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## **CORPORATE NANOMATERIALS BUYERS FAIL TO GET WHAT THEY PAY FOR**

New Lux Research study finds confusion and controversy abound between nanomaterials buyers and suppliers

New York, NY – December 8, 2004 – Corporate nanotechnology researchers frequently purchase nanomaterials – nanoscale structures in pure form, like carbon nanotubes, fullerenes, and quantum dots – which are the basic building blocks of nanotechnology. But these buyers frequently fail to get what they pay for, according to a new report from Lux Research entitled “Nanomaterials: Buyer Beware.”

“More than 200 companies worldwide sell nanomaterials today. As a group, they have a frighteningly poor track record,” said Matthew Nordan, Vice President of Research at Lux Research. “In our interviews with nanomaterials buyers, we’ve heard horror story after horror story from companies that haven’t gotten the nanomaterials they expected from suppliers. Nanotubes, metal oxide nanoparticles, and fullerenes generate the most complaints while nanoporous materials and dendrimers generate the least.”

Among the experiences that Lux Research documents in its report:

- An electronics company bought samples of carbon nanotubes from multiple vendors and found that up to 30% of what was shipped was actually leftover catalyst used to grow the nanotubes – not the nanotubes themselves.
- A specialty chemicals company purchased samples of carbon nanotubes and found that in at least one case, the sample provided by the vendor included no nanotubes at all – just amorphous carbon soot.
- One widely regarded nanomaterials supplier considered to be a pivotal player in its segment cannot actually supply product in commercial quantities, and secretly resells product from its own competitors when asked to do so.
- One buyer of metal-oxide nanoparticles found many vendors eagerly claimed they could synthesize particles of the buyer’s desired size dimension. But none could package or ship them in a way such that they didn’t agglomerate into bigger particles, rendering them useless for the buyer’s application.

Lux Research projects that nanomaterials supply won’t improve quickly. Many suppliers are part-time operations that lack robust quality control, suppliers’ ever-changing production processes all but ensure that one batch of material differs from the next, and buyers and suppliers disagree over fundamental terminology. Standards from groups like the American National Standards Institute and the International Organization for Standardization could solve the problem, but they will require years of negotiation to develop. All told, it will take three years for competition to weed out ineffective suppliers and for agreed-upon standards to take shape, according to Lux Research.

“In the interim, nanomaterials buyers and suppliers have no choice but to act defensively,” Nordan said. “Buyers should use secret shopping to qualify suppliers, requesting price and availability for large quantities – a kilogram for carbon nanotubes, for example – to weed out suppliers that can’t actually deliver. In addition, they should clearly describe to suppliers how they plan to use the material to eliminate ambiguity, and enlist a procurement specialist to finalize T’s and C’s. On the other side of the table, suppliers must obsessively document each shipment using tools like scanning electron microscopy images, as well as educate customers on how to use the nanomaterial without contaminating or destroying it,” he added.

The report is available immediately to clients of Lux Research’s Nanotechnology Strategies advisory service. For information on how to become a client, contact Rob Burns, Vice President of Sales, at (646) 723-0708.

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