Safe Histamin-Reduction for Drinks

High histamine is a recurring pain point in liquid matrices such as fish/soy sauce, fishery brines, and fermented drinks such as wine, beer, etc. We offer a fast, in-process "contact-and-capture" step using polymer-coated, superparamagnetic iron-oxide nanoparticles: they bind histamine in minutes and are removed with a magnet, preserving line speed and sensory quality while giving you a tuneable lever on specs.

BACKGROUND

Histamine accumulation is a persistent food-safety and quality challenge in fish sauce and fishery brines, as well as soy sauce, beer, wine, cider, perry, sake, kombucha, kefir and many other fermented beverages. Exceedances can trigger product holds or market barriers; for example, EU criteria set sampling plans and maximum levels for some products. Traditional levers—starter selection, storage modifications, enzymatic degradation, electrodialysis, or post-hoc analytics—either do not remove histamine already formed, risk sensory impacts, add cost/complexity, or are hard to retrofit at scale. A practical, "in-process" removal step that preserves flavor and line speed is missing.

TECHNOLOGY

We design a contact step that fits your line: define matrix and sensory constraints, tune polymer composition and particle size for your liquid, validate adsorption and magnetic recovery in your real broth, and engineer regeneration cycles where useful. Deliverables include optimized nanoparticle specs and SOPs, adsorption and separation kinetics in your matrix, regeneration guidance, and a scale-up plan with QA analytics. Our program favors short, low-risk pilots that move quickly from lab buffers to your liquids.

OFFER

We propose a staged, 4–6-month collaboration to (i) benchmark histamine baselines and sensory constraints in your product, (ii) engineer and screen matrix-specific adsorbents for capacity, selectivity and magnetic recovery, (iii) optimize contact time, solids loading, and regeneration cycles at bench- and pilot-scale, and (iv) deliver a tech-transfer package, including QA analytics and a scale-up plan. acib can also support life-cycle and sustainability assessment as needed.

Ready to ship products with tighter histamine specs and fewer holds? Let's co-develop a magnetically recoverable processing aid tuned to your recipe – reach out and we'll map your feasibility and pilot plan. Project IP can be fully transferred to the company partner; we are happy to discuss details under NDA and provide a tailored plan.

EXPERTS

Prof. Dr. Sebastian Schwaminger

DEVELOPMENT STATUS:

Technology Readiness Level 4
(Technology Validated in Lab)

KEYWORDS

- Magnetic Histamine Removal
- Biogenic Amine Elimination
- Liquid Foods and Ferments
- Inline Remediation, Contact-and-Capture Step
- High Binding Capacity, SO_2/ethanol compatibility
- Regeneration Protocol
- Histamine Compliance
- EU Histamine Limits
- Brand Protection

CONTACT

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