



# CleanSmoke

Renewal of the primary smoke products for the CleanSmoke smoking process



## RISK ASSESSMENT (EFSA) AND RISK MANAGEMENT (EU COMMISSION)

The European Commission and EU Member States will carefully consider EFSA's scientific advice when deliberating on appropriate risk management options for smoke flavors.



### IMPLEMENTING REGULATION (EU) No. 1321/2013 OF THE EU COMMISSION

„(4) (..) Because primary products are produced from smoke which is subjected to fractionation and purification processes, the use of smoke flavourings is generally considered to be of less health concern than the use of smoke that is made by burning wood or by heating saw dust or small wood chips.“



### ECOLOGICAL EVALUATION CLEAN SMOKE VS CONVENTIONAL SMOKE

The necessary transformation of the food industry described in the "Farm-to-fork" initiative calls for comprehensively sustainable resource and environmental management in view of the impending climate catastrophe, chemical and fine dust pollution. CleanSmoke is rated as the "best available technology" for smoking food by the EU Joint Research Center (JRC). Potential savings are shown on the back.



### HEALTH EVALUATION CLEAN SMOKE VS CONVENTIONAL SMOKE

In the EMGS\* study - which has not yet been taken into account by the EFSA - no genotoxic effect could be detected in the finished primary smoke product. In contrast to conventional smoking, 99% of the carcinogenic PAHs are no longer contained in the purified smoke. Smoke is generated from the primary smoke product, which is transferred to food in a smoking process. Neither the regenerated smoke nor the finished smoked foods have yet been examined and evaluated. Accordingly, from a safety assessment perspective, the evaluation should be the same as that of the conventional smoking processes.



### ECONOMIC EVALUATION CLEAN SMOKE VS CONVENTIONAL SMOKE

Using the example of Sweden - where more than 80% of smoked meat products are produced in the smoking process with purified smoke - it becomes obvious that a non renewal of the smoke flavors is also economically unfeasible: the meat industry would be jeopardized in its sustainable development and existence.

\*Chad M. Thompsen u.a. Research Article/ Wiley 2023  
Assessment of the in vivo genotoxic potential of three smoke flavoring primary product mixtures



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Saving potential with the „Best Available Technique“:

- **90 % Water & Waste Water**
- **80 % CO<sub>2</sub>-Emissions**
- **68 % Chemicals** Cleaning detergent \*
- **28 % Reduction of Cost** per unit or Process \*\*
- **50 % Energy**
- **71 % Dangerous Substances Benzo(a)pyren & PAH**
- **50 % Raw Smoking material** \*\*\*
- **33 % Resource Consumption** excl. Energy



\* Compared to combustion smoke

\*\* Incl. emission measurement and waste disposal (conventional smoke)

\*\*\* Compared to combustion smoke and friction smoke

All calculations are based on the life cycle assessment by  
DIL (Deutsches Institut für Lebensmitteltechnik e.V.)  
on behalf of Red Arrow Handels-GmbH.

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