

## The Deviron® Detergent Portfolio

Our Emprove® detergents for a sustainable Triton™ X-100 replacement in biologics manufacturing

Biologics manufacturing processes include critical steps such as viral inactivation or cell lysis that are typically performed with detergents.

Triton™ X-100 detergent (4-tert-octylphenol polyethoxylate) is the primary component templated in biomanufacturing processes, but as of January 2021, its unauthorized use has been prohibited in the European Union by the European Commission, due to its listing to REACH<sup>1</sup> (Registration, Evaluation, Authorization and Restriction of Chemicals).

In response to the global implications of restrictions on Triton™ X-100, we have developed the Deviron® C16 Emprove® Evolve detergent and the Deviron® 13-S9 Emprove® Expert detergent.

**A comparison table is available to aid product evaluation and selection.**

	Deviron® C16 Emprove® Evolve Detergent	Deviron® 13-S9 Emprove® Expert Detergent	Triton™ X-100 Emprove® Expert Detergent
Product code	108693	108694	108643
Surfactant type	Zwitterionic (pI 8.9)	Non-ionic	Non-ionic
Chemical name	N,N-Dimethyltetradecylamin-N-oxide	Alcohols, C11-15-secondary, ethoxylated	4-(1,1,3,3-tetramethylbutyl)phenol ethoxylated
CAS number	3332-27-2	68131-40-8	9036-19-5
Critical micelle concentration (CMC)	0.002-0.003% wt (24 °C)	0.005% wt (24 °C)	0.013% wt (24 °C)
Biodegradability (Readily biodegradable: >60% within 28 days) OECD 301	Readily biodegradable: 88% degradation (OECD 301B)	Readily biodegradable: 74% degradation (OECD 301B)	Substance of Very High Concern as defined by REACH <sup>1</sup>
Virus inactivation efficiency LRV ≥ 4 (@ ≥0.5% wt, 15-25 °C)	Better or comparable to benchmark	Better or comparable to benchmark	Benchmark
Cell lysis efficiency for viral vector processing	Better or comparable to benchmark	Better or comparable to benchmark	Benchmark
Endotoxin removal for plasmid manufacturing (with Matrix® Q chromatography membrane) detergent as Wash Buffer Supplement	99.997% removal	99.969% removal	99.997% removal
Emprove® & M-Clarity™	Emprove® Evolve, MQ400, (ISO9001 or equivalent)	Emprove® Expert, MQ500, (IPEC-PQG GMP)	Emprove® Expert, MQ500, (IPEC-PQG GMP)
Composition	30% aqueous solution	Pure substance (100%)	Pure substance (100%)
Available formats	1 L, 2.5 L, 25 L	1 L, 2.5 L, 25 L	1 L, 2.5 L, 25 L, 190 L
Customized Certificate of Analysis options	Available	Available	Available
Toxicology Report	Available	Available	NA

Reference: <sup>1</sup> <https://echa.europa.eu/>

## Choosing Fit-For-Purpose Raw Materials

As a supplier of thousands of raw materials for biologics manufacturing, we know the importance of quality and consistency. Our M-Clarity™ and Emprove® programs are designed to provide customers with the transparency and information needed to select fit-for-purpose raw materials and access to detailed documentation to meet regulatory requirements.

To learn more about our M-Clarity™ attributes, click [here](#) or download our brochure

For our Emprove® Program click [here](#) or download our brochure



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