




The
STRAINRITE
Companies World Class
Filtration

CASE STUDY

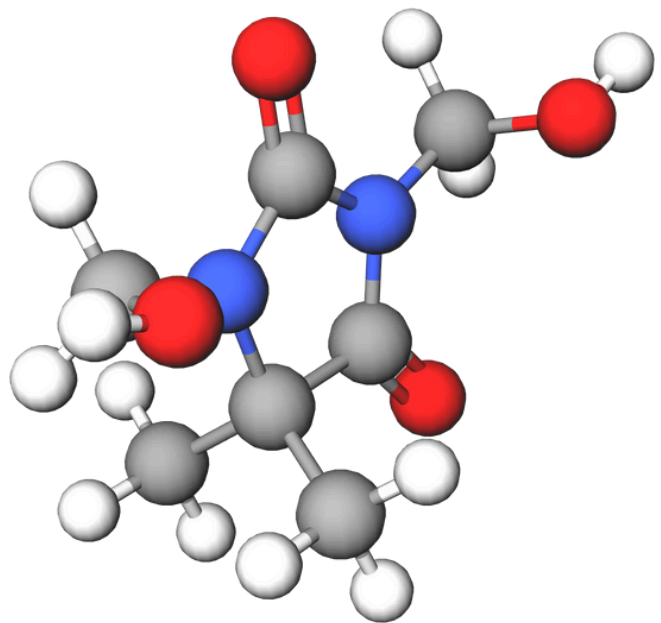
**TRANSFORMING HYDANTOIN
FILTRATION WITH STRAINRITE'S
MADD MAXX MF**

BACKGROUND

In the dynamic world of specialty chemicals, few compounds demonstrate the remarkable versatility and industrial significance of hydantoin and its derivatives. This heterocyclic organic compound, with its simple yet powerful five-membered ring structure, has become an indispensable building block across multiple industries, driving innovation in pharmaceuticals, water treatment, amino acid production, and advanced materials manufacturing. From anticonvulsant medications that treat epilepsy to water disinfectants that ensure safe drinking water, from amino acid supplements that nourish livestock to antimicrobial coatings that protect surfaces, hydantoin derivatives are working behind the scenes to improve health, safety, and quality of life worldwide.



The industrial production of hydantoin presents unique challenges that directly relate to advanced filtration solutions. Hydantoin manufacturing involves complex multi-step processes operating under demanding conditions including high-temperature reactions (85-220°C), alkaline hydrolysis processes, continuous operation requirements, and strict product purity demands. These manufacturing challenges create the exact conditions where advanced filtration systems deliver transformative value, enabling manufacturers to achieve higher throughput, improved efficiency, and enhanced reliability





THE CHALLENGE

A hydantoin manufacturer relied on lenticular type stacked filter pads for their filtration process. While effective, this setup limited production throughput and led to high filter media consumption, resulting in increased operational costs and frequent maintenance

THE SOLUTION

Strainrite Companies recommended upgrading to the Madd MAXX MF absolute-rated polypropylene hybrid elements, installed within a new bag filter vessel. This advanced filtration solution offers the efficiency and reliability of cartridge filtration, combined with the dirt-holding capacity and ease of use of traditional bag filters. The Madd MAXX MF's robust design and chemical compatibility made it ideal for the demands of hydantoin production.

RESULTS:

The transition delivered impressive improvements:

01

IMPROVED PRODUCTION:

Production capacity was doubled, thanks to higher flow rates and reduced pressure drops.

02

FILTER USAGE:

Filter media consumption was reduced by one-third, significantly lowering material costs and minimizing waste.

03

EASIER FILTER REPLACEMENTS:

Product loss during changeouts and cleaning reduced overall yield.

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CONCLUSION:

By replacing lenticular stacked filter pads with the Madd MAXX MF in a bag filter vessel, the hydantoin manufacturer achieved substantial gains in efficiency, cost savings, and operational simplicity. This case highlights the impact of tailored filtration solutions in specialty chemical manufacturing.

About Strainrite:

Over 47 Years of Excellence & Expertise

For over 47 years, The Strainrite Companies has designed and manufactured an extensive selection of top-quality liquid filtration products, becoming an industry leader with a global presence. Incorporated in 1978, the family-owned company has grown and flourished: with customers throughout the U.S., Europe, and Asia, Strainrite's worldwide reach continues to broaden.

Strainrite's filtration products are used to ensure final fluid product quality, protect equipment, and improve process yields in just about every industry: paints, coatings, inks, beverages, biopharmaceuticals, electronics and more. Strainrite's success can be attributed to an unwavering commitment to innovation, paired with expertise in high-quality, timely manufacturing. We manufacture in silicone free, ISO9001 accredited facilities, and many of our products are manufactured for use in accordance with GMP.

Strainrite's success can be attributed to an unwavering commitment to innovation, paired with a consultative selling approach which offers a holistic solution to each client's unique needs. Experienced field sales professionals and distributors provide a comprehensive needs assessment, outlining which Strainrite product, service, or combination will best suit the client's needs. New product innovations are derived from a collaborative philosophy where new products are developed through customer-supplier communication and cooperation. This method facilitates long-term, strategic relationships with clients in a wide range of industries.

Offering an unmatched combination of capabilities, certifications, and approvals in industries including automotive, paints, coatings, adhesives, plating, inks and chemicals, Strainrite has the experience to provide custom solutions for even the most difficult and critical filtration challenges. Ready to find the ideal filter for your unique application? Request a quote today!

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