

AQUACYL™

CNT water dispersions

AQUACYL™ AQ0313

Multiwall carbon nanotube waterborne dispersions with polymeric dispersant

General Information

Description

AQUACYL™ is a family of multiwall carbon nanotubes (MWCNTs) waterborne dispersions with optimized properties. AQUACYL™ AQ0313 is the ideal way to incorporate carbon nanotubes in waterborne systems (coatings, films, etc.). The dispersion contains a polymeric dispersant for superior dispersion and stability over long period.

Key Applications

- Electrostatic Discharge (ESD) and electrically coatings and films
- Heating elements (heating wall membranes, heating floors, etc.)
- Energy storage application (lithium-ion batteries, capacitors, etc.)

Benefits

- Excellent electrical conductivity at low loading
- Ease of processing
- Joule effect/IR radiation

Technical Data

Main Characteristics

AQ0313 is a D.I. water dispersion of 3wt% of NC7000™ containing a polymeric dispersant.

pH	Boiling point (°C)	Melting Point (°C)	Viscosity after stirring at 25 °C (cP)
7 - 11	100	0	800 - 1000

Surface Resistivity

The following figure shows the surface resistivity of thin dry film of AQUACYL™ AQ0313 or the diluted mixture (Dilution factor: percentage of added D.I. water / mixture of AQUACYL™ and extra D.I. water) cast on a Mylar sheet by Doctor blading method (thickness is adjusted to 250µm).

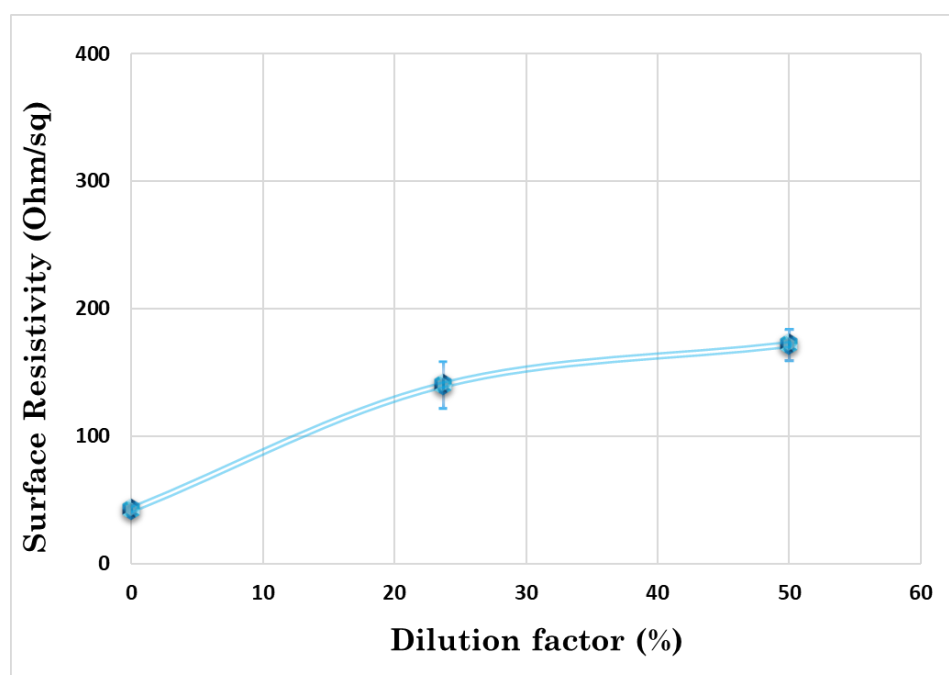


Figure 1. Surface resistivity of pure AQUACYL™ AQ0313 and the diluted aqueous mixtures.

General processing guidelines

AQUACYL™ AQ0313 shows shear-thinning properties. Slight stirring before use is therefore recommended for the ease of processing. Stirring by an overhead stirrer will reduce the viscosity to 800 cP.

AQUACYL™ AQ0313 could be diluted to match your applications requirements. In order to find the appropriate dilution, we strongly recommend performing tests at different percentages in working conditions.

Commercial/Safety Information

Packaging

AQUACYL™ AQ0313 is available in different packaging:

- Bottles (5/10/25 liters)

Minimum Order of Quantity

Nanocyl's minimum order quantity for AQUACYL™ AQ0313 is **5 liters**.

Storage

Keep AQUACYL™ AQ0313 only in the original closed container in a dedicated place.

Keep containers in a cool, dry storage place with adequate ventilation. Keep storage temperature between 5-30°C. Keep away from freezing. It is recommended not to store this product outdoors during the winter.

Health and Safety

A Material Safety Data Sheet (MSDS) is available to provide both workers and emergency personnel with the proper procedures for handling or working with the AQUACYL™ AQ0313. This MSDS includes information such as physical data (form and color, melting point, etc.), handling and storage recommendations, first aid measures and ecological information. The Safety Data Sheet is provided with any order and should be observed.

Disclaimer

The information contained in this TDS is believed to be accurate to the best of Nanocyl's knowledge and belief at the time of the TDS publication. The information is intended to be used as a guideline and for informational purpose only. Consequently Nanocyl DOES NOT WARRANT that the information or the related products are fit for any particular purpose or use by User and it is for User to check for itself the fitness of the information and/or the related products, including regarding the non-infringement of third parties intellectual property right whether related products are used alone or in combination with other products. Nanocyl shall NOT BE LIABLE, whether contractually or in tort, for damages caused through the use or the reliance on this information and/or the related products.