

Delicate baby skin deserves mild products that help maintain and enhance the skin barrier function for healthy baby skin development.

If you'd like to find out more about the use of oils on babies' skin, please contact [jbhcpcontact@its.jnj.com](mailto:jbhcpcontact@its.jnj.com).

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# Oil or nothing?

When it comes to skincare,  
“natural” doesn’t always mean safe,  
indeed **olive oil can be harmful**

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# “Natural” doesn’t always mean safe

The benefits of baby massage are significantly enhanced by the use of oil. However, in spite of the well documented benefits of using oil in baby massage, there is some difference in opinion surrounding which type to use: parents and healthcare professionals often assume that “natural” is best.

There is strong evidence to suggest that natural products are not necessarily better than carefully designed alternatives.

When it comes to oils, vegetable variants are often considered more wholesome than mineral oil; however, such oils are associated with a number of potential disadvantages. Actually, the biological activity and toxicology of vegetable oils can vary depending on their composition and active ingredients; and they are often sensitive to oxidation and/or light.<sup>1</sup>

## Olive Oil can be harmful

Parents are often advised to use shop-bought olive oil for infant massage or to treat areas of dry skin. However, a recent study concluded that this practice should be discouraged<sup>2</sup>: direct application of olive oil significantly damages the adult skin barrier and causes redness, and therefore has the potential to promote the development of, and exacerbate existing, atopic dermatitis, likely as a result of the high levels of oleic acid contained in the oil.<sup>2,3</sup>

It is also worth noting that olive oil is usually intended for cooking and follows food industry manufacturing standards instead of cosmetics standards, as a result it may:

- be of uncertain quality (purity and composition)
- be chemically unstable (becoming rancid in the presence of air or light)
- be contaminated with micro-organisms
- contain potentially irritating impurities

It remains to be determined, with further research, the effect of other vegetable oils on the skin.<sup>2</sup>

1 Rawlings AV and Lombard KJ. A review on the extensive skin benefits of mineral oil, *Int J Cosm Sci* 2012; 34(6):511-518  
2 Danby SG, AlEnezi T, Sultan A, et al. Effect of Olive and Sunflower Seed Oil on the Adult Skin Barrier: Implications for Neonatal Skin Care. *Ped Dermatol* 2013; 30(1); 42-50  
3 Tanojo H, Boelsma E, Junginger HE, et al. In vivo human skin permeability enhancement by oleic acid: a laser Doppler velocimetry study. *J Control Release* 1999; 58: 97-104

# Mineral oil is a safe choice

By contrast, pharmaceutical-grade mineral oil (paraffinum liquidum) is non-toxic and very stable, and has a long history of proven efficacy in skincare.

Mineral oil is used in many moisturisers for dry skin that are on sale or available on prescription in the UK. As a result, its safety has been tried and tested numerous times.

It's also worth noting that the mineral oil used in baby products is highly purified and certified to be free of impurities by the European Pharmacopeia - e.g. **JOHNSON'S® Baby Oil is comprised of more than 99% pharmaceutical-grade mineral oil.**



Meanwhile, from a clinical perspective, it is important to highlight that mineral oil is as effective as other commonly used oils at moisturising the skin<sup>4</sup> and is appropriate for baby's sensitive skin.

## How they compare:

Parameter	Vegetable oils	Mineral Oil
Occlusivity	Medium at most because of chemical diversity	High (because of alignment of straight alkyl chains)
Moisturising (increasing moisture content of skin)	Variable, mainly medium	Medium
Emolliency (the degree to which the oil provides softness to the skin)	Variable	High
Substantivity (extent to which a chemical remains on the skin)	Extremely variable, from very low to very high	Medium
Skin penetrability	Variable, but on average some penetration because of smaller chemical structures than mineral oil	Low to extremely low because of molecular size of the alkyl chains
Blocking pores (acne inducing)	Rarely	Not (based on experimental findings)

**Table 1:** Compares vegetable and mineral oil for a series of physical and biological parameters. Note that only ranges can be given for vegetable oils as this is an extremely diverse group. Although exceptions will always exist, care has been taken to list the 'average' vegetable oil. (Reproduced from Rawlings et al)<sup>1</sup>

## The evidence is clear...it's time for a change

<sup>4</sup> Stamatias GN, de Sterke J, Hauser M, et al. Lipid uptake and skin occlusion following topical application of oils on adult and infant skin. *J Dermatol Sci.* 2008;50:135-142