



WATER TREATMENT AT POWER PLANT

Pressurized Water Reactor Condensate Polisher Product Recommendations

Condensate polishers protect critical steam generator components from potential condenser leaks, thereby improving plant reliability. Our ion exchange resins have been the backbone of condensate polishing systems throughout the world for decades. Depending on the chemistry used in the steam generator feed water, the right resin combination will help provide the optimum performance in terms of treated condensate purity and cycle run length.

PRODUCT	AMINE	CATION PRE-BED	FEATURES AND RECOMMENDED USES	TYPE	MATRIX	TOTAL VOLUME CAPACITY (eq/L min)	IONIC FORM AS SHIPPED
AMBERLITE™ HPR550 OH	NH ₄ / Organic Amine	N/A	By far the most common resin combination used worldwide for pressurized water reactor condensate polishing applications. This pairing offers the best balance of properties: high capacity gel type resins, uniform particle size, and high physical stability. AMBERLITE™ HPR650 H Resin is also an excellent choice for cation pre-bed required to handle NH ₄ /amine load.	SBA	GEL	1.10	OH ⁻
AMBERLITE™ HPR650 H		Yes		SAC	GEL	2.00	H ⁺
AMBERLITE™ HPR550 OH	NH ₄ / Organic Amine	N/A	Pairing that offers you one of the highest NH ₄ /amine capacity with good anion protection, allowing enhanced pH for better FAC control. AMBERLITE™ HPR1600 H Resin provides high NH ₄ /amine capacity for cation pre-bed.	SBA	GEL	1.10	OH ⁻
AMBERLITE™ HPR1600 H		Yes		SAC	GEL	2.40	H ⁺
AMBERLITE™ HPR9000 OH	NH ₄ / Organic Amine	N/A	Pairing that offers you high NH ₄ /amine capacity with good anion protection. AMBERLITE™ HPR1600 H Resin provides high NH ₄ /amine capacity for cation pre-bed. The use of a macroporous anion resin provides excellent resistance to surface fouling and kinetic impairment.	SBA	MACRO	0.80	OH ⁻
AMBERLITE™ HPR1600 H		Yes		SAC	GEL	2.40	H ⁺
AMBERLITE™ HPR9000 OH	ETA	N/A	The only ion exchange resin pair shown to mitigate ETA chemistry related anion resin kinetic impairment. Designed specifically for use with ETA chemistry.	SBA	MACRO	0.80	OH ⁻
AMBERLITE™ HPR1400 H		No		SAC	GEL	2.00	H ⁺
AMBERLITE™ HPR9000 OH	Organic Amines	N/A	Pairing that offers you high Na selectivity for operation past amine break. The use of a macroporous anion resin provides excellent resistance to surface fouling and kinetic impairment.	SBA	MACRO	0.80	OH ⁻
AMBERLITE™ HPR2000 H		No		SAC	MACRO	1.70	H ⁺
AMBERLITE™ IRN360 H/OH	Non Regenerable Start-up	N/A	Ready to use gel type mixed bed composed of 2/3 of high capacity UPS cation resin AMBERLITE™ IRN97 H and 1/3 IRN78 OH Resins on a volume basis. High cation dosage volume allows high maximum exchange capacity when cation species are dominant (alkaline pH), in all PWR applications.	MB	GEL/GEL	2.10/1.20	H ⁺ /OH ⁻
AMBERLITE™ 600i	Layer Separation	N/A	Inert interface separator compatible with all PWR condensate polishing resin pairs.	Inert	GEL	N/A	N/A

Key:

SBA = Strong Base Anion
SAC = Strong Acid Cation
MB = Mixed Bed

Powering performance worldwide.

With a large global manufacturing footprint, strong R&D expertise and technical support services and systems, we supply high market volumes with high quality. Dow partners with you, our customer, to understand unmet needs and develop tailored solutions.

● RESEARCH & DEVELOPMENT

Chauny, France*
Collegetown, PA*
Edina, MN*
Huzhou, China
Kaust Jeddah, KSA
Midland, MI*
Shanghai, China*
Tarragona, Spain**

*DW&PS Technology Center
**Global Water Technology Center

● COMMERCIAL OPERATIONS

Astana, Kazakhstan
Bangkok, Thailand
Budapest, Hungary
Dubai, UAE
Horgen, Switzerland
Johannesburg, South Africa
Kuala Lumpur, Malaysia
Moscow, Russia
Mumbai, India
Nairobi, Kenya
Rheinmünster, Germany
São Paulo, Brazil
Seoul, Korea
Sydney, Australia
Tokyo, Japan
Warsaw, Poland

● MANUFACTURING

Chauny, France
Edina, MN
Fombio, Italy
Huzhou, China
Jubail Industry City, Saudi Arabia
Menlo Park, CA
Midland, MI
Qingpu, China
Soma, Japan



Water & Process Solutions

7600 Metro Blvd.
Edina, MN 55439

For more information, contact our Customer Information Group:

Asia Pacific	+86 21 3851 4988
Europe, Middle East, Africa	+31 115 672626
Latin America	+55 11 5184 8722
North America	1-800-447-4369

dowwaterandprocess.com

WARNING: Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

NOTICE: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where Dow is represented. The claims made may not have been approved for use in all countries. Dow assumes no obligation or liability for the information in this document. References to "Dow" or the "Company" mean the Dow legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN EXCEPT FOR ANY SPECIFIC WARRANTY SET FORTH HEREIN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

All information set forth herein is for informational purposes only. This information is general information and may differ from that based on actual conditions. Please note that physical properties may vary depending on certain conditions and while operating conditions stated in this document are intended to lengthen product lifespan and/or improve product performance, it will ultimately depend on actual circumstances and is in no event a guarantee of achieving any specific results. Nothing in this document should be treated as a warranty by Dow.

Printed in the U.S.A.

©™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

Form No. 177-03675-0518 CDP