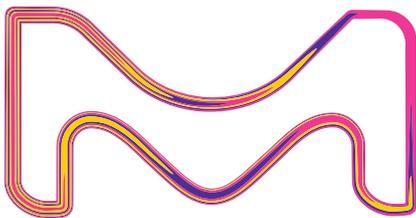


# THE FORMULA FOR STABILITY

High-quality excipients for  
your plasma-derived products.



The life science business  
of Merck KGaA,  
Darmstadt, Germany  
operates as MilliporeSigma  
in the U.S. and Canada.

**SAFC**<sup>®</sup>

Pharma & Biopharma Raw  
Material Solutions

## Quality for your formulation, stability for your products.

To solve the challenge of stability requirements in plasma applications, we offer a wide range of high-quality pharmaceutical excipients that allow you to formulate and manufacture stable plasma products. These include pH adjustment agents, mineral salts, and stabilizers. Most of our products are available in innovative packagings, such as double PE sacks for clean-room manufacturing and our DRYPOUR® system, designed to minimize caking.

We also offer a broad range of purification products suitable for different process steps in your plasma production. This includes the Eshmuno® P Chromatography Resins, which are designed for the removal of anti-A and anti-B antibodies from plasma-derived immunoglobulin (Ig). We provide high-quality products and expertise to help you overcome obstacles and challenges in your plasma process.

Curious? Find out more: [EMDMillipore.com/plasma](https://www.emdmillipore.com/plasma)

### **Glycine: high-quality stabilizer for plasma products.**

Now dry-granulated for better processability.

Discover our new, innovative granulated glycine. Its reduced caking behavior leads to better flowability, which facilitates handling and processing.

- Dry-granulated without any additives
- Free-flowing
- Available in big bags
- Low microbial and endotoxin load
- In compliance with Ph. Eur., BP, JP, and USP
- Improve® documentation and EXCIPACT™ certificate

## pH Adjustment and Buffers

|               |   |
|---------------|---|
| <b>100056</b> | Acetic acid (glacial) 100% EMPROVE® ESSENTIAL Ph Eur, BP, JP, USP, E 260  |
| <b>100058</b> | Acetic acid 96% EMPROVE® ESSENTIAL  |
| <b>137035</b> | Acetic acid 1 mol/L EMPROVE® EXPERT   |
| <b>137047</b> | Acetic acid 30% EMPROVE® EXPERT Ph Helv   |
| <b>137046</b> | Sodium acetate anhydrous suitable for the biopharmaceutical production EMPROVE® bio USP   |
| <b>137012</b> | Sodium acetate trihydrate suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JP, USP                                      |
| <b>137002</b> | Citric acid anhydrous powder suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JP, USP, ACS                              |
| <b>137003</b> | Citric acid monohydrate cryst. suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JP, USP, ACS                            |
| <b>106666</b> | tri-Sodium citrate dihydrate low in endotoxins EMPROVE® API Ph Eur, BP, JP, USP   |
| <b>137042</b> | tri-Sodium citrate dihydrate cryst. suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JP, USP, ACS                       |
| <b>100563</b> | ortho-Phosphoric acid 85% EMPROVE® ESSENTIAL Ph Eur, BP, JPE, NF, E 338   |
| <b>105032</b> | Potassium hydroxide pellets EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF, FCC, E 525   |
| <b>137010</b> | Potassium dihydrogen phosphate anhydrous suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, USP                           |
| <b>137039</b> | di-Potassium hydrogen phosphate cryst. suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JPC, NF                         |
| <b>104956</b> | tri-Potassium citrate monohydrate EMPROVE® ESSENTIAL Ph Eur, BP, USP, FCC, E 332  |
| <b>137020</b> | Sodium hydroxide pellets suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JP, NF  |
| <b>137031</b> | Sodium hydroxide solution 1 mol/L EMPROVE® EXPERT   |
| <b>137093</b> | Sodium dihydrogen phosphate monohydrate suitable for the biopharmaceutical production EMPROVE® bio BP, USP                                    |
| <b>137018</b> | Sodium dihydrogen phosphate dihydrate suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, USP, JPE                         |
| <b>106585</b> | di-Sodium hydrogen phosphate anhydrous EMPROVE® ESSENTIAL Ph Eur, BP, USP, JPE, E 339   |
| <b>137036</b> | di-Sodium hydrogen phosphate dihydrate suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, USP                             |
| <b>137092</b> | di-Sodium hydrogen phosphate heptahydrate suitable for the biopharmaceutical production EMPROVE® bio DAC, USP                                 |
| <b>106573</b> | di-Sodium hydrogen phosphate dodecahydrate cryst. EMPROVE® ESSENTIAL Ph Eur, BP, JP, USP  |
| <b>106577</b> | tri-Sodium phosphate dodecahydrate EMPROVE® ESSENTIAL NF, E 339   |
| <b>100312</b> | Hydrochloric acid 25% EMPROVE® ESSENTIAL Ph Helv  |
| <b>100314</b> | Hydrochloric acid fuming 37% EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF  |
| <b>110165</b> | Hydrochloric acid 1 mol/L EMPROVE® EXPERT   |
| <b>108307</b> | Tris(Hydroxymethyl)aminomethane (Trometamol) high purity suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JPC, USP, ACS |
| <b>108386</b> | Tris(hydroxymethyl)aminomethane (Trometamol) suitable for use as excipient EMPROVE® exp Ph Eur, BP, JPC, USP                                  |
| <b>108219</b> | Tris(hydroxymethyl)aminomethane hydrochloride suitable for the biopharmaceutical production EMPROVE® bio                                      |
| <b>104352</b> | L-Histidine suitable for use as excipient EMPROVE® exp Ph Eur, USP, JP  |
| <b>104354</b> | L-Histidine monohydrochloride monohydrate suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP   |

**Stabilizers**

|               |  |
|---------------|--|
| <b>103669</b> | Glycine granulated EMPROVE® EXPERT Ph Eur, BP, JP, USP   |
| <b>100590</b> | Glycine cryst. suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, USP  |
| <b>112488</b> | N-Acetyl-DL-tryptophan suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP   |
| <b>101700</b> | L-Alanine EMPROVE® ESSENTIAL Ph Eur, USP   |
| <b>101544</b> | L-Arginine monohydrochloride suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, USP  |
| <b>101587</b> | L-Arginine suitable for use as excipient EMPROVE® exp Ph Eur, JP, USP  |
| <b>105701</b> | L-Lysine monohydrochloride suitable for use as excipient EMPROVE® exp Ph Eur, BP, USP  |
| <b>107430</b> | L-Proline EMPROVE® ESSENTIAL Ph Eur, USP   |
| <b>101791</b> | L-Glutamic acid EMPROVE® ESSENTIAL Ph Eur, JP  |
| <b>106445</b> | Sodium L-glutamate monohydrate EMPROVE® ESSENTIAL FCC, NF, E 621   |
| <b>104090</b> | Glutathione (reduced) suitable for the biopharmaceutical production EMPROVE® bio Ph Eur  |
| <b>137048</b> | D(+)-Glucose anhydrous suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, USP, ACS   |
| <b>137096</b> | D(-)-Mannitol EMPROVE® EXPERT Ph Eur, BP, USP, JP  |
| <b>105911</b> | Maltose monohydrate EMPROVE® ESSENTIAL   |
| <b>111597</b> | Parteck® SI 400 LEX (Sorbitol) suitable for use as excipient EMPROVE® exp Ph Eur, BP, NF, JP   |
| <b>100892</b> | Sucrose low in endotoxins suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, NF  |
| <b>817081</b> | Sodium caprylate suitable for use as excipient EMPROVE® exp Ph Eur, NF   |
| <b>100193</b> | Caprylic acid (Octanoic acid) suitable for the biopharmaceutical production Ph Eur, NF manufactured or purified under GMP in consistent high purity Ph Eur |

**Mineral Salts**

|               |  |
|---------------|--|
| <b>137017</b> | Sodium chloride suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JP, USP   |
| <b>137008</b> | Magnesium chloride hexahydrate cryst. suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, USP, JPC, ACS   |
| <b>137101</b> | Calcium chloride dihydrate suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JP, USP  |
| <b>137009</b> | Potassium chloride suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, USP, JP  |
| <b>137004</b> | TITRIPLEX® III (ethylenedinitrilotetraacetic acid disodium salt dihydrate) suitable for for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JP, USP, ACS |
| <b>101816</b> | Ammonium sulfate suitable for the biopharmaceutical production EMPROVE® bio ACS, NF  |

**Surfactants and Polymers**

|               |   |
|---------------|---|
| <b>817072</b> | Tween® 20 (Polysorbate) EMPROVE® ESSENTIAL Ph Eur, JPE, NF            |
| <b>817061</b> | Tween® 80 (Polysorbate) EMPROVE® ESSENTIAL Ph Eur, JP, NF             |
| <b>817006</b> | Polyethylene glycol 4000 (powder) EMPROVE® ESSENTIAL Ph Eur           |
| <b>817007</b> | Polyethylene glycol 6000 EMPROVE® ESSENTIAL Ph Eur                    |
| <b>137112</b> | Poloxamer 188 EMPROVE® EXPERT (stabilized with 70 ppm BHT) Ph Eur, NF |

## Solvents and Detergents

**100002** Tri-n-butyl phosphate suitable for biopharmaceutical production EMPROVE® bio Ph Eur

**108643** Triton® X-100 suitable for the biopharmaceutical production EMPROVE® bio Ph Eur

**100967** Ethanol 96% suitable for use as excipient EMPROVE® exp Ph Eur, JP, USP

**100971** Ethanol 96% suitable for use as excipient EMPROVE® exp Ph Eur, BP

**100986** Ethanol absolute suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, USP

**105008** 2-Propanol suitable for preparative chromatography EMPROVE® bio Ph Eur, BP, USP

## Preservatives

**100201** Phenol EMPROVE® ESSENTIAL Ph Eur, ChP, JP, USP

**817043** Thimerosal Ph Eur, BP

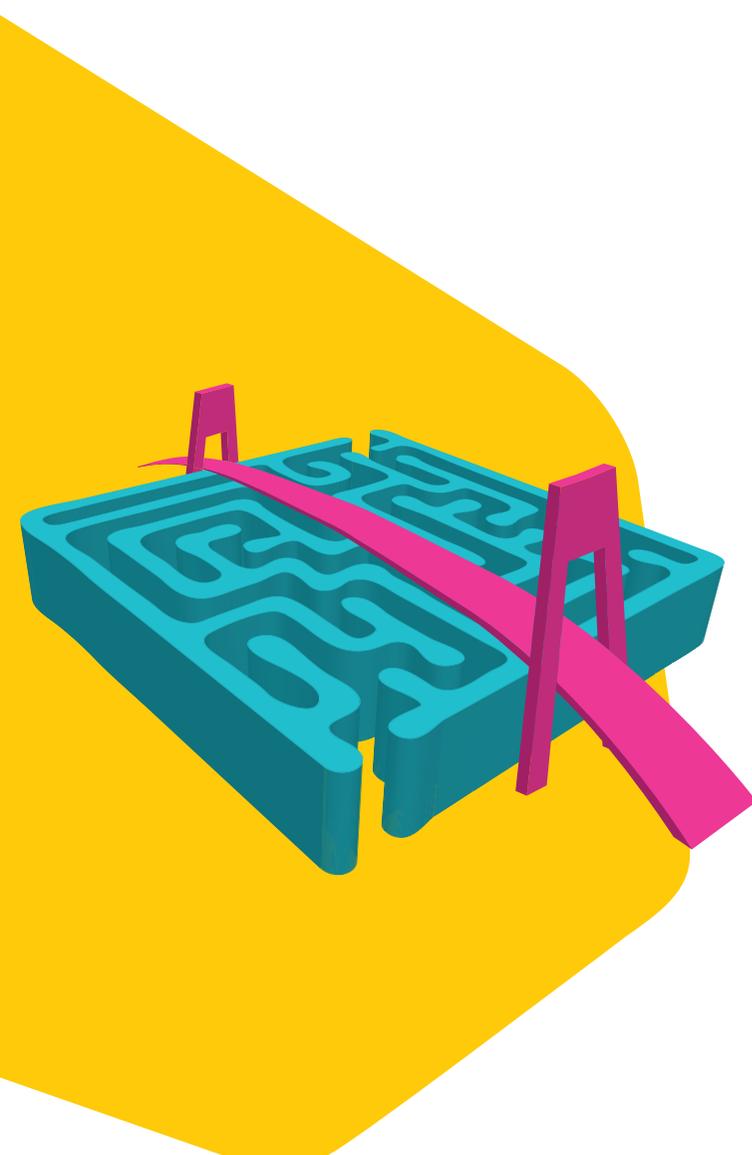
**100987** Benzyl alcohol special grade (benzaldehyde ≤0.05%) suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, NF

## THE EMPROVE® PROGRAM

### Your fast track through regulatory challenges.

Ensuring the compliance of your pharma and biopharma products involves the compilation of a vast amount of data, which can be time- and resource-intensive. In order to facilitate and accelerate this process, we developed our Emprove® Program. It includes 400 pharma raw and starting materials and a selection of filtration and single-use products. Each product in the portfolio is complemented with three different types of dossiers supporting you throughout the different stages of your operations: qualification, risk assessment, and process optimization – all designed to help you speed your way through the regulatory maze.

Find out more at: [EMDMillipore.com/emprove](https://EMDMillipore.com/emprove)



The logo for SAFC, consisting of the letters 'SAFC' in a bold, yellow, sans-serif font, followed by a registered trademark symbol (®).

Pharma & Biopharma Raw  
Material Solutions

The typical technical data above serve to generally characterize the excipient. These values are not meant as specifications and they do not have binding character. The product specification is available separately, from the website **EMDMillipore.com**

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