NEW Product

Laponite® EP
for spray-with-cling surface cleaners

Rockwood is introducing a new grade, **Laponite® EP**, which is designed to give **E**xtra **P**erformance and enhanced rheology control under "harsh conditions". Laponite® products are used to improve the performance and stability of a wide range of water based formulated products.

Laponite® EP is particularly effective at producing spray-with-cling liquid gels in

- **formulations with highly acidic pH levels**
- **formulations with highly alkaline pH levels**
- **products with higher levels of dissolved salts**

Examples of liquid cleaner formulations that are based upon **Laponite® EP**, with extremes of pH values are shown overleaf. All are suitable for spray application and will cling to vertical surfaces to give extended contact time. This grade is also very useful for stabilizing liquid cleaners that contain suspended solids.

Laponite® EP is a layered silicate manufactured from naturally occurring mineral sources with a proprietary organic modification.

Typical Characteristics	
Appearance	free flowing white powder
Free moisture	10% max
pH (2% dispersion)	9-11
Bulk Density	900-1100kg/m^3
Specific density	2.1
Specifications can be developed to meet individual requirements	

Recommended incorporation technique
Laponite® EP must be pre-dispersed in water before addition of other formulation ingredients. The product should be added to water with rapid stirring. Continue stirring for a minimum of ten minutes. Note that Laponite® EP will produce gel structure in water more rapidly than other grades of Laponite. After ageing the pre-mix for a minimum of 15- 20 minutes, other formulation ingredients can be added **into** the Laponite® EP dispersion.

Storage
Laponite® products are hygroscopic and should be stored in original packaging under dry conditions.

For more information - contact the Laponite team on help@laponite.com

Southern Clay Products, Inc., Rockwood Additives Limited and Rockwood Clay Additives GmbH are wholly owned subsidiaries of Rockwood Specialties Group, Inc.

Rockwood Additives Limited
Moorfield Road Widnes
Cheshire UK WA8 3AA
Tel: +44 (0)151 495 2222 Fax: +44 (0)151 420 4401

Rockwood Clay Additives GmbH
Stadtwaldstr. 44
85368 Moosburg, Germany
Tel: +49 (0) 8761 72 150-0 Fax: +49 (0) 8761 72 150-334

Rockwood Specialties (Singapore) Pte. Limited
171 Chin Swee Road
Unit No: #10-08 San Centre Singapore 169877
Tel: +65 6532 0676 Fax: +65 6532 0502

Laponite® EP guide formulations for spray-with-cling surface cleaners

Caustic Cleaner	
Order of addition	**% by weight**
Deionised water	87.00
Laponite® EP	2.00
Stir at high speed for 20 minutes, then slowly add:	
Butyl cellosolve	5.00
Sodium hydroxide 50% solution	6.00
Total	100.00
Stir at high speed for a further 10 minutes, then package	
pH 12.5 – 13.0	

Heavy duty oven cleaner	
Order of addition	**% by weight**
Water	52.90
Tetrapotassium pyrophosphate	0.10
Mix for 5 minutes to dissolve, then add:	
Laponite® EP	2.50
Stir at high speed for 20 minutes, then add:	
Potassium hydroxide (45%)	44.50
Total	100.00
pH 13.5 – 14.0	

Ultra – compact acidic toilet bowl cleaner	
Order of addition	**% by weight**
Water	69.00
Laponite® EP	2.00
*Mix for 20 minutes, then **slowly** add acid over ~20 minutes. Adjust stirrer speed as viscosity of the formula changes during preparation.*	
Hydrochloric acid (S.G 1.18)	26.00
Mix until homogeneous, then add	
Surfactant (Dowfax 3B2)	3.00
Total	100.00
pH <0.1; formula contains ~9.4% active HCl	

Citric acid cleaner	
Order of addition	**% by weight**
Deionized Water	72.50
Laponite® EP	2.50
Stir at high speed for twenty minutes, then add:	
Citric acid crystals	25.00
Total	100.00
Continue to mix at high speed for forty-five minutes, or until homogeneous, then package	
pH = 1.8 – 2.0	

Easy rinse hard surface cream cleaner with Laponite® EP

Easy rinse hard surface cream cleaner	
Order of addition	**% by weight**
Water	60.00
Laponite® EP	2.00
Stir at high speed for 20 minutes, then slowly add:	
Baking soda granules	35.00
Surfactant (Dobanol 25)	2.00
Surfactant (Sodium lauryl sulphate)	1.00
Total	100.00
pH 10.5- 11.0	

Use of baking soda - sodium bicarbonate - allows the production of an abrasive cream cleaner that is fully soluble and easy to rinse away.

Laponite® EP develops a unique rheology; combining suspension stability and viscosity build with flow in this very high electrolyte content formula.