

# CHEMICAL SAFETY DEPENDS ON THREE KEY FACTS



Baby

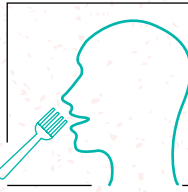


## SUBJECT

Who is exposed to the chemical



Adult



Ingestion



## METHODS OF EXPOSURE

How is the chemical exposed to the subject?



Inhalation



Too Little



## DOSAGE

How much chemical is the subject exposed to?



Too much

Without these key factors, any claims made would be misleading.

# DO YOU HAVE CHEMOPHOBIA?

Chemophobia is defined as the “irrational fear of chemicals.” It is based on the false assumption that “natural” ingredients are “good” and that “synthetic” are “bad.”

Natural and synthetic ingredients are often chemically similar but people prefer “naturalness” because of two reasons:

IDEATIONAL  
REASONS

Moral or aesthetic  
superiority



Chemophobia

## Reference:

Holt S, Kennedy J. Personal Care Product Ingredients: Are Natural, Chemical Free, and Organic Always Best? Research Review 2016. <http://www.researchreview.co.nz/getmedia/590a0f73-ca61-4d3b-a62c-2f8493f8c051/Educational-Series-Natural-versus-Chemical.pdf.aspx?ext=.pdf>. [Accessed 19 June 2017].

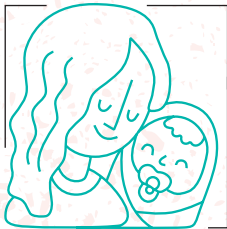
# WHY DO SMELLS MATTER?

Smell is directly linked to influence emotions and memory in the brain.  
The unpleasant and the pleasant.

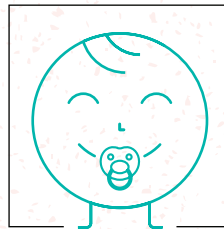
TRY

Eat an orange while holding your nose.  
How does it affect the taste?

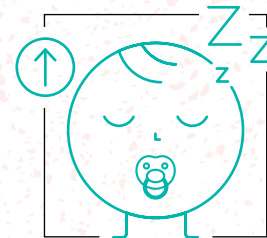
Do you know that newborns use the sense of smell more than any other senses? Fragrances in baby products are designed to :



Better mother-child bonding



Improve relaxation



Enhanced sleep

**Fragrance molecules enhance the experience associated with products.**

# WHAT DO PRESERVATIVES DO?

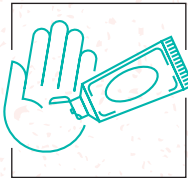
## PRESERVATIVES MAKE YOUR PRODUCT LAST

It reduces the risks of the products from being contaminated, as it could be dangerous if used unknowingly. It protects against spoiling and germs.

How your product can be contaminated?



Finger dipping  
into jars



Palm pressing  
against tube  
mouths



Hands pressing  
against pump  
mouths



Seepage of water  
into product



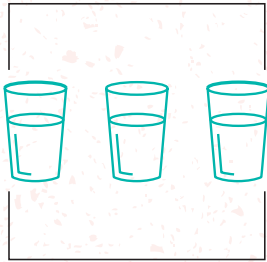
Microbes in  
the air

### Reference:

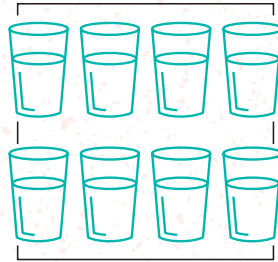
1. Barker, J., Jones, M.V. The potential spread of infection caused by aerosol contamination of surfaces after flushing a domestic toilet. *J Applied Microbiology*. 2005;99:339-347. Wiley Online Library. <http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2672.2005.02610.x/full>. [Date Accessed: 19 June 2017]. 2. Grice EA, Serge JA. The skin microbiome. *Nature Reviews*. <http://www.nature.com/nrmicro/journal/v9/n4/full/nrmicro2537.html> [19 June 2017].

# THE DOSE MAKES THE DIFFERENCE

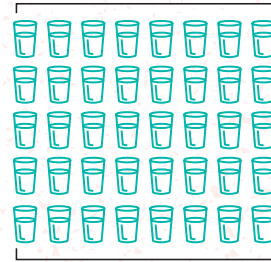
Even seemingly harmless substances we expose ourselves to everyday can be lethal in excess.



Too Little (<8 glasses)  
Dehydration, death



Just Right (8 glasses)  
Healthy body



Too much  
(>6 litres) Death

**Everything has the potential to be dangerous depending on the dose. We cannot avoid everything!**

**Reference:**

The dose that makes the poison. Compound Interest 2014. <http://www.compoundchem.com/2014/05/19/natural-vs-man-made-chemicals-dispelling-misconceptions/> [Date Accessed: 19 June 2017].