

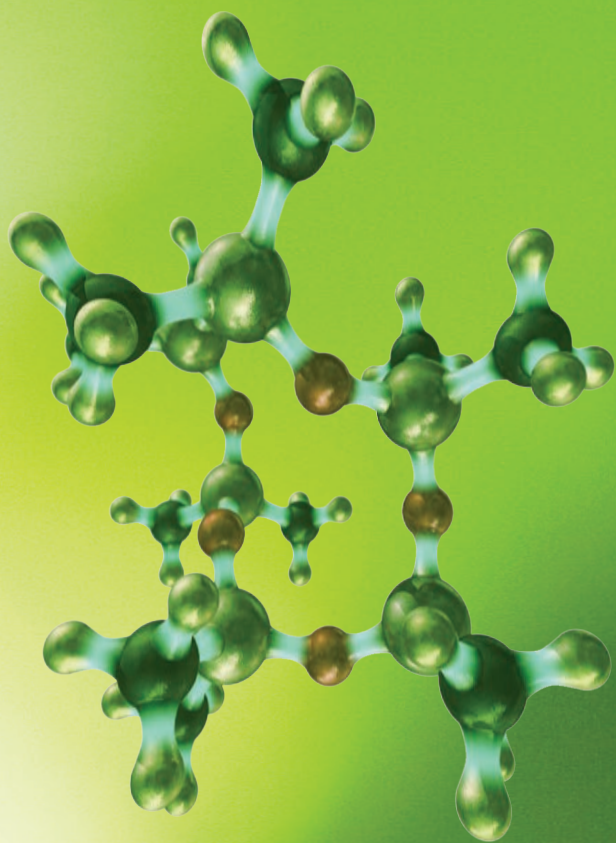
# GreenEarth<sup>®</sup> technology

Revolutionising Fabricare



amazing

# Silicone



## Improving the fabric of life

Silicones have revolutionized the textile industry, making clothing more stylish, comfortable, functional, even intelligent.

Silicone fabric finishes can add softness, reduce shrinkage and improve wrinkle recovery, tear strength, abrasion resistance, and loft recovery. Silicone coatings can improve water repellency or water absorbency without compromising breathability, comfort or touchability.

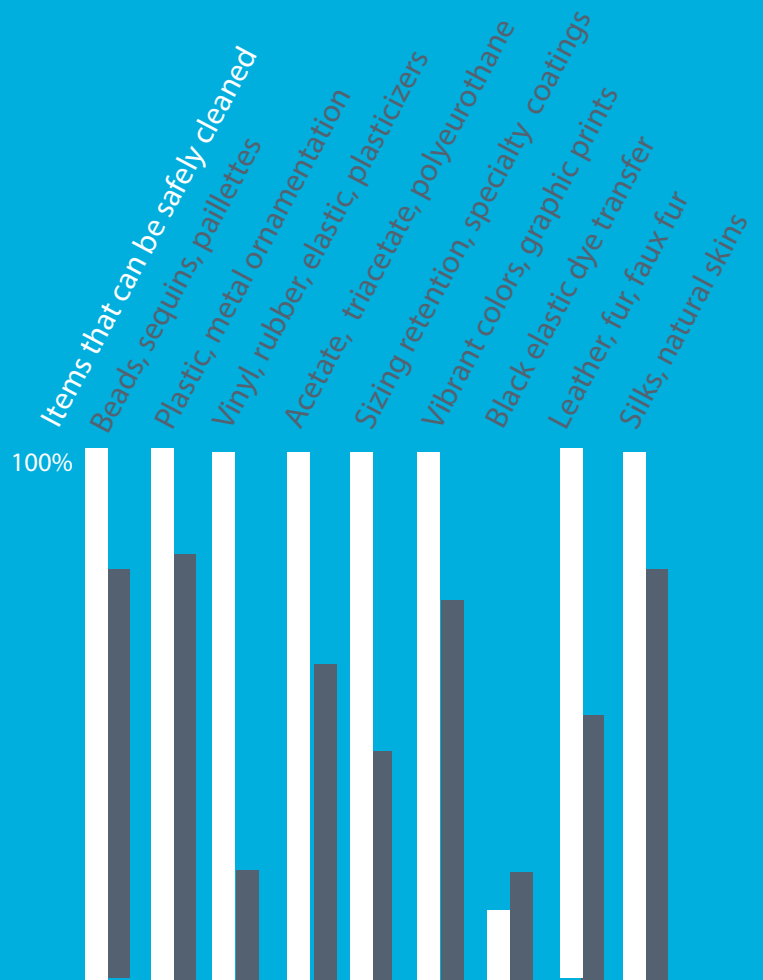
The unique chemistry of silicone makes this remarkable range of benefits possible. Its highly flexible Si-O-Si backbone allows it to be engineered to take many forms and perform a wide range of functions. Unlike carbon based compounds, it is environmentally safe and can actually extend the life of textile materials.

Amazing. But not necessarily news to the fashion industry. The newest news in textiles is the remarkable range of benefits that silicone technology can bring to the cleaning and care of fabrics. There's only one way to get it - GreenEarth Cleaning.



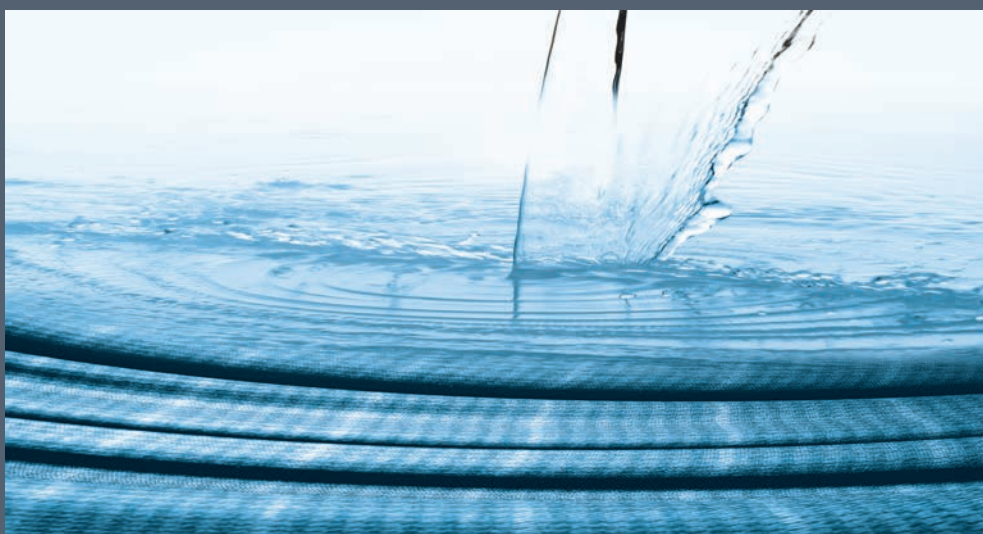
## Textiles and solvent performance: GreenEarth vs. perc

Specialty fibres, ornamentation and components are ideally suited for the GreenEarth process. It cleans as effectively as perc, without risk of damage. This is because liquid silicone is chemically inert, with very low surface tension and Kauri-Butanol Value (KBV) than petrochemical-based cleaning solvents. These characteristics allow GreenEarth to safely penetrate fabric fibres and carry away soils without being abrasive or aggressive, leaching dyes or damaging delicate ornamentation. In combination with our proprietary cleaning programs to minimize mechanical action and heat, the GreenEarth process delivers the gentlest clean in dry cleaning.



Sources: International Fabricare Institute Fellowship Report 2002, P&G Tuxedo Testing 2005, Kufner Textiles 2012, GE Labs 2012

## GreenEarth silicone looks like water and smells like water. But it treats clothes like a mineral bath.

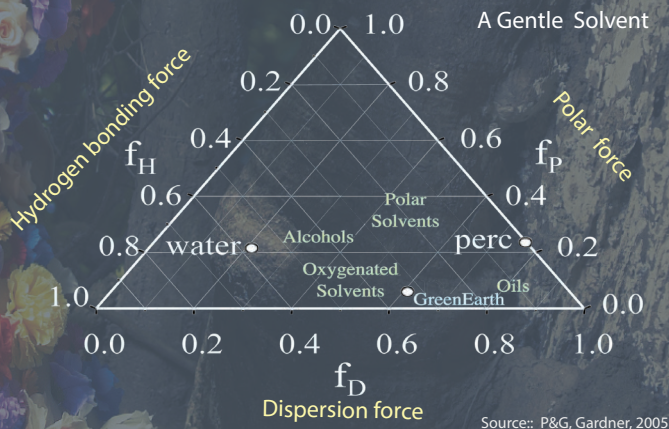
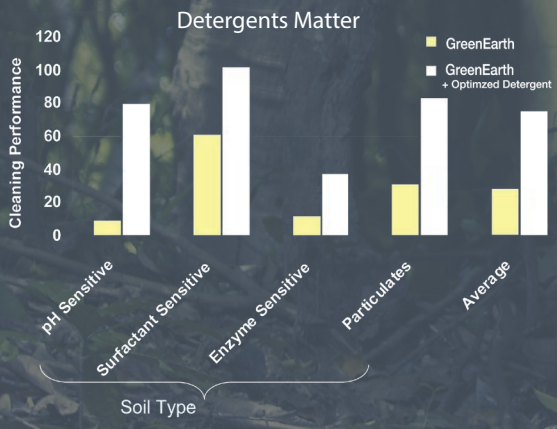


Garments don't just come back clean, they come back rejuvenated. Fabrics actually feel soft and supple again. Silky and smooth to the touch.

They look better too. GreenEarth doesn't damage fibres or leach dye like conventional dry cleaning. Clothes look new longer. Colours stay brighter. Whites stay whiter and repeated cleanings won't cause yellowing over time. And unlike petrochemical solvents, with GreenEarth garments better retain their correct size and shape. Because there is very little wrinkling and no static with GreenEarth, items need less pressing and finishing. This means less wear and tear, extending the lifetime of the garment compared to traditional dry cleaning.



Sustainability and science are fashioning the future in textiles. So why do most care labels still recommend 60 year old dry cleaning solvents? GreenEarth cleans to a higher standard. Pristine clean, without harmful petrochemicals.



Source: P&G, Gardner, 2005

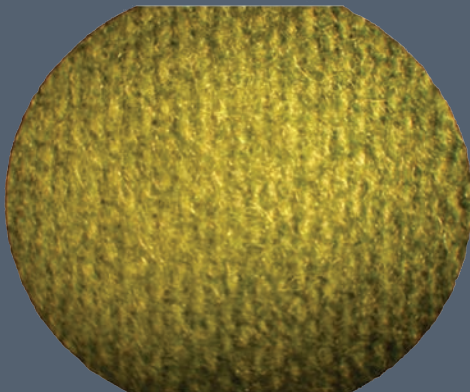


**G**entle matters in garment care. GreenEarth's uniquely gentle technology is ideally suited for the care of any garment but is an especially welcomed solution to the problem of damage risk caused by traditional, more aggressive dry cleaning methods. The molecular magic of our gentle cleaning process can be explained with the complex science of Fractional Hansen Solubility Parameters, Quantum Mechanics and Cohesive Energy Density. But all anyone really needs to understand is that GreenEarth

silicone doesn't work alone, it is part of a proprietary cleaning system engineered for gentleness and sustainability. We have partnered with Procter & Gamble to optimize surfactants for use with the unique chemistry of GreenEarth silicone, streamlined equipment to achieve the smallest overall environmental footprint, designed a filtration system to significantly reduce utility burdens and custom calibrated cleaning programs to produce outstanding cleaning results for each classification of garment without unnecessary heat or mechanical action that can cause wear and tear.

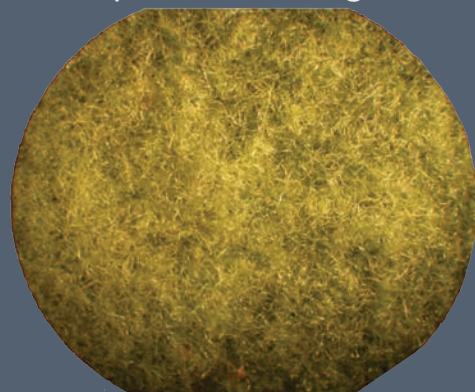
**Think of us as a microscopic scalpel for removing stains when everyone else is still using a machete.**

GreenEarth



Woven wool

Silicone without Optimized Detergent



Woven wool

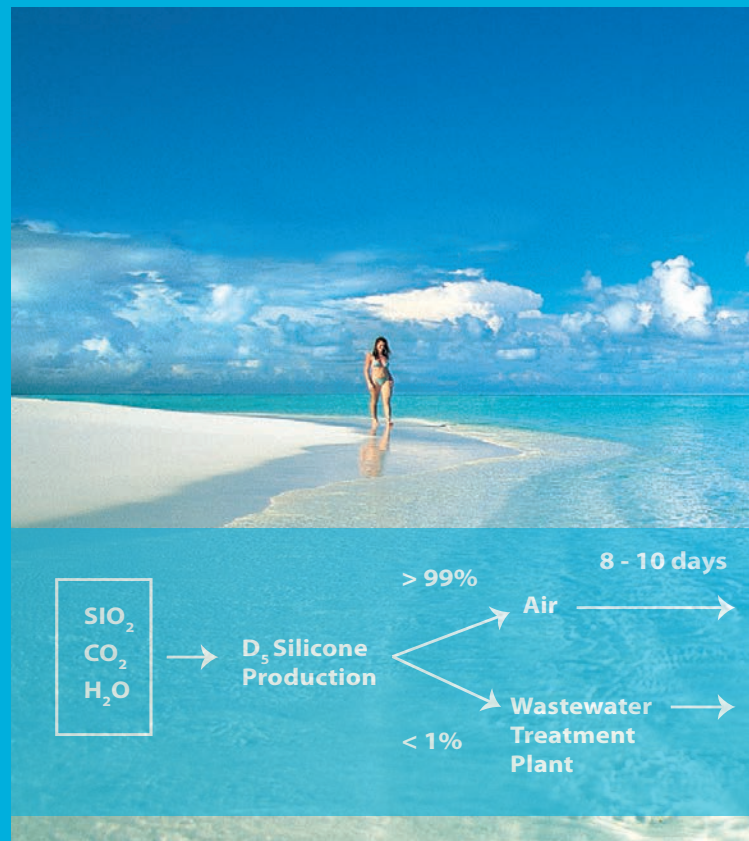
## Cleaning to a higher standard

The notion that cleaning solvents must be harsh to be effective is yesterday's paradigm. With GreenEarth Cleaning, fashion design can be a true servant to inspiration. Restrictions on sizing, pigments, interfacing, materials

and ornamentation no longer need to be the benchmark for evaluating what is possible. Our gentle, sustainable technology is a solution to the cleaning needs of tomorrow's fashions as well. Many of the new nanotech finishes and coatings, E-fibers and sustainable dyes cannot withstand the aggression of petrochemical cleaning.

The fashion industry has a friend in GreenEarth.

GreenEarth silicone is made from sand and returns to sand. Its strong safety pedigree, both human and environmental, is derived from more than 60 years of consumer and industrial use, thousands of laboratory studies and intensive scrutiny by regulators in the U.S. and Canada. GreenEarth silicone is not a Hazardous Air Pollutant, Volatile Organic Compound or Toxic Air Contaminant. It will not bioaccumulate or persist to produce any adverse effects to organisms in air, water, soil or sediments.



## Cleaning Test Performance: Tuxedo Jacket (After 70 cycles compared to new)

	Color Loss	Dimensional Change	Pilling Analysis
GreenEarth	1.16	Yes	43
Perc	1.86	No	59

Statistical Variance

Acceptable (<3%)

# Pills Visible

Source : P&G Tuxedo Jacket Cleaning Test, 2002

## Button Compatibility

	Glass	Fabric	Leather	Pearlized	Snap	Plastic
GreenEarth						
Perc						

Perc v. GE

Completely Dissolved

Color Stripped

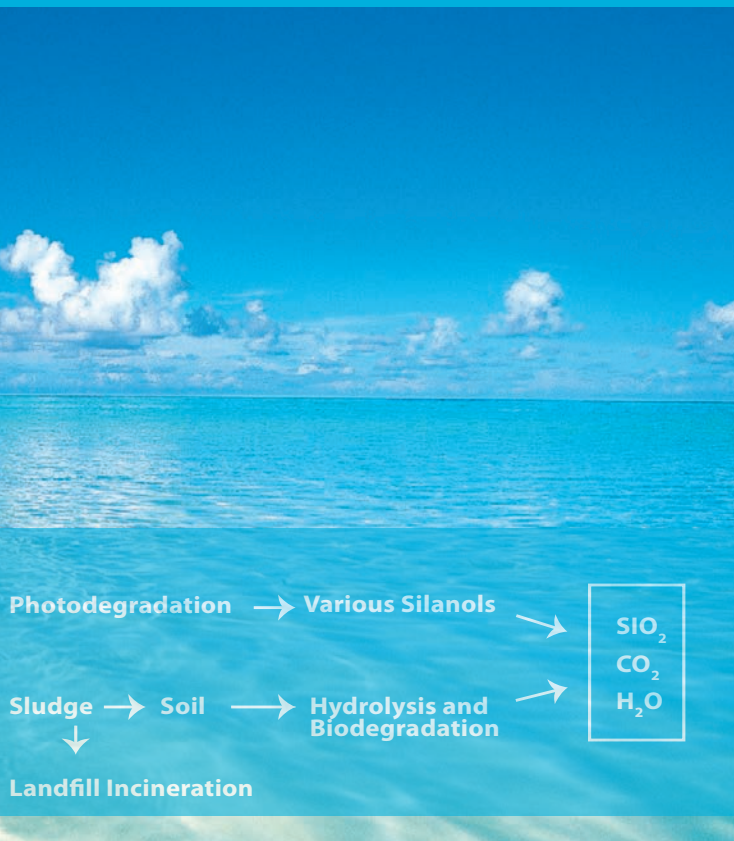
Fray & Fading

Sheen Dissolved

Separated

Melted

Source : P&G, Solvent Analysis, 2005



An environmentally sound alternative to aggressive, petroleum-based chemicals, GreenEarth's silicone-based cleaning process is also better for people. It is non-toxic, non-allergenic, non-irritating, safe to handle and poses no health risk to the public living near businesses that use it.

GreenEarth's Cleaning system has been engineered to significantly reduce the consumption of steam, water and electricity. No other dry cleaning alternative offers a more advantageous footprint

Sources: General Electric 2000, Silicones Environmental, Health & Safety Council, Environment Canada 2008 and 2012, California Air Resources Board 2008, 2012, FMB Group 2012

# Join the Revolution

GreenEarth is actively working with retailers and manufacturers around the world to offer a consumer-centric, sustainable solution to garment after care. We can provide assistance with swatch and garment testing, care labeling and standards protocols.

If you would like to learn more about the cleaning, fabric care, environmental or safety advantages of GreenEarth technology, please contact us. We take a different view about dry cleaning's role in fashion's future. We are allies not adversaries, and we don't confuse solvents with outcomes. GreenEarth Cleaning system is patented, and both our name and logo are trademarked. We protect the ability of our process and our marks to assure operational and environmental excellence through a licensing structure. License approvals and renewals are granted to companies who meet selective criteria and strive to deliver our desired standards. We can be reached by phone at 1-877-926-0895, by email at [info@greenearthcleaning.com](mailto:info@greenearthcleaning.com) or online at [greenearthcleaning.com](http://greenearthcleaning.com).

## About GreenEarth Cleaning.

A Delaware LLC, GreenEarth Cleaning was formed in 1999 by three former drycleaners looking for a solution to the problem of perc. The founding principle of our company is to do business without doing harm; our mission is to protect garments, the people who wear them and the communities in which they live. Through our licensed Affiliates and the retail locations they service, we offer environmentally safe dry cleaning in more than 6,000 retail service locations in 40 countries.

Johnson Cleaners is a founding member and Master Licensor of GreenEarth Cleaning for the UK and Ireland. For more information, contact \_\_\_\_\_

