

# NANOKLEANZ

Nanotech Degreasing Agent

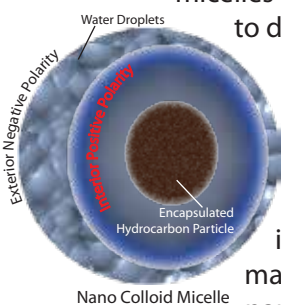


## HOW DOES IT WORK

Nano materials are typically 0.1 and 100 nano meters (nm) in size with 1 nm being equivalent to one billionth of a meter. To put this in perspective a human hair is 80,000 nanometers thick; if a pinhead is assumed to have a diameter of 1 nm (pinhead in nano scale is 1 million nm wide) then on this scale 1 meter would stretch from Washington DC to Atlanta.

The combination of great strides in nano technology and recent developments in colloidal chemistry have made it possible to produce a microscopic particle termed "colloidal micelle". They are tiny sphere shaped particles, comprised of a grouping of linear molecules clumped together, and about the size of 20 hydrogen atoms or about one to four nano meters. Individual colloidal micelles, at the nano-scale, repel each other like opposing magnets. Due to the vastly increased ratio of surface area to volume, quantum physics takes over from classical physics, making the particles 100 times more reactive than conventional micrometer sized particles. Though this phenomenon has existed since creation, science is just now discovering how to harness this chemistry and achieve extraordinary results.

Colloidal micelles work to break down long chain hydrocarbon bonds in fats, oils, and grease and are basically the workhorses behind the nano-colloidal technology's effectiveness as a cleaning, degreasing, emulsifying and encapsulating agent. As the attraction of the colloidal cleaner is greater than the electromagnetic forces of the hydrocarbon bond, the weaker material is broken up into billions of individual particles. Besides the profound effect of the micelles' chemical properties, the single most important feature is their size, which gives them the ability to deliver their chemical effect in places and ways not possible before.



The illustration shows a nano-colloidal micelle that is able to create a watery magnetic machine, as it were, that has all of its water friendly, negative polarity on the outside, with the water repellent positive polarity on the inside pointed to its core. It specifically targets organic molecules or compounds such as oil and petroleum-based products and breaks them down into pieces or particles so tiny that they fit deep inside the nano cluster where they are held in a magnetic prison. Once inside the micelles, oil particles are not able to re-bond with other oil particles. As a slick in their former situation, they will never be a slick again. The slick has been completely emulsified and encapsuated in in a harmless sheath of water. In this state, some or all of it can be rinsed and dispersed anywhere, since it it is unable to cause damage. Furthermore, each tiny particle is now susceptible to naturally occurring bacteria which can now feed upon the oil particle and totally devour it without becoming overwhelmed, as would have been the case had the oil remained in a slick formation.

As explained earlier, this functioning "engine" is no bigger than about twenty hydrogen atoms across, and possibly smaller, based on some scientific theories. Oil spills, grease, scum, stain and similar hydrocarbons have no mechanism to spot the attacking micelles. Having done their job, within about thirty days the nano-colloid micelles will be some eighty percent biodegraded and return to nature from which they originally sprang in plant form. The above illustration of the colloidal micelle is just an artists' conception of what we think the things that do such great work look like. They are so small (0.000,000,001 cm) that they can only be observed with the most powerful electron microscope.