



Delivering outstanding,
sustainable degreasing
performance



Berol® R648 PO

Nouryon

The sustainable multifunctional cosurfactant

Berol® R648 PO is an excellent hydrotrope and degreasing booster, effective at very low concentrations. An industry-leading and readily biodegradable cosurfactant, the unique chemistry of Berol R648 PO upgrades the cleaning performance of your formulations ranging from household cleaners to the most demanding industrial degreasers. The hydrophobe in this surfactant is more sustainably derived, and is from a natural, vegetable source and is issued with RSPO MB certification.

The degreasing effect of the test formulations was assessed on a white painted metal plate soiled uniformly with a tough-to-clean greasy soil collected from a train engine. The cleaning formulation was

applied simply by pouring it over the surface (non-mechanical cleaning). After a short time interval, the whole plate was rinsed with tap water and cleaning performance was assessed quantitatively.

Comparative degreasing performance with a competitive cationic hydrotrope



Dilution 1:20 Dilution 1:40
Berol R648 PO

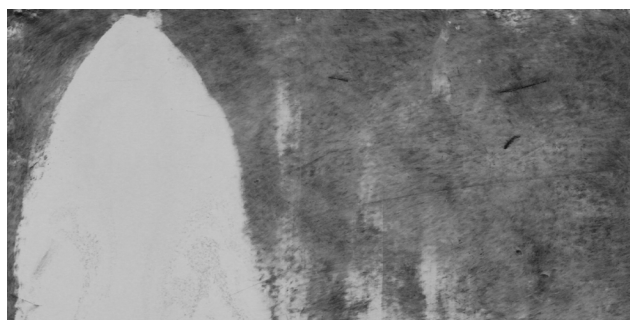
Dilution 1:20 Dilution 1:40
Alkyl amido propyl quat

Formulation (% w/w active content)

7.0%	C10 + 5 EO (HLB 12)
4.2%	Hydrotrope
7.0%	GLDA (chelating agent)
81.8%	Water

Outstanding degreasing performance is obtained with Berol R648 PO even at low concentrations. The product is very flexible for formulation. Similar results are achieved with a broad variety of standard and narrow range fatty alcohol ethoxylates formulated along with different chelating agents.

Comparative degreasing performance with a conventional hydrotrope based formula



Berol R648 PO (2.1%)

SXS (4.4%)

SCS (2.8%)

Formulation (% w/w active content)

5.0%	C9-11 + 4 EO (HLB 11)
7.0%	GLDA (chelating agent)
Hydrotrope added to a cloud point of 45°C	
Balance	Water
Tested at dilution 1:40	

Berol R648 PO provides improved performance in addition to excellent solubilisation power. It also gives desired cloud point at very low concentrations compared to conventional hydrotropes.

Conventional hydrotropes such as SXS or SCS show no cleaning performance in this test.

Berol R648 PO – Key characteristics

- is stable in strong alkaline conditions up to pH 14
- is stable with up to 2-4% caustic depending on the level of electrolytes in the system
- is stable in acidic conditions such as hydrochloric, phosphoric or methanesulfonic acids
- is stable with all types of complexing agents typically used in cleaning applications
- is compatible with nonionic and cationic surfactants and selectively compatible with anionic surfactants
- is a medium foam surfactant (foam height according to Ross-Miles, 50°C, 0.05%: immediately: 32 mm after 5 min: 3 mm)

Berol R648 PO has a plant origin providing a sustainable solution to your customers. The product is delivered with Roundtable on Sustainable Palm Oil (RSPO) Mass Balance (MB) certification.

The exceptional functionalities of Berol R648 PO provide cutting-edge solutions for a wide range of applications.

Water-based multi-purpose hard surface cleaning

Alkaline degreaser		Alkaline degreaser	
5.0%	Berol® 260	5.0%	Berol 260
3.5%	Berol R648 PO	4.0%	Berol R648 PO
15.0%	Dissolvine® GL-47-S	15.0%	Dissolvine® E-39 (EDTA 39-40%)
Balance	Water	2.0%	Na metasilicate
		Balance	Water
Cloud point	>50°C	Cloud point	>50°C
Use conc.	1:20 - 1:60	Use conc.	1:20 - 1:60

Household cleaning – floor, kitchen, bathroom

All purpose cleaner		Disinfectant hard surface cleaner	
2.0%	Berol 260	3.0%	MEA
1.0%	Berol R648 PO	1.5%	EDTA
1.0%	Dissolvine GL-47-S	7.0%	LAE-7 EO
Balance	Water	1.0%	Berol R648 PO
Cloud point	>50°C	0.7%	Arquad® MCB-80
Ready to use (trigger)		Balance	Water
		Cloud point	>50°C
		Use conc.	1:10 - 1:40

Industrial cleaning - metal degreasing, engine cleaning, vehicle cleaning

Heavy duty degreaser		Acidic formulations	
5.0%	Berol 260	1.0 - 3.0%	Berol 260 or Ethylan 1005
5.0%	Berol R648 PO	1.0 - 3.0%	Berol R648 PO
2.0%	NaOH	5.0 - 40.0%	Citric, phosphoric or hydrochloric acid or
10.0%	Dissolvine GL-47-S	5.0 - 15.0%	Sulfamic acid
Balance	Water	Balance	Water

All formulations are expressed in percent of product by weight as supplied.



Sustainability from the source

Nouryon sees sustainability as a key deliverable in its current and future products. As a longtime member of the RSPO organization, Nouryon believes it is important to encourage the use of sustainable raw materials in their products. The hydrophobe in Berol R648 PO is plant-derived and RSPO MB certified.

Your partner in
essential chemistry
for a sustainable future

Contact us directly for detailed product information and sample request
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Nouryon

Nouryon is a global, specialty chemicals leader. Markets and consumers worldwide rely on our essential solutions to manufacture everyday products, such as personal care, cleaning goods, paints and coatings, agriculture and food, pharmaceuticals, and building products. Furthermore, the dedication of more than 7,900 employees with a shared commitment to our customers, business growth, safety, sustainability and innovation has resulted in a consistently strong financial performance. We operate in over 80 countries around the world with a portfolio of industry-leading brands. Visit our website and follow us @Nouryon and on LinkedIn.

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