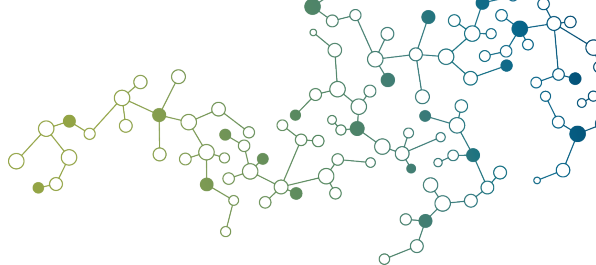


FIBERS



nPURE™ EMBEDDED ODOR CONTROL FOR FIBER APPLICATIONS

PFAS-free odor-control performance engineered into the polymer. Designed to capture and reduce malodors without fragrances, topical finishes, or antimicrobial chemistries.



www.Americhem.com

Americhem: A Global Leader in Functional Polymer Solutions

Americhem is a global leader in color and additive technologies, delivering innovative, sustainable polymer solutions for fiber and nonwoven markets. With decades of expertise in polymer science, additive engineering, and regulatory compliance, Americhem helps customers address evolving performance expectations while adapting to global sustainability initiatives.

Across fibers, nonwovens, films, and molded polymer applications, OEMs, product developers, and material teams are seeking embedded odor-control solutions that support freshness, comfort, and product differentiation without relying on fragrances, topical finishes, or antimicrobial chemistries. Americhem's nPure™ platform meets that need with PFAS-free odor control designed to capture and reduce malodors directly within the polymer matrix during melt processing.

AMERICHEM OFFERS THE FOLLOWING BENEFITS AND MORE:

CUSTOMIZATION

Tailored additive systems designed around polymer type, processing conditions, and end-use performance targets.

REGULATORY COMPLIANCE

Support for regulatory frameworks including cGMP, FDA, DMF/LOA and USP requirements.

QUALITY & PERFORMANCE

Providing superior quality and outstanding performance, with an emphasis on durability, precision, and versatility. Reliable results are achieved through advanced polymer formulation and dispersion technologies.

EXPERTISE & INNOVATION

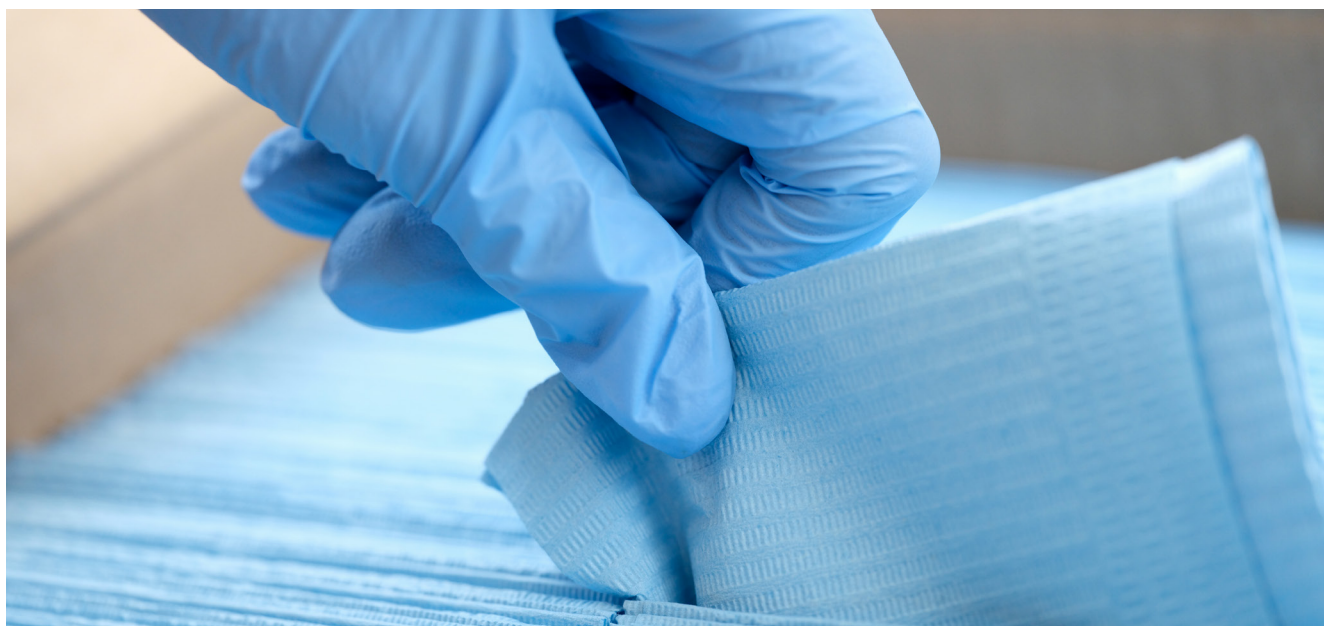
Leveraging years of industry experience and expertise to develop solutions

GLOBAL REACH

Americhem delivers reliable quality and service to customers across the globe, backed by worldwide manufacturing, technical support, and collaborative customer partnerships.



nPure™ helps product teams and manufacturers engineer embedded odor control into fiber and polymer products from formulation through production.



INTRODUCING NPURE™

Turning Odor Control into an Engineered Material Property.

Odor control has traditionally relied on fragrances, topical finishes, or antimicrobial chemistries that can lose effectiveness over time or require additional processing steps. As consumer expectations for freshness continue to grow and manufacturers pursue more sustainable material solutions, there is increasing demand for embedded technologies that become part of the polymer itself.

nPure™ is Americhem's PFAS-free embedded odor-control masterbatch platform designed to capture and reduce malodors directly within the polymer matrix during melt processing. Instead of masking odors or applying temporary surface treatments, nPure™ integrates odor-control functionality into the material, helping product teams and manufacturers deliver durable freshness while maintaining processing efficiency and end-product performance.

Designed for scalable commercial manufacturing, nPure™ helps turn odor control into an engineered material property that can be incorporated directly into fiber and polymer systems during melt processing.

WHY EMBEDDED ODOR CONTROL?

- Targets odor molecules rather than masking odors
- PFAS-free, fragrance-free, and non-biocidal
- Compatible with PP, PE, PET, and bicomponent fiber systems
- Designed to integrate into existing manufacturing processes
- Supported by Americhem's expertise in fiber masterbatch formulation, process optimization, and global manufacturing.

APPLICATIONS

EMBEDDED ODOR CONTROL ACROSS DIVERSE POLYMER APPLICATIONS

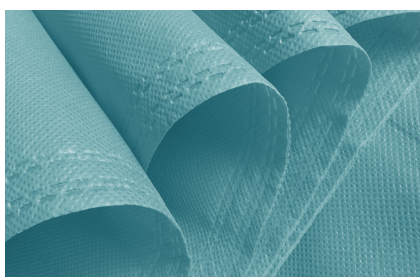
nPure™ delivers embedded odor control across a wide range of polymer applications where long-lasting freshness, comfort, and product performance matter.



Hygiene: Deliver durable, embedded odor control for baby diapers, adult incontinence products, and feminine hygiene applications. nPure™ captures and reduces malodors directly within the polymer, helping products stay fresher throughout use without relying on fragrances, topical treatments, or antimicrobial chemistries.



Medical: Embedded odor-control technology for medical nonwovens and wound-care applications where comfort, cleanliness, and performance are essential. nPure™ provides PFAS-free, fragrance-free, non-biocidal odor management while integrating seamlessly into existing manufacturing processes.



Nonwovens: Integrated directly into the polymer, nPure™ delivers embedded odor control for fiber and nonwoven applications without relying on fragrances, topical finishes, or antimicrobial chemistries. By transforming odor control into an engineered material property, nPure™ helps manufacturers maintain manufacturing efficiency and end-product performance.



Textiles & Apparel: Embedded directly into synthetic fibers, nPure™ provides durable odor control throughout product use, helping preserve freshness, consumer comfort, and product differentiation without relying on topical finishes or fragrances.



Expanding Platform Opportunities: Beyond fiber applications, nPure™ also supports odor-control solutions for automotive interiors, packaging, and recycled plastics (PCR). By integrating odor-control functionality directly into the polymer, the platform helps manufacturers improve product performance, enhance user experience, and create additional value across diverse polymer applications.

APPLICATIONS



PERFORMANCE FROM A GLOBAL LEADER

Why Embedded Odor Control Matters

nPure™ reflects Americhem's broader commitment to sustainable material innovation and practical polymer solutions. By embedding odor-control functionality directly into the polymer, the platform transforms odor management from a temporary surface treatment into an engineered material property, helping product teams and manufacturers deliver durable freshness while maintaining processing efficiency and end-product performance.

BENEFITS

Embedded Odor Control That Lasts

Odor-control functionality is integrated directly into the polymer during melt processing, helping create durable performance without fragrances, topical finishes, or antimicrobial chemistries.

Performance Backed by Testing

Independent testing demonstrates adsorption of sweat, body odor, and selected volatile organic compounds (VOCs), providing evidence of activity across chemically diverse odor classes.

Processing Without Compromise

nPure™ is designed to integrate into existing manufacturing processes with minimal process changes while supporting scalable commercial production.

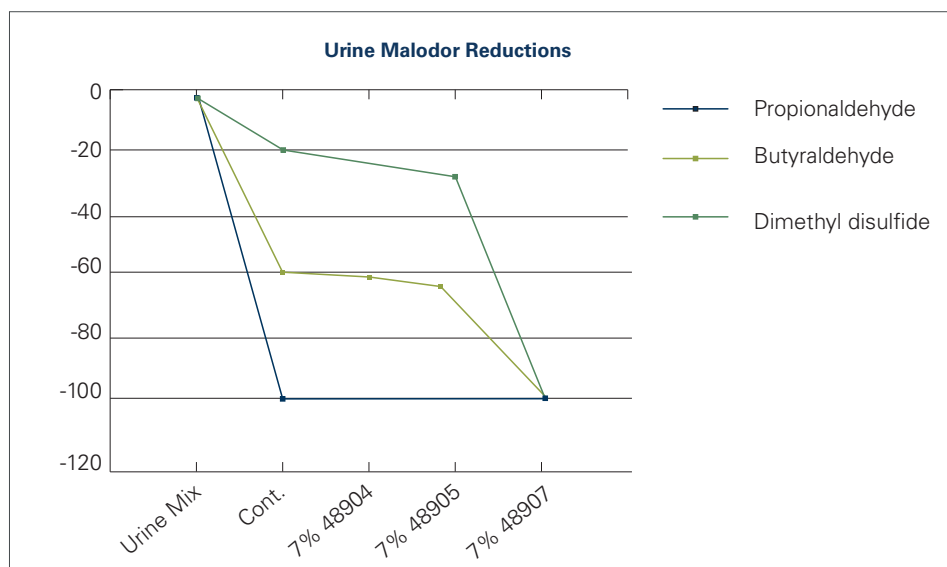
PFAS-Free by Design

PFAS-free, fragrance-free, and non-biocidal, nPure™ supports evolving regulatory and sustainability objectives while helping product teams and manufacturers differentiate products through embedded performance.

TECHNICAL PERFORMANCE

Independent Testing Demonstrates Odor Capture Across Multiple Odor Classes

nPure™ has been evaluated through analytical testing designed to characterize odor adsorption across representative odor compounds and blind VOC capture studies. Together, these evaluations provide evidence of activity against chemically diverse odor classes while supporting continued product development.



Urine Malodor Reductions

Representative compounds were selected to evaluate odor reduction across chemically diverse odor classes. Representative compounds evaluated include propionaldehyde, butyraldehyde, and dimethyl disulfide.

Blind Spunbond VOC Study

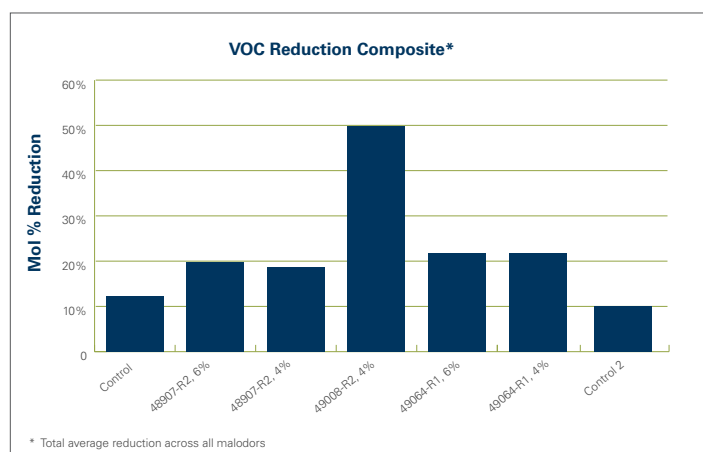


Figure 5.1: Blind study VOC capture results. 49008-R2-100 at 4% was the strongest performer in the evaluated set.

Seven blind spunbond samples were prepared for evaluation. Americhem relabeled the samples and submitted them in duplicate to an independent laboratory for TD-GC-MS analysis. Sample identities were withheld until testing was complete.

Study Summary

- 49008-R2-100 demonstrated the strongest performance in the evaluated set
- 48907-R2 and 49064-R1 showed similar performance
- Control 2 showed minimal VOC reduction
- Control 1 produced an anomalous response requiring further investigation

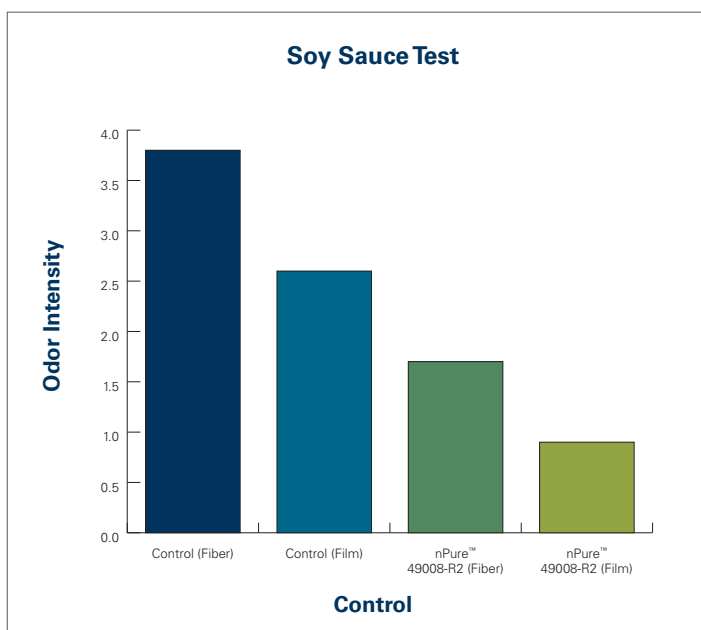
TECHNICAL PERFORMANCE

Blind VOC Study Methodology

Americhem submitted duplicate blind spunbond samples for independent TD-GC-MS evaluation. Sample identities were withheld until testing was complete, allowing performance to be assessed without bias. Within the evaluated set, formulation 49008-R2-100 at 4% demonstrated the highest composite VOC reduction among the odor-control materials tested.

Sample #	Blind Sample ID	Product	Use Rate
Sample	26-0225-OC-A	Control 2	N/A
Sample 2	26-0225-OC-B	48907-R2-100	6%
Sample 3	26-0225-OC-C	48907-R2-100	4%
Sample 4	26-0225-OC-D	49008-R2-100	4%
Sample 5	26-0225-OC-E	489064-R1-100	6%
Sample 6	26-0225-OC-F	489064-R1-100	4%
Sample 7	26-0225-OC-Z	Control	N/A

Figure 5.2: Blind study sample design and formulation use rates.



Soy Sauce Sensory Test

In a blind sensory evaluation, nPure™ 49008-R2 fiber and film samples showed lower perceived odor intensity than the corresponding controls following exposure to soy sauce. Lower scores indicate lower perceived odor intensity.

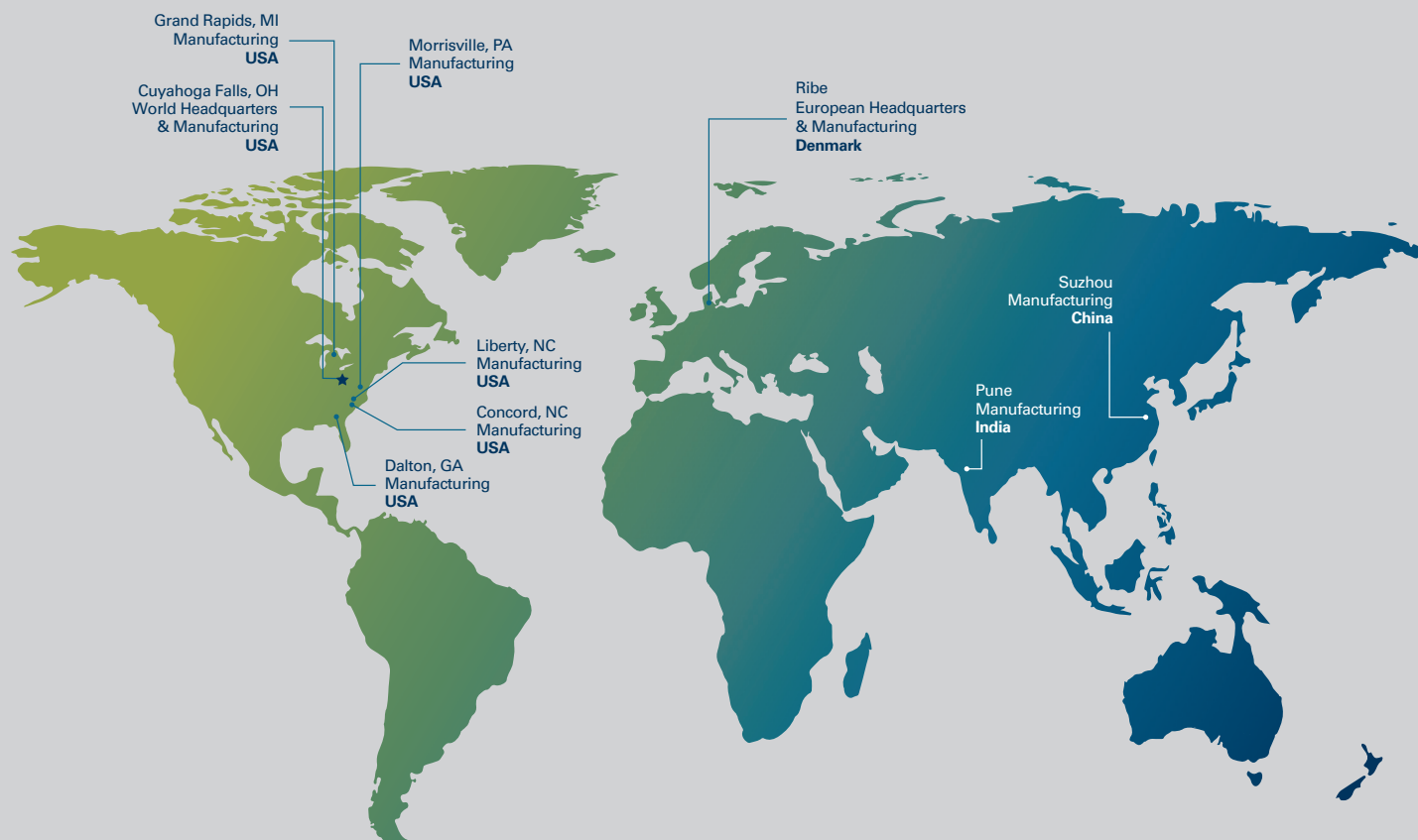
Why Soy Sauce?

Soy sauce provides a strong, recognizable, complex odor challenge for sensory evaluation. Unlike analytical VOC testing, which quantifies odor-compound capture, sensory testing evaluates perceived odor intensity and helps show how odor-control performance may translate to the user experience.

Evidence Interpretation

Analytical VOC testing and sensory evaluation provide complementary views of odor-control performance. Analytical testing helps quantify the capture of specific odor compounds, while sensory testing evaluates how odor intensity is perceived under a defined challenge. Together, these methods provide a more complete picture of how an odor-control formulation performs. Results should be interpreted within the specific formulation, odor challenge, concentration, material construction, and exposure conditions evaluated.

A GLOBAL LEADER IN FIBERS



BATCH TO BATCH. MARKET TO MARKET. CONTINENT TO CONTINENT.

From our headquarters in Cuyahoga Falls, Ohio, to our manufacturing locations and sales offices across the world, our expansive footprint provides global reach for your organization's needs. Not only are we dedicated to getting your materials where they need to be, when they need to be there, we work behind the scenes to reduce your supply risks. In addition to our network of plants, regulatory and compliance teams, we have contingency plans and support services in place to secure your product against unforeseen interruptions.



Explore more
functional additives
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About Americhem

Americhem is a global leader in custom color and additive solutions, offering unmatched performance, consistency, and sustainability for polymer products. Our innovative masterbatches help customers achieve faster speed to market, reduced production costs, and superior product performance in the nonwovens industry.



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