



## TECHNICAL DATA SHEET

# RESINS

### OvivUP<sup>®</sup> – C009

## General information

### OvivUP – C009

PURPOSE	<ul style="list-style-type: none"><li>• Ultrapure grade ion exchange resin for polishing or make-up application. Strong acid cation resin characterized by a great performance as a component of regenerable mixed bed as well as a regenerable single bed ion exchanger. This resin has been developed to ensure maximum resin separability.</li><li>• OvivUP – C009 is especially conditioned and rinsed for producing semiconductor grade Ultrapure water with superior quality standards. The superior quality of this resin is achieved by using very high-grade Ultrapure water (following IRDS guidelines) for the cleaning and rinsing of the resin during the manufacturing process.</li></ul>
TYPE	Strong acid cation exchange resin
MATRIX	Styrene-DVB copolymer, gel
PHYSICAL FORM	Translucent spherical beads
INSTALLATION	<ul style="list-style-type: none"><li>• The optimum performance of any ion exchange resin can only be achieved if the resin is loaded, commissioned, and operated correctly.</li><li>• All equipment has to be thoroughly decontaminated using the highest quality ultrapure rinse water to avoid contamination of the resin by either foreign matter or different resin types.</li><li>• Ensure the resin level conforms to the plant design and always use Ultrapure water for the filling, commissioning and rinsing steps.</li><li>• We recommend using a hydraulic ejector or manually loading through the top manway or top filling flange .</li><li>• When used as mixed bed, we recommend mixing the resin with nitrogen (N<sub>2</sub>) to ensure homogeneous mix of cation and anion resins.</li><li>• Initiate flow and monitor TOC rinse down and resistivity until the ultimate water quality has been achieved and water quality has stabilized.</li><li>• Resin is delivered from the factory in an ultrapure and clean condition therefore only small rinse water volume is necessary during the installation to rinse to quality. Once resin packaging is open and resin is exposed to ambient air conditions, ensure to limit the exposure time to avoid any resin contamination.</li></ul>



## OvivUP – C009 (continued)

OPERATION	<ul style="list-style-type: none"> <li>• Regenerable resin (in mixed or single bed).</li> <li>• OvivUP ion exchange resin can't be stored for a long time in a service vessel as bacterial growth could occur during still-stand conditions. Thus, the resin should at least (and permanently if possible) be kept rinsed.</li> </ul>
PACKAGING	OvivUP – C009 resin is packed in plastic bags (25 liters).
STORAGE	<ul style="list-style-type: none"> <li>• OvivUP – C009 resin is sensitive to temperature. Protect from frost and store away from direct sun light, in a cool and dry place.</li> <li>• Keep product in its original closed packaging until use and away from incompatible materials such as strong oxidizing agents.</li> <li>• Recommended maximal storage time is 3 years.</li> </ul>
SHIPPING DENSITY	810 g/l

## Specifications

EFFECTIVE SIZE		mm in	600 – 700 0.0236 – 0.0276
UNIFORMITY COEFFICIENT			≤ 1.2
BULK DENSITY		g/l lb/ft <sup>3</sup>	810 50.6
OUTLET RESISTIVITY <sup>1) 2)</sup>	Mixed bed Single bed	MΩ·cm	≥ 18 ≥ 12
ΔTOC <sup>1) 2)</sup>	Mixed bed Single bed	ppb	≤ 3 ≤ 25

1) Typical values in service. Detailed reports of analysis for all batches of OvivUP – C009 resins are available for each delivery, thus to ensure that the delivered product meet stringent UPW performance requirements and is of the highest quality.

2) Resistivity and TOC rinse performance measured after 3 hours at 20 BV/h with ≥ 17.5 MΩ·cm rinse water.

## Typical properties

FUNCTIONAL GROUP		Sulfonic acid
COLOUR		Dark amber
WATER CONTENT	%	33 – 43
ION EXCHANGE CAPACITY	eq/l	≥ 2.4
IONIC FORM	eq%	≥ 99.9 H <sup>+</sup> ≤ 0.1 Na <sup>+</sup>
TOTAL SWELLING (Na <sup>+</sup> TO H <sup>+</sup> )	%	5

# Operating parameters

MAXIMUM OPERATING TEMPERATURE	120 °C	248 °F
SERVICE FLOW RATE	10 – 80 m/h	4.1 – 32.7 gpm/ft²
MINIMUM BED DEPTH	800 mm	31 ½ in
MAXIMUM PRESSURE DROP	1.5 bar	21 psig

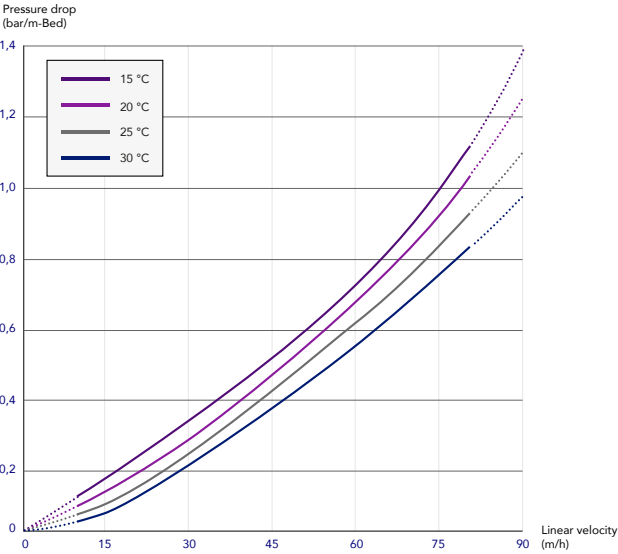
# Regeneration

REGENERANT CHEMICAL		HCl	H <sub>2</sub> SO <sub>4</sub>
REGENERANT CONCENTRATION	%	4 – 6	1 – 4
REGENERANT LEVEL	g/l lb/gal	50 – 150 0.42 – 1.25	
REGENERANT FLOW RATE	m/h ft/h	2 – 10 6.6 – 32.8	
RINSE WATER VOLUME	BV <sup>1)</sup>	2 – 10	

1) 1 BV (Bed Volume) = 1 m³ of water or solution per m³ of resin

# Hydraulic characteristics

## PRESSURE DROP



# Quality

## ISO 9001:2015

- The production of the OvivUP – C009 is certified according to ISO 9001:2015.

## ISO 14001:2015

- The manufacturing site of the OvivUP – C009 is certified according to ISO 14001:2015 for environmental management systems.

# Other information

DISPOSAL	Disposal must be in accordance with the appropriate local regulations. If possible, recycling is preferred to disposal or incineration.
SAFETY ADVICE	<ul style="list-style-type: none"><li>• Eye contact can cause serious irritation.</li><li>• High risk of slipping due to spillage of the product.</li></ul>
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