Let’s talk about ingredients in baby products

How is babies' skin different?

A baby's skin continues to develop over the first year of his or her life. While the skin develops into a more effective barrier, babies have higher exposure to irritants, allergen penetration and infection. Their skin is also more sensitive to sunlight.[3] As a result, some ingredients that work well for adults are too harsh for babies.

Key differences in baby skin are:

During the first year, it is best to use baby-specific products and ingredients. Key attributes to look for in a product are:[4]

- Be mild and gentle
- Not irritate skin or eyes
- Clinically assessed for lack of allergic potential
- Not disrupt the mildly acidic pH (5.5) of the skin
- Have an established safety profile

What does "natural" mean?

Let's look at nature for an example of "natural". Below are the ingredients in a blueberry as defined by James Kennedy, a chemistry teacher and published author.

ALL NATURAL BLUEBERRIES

INGREDIENTS: AQUA (84%), **SUGARS (10%)** (FRUCTOSE (48%), GLUCOSE (40%), SUCROSE (2%)), FIBRE E460 (2.4%), **AMINO ACIDS (<1%)** (GLUTAMIC ACID (23%), ASPARTIC ACID (18%), LEUCINE (17%), ARGININE (8%), ALANINE (4%), VALINE (4%), GLYCINE (4%), PROLINE (4%), ISOLEUCINE (3%), SERINE (3%), THREONINE (3%), PHENYLALANINE (2%), LYSINE (2%), METHIONINE (2%), TYROSINE (1%), HISTIDINE (1%), CYSTINE (1%), TRYPTOPHAN (<1%)), **FATTY ACIDS (<1%)** (OMEGA-6 FATTY ACID: LINOLEIC ACID (30%), OMEGA-3 FATTY ACID: LINOLENIC ACID (19%), OLEIC ACID (18%), PALMITIC ACID (6%), STEARIC ACID (2%), PALMITOLEIC ACID (<1%)), ASH (<1%), PHYTOSTEROLS, OXALIC ACID, E300, E306 (TOCOPHEROL), THIAMIN, **COLOURS** (E163a, E163b, E163e, E163f, E160a), **FLAVOURS** (ETHYL ETHANOATE, 3-METHYL BUTYRALDEHYDE, 2-METHYL BUTYRALDEHYDE, PENTANAL, METHYLBUTYRATE, OCTENE, HEXANAL, DECANAL, 3-CARENE, LIMONENE, STYRENE, NONANE, ETHYL-3-METHYLBUTANOATE, NON-1-ENE, HEXAN-2-ONE, HYDROXYLINALOOL, LINALOOL, TERPINYL ACETATE, CARYOPHYLLENE, ALPHA-TERPINEOL, ALPHATERPINENE, 1,8-CINEOLE, CITRAL, BENZALDEHYDE), METHYLPARABEN, 1510, E300, E440, E421 and **FRESH AIR** (E941, E948, E290).

"Natural" is a powerful claim, originating from the food sector, and it's increasingly finding its way into a broad array of cosmetic products. But the FDA has not defined the term "natural" and has not established a regulatory definition in cosmetic labeling, leading to concerns that the claim could be used in ways that are misleading or deceptive.

The fact is the debate over natural ingredients is complicated. While "natural" can be really good for you, "natural" does not automatically equal good or safe. That's especially true when it comes to babies. Here are some natural ingredients that might be too harsh for your baby's skin:[5]

- Limonene
- Bitter Orange Oils
- Peppermint Oils
- Peanut Oils

What about "natural origin"?

Some believe that if you can pronounce name of an ingredient, it must be of natural origin or naturally derived. If you can't, it must be synthetic. The reality is much more complex.

The International Organization for Standardization (ISO) provides a definition for natural cosmetic ingredients and products. They are considered natural if at least 50% of their molecular weight comes from sources such as plants or minerals, even if through processing. This means that even if a baby product undergoes some processing to remove impurities, enhance performance, and improve safety, it can still be considered naturally derived.[6]

What is "chemical free"?

There is no such thing as "chemical free." Every substance on earth is either a chemical (e.g., water, sugar, salt) or a mixture of chemicals (e.g., wood, moisturizer, olive oil).

Some people consider "chemicals" to be substances that are synthetically produced. However, whether a substance is found in nature or created in a laboratory does not determine its potential to be safe or unsafe.

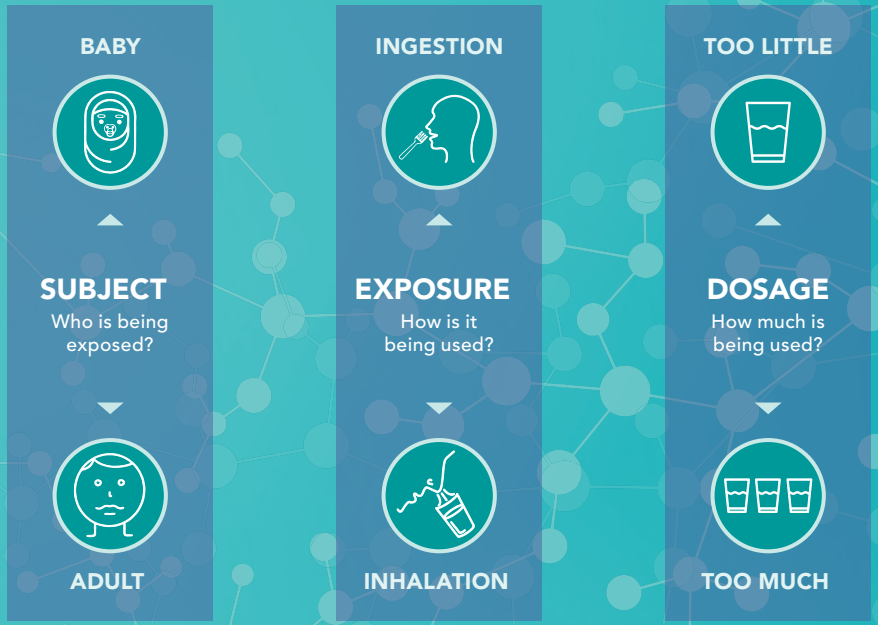
Nature can produce substances that are harmful or deadly (like plant allergens or poisonous mushrooms), and laboratories can produce substances that are safe and beneficial (like vitamins and medicines).

How do you evaluate chemicals for safety?

Chemicals are not dangerous in themselves. It's how they are used that makes the difference. And it's misleading to label a chemical as dangerous without thinking about the product, the subject, and its use. All of these can impact safety.

Different subjects have different requirements. Are you dealing with a baby, a child or an adult? An adult dosage, while perfect for an adult, could be harmful to a baby.

Then you must consider how we come into contact with chemicals. The three ways are on the skin, ingested or inhaled. A simple example of the importance of correct exposure: while drinking water is good for you, inhaling water can be fatal.



What do preservatives do?

Preservatives are added to make baby care products safe. Without preservatives, most products wouldn't keep in the bathroom for more than a few days without growing mold or bacteria. It's the same with food—we need preservatives to prevent spoilage.[7]

How can baby care products become contaminated?[8]

Seepage of water into product

Microbes in air

Fingers dipping into jars

Hands pressing against tubes or pump mouths

Two preservatives with decades of safe use and support from the FDA and American College of Toxicology are:[9]

SODIUM BENZOATE
A synthetic salt of benzoic acid that is naturally found in milk.

PHENOXYETHANOL
A synthetic preservative which occurs naturally in green tea.

But not all preservatives are appropriate for use in baby care products. Here are a few which have restrictions from government or professional organizations, in the U.S. or abroad:[10]

ISOTHIAZALIONONES (E.G., BENZOISOTHIALIZINONE)
CRESOLS (E.G., ISOPROPYL CRESOL)
FORMALDEHYDE
MERCURY COMPOUNDS (E.G., PHENYL MERCURIC SALTS)

Why do fragrances matter?

Newborns use the sense of smell more than any other sense. Smell directly influences emotions and triggers memories in the brain—both pleasant or unpleasant.[11] Skeptical? Try eating an orange while holding your nose and see how it affects the taste.

Fragrances in baby products can aid in:[12]

Increasing relaxation

Helping enhance sleep

Improving mother-child bonding

Fragrances produce a range of benefits for babies. They are suitable whenever there is no sensitivity or skin conditions present.

What sources can I trust?

When searching for information, it's important to consider the source. Is the information accredited by a reputable group? Is the author selling a product? Is it written in a sensational manner?

Here are a few credible and evidence-based resources:

CosmeticsInfo.org – run by the Personal Care Products Council, this site is an in-depth resource with the facts and science behind ingredients

ncbi.nlm.nih.gov/pubmed – biomedical and life sciences journals at the U.S. National Institutes of Health's National Library of Medicine

IFRAorg.org – based in Geneva, Switzerland, IFRA is the official self-regulatory representative body of the fragrance industry worldwide

toxnet.nlm.nih.gov – NIH resource for searching databases on toxicology, hazardous chemicals, environmental health and toxic releases

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