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Chemical Composition of the Nanocopper Particles.

The production of our nanocopper is carried out through a process of electromechanical micro milling in wet medium, using copper of very high purity as raw material. For this, a mill is used whose contact surfaces are manufactured with copper plates with a purity of 99.999%, which allows minimizing the incorporation of external impurities and preserving the quality of the material throughout the entire process.

The transport and dispersion medium of the copper is distilled water, selected to avoid the presence of salts, minerals or other contaminants that could affect the behavior of the material at very fine scales. The use of an aqueous medium favors a more uniform milling, improves the process efficiency and contributes to greater control of the copper oxidation during size reduction.

During milling, the material is subjected to high electromechanical energy that causes a progressive reduction in particle size. This continuous process generates an extremely fine copper powder, reaching nanometric dimensions. At these scales, copper presents a more fragmented structure and greater surface area, which translates into exponentially different physical and chemical properties compared to the original material.

In summary, it is a simple and controlled method that allows obtaining high-purity nanocopper with good homogeneity, without the use of additional chemical reagents, which is especially relevant for applications where material quality and absence of contaminants are critical factors.

Consequently, the chemical composition of the particle surface is not altered because there is no intervention of other matter in the processes, remaining these in pure state.

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