHA morning on a day without acid is possible for those seeking more polish, but only after the twice weekly pattern feels easy. Stay steady instead of pushing toward daily use. More frequent renewal seldom helps congested skin once the barrier begins to object.

Reduce use when light tingling becomes lasting warmth, when makeup catches on fresh flakes, or when SPF stings. Omit a week, then resume at the prior comfortable pace.

FROM THE EDITORS

When acids bring sting, peeling, or dryness with breakouts, stop exfoliants and retinoids, keep cleansing and moisture simple, protect with SPF, and seek a dermatologist or pharmacist promptly if irritation spreads or does not settle.

06

The checklist

-
- ☐ Select a single acid for the goal, surface AHA or pore BHA or gradual PHA and LHA
-
- ☐ Test along jawline and observe for one full day
-
- ☐ Begin AHAs and BHAs 1 to 2 times weekly, PHAs up to 3 to 4 times
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- ☐ Reserve acids for evenings and SPF 30 or higher each morning
-
- ☐ Keep one acid format in rotation, not cleanser plus toner plus serum
-
- ☐ Place acids and retinol on separate evenings
-
- ☐ Assign vitamin C to mornings and acids to evenings
-
- ☐ Alternate benzoyl peroxide with retinol, never stacked
-
- ☐ Track tightness, sting, redness, peeling, shiny yet dry look
-
- ☐ Stop actives and simplify once barrier signals emerge
-
- ☐ Maintain each interval for two to three weeks before adjusting
-
- ☐ Restart gradually after rest at half former frequency
-

07

Sources and further reading

- AHA vs BHA vs LHA vs PHA: The Difference between Exfoliating Acids in Skincare · [firstderm.com](https://www.firstderm.com)
- AHAs, BHAs & PHAs: exfoliating acids for smoother, clearer-looking skin · [dermalogica.com](https://www.dermalogica.com)
- Salicylic Acid - an overview · [sciencedirect.com](https://www.sciencedirect.com)
- How often should you exfoliate your face according to your skin type · [curology.com](https://www.curology.com)
- Guide to Skincare Acids: What Each One Does for Your Skin · [theinkeylist.com](https://www.theinkeylist.com)
- AHA, BHA, PHA and LHA: What are they and how should they be used? · [renude.co](https://www.renude.co)

For information only, not medical advice. A study summary is not a diagnosis; see a board-certified dermatologist about anything that persists, spreads or hurts.



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Madeline runs the news desk and the evidence guides at Face Value. She reads the methods section before the abstract and keeps a tally of every study a press release cites, next to the number she could actually find.
