

EMISSION OF AIRBORNE FIBERS FROM MECHANICALLY IMPACTED NON-  
ASBESTOS FIBER-CONTAINING MATERIALS: PRELIMINARY RESULTS

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**Abstract:** The emission rate of fibers released from the new/fresh and used/worn ceramic fiber material, glass wool and man-made mineral fiber material due to mechanical impact was determined experimentally. The emission rate has been defined as a number of fibers emitted per unit mass and unit impact energy. The averaged emission rate of short fibers ( $L \leq 5 \mu\text{m}$ ) for all studied fresh non-asbestos fiber materials ranged from 2.2 to 20 fibers/(g·J), while the emission of long fibers ( $L > 5 \mu\text{m}$ ) was between 2.2 and 100 fibers/(g·J). The susceptibility of worn fiber-containing materials to emitting fibrous particles due to mechanical impact was significantly diverse. Emission from glass wool unchanged with the exploitation, while the emission rate of the mineral fiber material increased by a factor of  $10^4$  compared to new material. The dominating population of emitted fibers from studied materials ranged from 2 to around  $8 \mu\text{m}$  in length.