

The press service of the Ministry of Education and Science of the Russian Federation reported that scientists of Tomsk State University developed and patented a fabric capable of protecting the skin from toxic substances. The material can be used in overalls for firefighters, rescuers and doctors working in dangerous conditions.

The basis of the fabric is ordinary material – cotton or polyester. Its protective properties are provided at the expense of the applied layer of nanoparticles of metal -organic polymers. Scientists have experienced three coating options, each of which has special properties.

The first type contains zirconium and blocks the penetration of toxic compounds released during fires. The second option, with copper, is effective against viruses and bacteria, which makes it useful for medical masks and protective clothing. The third type, with iron, is able to cleanse water from harmful impurities, for example, phenol.

The tests showed that nanoparticles are resistant to ultrasound and do not lose their properties. The fabric works as a filter: the base delays large particles, and the applied layer absorbs dissolved toxins.

So far, the content of the active component in the material does not exceed 20% – with a greater concentration, the coating begins to crumble. Nevertheless, the development is already patented and in the future can find use in protective equipment and cleaning systems.