

SAFC®

Pharma & Biopharma Raw
Material Solutions

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

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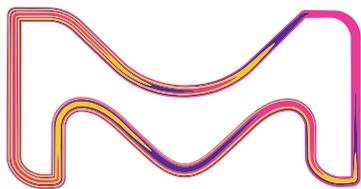
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Lit. No. MK_BR1638EN
w301104
03/2018

Your partner for liquid dose applications.

Benefit from a comprehensive
product portfolio and exceptional
service in liquid formulation.



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

SAFC[®]

Pharma & Biopharma Raw
Material Solutions

An extensive portfolio with regulatory support.

Immediately ready and easy to administer, liquid dosage forms are an essential part of any pharmaceutical portfolio. In order to help you stand out from the competition, we provide you with an extensive portfolio of raw materials, produced according to the IPEC-PQG GMP Guideline, for liquid dosage forms.

Since successful liquid formulation requires a meticulous blend of ingredients and production know-how, we are here to support you in every step of development, scale-up, and production. You can benefit from our broad expertise in the field, backing the development of your final product with our expert regulatory know-how – all around the world. Our high-quality excipients are supported by our Emprove® Program, helping you simplify your material qualification and speed up your processes, thus reducing the total cost of ownership.

Benefits:

- Broad product portfolio
- First-class services and regulatory support
- Emprove® Expert portfolio for sterile liquid applications

Sucralose

A readily soluble sweetener that masks both bitterness and medicinal off-notes with equal ease.

- Improves patient compliance through taste masking
- Readily soluble – easy handling
- Batch-to-batch consistency – reliable results

For more information:
[MerckMillipore.com/sucralose](https://www.MerckMillipore.com/sucralose)



The right products for your formulation needs.

We attend to your special formulation needs, no matter if you formulate solutions, emulsions, or suspensions. Our comprehensive portfolio addresses multiple applications, including solvents, preservatives, thickeners, surfactants, stabilizers, flavors, enzymes, and products needed for pH and tonicity adjustment. With our cutting-edge products, customer-oriented solutions, and exceptional service, Merck is your ideal partner for liquid applications.

We supply an extensive excipient portfolio and know-how for all kinds of liquid dosage forms for different administration routes:

- Oral – syrups, solutions, suspensions
- Ophthalmic – drops, sprays, washes
- Nasal – drops, sprays, rinsing solutions
- Otic – drops, sprays, rinsing solutions
- Inhalation – liquid preparations

The Emprove® Program

Your fast track through regulatory challenges.

Ensuring the compliance of your pharma and bio-pharma 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:

[MerckMillipore.com/emprove](https://www.merckmillipore.com/emprove)



Cat. No.	Article	Oral	Topical	Ophthalmic	Otic	Inhalation	Nasal
100056	Acetic acid (glacial) 100% EMPROVE® ESSENTIAL Ph Eur, BP, JP, USP, E 260	•	•		•		
100058	Acetic acid 96% EMPROVE® ESSENTIAL	•	•		•		
105422	Ammonia solution 25% EMPROVE® ESSENTIAL Ph Eur, BP		•			•	
101142	Ammonium chloride EMPROVE® ESSENTIAL Ph Eur, BP, USP	•					
100924	Ammonium chloride extra pure Ph Eur, BP, USP	•					
100160	Boric acid cryst., EMPROVE® ESSENTIAL Ph Eur, BP, NF		•	•	•		
100162	Boric acid powder, EMPROVE® ESSENTIAL Ph Eur, BP, NF		•	•	•		
102052	Calcium acetate hydrate extra pure DAC, FCC	•	•				
102110	Calcium hydroxide EMPROVE® ESSENTIAL Ph Eur, BP, USP, JP, FCC, E 526	•	•				
102119	Calcium hydroxide precipitated (≤0.0005% Al) EMPROVE® ESSENTIAL USP, FCC, E 526	•	•				
137002	Citric acid EMPROVE® bio Ph Eur, BP, JP, USP, ACS	•	•	•			•
100247	Citric acid anhydrous fine-granular, suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, USP, E 330, FCC	•	•	•			•
100241	Citric acid anhydrous powder, suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, USP, E 330, FCC	•	•	•			•
137003	Citric acid monohydrate EMPROVE® bio Ph Eur, BP, JP, USP, ACS	•	•	•			•
100242	Citric acid monohydrate cryst., suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, USP, E 330, FCC	•	•	•			•
100243	Citric acid monohydrate powder, suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, USP, E 330, FCC	•	•	•			•
137010	di-Potassium hydrogen phosphate EMPROVE® bio Ph Eur, BP, USP	•					
105101	di-Potassium hydrogen phosphate anhydrous, EMPROVE® ESSENTIAL Ph Eur, BP, E 340	•					
137091	di-Sodium hydrogen phosphate anhydrous EMPROVE® bio Ph Eur, BP, USP	•	•	•	•		•
106585	di-Sodium hydrogen phosphate anhydrous EMPROVE® ESSENTIAL Ph Eur, BP, USP, E 339	•	•	•	•		•
137036	di-Sodium hydrogen phosphate dihydrate EMPROVE® bio Ph Eur, BP, USP	•	•	•	•		•
106576	di-Sodium hydrogen phosphate dihydrate EMPROVE® ESSENTIAL Ph Eur, BP, USP	•	•	•	•		•
106573	di-Sodium hydrogen phosphate dodecahydrate cryst. EMPROVE® ESSENTIAL Ph Eur, BP, JP, USP	•	•	•	•		•
137092	di-Sodium hydrogen phosphate heptahydrate EMPROVE® bio DAC, USP	•	•	•	•		•
106574	di-Sodium hydrogen phosphate heptahydrate EMPROVE® ESSENTIAL DAC, USP	•	•	•	•		•
106303	di-Sodium tetraborate decahydrate EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF		•	•	•		
100383	DL-Malic acid EMPROVE® ESSENTIAL Ph Eur, NF, FCC, E 296	•					
100844	Ethanolamine EMPROVE® ESSENTIAL BP, NF		•	•			

Excipient selection is based on FDA inactive ingredients database.

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Cat. No.	Article	Oral	Topical	Ophthalmic	Otic	Inhalation	Nasal
137044	Ethanolamine suitable for biopharmaceutical production EMPROVE® bio BP, NF		•	•			
817073	Fumaric acid NF	•					
100569	Glycine (special grade) suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, USP	•				•	
100590	Glycine cryst., suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, USP	•				•	
100312	Hydrochloric acid 25% EMPROVE® ESSENTIAL Ph Helv	•	•	•	•	•	•
100314	Hydrochloric acid fuming 37% EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF	•	•	•	•	•	•
100802	L(+)-Tartaric acid cryst., EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF, E 334	•	•				
100803	L(+)-Tartaric acid powder EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF, E 334	•	•				
100366	Lactic acid about 90%, suitable for use as excipient EMPROVE® exp Ph Eur, BP, E 270	•	•		•		
104354	L-Histidine monohydrochloride monohydrate, suitable for use as excipient EMPROVE® exp Ph Eur, BP	•					
104352	L-Histidine, suitable for use as excipient EMPROVE® exp Ph Eur, USP	•					
100563	ortho-Phosphoric acid 85% EMPROVE® ESSENTIAL Ph Eur, BP, JPE, NF, E 338	•	•	•			
100564	Phosphoric acid 89% extra pure Ph Eur, BP	•	•	•			
104820	Potassium acetate extra pure Ph Eur, BP, E 261			•			
137039	Potassium dihydrogen phosphate EMPROVE® bio Ph Eur, BP, JPC, NF	•		•	•		•
104871	Potassium dihydrogen phosphate cryst., EMPROVE® ESSENTIAL Ph Eur, BP, JPC, NF, E 340	•		•	•		•
105032	Potassium hydroxide pellets EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF, FCC, E 525	•	•				
480864	Potassium hydroxide solution 46–48% EMPROVE® EXPERT	•	•				
106281	Sodium acetate anhydrous extra pure USP, FCC, E 262	•	•	•	•		•
137046	Sodium acetate anhydrous suitable for the biopharmaceutical production EMPROVE® bio USP	•	•	•	•		•
106265	Sodium acetate trihydrate extra pure Ph Eur, BP, JP, USP, FCC, E 262	•	•	•	•		•
137012	Sodium acetate trihydrate suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JP, USP	•	•	•	•		•
137018	Sodium dihydrogen phosphate dihydrate EMPROVE® bio Ph Eur, BP, USP, JPE	•	•	•			•
106345	Sodium dihydrogen phosphate dihydrate EMPROVE® ESSENTIAL Ph Eur, BP, USP, JPE, E 339	•	•	•			•
106349	Sodium dihydrogen phosphate monohydrate EMPROVE® ESSENTIAL BP, USP	•	•	•			•
137093	Sodium dihydrogen phosphate monohydrate suitable for the biopharmaceutical production EMPROVE® bio BP, USP	•	•	•			•
106482	Sodium hydroxide pellets EMPROVE® ESSENTIAL Ph Eur, BP, FCC, JP, NF, E 524	•	•	•	•	•	•
106522	Sodium-(S)-lactate-solution about 50%, suitable for use as excipient EMPROVE® exp Ph Eur, BP, USP		•				

Cat. No.	Article	Oral	Topical	Ophthalmic	Otic	Inhalation	Nasal
pH Adjustment and Buffers							
100681	Succinic acid cryst., EMPROVE® ESSENTIAL NF, JPE, ACS	•					
480704	Sulfuric acid 10% EMPROVE® EXPERT	•	•	•	•	•	•
100713	Sulfuric acid 95–98% EMPROVE® ESSENTIAL Ph Eur, BP, JPE, NF	•	•	•	•	•	•
137022	Triethanolamine (Trolamine) suitable for biopharmaceutical production EMPROVE® bio Ph Eur, JPE, NF		•	•			
104956	tri-Potassium citrate monohydrate EMPROVE® ESSENTIAL Ph Eur, BP, USP, FCC, E 332	•		•			
108307	Tris(Hydroxymethyl)aminomethane (TROMETAMOL) high purity EMPROVE® bio Ph Eur, BP, JPC, USP, ACS	•	•	•		•	
108386	Tris(hydroxymethyl)aminomethane (Trometamol), suitable for use as excipient EMPROVE® exp Ph Eur, BP, JPC, USP	•	•	•		•	
106431	tri-Sodium citrate 5, 5-hydrate EMPROVE® ESSENTIAL FU VIII, E 331	•	•	•	•		•
111037	tri-Sodium citrate anhydrous, EMPROVE® ESSENTIAL USP, FCC, E 331	•	•	•	•		•
106432	tri-Sodium citrate dihydrate cryst., EMPROVE® ESSENTIAL Ph Eur, BP, JP, USP, E 331	•	•	•	•		•
106447	tri-Sodium citrate dihydrate EMPROVE® ESSENTIAL Ph Eur, BP, JP, USP, E 331	•	•	•	•		•
106446	tri-Sodium citrate dihydrate powder, EMPROVE® ESSENTIAL Ph Eur, BP, JP, USP, E 331	•	•	•	•		•
Preservatives							
101005	1, 1, 1, -Trichloro-2-methyl-2-propanol hemihydrate Ph Eur, BP, JP, NF		•	•	•	•	•
817046	Benzalkonium chloride (50% aqueous solution) EMPROVE® ESSENTIAL Ph Eur, NF		•	•	•	•	•
817032	Benzalkonium chloride EMPROVE® ESSENTIAL Ph Eur, NF		•	•	•	•	•
100130	Benzoic acid powder, EMPROVE® ESSENTIAL Ph Eur, BP, USP, E 210	•	•				
100987	Benzyl alcohol special grade (benzaldehyde ≤0.05%), suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, NF	•	•		•		•
100981	Benzyl alcohol, suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, NF	•	•		•		•
100160	Boric acid cryst., EMPROVE® ESSENTIAL Ph Eur, BP, NF		•	•	•		
100162	Boric acid powder, EMPROVE® ESSENTIAL Ph Eur, BP, NF		•	•	•		
106757	Methyl 4-hydroxybenzoate EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF, FCC	•	•	•	•		•
106756	Methyl 4-hydroxybenzoate sodium salt EMPROVE® ESSENTIAL Ph Eur, BP, NF	•	•	•	•		•
105119	Potassium sorbate granules, EMPROVE® ESSENTIAL Ph Eur, BP, NF, FCC, E 202	•	•	•			•
105118	Potassium sorbate powder, EMPROVE® ESSENTIAL Ph Eur, BP, NF, FCC, E 202	•	•	•			•
107427	Propyl 4-hydroxybenzoate EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF, FCC	•	•	•	•		
107428	Propyl 4-hydroxybenzoate sodium EMPROVE® ESSENTIAL Ph Eur, BP, NF	•	•	•	•		
106290	Sodium benzoate EMPROVE® ESSENTIAL Ph Eur, BP, NF, FCC, E 211	•	•				

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Cat. No.	Article	Oral	Topical	Ophthalmic	Otic	Inhalation	Nasal
Preservatives							
100662	Sorbic acid EMPROVE® ESSENTIAL Ph Eur, BP, NF, FCC, E 200	•	•	•			
817043	Thimerosal Ph Eur, BP, USP	•	•	•	•		
108421	Titriplex® III (ethylene)dinitrilo]tetraacetic acid disodium salt dihydrate) EMPROVE® ESSENTIAL Ph Eur, BP, JP, USP	•	•		•	•	•
Antioxidants							
817023	Butylhydroxyanisole Ph Eur, NF, E 320	•	•				•
817074	Butylhydroxytoluene Ph Eur, JPE, NF, E 321	•	•				•
105056	Potassium disulfite EMPROVE® ESSENTIAL Ph Eur, NF, E 224				•		
106357	Sodium disulfite (sodium metabisulfite) EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF, E 223	•	•	•			
106652	Sodium sulfite EMPROVE® ESSENTIAL Ph Eur, BP, NF, E 221	•	•	•	•		
106514	Sodium thiosulfate pentahydrate cryst., EMPROVE® ESSENTIAL Ph Eur, BP, USP	•	•	•			
106513	Sodium thiosulfate pentahydrate pure	•	•	•			
137004	Titriplex® III (ethylenedinitrilotetraacetic acid disodium salt dihydrate) suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JP, USP, ACS	•	•	•			
108421	Titriplex® III (ethylene)dinitrilo]tetraacetic acid disodium salt dihydrate) EMPROVE® ESSENTIAL Ph Eur, BP, JP, USP	•	•	•			
Taste Modifiers							
105995	(-)-Menthol EMPROVE® ESSENTIAL Ph Eur, BP, JP, USP	•	•			•	
105321	D(-)-Fructose EMPROVE® ESSENTIAL Ph Eur, BP, USP, FCC	•					
104061	D(+)-Galactose EMPROVE® ESSENTIAL Ph Eur, BP	•					
108346	Glucose monohydrate, suitable for use as excipient EMPROVE® exp Ph Eur, BP, USP	•					
100803	L(+)-Tartaric acid powder EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF, E 334	•	•				
103583	Parteck® SI 150 (Sorbitol) EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF, JSFA, E420	•	•	•			•
115079	Parteck® SI 200 (Sorbitol) EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF, E420	•	•	•			•
103140	Parteck® SI 400 (Sorbitol) EMPROVE® ESSENTIAL Ph Eur, BP, JSFA, NF, E420	•	•	•			•
111597	Parteck® SI 400 LEX (Sorbitol), suitable for use as excipient EMPROVE® exp Ph Eur, BP, NF, JP	•	•	•			•
103557	Parteck® SI 450 (Sorbitol) EMPROVE® ESSENTIAL NF, FCC, JSFA	•	•	•			•
817022	Saccharin EMPROVE® ESSENTIAL Ph Eur, NF	•	•			•	
817042	Saccharin sodium dihydrate EMPROVE® ESSENTIAL Ph Eur, USP	•	•			•	
817044	Sodium cyclamate EMPROVE® ESSENTIAL Ph Eur, BP	•					
102975	Sorbitol FP liquid (sorbitol syrup, noncrystallizing) EMPROVE® ESSENTIAL Ph Eur, BP, NF, E 420	•	•	•			•

Cat. No.	Article	Oral	Topical	Ophthalmic	Otic	Inhalation	Nasal
Taste Modifiers							
102994	Sorbitol liquid (sorbitol syrup, crystallizing) EMPROVE® ESSENTIAL Ph Eur, BP, USP, E 420	•	•	•			•
100895	Sucralose granular EMPROVE® ESSENTIAL Ph Eur, NF, JPE	•					•
100894	Sucralose powder EMPROVE® ESSENTIAL Ph Eur, NF, JPE	•					•
107653	Sucrose EMPROVE® ESSENTIAL Ph Eur, BP, JP, NF	•	•				
100892	Sucrose low in endotoxins, suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, NF	•	•				
100773	Tannic acid powder EMPROVE® ESSENTIAL Ph Eur, JP, USP	•	•				
108167	Thymol cryst., suitable for use as excipient EMPROVE® exp Ph, Eur, BP, NF	•				•	
108510	Vanillin EMPROVE® ESSENTIAL Ph Eur, BP, NF	•					
Solvents							
107478	1, 2-Propanediol EMPROVE® ESSENTIAL Ph Eur, BP, USP	•	•	•	•		•
100995	2-Propanol EMPROVE® ESSENTIAL Ph Eur, BP, JP, USP		•				
100013	Acetone EMPROVE® ESSENTIAL Ph Eur, BP, JPE, NF		•				
102431	Chloroform EMPROVE® ESSENTIAL	•					
137117	Dimethyl sulfoxide EMPROVE® EXPERT Ph Eur, USP		•				
100971	Ethanol 96%, suitable for use as excipient EMPROVE® exp Ph Eur, BP	•	•	•			
100967	Ethanol 96%, suitable for use as excipient EMPROVE® exp Ph Eur, JP, USP	•	•	•			
100986	Ethanol absolute, suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, USP	•	•	•			
100864	Ethyl acetate EMPROVE® ESSENTIAL Ph Eur, BP, NF	•	•				
137028	Glycerol EMPROVE® bio Ph Eur, BP, JP, USP, ACS	•	•	•	•	•	•
104091	Glycerol 85%, suitable for use as excipient EMPROVE® exp Ph Eur, BP	•	•	•	•	•	•
104093	Glycerol anhydrous, suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, USP, E 422	•	•	•	•	•	•
106008	Methanol EMPROVE® ESSENTIAL Ph Eur, BP, JPE, NF	•					
100471	Oleic acid vegetable, suitable for use as excipient EMPROVE® exp Ph Eur, BP, NF		•			•	•
105008	Propanol, suitable for preparative chromatography EMPROVE® bio Ph Eur, BP, USP		•				
Thickeners							
104072	Gelatin (sheets) EMPROVE® ESSENTIAL Ph Eur, BP, NF	•	•			•	
104078	Gelatin powder, EMPROVE® ESSENTIAL Ph Eur, BP, NF	•	•			•	
817009	Polyethylene glycol 1000 EMPROVE® ESSENTIAL Ph Eur	•	•			•	

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Cat. No.	Article	Oral	Topical	Ophthalmic	Otic	Inhalation	Nasal
817008	Polyethylene glycol 10000, suitable for use as excipient EMPROVE® exp Ph Eur	•				•	
817005	Polyethylene glycol 1500 (scales) EMPROVE® ESSENTIAL Ph Eur		•				
817001	Polyethylene glycol 200 EMPROVE® ESSENTIAL DAB 8	•	•				
817020	Polyethylene glycol 2000, suitable for use as excipient EMPROVE® exp DAB	•	•				
817018	Polyethylene glycol 20000 EMPROVE® ESSENTIAL Ph Eur						
817002	Polyethylene glycol 300 EMPROVE® ESSENTIAL Ph Eur	•	•	•			
817019	Polyethylene glycol 3000 EMPROVE® ESSENTIAL Ph Eur	•	•				•
817003	Polyethylene glycol 400 EMPROVE® ESSENTIAL Ph Eur, JP	•	•	•			•
817006	Polyethylene glycol 4000 (powder) EMPROVE® ESSENTIAL Ph Eur		•				
817063	Polyethylene glycol 4000 (scales) EMPROVE® ESSENTIAL Ph Eur		•				
817004	Polyethylene glycol 600 EMPROVE® ESSENTIAL Ph Eur		•				
817007	Polyethylene glycol 6000 EMPROVE® ESSENTIAL Ph Eur		•				
141365	Polyvinyl alcohol 18-88, powder EMPROVE® exp Ph Eur, USP		•	•	•		
141355	Polyvinyl alcohol 18-88, suitable for use as excipient EMPROVE® exp Ph Eur, USP, JPE		•	•	•		
141362	Polyvinyl alcohol 26-88, powder EMPROVE® exp Ph Eur, USP		•	•	•		
141352	Polyvinyl alcohol 26-88, suitable for use as excipient EMPROVE® exp Ph Eur, USP, JPE		•	•	•		
141356	Polyvinyl alcohol 28-99, suitable for use as excipient EMPROVE® exp JPE		•	•	•		
141363	Polyvinyl alcohol 40-88, powder EMPROVE® exp Ph Eur, USP		•	•	•		
141353	Polyvinyl alcohol 40-88, suitable for use as excipient EMPROVE® exp Ph Eur, USP, JPE		•	•	•		
141360	Polyvinyl alcohol 4-88, powder, suitable for use as excipient EMPROVE® exp Ph Eur, USP		•	•	•		
141350	Polyvinyl alcohol 4-88, suitable for use as excipient EMPROVE® exp Ph Eur, USP, JPE		•	•	•		
141364	Polyvinyl alcohol 5-88, powder EMPROVE® exp Ph Eur, USP		•	•	•		
141354	Polyvinyl alcohol 5-88, suitable for use as excipient EMPROVE® exp Ph Eur, USP, JPE		•	•	•		
141361	Polyvinyl alcohol 8-88, powder EMPROVE® exp Ph Eur, USP		•	•	•		
141351	Polyvinyl alcohol 8-88, suitable for use as excipient EMPROVE® exp Ph Eur, USP, JPE		•	•	•		
113126	Silicon dioxide colloidal, highly dispersed EMPROVE® ESSENTIAL Ph Eur, NF, JP, E 551	•	•				
101253	Starch soluble extra pure	•	•				

Cat. No.	Article	Oral	Topical	Ophthalmic	Otic	Inhalation	Nasal
Surfactants							
100989	Cetyl alcohol EMPROVE® ESSENTIAL Ph Eur, BP, NF, JP		•	•	•		
137112	Poloxamer 188 EMPROVE® EXPERT (stabilized with 70 ppm BHT) Ph Eur, NF	•	•	•			
817034	Sodium dodecyl sulfate Ph Eur	•	•				
817072	Tween® 20 (Polysorbate) EMPROVE® ESSENTIAL Ph Eur, JPE, NF	•	•	•	•		•
817076	Tween® 60 (Polysorbate) EMPROVE® ESSENTIAL Ph Eur, JPE, NF	•	•	•			
817061	Tween® 80 (Polysorbate) EMPROVE® ESSENTIAL Ph Eur, JP, NF	•	•	•	•		•
Tonicity Agents							
101816	Ammonium sulfate suitable for the biopharmaceutical production EMPROVE® bio ACS, NF		•		•		
142002	Calcium chloride dihydrate EMPROVE® Ph Eur, BP, JP, USP, FCC, E 509	•	•	•			
137101	Calcium chloride dihydrate suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JP, USP	•	•	•			
105980	D(-)-Mannitol EMPROVE® ESSENTIAL Ph Eur, BP, USP, JP, FCC, E 421		•	•			•
137096	D(-)-Mannitol EMPROVE® EXPERT Ph Eur, BP, USP, JP		•	•			•
105988	D(-)-Mannitol fine powder EMPROVE® ESSENTIAL Ph Eur, BP, USP, JP, FCC, E 421		•	•			•
105303	D(-)-Mannitol low in endotoxins EMPROVE® API Ph Eur, BP, USP		•	•			•
108346	D(+)-Glucose monohydrate, suitable for use as excipient EMPROVE® exp Ph Eur, BP, USP	•					
137008	Magnesium chloride hexahydrate EMPROVE® bio Ph Eur, BP, USP, JPC, ACS	•	•	•	•	•	•
105832	Magnesium chloride hexahydrate cryst. EMPROVE® Ph Eur, BP, USP, JPC, FCC, E 511	•	•	•	•	•	•
137182	Magnesium sulfate heptahydrate EMPROVE® EXPERT Ph Eur, BP, JP, USP	•	•	•	•	•	•
104937	Potassium chloride EMPROVE® ESSENTIAL Ph Eur, BP, E 508	•		•			
104935	Potassium chloride EMPROVE® ESSENTIAL Ph Eur, BP, JP, USP, FCC, E 508	•		•			
137009	Potassium chloride suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, USP, JP	•		•			
106400	Sodium chloride EMPROVE® ESSENTIAL Ph Eur, BP, USP	•	•	•	•	•	•
116224	Sodium chloride low in endotoxins, suitable for use as excipient EMPROVE® exp Ph Eur, BP, JP, USP	•	•	•	•	•	•
137017	Sodium chloride suitable for the biopharmaceutical production EMPROVE® bio Ph Eur, BP, JP, USP	•	•	•	•	•	•
137144	Sodium sulfate anhydrous EMPROVE® EXPERT Ph Eur, USP, BP	•		•		•	
137144	Sodium sulfate anhydrous EMPROVE® EXPERT Ph Eur, USP, BP	•		•		•	
106645	Sodium sulfate anhydrous extra pure fine powder Ph Eur, BP, USP	•		•		•	

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