Product Data Sheet

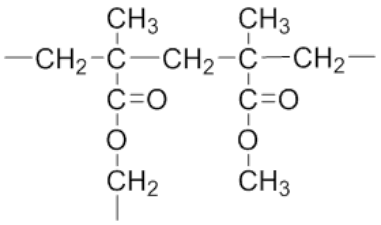
DIAION™ HP2MGL

DIAION™ HP2MGL is based on crosslinked methacrylate. It does not contain any aromatic compounds. It is considered an intermediate polarity adsorbent resin. It is recommended for desalting and adsorption of organic compounds of relatively high polarity by using the more hydrophilic character of the polymer matrix.

DIAION™ HP2MGL is characterized by:

>> Unique chemical property and pore size distribution
>> High chemical and physical stability
>> Excellent batch-to-batch reproducibly
>> Excellent pressure/flow characteristics
>> Wide application

Physical and chemical properties

Grade Name		DIAION™ HP2MGL
Bead form		Spherical, porous
Matrix		Crosslinked polymethacrylate
Chemical Structure		
Whole beads count	-	95 min.
Shipping Density*	g/L	720
Water content	%	55 - 65
Particle Size Distribution thr. 355 µm	%	1 max.
Effective size	mm	0.40 min.
Uniformity Coefficient	-	1.6 max.
Particle Density*	g/mL	1.09
Specific Surface Area*	m^2/g	570
Pore Volume*	mL/g	1.3
Pore Radius*	Å	240

Note : properties with a mark "*" are referential data.

Swelling ratio in various solvents

Methanol	1.02
Ethanol	1.05
2-Propanol	1.02
Acetone	1.04
Toluene	1.07
Acetonitrile	1.01
Water	1.00

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Pore size distribution

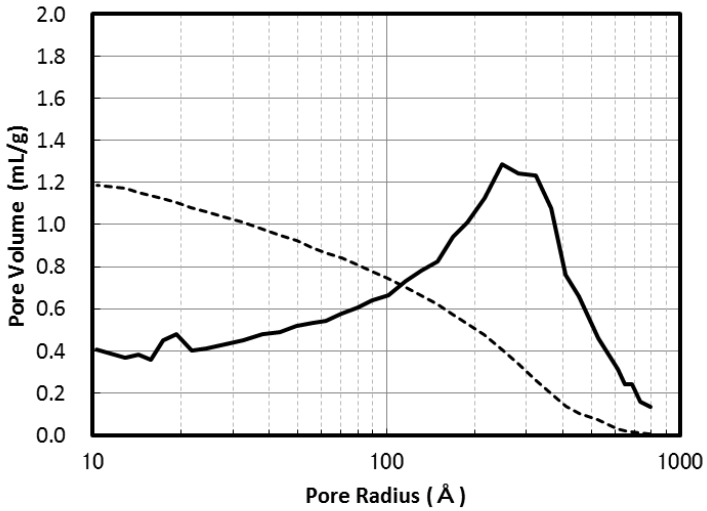

Fig. 1 Pore size distribution of HP2MGL

Recommended Operating Conditions

Maximum Operating Temperature	°C	130
Operating pH Range		0 - 14
Minimum Bed Depth	mm	800
Flow rate	BV/h	Loading 0.5 - 5
	BV/h	Displacement 0.5 - 2
	BV/h	Regeneration 0.5 - 2
	BV/h	Rince 1 - 5
Regenerant		
		Organic solvents for hydrophobic compounds
		Bases for acidic compounds
		Acids for basic compounds
		Buffer solution for pH sensitive compounds
		Water for an ionic solution
		Hot steam for volatile compounds

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Hydraulic Characteristics

The approximate pressure drop at various temperatures and flow rates for each meter of bed depth of DIAION™ HP2MGL resin in normal down flow operation is shown in the graph below.

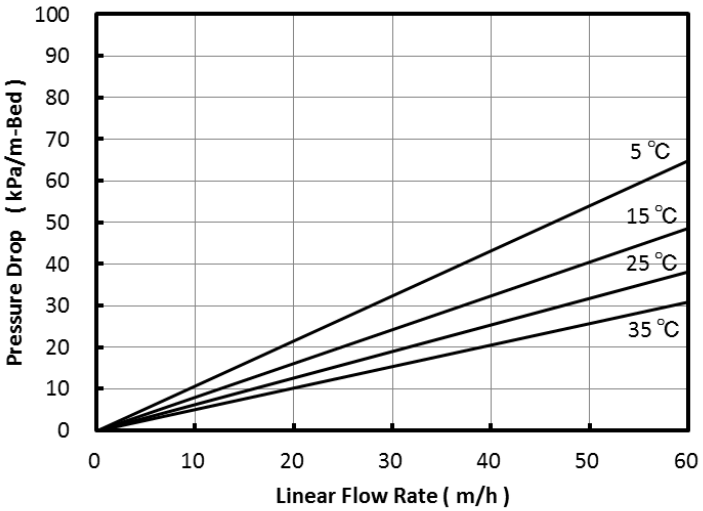

Fig. 2 Pressure Drop of HP2MGL

FDA status

DIAION™ HP2MGL may be used to process food and beverage products and isolate specialized food additives as intended. Such use may be said to fully comply with the Federal Food, Drug, and Cosmetic Act, and applicable food additive regulations, including 21 CFR 177.2470 (Polyester resins, cross-linked).

Applications

- Purification of small peptides, oligonucleotides and proteins
- Adsorption of vitamins, antibiotics, enzymes, steroids and other substance from fermentation solutions
- Decolorization of various sugar solutions
- Adsorption of fatty acids
- Adsorption of various perfume
- Decolorization and purification of various chamicals

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Storage condition

Synthetic adsorbents are recommended to store properly in order to avoid a high risk for mold growth. The proper storage typically allows any synthetic adsorbent resin to last for a year after production before onset of any such growth.
The best storage condition is with 20% of alcohol such as ethanol or isopropanol. A 10% or higher concentration of salt solution, such as NaCl, is also recommended to preserve new or used resin for long storage.
In case salt cannot be used, a 0.01 to 0.02 N of NaOH solution could be accepted as mold cannot withstand survival at pH higher than 12.
Storage at freezing temperature should be avoided at all cost as it may cause breakage or crush of resin particles.

Notice

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