Arquad® 2C-72 PG

High performance car rinse aid for enhanced drying and minimized streaking, delivered in the final vehicle rinse

To enhance the satisfaction of vehicle owners as they drive out of the car wash station, Arquad 2C-72 PG has been developed as a new interfacial tension modifier / drying aid specifically for car care.

The product is sprayed onto the vehicle as an ingredient in the final aqueous rinse. The optimized formulation is developed to provide fast vehicle drying by rapidly beading water from the vehicle surface, which is blown free of the vehicle surface in the dryer. This effect also minimizes streaking and spotting, enhancing vehicle shine. The neat product is formulated in a non-flammable solvent system to minimize storage and handling concerns, and is readily dilutable into the final rinse water. The surfactant is based on natural ingredients, and is largely bio-based.

Key properties

- Car care additive – rinse aid – lowers interfacial tension to enhance rapid water beading, droplets easily blown from surfaces, minimizing streaks and spots, enhancing vehicle shine
- Formulated in high flash solvent for safer storage and handling – more sustainable solution
- Remains liquid to cool temperatures
- Easy dosing into aqueous rinse water
- Surfactant from renewable bio-based raw materials

Functional benefits for car-care consumer

- Rapid vehicle drying time
- Enhanced vehicle shine
- Beading of water, easily removed with blown air
- Low streak and spotting formulation
- Based on natural vegetable-based surfactant sources
- Environmentally preferred solvent system

Functional benefits to vehicle wash owner

- Non-flammable – no special storage required
- Low temperature stability and pumpability
- Easy-dilution in water
- Bio-based – high renewable carbon index
- Lower toxicity than solvent-based variants

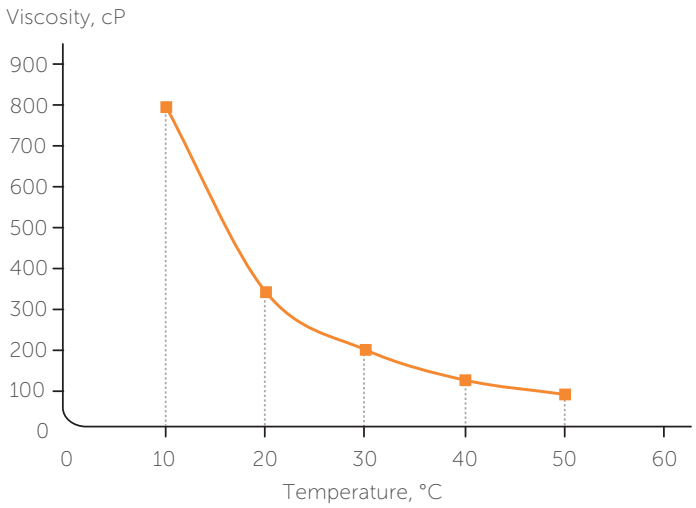
Typical physical properties of Arquad 2C-72 PG

Property	Value
Quat activity	70%
Free amine	1%
Color, Garner	1-3
pH (10% in Ethanol/water 1:1)	6
Water	5%
Pour-point	-2°C / 29°F
Flash-point	>100°C / 212°F

Caution: Care should be taken to avoid contamination with chemicals incompatible with quaternary ammonium compounds that can cause incompatibilization and reduced performance i.e. wash water reuse to make final rinse formulation.

Arquad 2C-72 PG delivers fast dry time, premium shine and safer cleaning performance

Typical temperature-related rheology profile of Arquad 2C-72 PG



Arquad® 2C-72PG Viscosity vs. Temperature using Brookfield Viscometer DV-II + Pro Spindle: LV2

Typical temperature-related density of Arquad 2C-72 PG

Temperature (°C)	Density (g/mL)	Viscosity (cP)
0	0.925	6045.3
10	0.919	791.0
20	0.907	335.6
30	0.908	193.6
40	0.904	119.0
50	0.899	84.0

Guideline formulations

The following framework formulation are provided as examples to allow qualified formulators to start their formulation development and optimization. All formulations are expressed in percent of product by weight as supplied. Due to variation in mineral seal oil (MSO) quality, adjustments may be required to the base formulation to ensure formulation homogeneity.

Premium one-step solvent-based car rinse formulation

Rinse aid	% weight
Mineral seal oil*	25
Arquad 2C-72 PG	18
Ethomeen® T/15	2.3
Ethomeen® T/25	0.7
2-butoxyethanol	5
Water	49

Method of preparation

1. Add Ethomeen T/15 and Ethomeen T/25 to Arquad 2C-72 PG.
2. Add mineral seal oil and 2-butoxyethanol.
3. Add DI water at a slow rate under constant mixing until a clear solution.
4. Stir until homogenous.

* Adjustment in the formulation may be required due to the variation in mineral seal oil

Two-step rinse formulations

Step one – mineral seal oil base

MSO base blend	% weight
Mineral seal oil*	73
Ethomeen T/15	10
2-butoxyethanol	16
Ammonium hydroxide	1

Method of preparation

1. Add Ethomeen T/15 to mineral seal oil.
2. Add 2-butoxyethanol.
3. Add ammonium hydroxide.
4. Stir until homogenous.

Step two – rinse aid

Rinse aid	% weight
MSO base blend	47.4
Arquad 2C-72 PG	17.0
Water	35.6

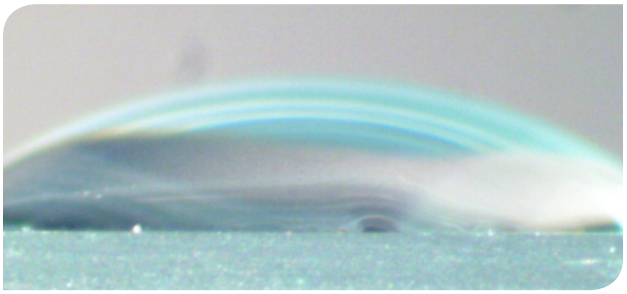
Method of preparation

1. Add Arquad 2C-72 PG to MSO blend (Step 1).
2. Stir until well blended.
3. Add water slowly and stir until a homogenous blend.

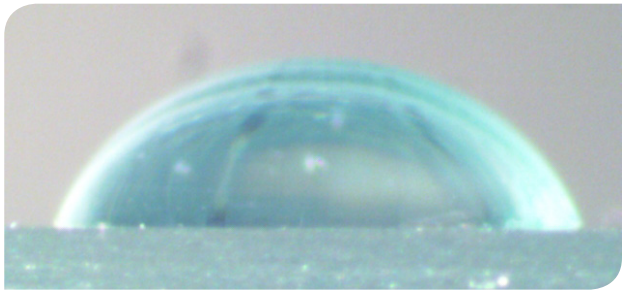
* Adjustment in the formulation may be required due to the variation in mineral seal oil

Drop test to show the effect of treating of a surface with premium one-step solvent based car rinse

Water droplet placed onto treated glass surface to illustrate the effect of premium one-step treatment to a proxy for a car surface. Test illustrates enhanced water beading on surfaces treated with the rinse aid.



Untreated glass surface (control)
Water sprayed on the untreated glass surface.



Treated glass surface with car rinse aid
Water sprayed after glass surface was rinsed with the premium solvent base car rinse

Arquad 2C-75

Also available from Nouryon for carwash applications is the related product Arquad 2C-75. This product contains the same surfactant but in isopropyl alcohol, a flammable solvent package. This may offer a suitable alternative for some customers. It should be noted that different storage, packaging and handling are required for this product in comparison to Arquad 2C-72 PG, and adjustments to the framework formulations will likely be required. Inquire with your sales representative.

Contact us directly for detailed product information and sample request at cleaning@nouryon.com

USA and Canada
Chicago, USA
T +1 312 544 7000

South America
Itupeva, Brazil
T +55 11 4591 8938

Central America and Caribbean
Mexico City, Mexico
T +52 55 5261 7895

China
Shanghai, China
T +86 21 2220 5000

South East Asia
Singapore
T +65 6635 5183

India
Mumbai, India
T +91 22 6842 6700

Europe
Stenungsund, Sweden
T +46 303 850 00

Middle East
Dubai, United Arab Emirates
T +971 (0) 4 2471500

Russia
Moscow, Russia
T +7 495 766 1606

About Nouryon

We are a global specialty chemicals leader. Markets worldwide rely on our essential chemistry in the manufacture of everyday products such as paper, plastics, building materials, food, pharmaceuticals, and personal care items. Building on our nearly 400-year history, the dedication of our 10,000 employees, and our shared commitment to business growth, strong financial performance, safety, sustainability, and innovation, we have established a world-class business and built strong partnerships with our customers. We operate in over 80 countries around the world and our portfolio of industry-leading brands includes Eka, Dissolvine, Trigonox, and Berol.

For more information visit **surfacechemistry.nouryon.com**

Nouryon

00532_230919