

RISK EVALUATION OF USE OF TRIMMINGS IN PAPER PRODUCTION

SAFE SUSTAINABLE SOLUTIONS



CONTAMINATION OF CONVERTING TRIMS WITH TRACERS IN ORDER TO EVALUATE THE IMPACT OF TOXIC SUBSTANCES FROM RECYCLED MATERIAL IN THE FINISHED PRODUCT

During their production process, Paper mills produce waste, which can be also called trimmings; these are generally not deleted, but are reused by introducing them into the pulper and mixed in a new batch.

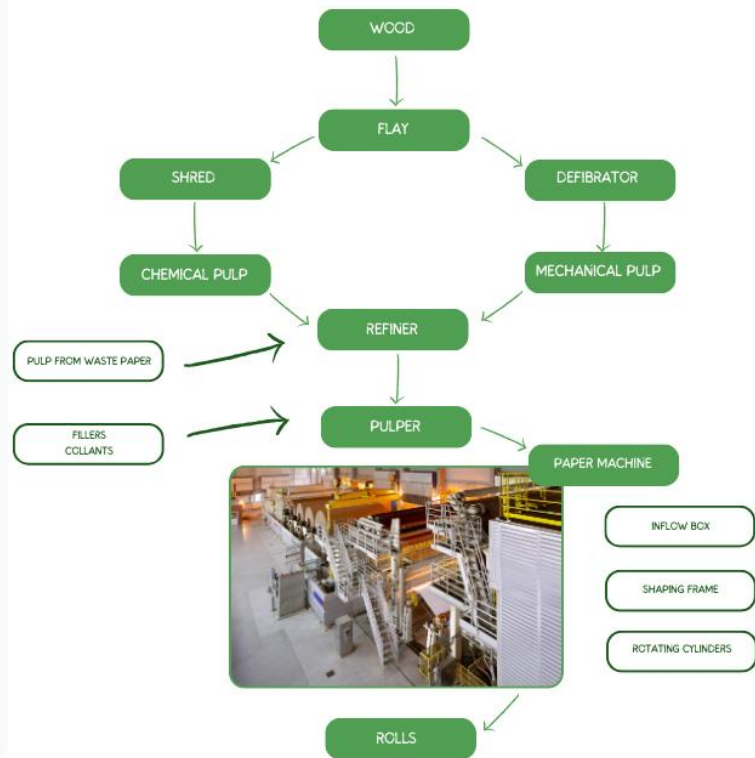
The trimmings used generally make up between 2 and 5% of the new source material that will be ready to be processed and converted into tissue paper, FCM or packaging.

The raw materials' traceability is required for producers of FCM material and for those companies that have adhered to voluntary certifications, such as FSC or PEFC, who therefore had to implement the good manufacturing practices (GMP) in its quality system: therefore, the waste addition from other batches makes it difficult to manage the traceability information and the Product Recall Situations.

Trims are typically accumulated over time and reused in small quantities, which create batches of production of raw materials that would collect batches old and manifold; in addition, the lack of control of these trimmings may be an element of objection on the inspectors' and auditors' part.



Paper - Flow Production



Food Contact Center offers to companies the opportunity to verify and demonstrate how your process reduces the potential content of substances that can result from both the reuse of trimmings and other sources of pollution during production.



RISK EVALUATION OF USE OF TRIMMINGS IN PAPER PRODUCTION



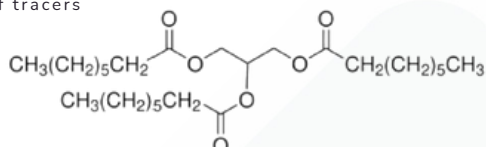
SAFE SUSTAINABLE SOLUTIONS

OUR SOLUTION

In the R&D plant of Food Contact Center, It have been set up a machine and a process in order to operate the contamination of the trimmings, which are mixed with uncontaminated paper and then given to the customer who will produce his own finished product.

Contaminants, also called **tracers**, are analytes with a chemical structure similar to the most well-known and present pollutants (MOSH-MOAH, Phthalates, Bisphenols, etc.).

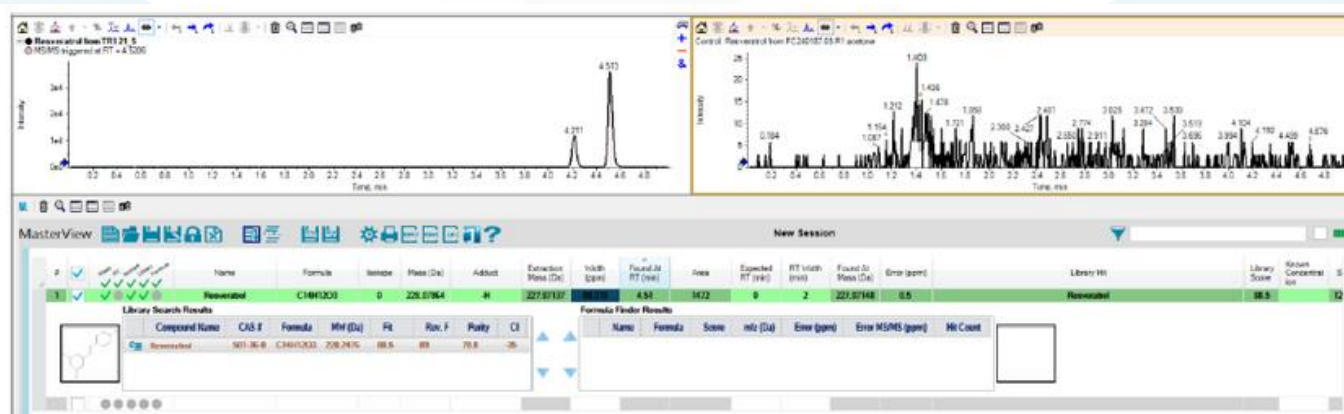
Example of tracers



Tracers, as well as potential contaminants, are volatile, semi-volatile and non-volatile analytes and detectable after extraction with GC-MS and LC-MS techniques. The molecules used as tracers are authorised in the production of paper by European regulations and they are non-toxic and odourless. These are solubilized in solvent and added to the paper: the sample is then homogenized and this allowed to the solvent to evaporate, in order to obtain a dry product with tracers.

The sample is analyzed before the tracers are added, after the tracers are added and after the sample have been transformed by the converter into Semi finished products. Verification tests are also carried out with instrumental/analytical performance on the matrix provided by the customer in order to ensure the most accurate analytical result possible.

With the procedures described above, in several cases it has been possible the abatement of contamination for values greater than 95%, considering the measurement uncertainty and the homogeneity of the samples. In some cases, the abatement was 100%, thus making it possible to demonstrate that the incidence of contaminants present in trimmings from the various production lines do not show a potential contribution concern.



Resveratrol Overlap in LC-MS/MS of Lab Polluted Sample (Left) and Postprocessing (Right)

TheLaboratory Management
Rev.0 16/09/2025