

TOXICITY AND FIRE HAZARD OF MODERN SYNTHETIC CONSTRUCTION MATERIALS

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Abstract – Polymeric materials have become widespread in the modern construction industry due to their cheapness and variety. Taking into account their current popularity, the issues of their toxic and fire danger are highly relevant. The study examines a sample of PVC-based flooring material. The results of the determination of the sample's fire hazard indicators (i.e. combustibility, flammability, smoke-developed index) showed its compliance with the current certificate data. The properties of the sample's gaseous combustion products are studied by thermal analysis and IR Fourier spectroscopy. The results of the determination of chloride ions by titration of the solutions of thermolysis products using the Mohr method indicate the toxicity of the material studied.

Keywords: thermolysis products, flammability, fire safety, IR-spectrum, thermal analysis, toxicity, PVC.