



WATER TREATMENT AT POWER PLANT

Boiling Water Reactor Condensate Polisher and Reactor Water Clean Up Product Recommendations

The resins employed for boiling water reactor (BWR) purification must be able to purify water to a maximum degree. Any traces of organic and inorganic impurities will become visible in the pure water environment of the reactor circuits. Our IRN-grade ion exchange resins are proven to be the premier resins chosen to protect nuclear power plants throughout the world, able to maintain the purity of the BWR circuit even in extreme temperature conditions.

PRODUCT	APPLICATION	FEATURES AND RECOMMENDED USES	TYPE	MATRIX	MINIMUM TOTAL VOLUME CAPACITY (eq/L)	IONIC FORM AS SHIPPED
AMBERLITE™ IRN99 H	CPP	AMBERLITE™ IRN99 H Resin is a premium 16% DVB uniform particle size cation resin with very high capacity and oxidative stability. The high oxidative stability reduces reactor water sulfate concentration in BWR condensate polishing. AMBERLITE™ IRN78 OH is a premium high solids uniform particle size anion resin with very high capacity. It is specifically processed to minimize organic chloride content. This pairing offers the highest capacity and lowest sulfate with less-separating characteristics.	SAC	GEL	2.50	H ⁺
AMBERLITE™ IRN78 OH	CPP		SBA	GEL	1.20	OH ⁻
AMBERLITE™ IRN150 H/OH	CPP/RWCU	Nuclear grade mixed bed composed of uniform particle size AMBERLITE™ IRN77 H and IRN78 OH Resins on a 1:1 equivalent basis.	MB	GEL/GEL	1.90/1.20	H ⁺ /OH ⁻
AMBERLITE™ IRN160 H/OH	CPP/RWCU	High capacity nuclear grade mixed bed composed of uniform particle size AMBERLITE™ IRN97 H and IRN78 OH Resins on a 1:1 equivalent basis. Designed to minimize separation of anion and cation during installation and transfer in BWR condensate polishing.	MB	GEL/GEL	2.10/1.20	H ⁺ /OH ⁻
AMBERLITE™ IRN170 H/OH	CPP/RWCU	Premium nuclear grade mixed bed composed of uniform particle size AMBERLITE™ IRN99 H and IRN78 OH Resins on a 1:1 equivalent basis. Offers maximum oxidative stability and highest operating capacity to achieve the lowest reactor water sulfate concentration and longest resin life for all BWR applications.	MB	GEL/GEL	2.50/1.20	H ⁺ /OH ⁻

Key:

- CPP = Condensate Polishing Plant
- RWCU = Reactor Water Clean Up
- SBA = Strong Base Anion
- SAC = Strong Acid Cation
- MB = Mixed Bed

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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.

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