

Predictable Protection and Performance

Poloxamer 188 EMPROVE® EXPERT Cell Culture Optimized & Poloxamer 188 EMPROVE® EXPERT Compendial Cell Culture Grade Ph. Eur., NF

Poloxamer 188 is a surface-active nonionic polymer used in cell culture media as shear protectant. With time it became a standard ingredient in cell culture media for commercial production processes. It was demonstrated to increase the robustness of mammalian cells to shear from sparging, which probably is the strongest contributor to the hydrodynamic stress in bioreactors.

With process intensification through increasing cell densities and production in fed-batch and perfusion, issues such as unexpected loss of cell density and viability in manufacturing operations began to increase; they were correlated to lot-to-lot variation in Poloxamer 188.

Identification of critical parameters for Poloxamer 188 was determined by extensive investigation into the sources of lot-to-lot variability, development and validation of proprietary analytical and biological tests, and creation of a reference library consisting of 100+ customer and supplier samples.

The new Poloxamer 188 EMPROVE® EXPERT has been developed for reliable quality and consistency and to provide shear stress protection for large scale cell culture processes.

Our two Poloxamer grades are tailored to biopharmaceutical manufacturer's needs, depending on the compendial requirements. For the best shear stress protection functionality in the bioreactor, the cell culture optimized version (#137097) is recommended,

if no compendial requirement is present. If a compendial product is needed, the compendial cell culture grade (#137197) provides a likewise thoroughly tested alternative to assure performance of the cells in the bioreactor. Both EMPROVE® EXPERT grades of our Poloxamer 188 have been developed for reliable quality and consistency and to provide shear stress protection for large scale cell.

Product Information

CAS Number	9003-11-6
Chemical Formula	$\text{HO}(\text{C}_2\text{H}_4\text{O})_n(\text{C}_3\text{H}_6\text{O})_m(\text{C}_2\text{H}_4\text{O})_n\text{H}$
HS Code	3402 13 00

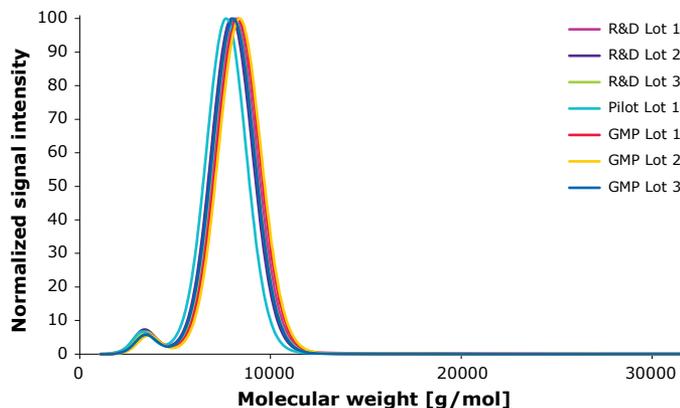
Physicochemical Information

Density	1.06 g/cm ³ (70 °C)
Flash Point	260 °C
Melting Point	52 °C
pH Value	5.0–7.5 (25 g/L, H ₂ O)
Bulk Density	1050 kg/m ³
Solubility	>100 g/L

Safety Information According to GHS

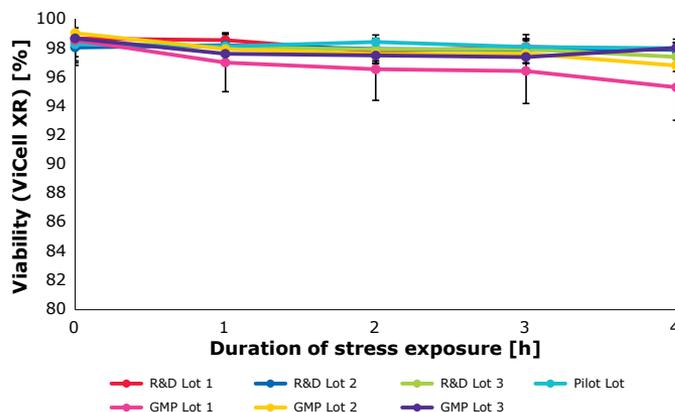
Storage Class	10–13 Other liquids and solids
WGK	WGK 1 slightly water endangering
Disposal	3
	Relatively unreactive organic reagents should be collected in container A. If halogenated, they should be collected in container B. For solid residues use container C.

Scalability and Consistency Poloxamer 188 EMPROVE® – Analytical Assay



Size Exclusion Chromatography results show the consistent molecular weight distribution of samples across various batch sizes and individual lots from those batches.

Scalability and Consistency Poloxamer 188 EMPROVE® – Biological Assay



Biological evaluation via rapid cell viability testing shows consistent cell viabilities (>95%) across various batch sizes and individual lots from those batches.

Benefits

- **Consistent quality** — With our in-house developed methods we are able to predict the performance and ensure lot-to-lot consistency.
- **Proven functionality** — We test and certify shear protection on the Certificate of Analysis.
- **Superior performance** — Our products perform superior to lots across different suppliers, batches and quality grades.
- **Reliable supply** — Large manufacturing capacities ensure reliable supply for our customers.
- **Full transparency** — We provide comprehensive regulatory documentation with our EMPROVE® dossiers.

Ordering Information

Our primary recommendation:

Poloxamer 188 EMPROVE® EXPERT cell culture optimized

Description	Cat. No.
Poloxamer 188 EMPROVE® EXPERT cell culture optimized – 3 x 1 kg (Sample Kit)	1.37097.0003
Poloxamer 188 EMPROVE® EXPERT cell culture optimized – 1 kg	1.37097.1000
Poloxamer 188 EMPROVE® EXPERT cell culture optimized – 10 kg	1.37097.9010
Poloxamer 188 EMPROVE® EXPERT cell culture optimized – 25 kg	1.37097.9025

Our compendial alternative:

Poloxamer 188 EMPROVE® EXPERT compendial cell culture grade Ph, Eur, NF

Description	Cat. No.
Poloxamer 188 EMPROVE® EXPERT compendial cell culture grade Ph. Eur., NF – 3 x 1kg (Sample Kit)	1.37197.0003
Poloxamer 188 EMPROVE® EXPERT compendial cell culture grade Ph. Eur., NF – 1 kg	1.37197.1000
Poloxamer 188 EMPROVE® EXPERT compendial cell culture grade Ph. Eur., NF – 10 kg	1.37197.9010
Poloxamer 188 EMPROVE® EXPERT compendial cell culture grade Ph. Eur., NF – 25 kg	1.37197.9025

For additional information, visit SigmaAldrich.com

To place an order or receive technical assistance, visit SigmaAldrich.com/customer-services

