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Graphene: Why is it Stated as a Miraculous Nanomaterial

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Editorial Note

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EDITORIAL NOTE

They ground crystals to finer powders with careful care, cutting, cleaving, polishing and examining them like professional jewellers extracting gems from lumps of unattractive carbon. The scientists' goal, like that of the jewellers, was to create a product that was considerably more precious than the raw material. They were attempting to create graphene, a one-atom-thick graphite flake. The recent discovery of adhesive used for production of almost monolayer of grapheme was indeed a discovery worth of a noble prize. It is quite righty stated by various scientist that graphene is indeed a unique nonmaterial. When graphite is broken down into graphene, the ultra-thin flakes take on new qualities that are unexpected and interesting.

Graphene is the strongest substance ever measured, 200 times stronger than steel and three million of these sheets placed on top of one another would only be one centimetre high. It's also the most conductive of the three. It looks like a chicken wire lattice of carbon molecules that is so fine that not even a hydrogen molecule can flow through it at the atomic level. Because the bonds between the carbon atoms are strong, it is ultra-thin but mechanically highly durable.

Electronic devices like graphene transistors can be miniaturised considerably beyond current silicon standards because of these bonds' ability to transport enormous electrical currents. Plastics can be made conductive while staying translucent by seeding them with 1% graphene. The special features of graphene also open the door to ultra-sensitive detectors that could detect diseases such as cancer far earlier than existing procedures. Given the size of the sheets utilized and the conditions under which they are employed, it's difficult to picture graphene in its pure form being swallowed or inhaled in substantial numbers. However, if it manages to enter the body, its peculiar qualities could cause harm in ways that are now unknown. On the other side, it could be quite harmless. Workers handling graphene are more concerned about its safety than consumers who use the finished product. Waste management for graphene-containing products is also a concern, as are special disposal policies, such as those for batteries and refrigerators. If it manages to enter the body, its peculiar qualities could cause harm in ways that are now unknown. On the other side, it could be quite harmless.

At the European level, present legislation is thought to be adequate to address nanotechnologies and nonmaterial in principle. However, several information gaps on the safety of nonmaterial have been recognized and research to fill those gaps has been intensified.