

Macroporous Adsorption Resin

H103

H103 macroporous adsorption resin is a type of macroporous adsorption resin, non-polar, belongs to the system of styrene. Developed mainly for adsorption and separation of small organic molecules. Because of the special manufacturing process, its apertures are very uniform, and it has a high specific surface area. Widely used in treatment of organic wastewater, removal of food residue organic, removal of pesticide residues in agricultural products, removal of organic residue in Chinese herbal medicines, and etc

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Name	Specification
Appearance	Brown black opaque spherical particles
Polarity	Non polar
Moisture %	45%~55%
True density in wet state	1.05~1.10g/ml
Visual density in wet state	0.70~0.75g/ml
Specific surface area	1000~1200m ² /g
Average pore size	8.5~9.5nm
Porosity %	55%~60%
Particle size range	0.3~1.25mm
The structure of resin	PSt

Reference Operation Conditions

1) Adsorption:

Loading height: ≤ 3M

Flow rate: 1~6m/h



Organic impurity concentration: < 1 (such as acetic acid, acetone, methanol, benzene, formic acid, etc.)

PH=4~6

2) Desorption:

Desorption solution: 1~2%NaOH methanol or acetone

Usage: 2~4BV 2BV

Flow rate: $\leq 5\text{m/h}$ $\leq 5\text{m/h}$

Temperature: 40~50 °C

Application

- Mainly used for treating organic wastewater, removal or recovery of most of the organic compounds.
- Juice purification, decolorization of acid, removing bitter taste.
- Separation and purification of antibiotics, vitamins, amino acids, steroids, enzyme and so on.
- Separation, recovery of nonpolar substances from a polar solvent, such as phenol.
- Adsorption and separation of flavonoids.

Precautions

- Resin should be wet state preservation. The best temperature is above 0°C. Resin should be put into a closed space or add in salt water of 5% or above if not used for a long time. Should be anti-freezing during transportation. Do not place heavy objects on the resin in case being crashed.
- Generally requires alkali- water - acid - water flow path for processing. Strict requirement needs three circulation before coming to final ion kernel.
- Need to consider different transformation expansion rate to set aside enough space to prevent resin overflow and ensure the appropriate liquid level height; Column diameter ratio should be within a reasonable range and avoid bias current; Use wet packed column

or back-flushing to wash away bubbles inside resin layer.

- Before liquid going into the resin column, steps as flocculation, filtration, or sand-filtration should be taken so that it doesn't jam resin pore with suspended solids .
- Resin inside the column that hasn't been used for a long time should be stored outside of the column after washing, or adding salt water in the salt resistant medium while keeping liquid level not dehydrated with usual backwashing to loosen resin in case of agglomeration.