



3D printing: practical, modern – a health risk?

Private individuals can now produce spare parts, household goods or gifts themselves with the help of a 3D printer. The most common devices melt down thermoplastic and apply it layer by layer until the three-dimensional object is finished. These plastics may also contain additives such as metal and wood, although the exact composition is often unknown. The BfR is currently investigating possible health risks for users. Scientific studies show that the heating process of 3D printers releases particulate and volatile substances. In the hobby sector most 3D printers do not have an exhaust system. Thus, emissions are released directly into the indoor air. To assess the risks of emissions from a health perspective and to make recommendations for consumer health protection, the BfR systematically examines various 3D printers and materials from different manufacturers.

More information:
BfR Communication No. 048/2019 of 04 December 2019

When sprays hit the lungs

In the NANOaers research project, an international team has investigated how the lungs react to tiny particles (nanoparticles) from aerosols. Headed by the BfR, scientists have recreated different liquid mixtures and sprayed them in special measuring chambers. The question: how do the solvents and additives, which also enhance the dirt-repellent properties of proofing sprays, affect the respiratory tract? The result: the use of solvents reduces the droplet size of the aerosols. Smaller particles can penetrate deeper into the lungs and, therefore, potentially pose greater health risks. Spraying the mixtures led to lower lung cell activity in the laboratory test, even when using individual components of the mixtures. The addition of nanoparticles partially increased the effects. Fewer spray bumps resulted in a lower absorption of nanomaterials by the cells.



Protective clothing in the field

Plant protection products are safe – in principle. However, a prerequisite is that they are used properly and for their intended purpose. This means, for example, that when used in the field, protective clothing such as overalls, breathing masks and gloves must be worn if this is in the instructions for use. New regulations for the protection of health during use and for people living in the vicinity have been in force since 2019. Anyone who does not follow the instructions for use can expect to be fined. The instructions are there for risk mitigation and are based on assessments made by the BfR. They are made mandatory when a plant protection product is approved. Authorities, crop associations and German federal states (“Laender”) are currently discussing regulations that are easy to implement in practice, easy to understand and that take into account the diversity of agriculture.

More information:
BfR Communication No. 006/2020 of 23 January 2020