

TECHNICAL DATA SHEET

RESINS

OvivUP[®] – A009

GENERAL INFORMATION

OvivUP – A009

PURPOSE	<ul style="list-style-type: none">• Ultrapure grade ion exchange resin for Polishing or Make-up applications.• Strong base anion 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.• OvivUP – A009 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.
TYPE	Strong base anion exchange resin, type 1
MATRIX	Styrene-DVB copolymer, porous
PHYSICAL FORM	Translucent spherical beads
INSTALLATION	<ul style="list-style-type: none">• The optimum performance from any ion exchange resin can only be achieved if the resin is loaded, commissioned and operated correctly.• 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.• Ensure the resin level conforms to the plant design and always use Ultrapure water for the filling, commissioning and rinsing steps.• We recommend using a hydraulic ejector or manual loading through the top manway or top nozzles.• When used as mixed bed, we recommend mixing the resin with nitrogen (N₂) to ensure homogeneous mix of cation and anion resins.• Initiate flow and monitor TOC rinse down and resistivity until the ultimate water quality has been achieved and water quality has stabilized.• 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 resin saturation with carbon dioxide (CO₂).



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OvivUP – A009 (continued)

OPERATION	<ul style="list-style-type: none"> • Regenerable resin (in mixed or single bed). • 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 in a rinsing step.
PACKAGING	OvivUP – A009 resin is packed in a 3-layer gas barrier packaging (25 liters).
STORAGE	<ul style="list-style-type: none"> • OvivUP – A009 resin is sensitive to temperature. Protect from frost and store away from direct sun light, in a cool and dry place. • Keep product in its original closed packaging until use and away from incompatible materials such as strong oxidizing agents. • Recommended maximal storage time is 1 year.
SHIPPING DENSITY	650 g/l

SPECIFICATIONS

EFFECTIVE SIZE		mm in	≥ 0.42 ≥ 0.0165
UNIFORMITY COEFFICIENT			≤ 1.6
BULK DENSITY		g/l lb/ft ³	650 40.6
OUTLET RESISTIVITY ^{1) 2)}	Mixed bed Single bed	MΩ·cm	≥ 18 ≥ 15
ΔTOC ^{1) 2)}	Mixed bed Single bed	ppb	≤ 3 ≤ 5

1) Typical values in service. Detailed reports of analysis for all batches of OvivUP – A009 resins are available for each delivery, thus to insure 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		Trimethyl Ammonium
COLOUR		Light yellow
WATER CONTENT	%	58 – 68
ION EXCHANGE CAPACITY	eq/l	≥ 0.85
IONIC FORM	eq%	≥ 95 OH ⁻ ≤ 1 Cl ⁻
TOTAL SWELLING (Cl⁻ TO OH⁻)	%	23

OPERATING PARAMETERS

MAXIMUM OPERATING TEMPERATURE	60 °C (OH-) 80 °C (Cl-)	140 °F (OH-) 176 °F (Cl-)
SERVICE FLOW RATE	10 – 80 m/h	4.1 – 32.7 gpm/ft ²
MINIMUM BED DEPTH	800 mm	31 ½ in
MAXIMUM PRESSURE DROP	1.5 bar	21 psig

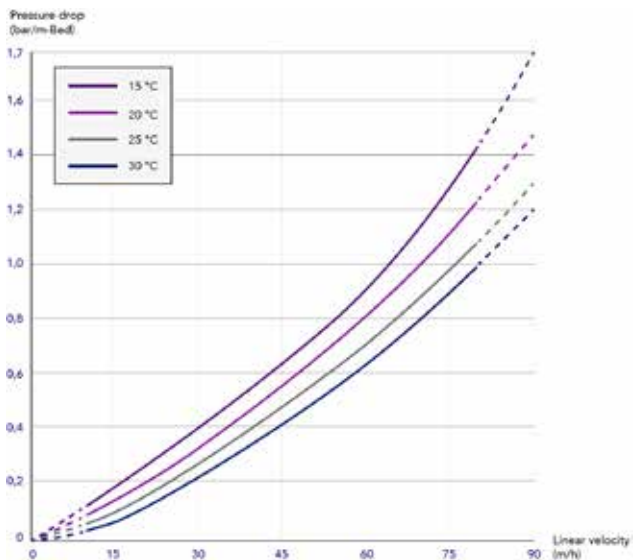
REGENERATION

REGENERANT CHEMICAL		NaOH
REGENERANT CONCENTRATION	%	2 – 4
REGENERANT TEMPERATURE	°C °F	15 – 45 59 – 113
REGENERANT LEVEL	g/l lb/gal (US)	50 – 150 0.42 – 1.67
REGENERANT FLOW RATE	m/h ft/h	2 – 8 6.6 – 26
RINSE WATER VOLUME	BV ¹⁾	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 – A009 is certified according to ISO 9001:2015.

ISO 14001:2015

- The manufacturing site of the OvivUP – A009 is certified according to ISO 14001:2015 for environmental management systems.

OTHER INFORMATION

DISPOSAL	
DISPOSAL	Disposal must be in accordance with the appropriate local regulations.
SAFETY ADVICE	
SAFETY ADVICE	<ul style="list-style-type: none">• In contact with eye, can causes serious irritation.• High risk of slipping due to spillage of the product.
GLOBAL KNOWLEDGE CENTRE	
GLOBAL KNOWLEDGE CENTRE	Ovivo Switzerland AG Benkenstrasse 262 4108 Witterswil Switzerland

