In Saratov, scientists have developed a material that can significantly increase the sensitivity of the sensors to harmful gases. Specialists of the Saratov State University named after N. G. Chernyshevsky combined the aminated graphene with nanoparticles of zinc oxide, which made it possible to achieve a more accurate response to the presence of gases in the air.

According to the developers, graphene with amino groups acts as a trap for molecules, and zinc oxide enhances the signal, changing the conductivity of the material. Thanks to this, the sensor resistance can change ten times, which makes it much more sensitive compared to analogues.

In the course of the work, quantum calculations and a rarely used method of scattering of wave function were used. This approach made it possible to accurately predict how the electronic conductivity of the sensor will change when interacting with harmful substances.

Scientists emphasize that the functionality of new material can be the basis for the creation of portable gas analyzers, as well as multichips that can simultaneously identify dozens of various pollutants.