

Ingredient solutions for vehicle care

Cleaning applications - North America

Car wash formulators need solutions they can count on. From pre-soak to shampoo to rinse, our specialty chemical solutions can help car wash formulators tackle the toughest challenges.

Our portfolio of powerful cleaning ingredients effectively helps remove traffic film, break down organic matter, remove oil film and stubborn mineral deposits, and enhance shine by controlling sheeting and streaking.

Effective ingredients for each wash step

Pre-soak

Our broad portfolio of high-performing ingredients – ranging from chelating agents, surfactants and hydrotropes – can be used to formulate effective products that quickly penetrate, loosen, remove soil and reduce redeposition.



Main wash

Choose from a variety of ingredients that can be used to produce thick, rich foam for complete coverage, maximum surface cling and oil film removal.



Rinse

Leave a shine behind by leveraging our rinse aides to balance the water beading and streaking to enable fast drying.



Chelating agents

Our chelating agents can manage hard water and enhance cleaning performance. They work by binding to metal ions, such as calcium and magnesium, which are prevalent in hard water, preventing them from interfering with the cleaning process.

| Product / chemistry | Features and benefits | Pre-soak | Main wash | Rinse |
|---|---|----------|-----------|-------|
| Dissolvine® E-39 EDTA-Na ₄ | Effective at binding with metal ions Improves detergency Can replace phosponates Produced in US | • | • | |
| Dissolvine® GL-47-S GLDA-Na ₄ | Faster acting to provide improved washing speed Safer, readily biodegradable chelating compound High solubility over a wide pH range Meets US EPA Safer Choice standards Produced in US | • | • | |
| Dissolvine® M-40 MDGA-Na ₃ | Faster acting to provide improved washing speed Safer, readily biodegradable chelating compound alternative to EDTA Available in solid and liquid form Meets US EPA Safer Choice standards | • | • | |

Hydrotropes

Carwash formulations require high performance to handle tough cleaning challenges. Adding a hydrotrope to your cleaning formulation improves formulation stability, boosts cleaning efficiency and regulates foaming, thus enhancing the cleaning process.

| Product / chemistry AG™ 6206 Alkylglucoside | Features and benefits Low foaming nonionic surfactant Excellent solubility in extreme caustic environments (up to 50% caustic) 75% active matter Readily biodegradable | • Pre-soak | Main wash | Rinse |
|--|--|------------|-----------|-------|
| Berol® 561 Quaternary C ₁₂ -14 alkylamine ethoxylate methylchloride | Meets US EPA Safer Choice standards Multifunctional co-surfactant Excellent hydrotrope, degreasing booster, boosting the detergency of a cleaning formulation, especially on particulate soils The most effective hydrotrope for nonionic surfactant at very low loading Meets US EPA Safer Choice standards Produced in US | | • | |
| Berol® Nexus Amine alkoxylate derivative | Next generation, high-performing non-quat surfactant solution for hydrotroping and co-surfactancy Compatible with a variety of nonionic and anionic surfactant cleaning systems Highly concentrated aqueous liquid, 70% Moderate foamer Produced in the US | | • | |



Surfactants

We have a broad range of nonionic and specialty surfactants that are engineered to enhance the efficacy of cleaning formulations.

| Product / chemistry | Features and benefits | Pre-soak | Main wash | Rinse |
|---|---|----------|-----------|-------|
| Berol® 226 SA Alcohol ethoxylate and co-surfactant blend | High-performance nonionic surfactant blend Outstanding wetting and emulsifying properties Specifically engineered to enhance the efficacy of cleaning formulations in car wash applications for concentrated solutions Meets US EPA Safer Choice standards Produced in US | • | • | |
| Berol® 260 C ₉ -C ₁₁ alcohol ethoxylate | Narrow range nonionic surfactant Offers strong degreasing performance Alkali-stable Compatible with most commonly used surfactants and builder grades Effective at very low concentrations Low foam and low viscosity Meets US EPA Safer Choice standards Produced in US | • | | |
| Berol® DGR 81 Alcohol ethoxylate and co-surfactant blend | Environmentally improved, readily biodegradable nonionic surfactant blend Very good degreasing properties with low to medium foam Our strongest high caustic cleaner Soluble and stable in >40% NaOH Soluble in high electrolytes and in weak and strong acids Requires no further surfactant be added for effective high-alkali cleaning | • | • | |

Mineral Seal Oil (MSO) Emulsifiers

Emulsifiers for Mineral Seal Oil (MSO) promote effective vehicle drying by controlling sheeting, which is crucial for minimizing water spots and streaks, resulting in a cleaner and drier vehicle.

| Product / chemistry | Features and benefits | Pre-soak | Main wash | Rinse |
|--|---|----------|-----------|-------|
| Arquad® 2C-75 Dicocodimethyl ammonium chloride | Quaternary ammonium compound to formulate high-performing car rinse aids Offers enhanced drying and minimal streaking Stable across the entire pH range Produced in US | | | • |
| Ethomeen® T/15 Tallowalkylamine ethoxylate | Tallow amine ethoxylate Improves water sheeting in quat-based rinse aid formulations Produced in US | | | • |



June 202

Sample formulations

| Pre-soak, high ph | Pre-soa | k. hi | iah | р | Н |
|-------------------|---------|-------|-----|---|---|
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| Function | Product | % |
|------------------|----------|---------|
| Caustic | NaOH | 15.0 |
| Hydrotope | AG™ 6206 | 3.0 |
| Solvent | Water | balance |
| Dilute 1:10-1:20 | | |

Main wash, high foam

| Function | Product | % |
|--|------------------|---------|
| Degreasing | Berol® 226 SA | 10.0 |
| Metal ion control | Dissolvine® E-39 | 6.0 |
| Builder to increase the cleaning power | Metasilicate | 2.0 |
| Foam boosting | Berol® Nexus | 1.5 |
| Solvent | Water | balance |
| Dilute 1:40-1:60 | | |

Main wash, medium foam

| Function | Product | % |
|--|------------------|---------|
| Degreasing | Berol® 226 SA | 10.0 |
| Metal ion control | Dissolvine® E-39 | 6.0 |
| Builder to increase the cleaning power | Metasilicate | 2.0 |
| Solvent | Water | balance |

Dilute 1:40-1:60

Rinse aid, high beading

| Function | Product | % |
|-------------------|-----------------------------------|------|
| Solvent | Water | 50.0 |
| Surface modifier | Mineral Seal Oil (Conosol 260) | 25.0 |
| MSO emulsifier | Arquad® 2C-75 | 18.8 |
| Compatibility aid | 2-butoxyethanol | 6.2 |

Rinse aid, sheeting

| Function | Product | % |
|--|-----------------------------------|------|
| Solvent | Water | 48.0 |
| Surface modifier | Mineral Seal Oil (Conosol 260) | 25.0 |
| MSO emulsifier | Arquad® 2C-75 | 18.8 |
| Compatibility aid | 2-butoxyethanol | 6.2 |
| Secondary emulsifier to improve sheeting | Ethomeen® T/15 | 2.0 |

Contact us directly for detailed product information and sample request website | nouryon.com/markets/cleaning email | cleaning@nouryon.com

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 approximately 8,200 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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