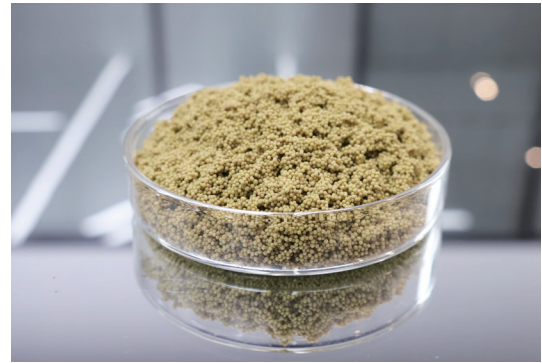


Copper & Nickel Adsorption Resin - HP686

Application field

- ✓ It can be used to recover nickel and copper and to purify process solutions in the production of lithium-ion battery cathode materials and lithium-ion battery recycling.
- ✓ It can adsorb copper ions under acidic conditions (pH < 2).
- ✓ Removing nickel ions from cobalt electrolyte to purify the electrolyte.
- ✓ It can selectively adsorb heavy metal ions such as nickel and copper in solutions containing strong chelating agents like EDTA.



Product advantages

- ✓ **Excellent adsorption kinetics:** Uniform cross-linking within the polymer framework accelerates the adsorption rate and enhances treatment efficiency.
- ✓ **Highly selective adsorption:** Even in acidic solutions with a pH of approximately 2, relevant heavy metals can still be removed efficiently. The order of selectivity for metal ion adsorption is as follows: $\text{Cu}^{2+} \gg \text{Ni}^{2+} > \text{UO}_2^{2+} > \text{Fe}^{3+} > \text{Zn}^{2+} > \text{Co}^{2+} > \text{Cd}^{2+} > \text{Fe}^{2+} > \text{Mn}^{2+}$.
- ✓ **Excellent mechanical strength:** The resin particles are uniform and wear-resistant, withstanding acidic environments (pH 1–6) and offering a long service life.
- ✓ **High adsorption capacity:** Suitable for the deep recovery of low-concentration metal ions.

Product advantages

Name	Indicator
Appearance	Yellowish-green spherical granules
Particle size range %	0.315–1.25 (mm) ≥ 95.0
Functional groups	Specific copper-free groups
Treatment accuracy mg/L	0.1
Operating pH	1.0–6.0
Uniformity coefficient	≤ 1.60

Rhenium Adsorption Resin - HP115

Application field

- ✓ Treatment of acid washing tailwater from flue gas: During the smelting of copper or molybdenum ore, rhenium is often carried into the flue gas in the form of oxides; rhenium is recovered from the acid washing water after acid washing.



Product advantages

Name	Indicator
Appearance	Milky white to pale yellow opaque spherical granules
Particle Size Range (%)	(0.40–1.20 mm) ≥ 95.0
Functional Groups	Rhenium-specific functional groups
Treatment Accuracy	0.1
Operating pH	1.5–14.0
Operating Temperature (°C)	≤ 80
Uniformity Coefficient	≤ 1.60

Product advantages

- ✓ **Treatment of acid washing tailwater from flue gas:** During the smelting of copper or molybdenum ore, rhenium is often carried into the flue gas in the form of oxides; rhenium is recovered from the acid washing water after acid washing.
- ✓ **Adaptability to acidic and basic conditions:** The material exhibits significant selectivity for rhenium adsorption in acidic systems, while coordination interactions weaken under basic conditions, facilitating recovery via alkaline elution.
- ✓ **Application Suitability:** Suitable for the treatment of rhenium-containing industrial wastewater and resource recovery applications.

Large Particle Size Nickel Cobalt Adsorption Resin - HPC001XL

Product advantages

Name	Indicator
Particle Size Range	0.8-1.4 mm (specifically designed for pulp leaching)
Mechanical Strength	>98%, suitable for long-term agitation and screening cycles
Adsorption Selectivity	High selectivity for Ni ²⁺ /Co ²⁺ , resistant to interference from impurities such as Fe ³⁺ /Mn ²⁺
Adsorption Capacity	Nickel saturation capacity ≥2.0 mmol/g (dry basis)
Suitable pH Range	2-6 (suitable for acid leaching pulps)



Application field

- ✓ Extraction of nickel and cobalt from red-earth nickel ore via HPAL or reduced-pressure leaching (RIP) processes, enabling direct enrichment from ore slurry without full solid-liquid separation.
- ✓ Recovery and enrichment of nickel and cobalt from intermediate solutions (leachate/residual) in nickel and cobalt hydrometallurgy.

Cobalt Adsorption Resin-HPC001

Product advantages

- ✓ **High activity and stability:** By utilizing the “confinement effect” of polymeric channels to efficiently load cobalt nanoparticles, the adsorbent exhibits high activity and stability, making it suitable for long-term use.
- ✓ **Outstanding Physicochemical Properties:** It exhibits excellent erosion resistance and can withstand high flow rates and complex operating conditions. With stable physicochemical properties and superior mechanical performance, its mass loss rate after 100 cycles of adsorption/desorption is less than 0.1%, ensuring a long service life.
- ✓ **High adsorption capacity:** With high adsorption efficiency, it can effectively treat cobalt-containing solutions.
- ✓ **Excellent selectivity:** Even in high-nickel, low-cobalt environments where the nickel-to-cobalt ratio exceeds 10:1 (such as laterite nickel ores), it exhibits extremely high selectivity toward cobalt, ensuring efficient separation and recovery of cobalt.
- ✓ **Stable effluent quality and excellent regeneration performance:** Combining excellent effluent stability with superior regeneration performance, the product can be reused multiple times, thereby reducing operating costs.
- ✓ **Wide applicability:** It can replace various cobalt extraction processes, simplifying the process flow. It is suitable for complex ore environments, such as laterite nickel ores and cobalt-containing wastewater, and demonstrates strong adaptability.



Application field

- ✓ Extraction of cobalt from laterite nickel ore, particularly from ores with high nickel and low cobalt content.
- ✓ Purification of nickel sulfate solution from spent lithium-ion batteries.

Product advantages

Name	Indicator
Appearance	White to off-white spherical granules
Particle size range (%)	0.315-1.25 (mm) > 95.0
Functional groups	0.1
Treatment accuracy (mg/L)	Cobalt-extracting functional groups
Operating pH	3.0-12.0



Vanadium Adsorption Resin - HP1053

Application field

- ✓ Enrichment and extraction of vanadium from leachate generated by roasting, acid leaching, alkali leaching and other processes, and extraction of vanadium from electrolyte.

Product advantages

- ✓ **Targeted vanadium-binding functional groups:** Equipped with highly selective anion-exchange groups, these groups are bonded to both the inner and outer surfaces to precisely recognize and efficiently adsorb vanadium ions, thereby enabling directed capture and concentrated recovery.
- ✓ **High chemical stability:** Utilizing cross-linked polymers as a scaffold, it withstands complex industrial environments (such as high temperatures and acidic conditions), exhibits excellent resistance to chemical degradation, and demonstrates outstanding long-term adsorption stability.
- ✓ **Dual optimization of adsorption and mass transfer:** Surface functionalization enhances the distribution of active sites, and when combined with a multi-level pore structure, simultaneously improves adsorption capacity and mass transfer efficiency, ensuring rapid capture and thorough purification of vanadium ions.
- ✓ **High mechanical strength and durability:** The three-dimensional cross-linked network structure provides the material with excellent dimensional stability, high abrasion resistance, and strong pressure resistance, making it suitable for dynamic industrial fluid environments and ensuring long-term cyclic performance.



Product advantages

Name	Indicator
Appearance	White to off-white granules
Moisture Content %	55-65%
Particle Size Range %	0.3-1.20 mm ≥ 95.0
Apparent Density (wet) g/mL	0.65-0.75
Sphericity %	≥ 95.0
Skeleton Density g/mL	0.80-1.00
Porosity %	35-50
Sphericity (post-milling) %	≥ 90

Precious Metal Adsorption Resin - HP4080

Application field

- ✓ Separation of precious metals from acidic solutions in the metallurgical industry and removal of low-concentration dissolved mercury salts from wastewater.
- ✓ Recovery of precious metals from rinse water in the electroplating and electronics industries, including the extraction of gold, silver, platinum, palladium, and other precious metals.

Product advantages

- ✓ **Highly Selective Adsorption:** Special functional groups exhibit strong, specific binding capacity toward precious metals (gold, silver, platinum, palladium, etc.), forming stable complexes via coordinate bonds, with adsorption affinity significantly superior to that for other heavy metals.
- ✓ **High adsorption capacity:** The macroporous framework provides a high specific surface area and interconnected channels, balancing rapid adsorption kinetics with resistance to fouling, making it suitable for the treatment of complex feed solutions with high flow rates and high concentrations.
- ✓ **Stability Assurance:** The resin exhibits strong chemical stability, withstanding a wide pH range and high-temperature environments, while its chemically bonded structure prevents degradation. It also offers excellent mechanical stability, featuring a high-strength framework that is wear-resistant and ensures a long service life.
- ✓ **Excellent Regeneration Performance:** The resin can restore its adsorption capacity through simple regeneration steps (such as acid or alkali washing) and can be reused multiple times, thereby reducing operating costs.



Product advantages

Name	Indicator
Appearance	Milky white to beige spherical granules
Particle size range %	0.35-1.20 (mm) > 95.0
Functional groups	Thiourea group
Detection limit mg/L	0.1
Operating pH	3.0-10.0
Operating temperature °C	5-60

Germanium Adsorption Resin – HP409

Application field

- ✓ Mining and Smelting: Efficient recovery of associated germanium from zinc smelting wastewater and lignite ash, as well as the adsorption and concentration of germanium from germanium-containing leachate generated during hydrometallurgical processing of ores.
- ✓ Electronics Industry: Recovery of germanium resources from waste liquids generated in semiconductor manufacturing to achieve recycling.
- ✓ Environmental Protection: Treatment of germanium-containing industrial wastewater to simultaneously ensure compliance with discharge standards and resource recovery.

Product advantages

- ✓ **Highly Selective Adsorption:** Modified with functional groups that exhibit specific adsorption capacity for germanium, this material demonstrates high selectivity for germanate ions in water. This enables precise identification of germanium ions while avoiding interference from impurities such as magnesium and iron, resulting in an adsorption capacity several times higher than that of traditional materials. The germanium content in the eluate is <1 mg/L.
- ✓ **Eco-friendly regeneration process:** Utilizes mild desorbents, achieving a regeneration rate of $\geq 95\%$. No discharge of strong acid or strong alkali waste liquids, in compliance with international environmental standards.
- ✓ **Long-term stability:** The material is resistant to acids and alkalis and resistant to organic contamination, with a service life of over 5 years and an annual wear rate of <5%, significantly reducing replacement costs. The germanium content in the desorbed solution is <1 mg/L.



Product advantages

Name	Indicator
Appearance	Light yellow to brown spherical granules
Moisture Content (%)	50.0–60.0
Skeletal Structure	Styrene-divinylbenzene
Particle Size Range (%)	(0.3–1.2 mm) ≥ 95.0
Apparent Density (g/mL)	0.60–0.80
Functional Groups	Specific groups of purified germanium

Tungsten & Molybdenum Adsorption Resin – HP1048



Product advantages

- ✓ **High selectivity in acidic environments:** Maintains highly selective adsorption of heavy metals even in acidic systems.
- ✓ **Excellent adsorption efficiency:** Capable of rapidly and efficiently capturing heavy metals.
- ✓ **High stability:** The adsorption performance is long-lasting and reliable, and is not easily affected by environmental fluctuations.
- ✓ **Outstanding resistance to interference:** Through the targeted design of functional groups, interference from coexisting metal ions is significantly reduced.

Application field

- ✓ Treatment of Waste Acids Containing Heavy Metals.

Product advantages

Name	Indicator
Appearance	White to off-white spherical granules
Moisture Content %	50.0–60.0
Particle Size Range %	(0.315–1.25) ≥ 95
Apparent Density g/mL	0.7–0.8
Sphericity %	≥ 90
Functional Groups	Weakly basic
Skeletal Density g/mL	0.80–0.90



Selective Gold Extraction Resin—KF380

Application field

- ✓ The adsorption and recovery of cyanide-complexed gold from gold heap leaching/heap leaching processes, electroplating waste liquids, and electronic waste are particularly effective in the treatment of high-copper ore, where gold can be selectively extracted while suppressing copper interference.

Product advantages

- ✓ **Highly Selective Adsorption:** Selective adsorption of gold. In complex systems, it prioritizes gold capture while suppressing interference from impurities, thereby improving the purity and efficiency of resource recovery. It is suitable for precision separation applications in the mining and metallurgical industries.
- ✓ **Excellent Regeneration Performance:** Regeneration efficiency exceeds 95% after adsorption saturation, allowing for multiple regeneration cycles and reuse. This significantly reduces chemical consumption and operating costs.
- ✓ **Stable Physical and Chemical Properties:** Its physical and chemical structure (sphericity $\geq 95\%$, uniform particle size, and strong basic groups) ensures high mass transfer efficiency. It is suitable for continuous operation in equipment such as adsorption columns and fluidized beds, maintaining stable and efficient performance under various harsh operating conditions, thereby ensuring the long-term reliability of the process system.



Product advantages

Name	Indicator
Appearance	Light yellow spherical granules
Moisture Content (%)	45–55%
Particle Size Range (0.35–1.25 mm) (%)	≥ 95.0
Bulk Density (g/mL)	0.75–0.8
Sphericity (%)	≥ 95.0
Functional Groups	Strongly basic groups

Silica Removal Resin - HP4900

Application field

- ✓ Removal of silicon from metal salt solutions.

Product advantages

- ✓ **High Selectivity and Adsorption Precision:** It exhibits extremely high adsorption selectivity and precision for silicon, capable of precisely removing various forms of silicon from nickel sulfate feedstock, thereby preventing carryover losses of nickel salts and ensuring the high purity of the nickel sulfate feedstock.
- ✓ **High-efficiency adsorption performance:** HP4900 features a fast adsorption rate and high activity, enabling rapid and thorough removal of silicon. It reduces silicon levels in saturated nickel sulfate solutions to below 1 mg/L, meeting high-purity requirements.
- ✓ **Suitable for High-Nickel Battery Applications:** The HP4900 is particularly well-suited for the high-nickel battery sector, providing high-quality nickel sulfate raw materials for the production of high-performance ternary cathode materials and supporting the development of the new energy industry.



Product advantages

Name	Indicator
Appearance	White to off-white spherical granules
Particle size range %	(0.3–1.10 mm) ≥ 95.0
Apparent density g/mL	0.75–0.85
Sphericity %	≥ 95.0
Functional groups	Silica-removing active groups
Treatment efficiency mg/L	<1

Rubidium-Cesium Adsorption Resin - HPY408

Application field

- ✓ Treatment of ore leachate: Targeted separation of rubidium and cesium from leachate derived from minerals such as lithium mica and feldspar.
- ✓ Rubidium and Cesium Extraction from Salt Lake Brines: Suitable for the recovery of rubidium and cesium resources from high-salinity, impurity-rich salt lake brine systems.

Product advantages

Name	Indicator
Appearance	Light green spherical granules
Particle size range (%)	0.3-1.20 (mm) ≥ 95.0
True bulk density (g/mL)	1.15-1.25
Apparent bulk density (g/mL)	0.75-0.80
Sphericity after grinding (%)	≥ 95.0
Functional groups	Rubidium-cesium-specific functional groups



Product advantages

- ✓ **High-Capacity Selective Adsorption:** High-density active sites within the nanoscale channels bind specifically to rubidium and cesium ions; even in the presence of high concentrations of competing ions (such as Na⁺, K⁺, and Ca²⁺), the preferential adsorption of rubidium and cesium remains high.
- ✓ **High-efficiency mass transfer via multi-level pore channels:** The abundant micro-mesoporous composite structure endows the material with exceptional hydraulic diffusion properties, shortening ion diffusion paths and enhancing adsorption kinetics, resulting in a treatment efficiency increase of over 40%.
- ✓ **Tolerance to extreme environments:** Maintains stable chemical properties and mechanical strength (compressive strength > 15 MPa) even in strong acid/alkali, high salinity, and high-temperature (≤80°C) environments.
- ✓ **Long-term operational reliability:** Excellent resistance to scouring and wear, with a service life up to three times that of traditional materials.

Arsenic, Phosphorus, & Antimony Removal Resin - HP560



Product advantages

Name	Indicator
Appearance	Dark brown spherical granules
Particle size range %	(0.3-1.10 mm) >95.0
Functional groups	Arsenic-removing functional groups
Processing precision	<0.1 mg/L
Operating pH	3-14
Operating temperature °C	5-50

Application field

- ✓ Treatment of arsenic-, phosphorus-, and antimony-containing wastewater in the metallurgical industry.
- ✓ Drinking water treatment.

Product advantages

- ✓ **High-efficiency adsorption performance:** Features an excellent pore structure, high specific surface area, and pore volume, resulting in high adsorption capacity and fast adsorption rates. The arsenic, phosphorus, and antimony content in the eluate is <0.1 mg/L.
- ✓ **High selectivity:** Exhibits excellent adsorption selectivity for arsenic, phosphorus, and antimony ions, making it suitable for advanced removal and compliance treatment.
- ✓ **Easy Regeneration:** Can be regenerated multiple times for reuse; simple operation reduces operating costs.
- ✓ **Long Service Life:** High mechanical strength and good stability extend the service life of the adsorbent.
- ✓ **High Adaptability:** Suitable for a wide range of complex water quality conditions, ensuring stable and efficient removal performance.



Calcium & Magnesium Removal Resin - HP4010

Application field

- ✓ **Recovery and Purification of Metal Ions:**

During the smelting and purification of mica and spodumene ores, calcium and magnesium ions are removed to enhance the purity of lithium products.
- ✓ **Metal Feed Solution Purification:**

Used for calcium and magnesium removal to improve the purity of metal feed solutions, suitable for the purification of energy metals such as lithium, nickel, and cobalt.
- ✓ **Advanced Treatment and Resource Recovery of Heavy Metal-Containing Wastewater:**

Used to treat heavy metal-containing wastewater, achieving resource recovery and advanced treatment to meet environmental discharge requirements.
- ✓ **Preparation of Battery-Grade Lithium Products:**

Used to remove calcium and magnesium ions in advance during the production of lithium carbonate or lithium hydroxide, ensuring product purity.

Particularly suitable for the bipolar membrane process for lithium hydroxide production, meeting strict requirements for divalent cations.
- ✓ **Advanced Treatment and Compliance of Heavy Metals in Electroplating Wastewater:**

Used for the advanced removal of heavy metal ions from electroplating wastewater, ensuring compliant discharge.



Product advantages

- ✓ **Highly Selective Separation Capability:** HP4010 is specifically designed for the selective separation of calcium and magnesium ions. It efficiently removes calcium and magnesium impurities while preventing the loss of monovalent ions (such as lithium ions), significantly improving the quality of the lithium-rich solution.
- ✓ **Fast Adsorption Rate and High Activity:** The calcium and magnesium removal adsorbent HP4010 rapidly achieves deep removal of calcium and magnesium ions, meeting high-purity requirements.
- ✓ **Abundant Nanopores and Uniform Cross-linking:** The resin features abundant nanopores and a uniform cross-linked structure, providing excellent hydraulic diffusion properties that ensure fast adsorption rates and high mass transfer efficiency.
- ✓ **High Mechanical Strength and Stability:** This adsorbent possesses high mechanical strength and excellent resistance to scouring. With stable physicochemical properties, it is suitable for long-term operation and offers a long service life.

Product advantages

Name	Indicator
Appearance	White spherical granules
Structure	Macroporous styrene-divinylbenzene copolymer
Structure Density g/mL	0.65-0.75
Form of Delivery	Na type
Moisture Content (%)	50.0-60.0%
Particle Size Range %	(0.35-1.20 mm) ≥ 95.0
Bulk Density g/mL	0.75-0.85
Sphericity %	≥ 95.0

Large Particle Size Calcium & Magnesium Removal Resin – HP4010XL

Product advantages

Name	Indicator
Particle Size Range	0.8–1.4 mm
Mechanical Strength	>98%; suitable for long-term agitation and screening cycles
Adsorption Selectivity	High selectivity for Ca ²⁺ /Mg ²⁺ ; resistant to interference from other impurities
Operating pH Range	2–12



Application field

- ✓ Ideal for removing calcium and magnesium from feedwater with high solids content.
- ✓ Treats industrial wastewater with suspended solids, removing calcium and magnesium to prevent scaling in downstream RO/NF membrane systems and extend membrane lifespan. The high-strength resin withstands the friction and impact of particulate impurities in the wastewater, delivering a low breakage rate and a longer service life than conventional fine-particle resins.

Cadmium Removal Resin – HP708

Application field

- ✓ Metal recovery from tailings and remediation of heavy metal contamination;
- ✓ Removal of antimony and bismuth from copper electrolyte; removal of cadmium, zinc, lead, and other metals from feed solutions.



Product advantages

Name	Indicator
Appearance	Opaque spheres, milky white to beige
Apparent Density g/mL	0.70–0.80
True Density g/mL	1.10–1.20
Particle Size Range mm	0.45–1.25
Uniformity Coefficient	≤1.60
Sphericity %	≥90
Swelling Ratio (H ⁺ -Na ⁺) %	≤40

Product advantages

- ✓ **Targeted chelating functional groups:** A styrene-divinylbenzene cross-linked framework loaded with amino-methylphosphonic acid groups enables the directed capture of metal ions through chelation.
- ✓ **High mechanical strength:** A uniformly cross-linked network combined with nanoscale pores provides high mechanical strength and resistance to swelling.
- ✓ **High adsorption efficiency:** Abundant pores accelerate mass transfer, while hydrophilic modification enhances hydraulic diffusion efficiency.
- ✓ **Excellent performance:** The selectivity order of HP708 for different ions is as follows:

At pH < 7: Pb²⁺ > Cu²⁺ > U⁴⁺, Zn²⁺, Al³⁺ > Mg²⁺ > Si²⁺, Ca²⁺, Ba²⁺, Na⁺

At pH > 7: Cd²⁺, Mg²⁺ > Ca²⁺ > Si²⁺, Al³⁺ > Ba²⁺, Na⁺, K⁺



Oil/TOC Removal Resin - HP268

Application field

- ✓ Purification of metal extraction solutions: Resource recovery treatment of oily wastewater from extraction processes.
- ✓ New Energy Material Purification: Efficient oil removal and TOC reduction in leachate and electrolyte from lithium battery recycling.
- ✓ Advanced Industrial Wastewater Treatment: COD control in electronic plating wastewater (<50 mg/L), TOC removal in photo-voltaic acid washing waste liquid (acid recovery rate >99%), and decolorization of textile dyeing wastewater.
- ✓ Chemical Industry COD Treatment: Hydrogen peroxide purification and COD removal from chemical production wastewater.



Product advantages

- ✓ **High-efficiency adsorption performance:** The polymer's porous structure provides a high specific surface area and pore volume, resulting in a large adsorption capacity and rapid adsorption rates for oils and organic compounds. The oil content in the treated water can be reduced to as low as 1 mg/L, and TOC can be lowered to below 20 mg/L.
- ✓ **Regeneration and durability:** Simple operation and long service life; strong mechanical and chemical stability, with no performance degradation during long-term operation.
- ✓ **Wide-Ranging Applications:** Covers fields such as new energy (impurity removal from lithium battery recycling solutions), industrial wastewater treatment, and waste acid purification (acid purity >99%), supporting near-zero discharge of industrial wastewater and resource recovery.

Product advantages

Name	Indicator
Appearance	Reddish-brown to dark brown spherical granules
Particle size range %	0.4-1.25 (mm) >95.0
Porosity %	35-50
Apparent density g/mL	0.65-0.75
Bulk density g/mL	0.80-1.00
Treatment efficiency mg/L	Oil Content <1; TOC <20

Phosphorus Removal Resin - HP5600

Application field

- ✓ Phosphorus removal from industrial wastewater in the hydrometallurgy industry.
- ✓ Phosphorus removal from lithium battery leachate.
- ✓ Phosphorus removal from groundwater and drinking water.
- ✓ Upgrading of biochemical effluent.



Product advantages

- ✓ **Excellent Structural Properties:** Abundant nanoscale pores and superior hydraulic diffusion ensure highly efficient phosphorus removal.
- ✓ **High-Efficiency Adsorption:** Compared to ion exchange, ligand exchange offers superior performance, with a higher exchange capacity for phosphate ions. It features fast adsorption rates, high activity, excellent selectivity and adsorption precision, and minimal interference from coexisting anions.
- ✓ **High Mechanical Strength and Stability:** The adsorbent exhibits high mechanical strength, excellent stability, and a long service life.
- ✓ **Cost-effective:** Delivers excellent treatment results with low operating costs, making it suitable for large-scale applications.

Product advantages

Name	Indicator
Appearance	White to off-white spherical granules
Moisture Content %	45-55%
Particle Size Range %	(0.4-1.25 mm) >95.0
Apparent Density g/mL	0.70-0.80
Sphericity %	≥95.0
Functional Groups	Phosphorus-removing functional groups

Fluoride Removal Resin - HP3500

Application field

- ✓ Mine water treatment.
- ✓ Fluorine chemical and metallurgical industries.
- ✓ Mine wastewater treatment.
- ✓ Fluoride removal from lithium battery recycling solution.



Product advantages

- ✓ **High adsorption selectivity and precision:** Compared to ion exchange, ligand exchange offers superior performance and a higher exchange capacity for fluoride. It exhibits high selectivity for fluoride ions and minimal interference from other coexisting anions. The fluoride concentration in the treated water can be reduced to below 1 mg/L, and can even be lowered to below 0.2 mg/L to meet specific requirements.
- ✓ **Excellent pore structure and specific surface area:** Features an outstanding pore structure, high specific surface area, and pore volume, resulting in good hydraulic diffusion performance and high exchange capacity.
- ✓ **Effective treatment:** Stable effluent quality, low operating costs, fast adsorption rate, and high activity.
- ✓ **No introduction of impurities:** No A3 ion impurities are introduced, ensuring the purity of the adsorbent.
- ✓ **High Performance:** The saturated adsorption capacity for fluoride ions is ≥ 20 g/L (adsorbent), and the fluoride concentration in the effluent after adsorption is less than 0.5 mg/L.

Product advantages

Name	Indicator
Appearance	White to off-white spherical granules
Moisture Content %	50-60
Particle Size Range %	(0.30-1.20 mm) ≥ 95.0
Apparent Density (wet) g/mL	0.70-0.80
Sphericity %	≥ 95.0
Functional Groups	Fluoride-removing functional groups
Treatment Efficiency mg/L	<1