



# BABY CARE PRODUCTS

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# Baby products

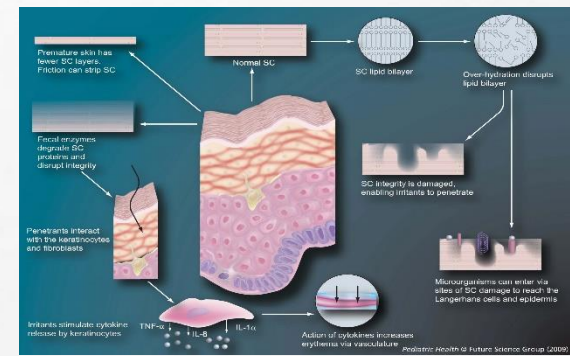
Products intended to be used on infants and children under the age of three. Baby products are specially formulated to be mild and non-irritating and use ingredients that are selected for these properties.

## Baby products include

- Shampoos and soaps
- Lotions, creams and ointments
- Powders
- Oils



# COMMON SKIN DISORDERS OF BABIES



## *Diaper dermatitis*

A rash that occurs in the parts within the diaper in infants aged around 9–12 months is usually termed as diaper dermatitis. Around 7–35% of the infant population suffer from ***diaper dermatitis***.

Excess hydration with released ammonia increasing the pH and cause irritation to the skin. Other enzymes such as lipases, proteases come in contact with the skin; they can also break down the skin barrier. A fungus, *Candida albicans* can also contributed to diaper dermatitis.



***Zinc oxide*** gives astringent in case of persistent dermatitis, hydrocortisone cream with mild antifungal is also recommended.



**Atopic eczema (atopic dermatitis) is the most common form of eczema, a condition that causes the skin to become itchy, dry and cracked. Atopic eczema is more common in children, often developing before their first birthday. But it may also develop for the first time in adults.**

**It's usually a long-term (chronic) condition, although it can improve significantly, or even clear completely, in some children as they get older. Emollients are available in various forms such as creams, lotions, ointments (with soft paraffin) , and gels.**



**Alopecia totalis.** in the modern medical literature, alopecia totalis has been reported as early as the 1940s. Childhood alopecia totalis may be occurred as a result of autoimmune, nutritional and genetic reasons.

## Treatment

**Oral tofacitinib 5 mg twice daily with topical steroids .**

Or

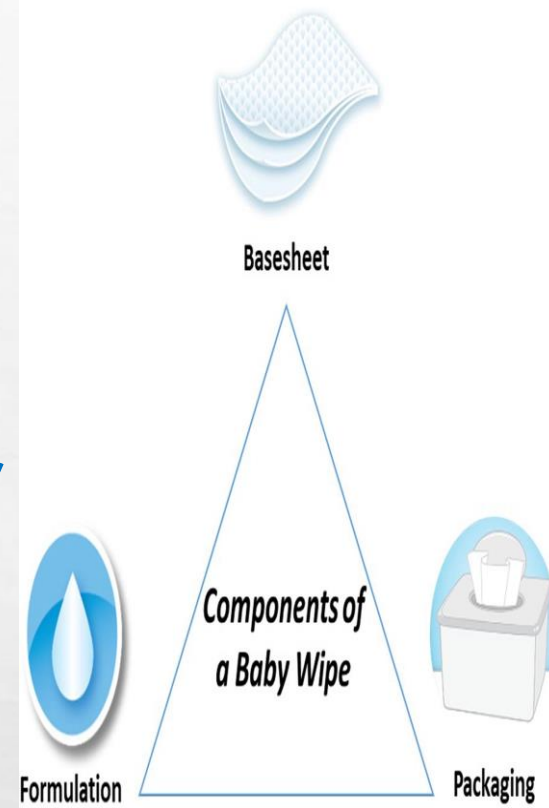
**Oral treatment (steroid  $\pm$  cyclosporine)**



# Cleansing products      Baby wipes

**It is important that baby wipes also contain an extremely**

- ❑ **Mild surfactant (detergent or cleanser) to lower surface tension for better cleaning.**
- ❑ **Preservation system to ensure product freshness before and during use.**
- ❑ **pH adjusting (buffering) system to maintain a solution pH similar to infant skin.**



**Bath salts** are water-soluble, pulverized minerals that are added to water to be used for bathing. They are said to improve cleaning and serve as a vehicle for cosmetic agents.

**Bath salts have been developed which mimic the properties of natural mineral baths or hot springs. Examples: magnesium sulfate (Epsom salts), sodium chloride (table salt), sodium bicarbonate (baking soda) and sodium citrate.**





## Powders

are generally used to control excess moisture due to sweat and to reduce the friction between skin. The talcum-based baby powder **is prepared from the mineral talc, which contains mostly silicon and magnesium.**

It absorbs moisture and decreases friction between skin, which prevent rashes especially diaper rash. Baby powders contain either talc or corn starch as the moisture-absorbing ingredient. **While , medicated powders used for diaper rash contains zinc oxide.**





# The excipients recommended and to be avoided in the formulation of baby powders



**Excipients**

**Category**

**Recommended**

**Bulking agents**

Cornstarch (natural and organic)

Tapioca starch

Oat starch

Sodium bicarbonate

Bentonite

Kaolin

Zinc oxide

**Antibacterial**

Tocopheryl Acetate

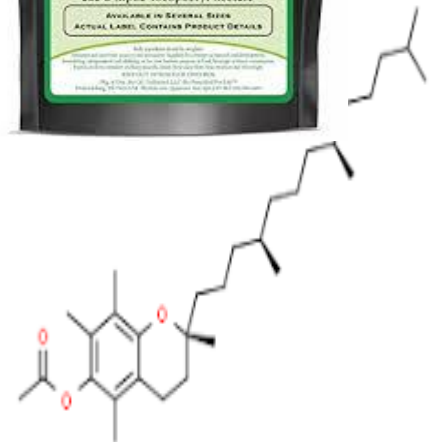
**Antioxidant**

None

**Fragrance**

None

**Dyes**



**Tocophery acetate**



*In baby powder* the particle size and shape is very important (should pass through a 325 mesh screen- 44 microns). The optimum range for a baby powder is 10-40 microns. .

In general, topical powders should have a uniform, small particle size that will not irritate the skin when applied. They should be free flowing, should easily adhere to the skin, and should be passed through at least a No. 100-mesh sieve to minimize skin irritation.

**What Is  
On Size Sieving?**



Excellent **emollient** effects may be achieved by the incorporation of 0.5 to 1.5% **cetyl and stearyl alcohol** in baby powders. The starches used in baby powder as the major ingredients with 0.5% **methyl benzethonium chloride** as a **antiseptic**. Starches don't dust as talc and have absorption capacity of moisture. But, the disadvantages with the starch is that it forms a sticky paste when moistened with water and act as substrate for bacteria.





Baby oils are mineral or natural oils or combination used for applying on baby skin or scalp to moisturize the skin such as *Sunflower oil which* protects the integrity of stratum corneum and smoothen it.

## Baby oils

**Massaging baby oils** are to strengthen the muscles and relax them.

**Coconut oil** and sunflower oil have been most widely used for infant massage





# Essential Oils for Babies & Children



The excipients recommended and to be avoided in the formulation of baby oils

## Excipients

Category	Recommended	Avoided
Fixed oils	Coconut oil	Mustard oil
	Sesame oil	Clarified butter (ghee)
	Almond oil	Olive oil
	Sunflower oil	Peanut oil
	Castor oil	
	Grape seed oil	
	Safflower seed oil	
	Soybean oil	
	Corn oil	
	Joboba oil	
	Shea	
	Cranberry seed oil	
	Peach kernel	
	Cherry kernel	
	Kiwi seed oil	
Moringa oil		
Broccoli seed oil		



# Baby shampoo

Baby shampoo is a baby hair care product employed to remove the dirt, oil, dandruff, and other particles from the scalp. The ingredients used for baby shampoo are milder when compared to an adult shampoo. These shampoos contain surfactants, thickeners, foaming agents, preservatives, and conditioning agents.

The pH of 6–7 and ideally should contain only mild surfactants such as mixtures of non-ionic and amphoteric substances or mild anionics such as sulfosuccinates and protein fatty acids condensates . It should contain ingredients that are harmless to the scalp, hair, as well as less irritating to the eyes and to avoid eye-contact, the viscosity of the shampoo could be increased .



## The excipients recommended and to be avoided in the formulation of baby shampoo

### Excipients

Category	Recommended	Avoided
Surfactants	Sodium Trideceth Sulfate	Sodium lauryl sulfate
	Cocamidopropyl betaine	Sodium laureth sulfate
	Disodium cocoamphodiacetate	Ammonium laureth sulfate.
	Coco-glucoside	Carboxylates
	Decyl glucoside	Quaternary ammonium salts
	Lauryl glucoside	Amine oxides
	Sucrose Laurate	Sulfoxides
	Glycerol oleate	Ethoxylates
	Sodium lauroamphoacetate	Poloxamers
	Betaine	
	Sorbitan Laurate	
	Sodium Cocoyl Isethionate	
	Sodium coco sulfate	
	Polyquaternium-10	
Conditioning Agent	Guar Hydroxy- propyl trimonium Chloride	Dimethicone
	Butylene Glycol	
	Capryloyl glycine	Silicones
	PCA Glycerol oleate	
Foamer	Disodium oleamide	
Thickener	PEG-80	Sodium chloride
	Xanthan gum	
Preservatives	Sodium Benzoate	Parabens: Methyl paraben, propyl paraben etc.
	Glucose oxidase and lactoperoxidase	Formaldehyde donors
	Phenoxyethanol	



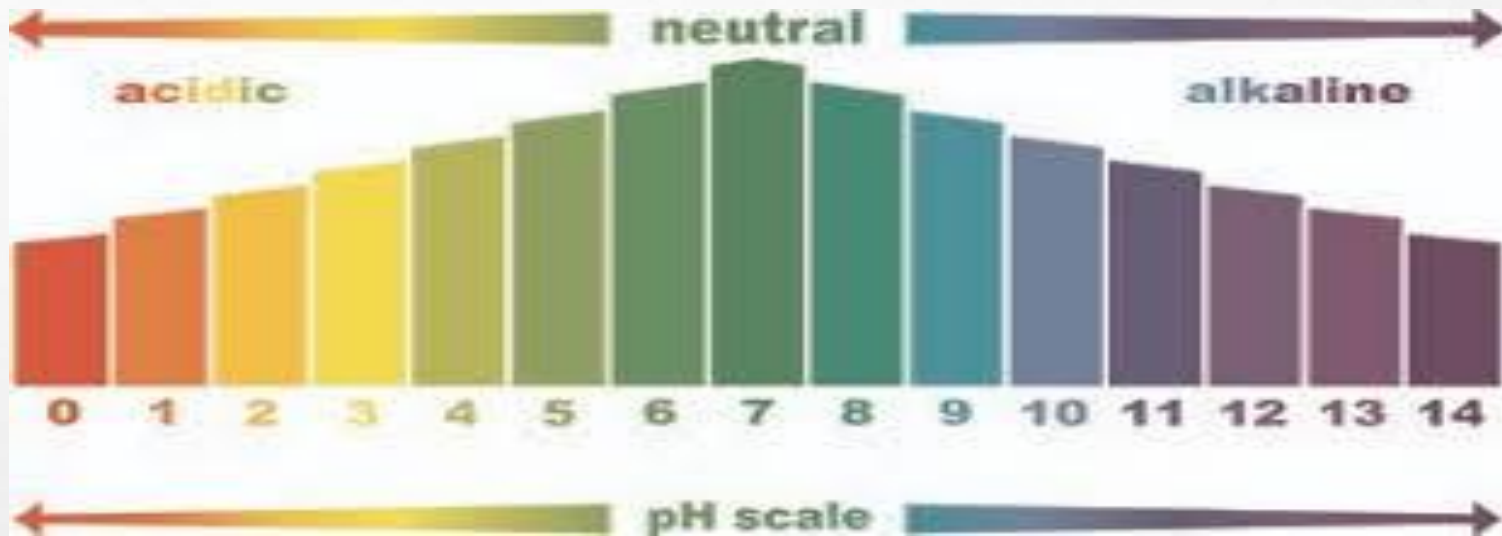
# Creams and lotions

*are semi-solid dosage forms that are applied topically and provide a protective layer around the body, keep moisture in, toxin out and regulates body temperature.*

Lotions are lighter and low viscous than creams. It helps to seal or lock the moisture on the skin to keep it soft. **In case of starting skin damage, water-in-oil (w/o) creams or water-free ointments with talc and zinc oxide are advised.**








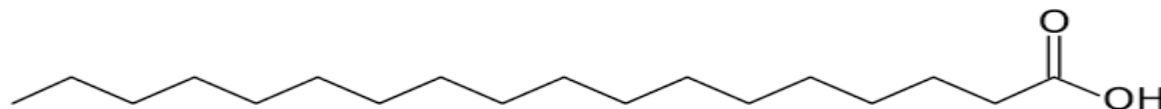
**The pH of the cream/lotion should be maintained around pH 6.5 and should be examined for dermal safety, including clinical assessment for dermal irritation and sensitization.**



## The excipients recommended and to be avoided in the formulation of creams and lotions

### Excipients

Category	Recommended	Avoided
Emulsifiers	Cetyl palmitate	
	Sorbitan Palmitate	
	Ricinus Communis Seed Oil	
	Mineral Oil	
	Capric Triglyceride	
	Sorbitan Olivat	
	Petrolatum	
	Decyl Oleate	
	Ascorbyl Palmitate	
	Stearic acid	
Humectant	Polysorbate 60	<p>Isopropyl alcohol</p> <p>Ethyl alcohol</p> <p>Benzyl alcohol</p> <p>Cyclopentasiloxane</p>
	Glycerine	
Alcohols	Cetyl Alcohol	
	Cetearyl Alcohol	
Emollient	Glyceryl Stearate	
	PEG-40 Stearate	
	Caprylyl Glycol	
	Glyceryl caprylate	
	Caprylyl alcohol	
	Lecithin	



# Baby soap



Baby soap is the salt of fatty acid, which is used for cleansing the baby and should leave the baby skin moisturized. It should cleanse the dirt and oils properly from the skin it should contain ingredients that should be non-irritable, perfumes and dye free.

The fatty acids used for the baby soaps are usually obtained from natural oils such as saponified olive oil and coconut oil .



## The excipients recommended and to be avoided in the formulation of baby soap

### Excipients

Category	Recommended
Fats/oils	Saponified olive oil Saponified coconut oil Saponified palm oil Cocoa butter Sodium palmate Citrus peel oil Sodium olivate Saponified castor oil Potassium chocolate
Alkali	Potassium hydroxide Sodium chloride





Humectants	Glycerine	Propylene glycol
Surfactant	Sodium myristoyl sarcosinate	Sodium lauryl sulfate
	Sodium lauroamphoacetate	
	Cocoamphoacetate	
	Palm acid	
	Polyglycerol 2-oleyl ether	Quaternary ammonium salts
	Glutamate	Amine oxides
	Glucosides	Sulfoxides
		Ethoxylates
Preservatives	Sorbates	Poloxamers
	Phenoxyethanol	Parabens
	Sodium benzoate	Formaldehyde donors
		Phthalates



*Thanks*

