Emissions in the End of Life Cycle Phase– Question 2 and Question 3

The manufacture of a needle felt is a mechanical process and the material loss during this process is limited by the confines of the equipment. Furthermore, all potential sections of the machinery where fibres can be lost have an exhaust system including a filter. This is regulated by law in order to achieve all required health, safety and environmental standards.

A further aspect is the recycling of PTFE fabric residues from our fabrication process. External companies shred those residues. The reopened fibres are used again in our production process.

During operation, there is no material loss and therefore emission of PTFE does not occur. This can be explained by the fact that the entire construction needs to remain intact in order to achieve the desired emission requirements. Even smallest abrasion holes would not allow a further operation.

This is also achieved by the basic design of a bag filter unit. The installed area of filter bags is very large, so the velocity during the passage of the gases through the felt is very low, it is in the range of 0.016 m/s. This low velocity is the key for a proper collection of the dust on the filter material and the non-existing abrasion.

Filter bags are by definition used to protect the environment from dust or even more hazardous substances. As a consequence, these bags have to be dealt with accordingly: Within the EU the respective waste key is 190107. It is mandatory to treat the bags in a thermal facility.

Due to the given operating conditions in these special waste incinerators, the end product of the PTFE in the bags is either NaF or CaF_2, which is the natural mineral state of fluorine. This is achieved by high temperature incineration followed by a scrubbing process.