

CELPURE® P CLARIFICATION MEDIA

Superior Purity and Performance

Celpure P media are new high performance filter aids for clarifying low to high solid pharmaceutical suspensions. Celpure P media offer the following advantages:

- Reduced overall batch processing time versus conventional filter aid, centrifuges, TFF, depth and dead end filtration.
- Optimum clarity at higher flux rates.
- Substantial reduction in extractables (i.e. aluminum, iron, etc.) in final product vs. conventional filter aid.
- Overall improvement in process economics.
- Convenient packaging/ease of use.
- Lower usage rates and cake-disposal costs vs. conventional filter aid.

CELPURE P CLARIFICATION MEDIA.

The media are composed primarily of silicon dioxide and are extracted and purified from the deposits of single-celled plants called diatoms. During the manufacture of Celpure, the impurities normally present in filter aids are removed, yielding an ultra-pure product.

CHOICE OF GRADE

The Celpure grades are rated based on their water permeability (Darcy). The lower the Darcy rating, the tighter the grade. See table 1 for a listing of other properties. As part of the grade selection process, match the performance of your existing grade with that of an offsetting Celpure grade. As the Celpure grades have a lighter density than conventional filter aids, less Celpure is needed (by weight) to achieve an equivalent cake volume, and to match or surpass the performance of your existing process. In choosing a grade or combination of grades, factors such as initial solids load, final product clarity, process throughput, and extractables should be considered. We strongly recommend that bench scale studies be conducted to confirm performance benefits and to streamline the scale-up process.

Table 1: Characteristics of Celpure P Media.

Grade	mDarcy Rating	Wet density g/cm ³	SiO ₂ content %	Clarification Capability (micron)
P65	65	0.24	98	0.20 - 0.30
P100	100	0.23	98	0.30 - 0.45
P300	300	0.23	98	0.45 - 0.60
P1000	1000	0.23	97	1.0 - 2.0

Table 2: Grade Selection

Celpure Grade	Celpure Reduction Factor ¹	Corresponding Celite AWGrade
P65	20%	
P100	30%	ChromosorbFC
P300	30%	521AW
P1000	30%	HyfloAW



Figure 1 Celpure® P Clarification Media

PRE-COATING RATES

We recommend that the Celpure P grades be precoated at a flux rate of 40 – 80L/m²/min to achieve efficient and even precoating on the filter septum.

¹To obtain a Celpure cake volume equivalent to your existing process, initially reduce your current filter aid requirements by this factor. Subsequent optimization studies will help reduce your filter aid usage further.



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PERFORMANCE BENEFITS

Celpure P clarification media offer significant improvement in processing time and filtrate clarity versus centrifuges, TFF, depth and membrane systems. Choosing from a broad range of Celpure grades, processes can be optimized for improved throughput or improved clarity, depending on the combination of Celpure P media (as precoat and bodyfeed) employed in the trial.

Celpure processes utilize a concept called dynamic depth filtration (DDF). DDF involves suspending rigid and inert silica particles (Celpure) with broth solids; at the time of filtration, these particles deposit on the septum at the same rate as the debris, extending the process cycle time.

APPLICATION DATA: CELPURE VS. CONVENTIONAL FILTER AID

The following graphs depict typical process improvements realized when placing conventional filter aids with Celpure. The process is for the removal of activated carbon from an aqueous/ethanol solution.

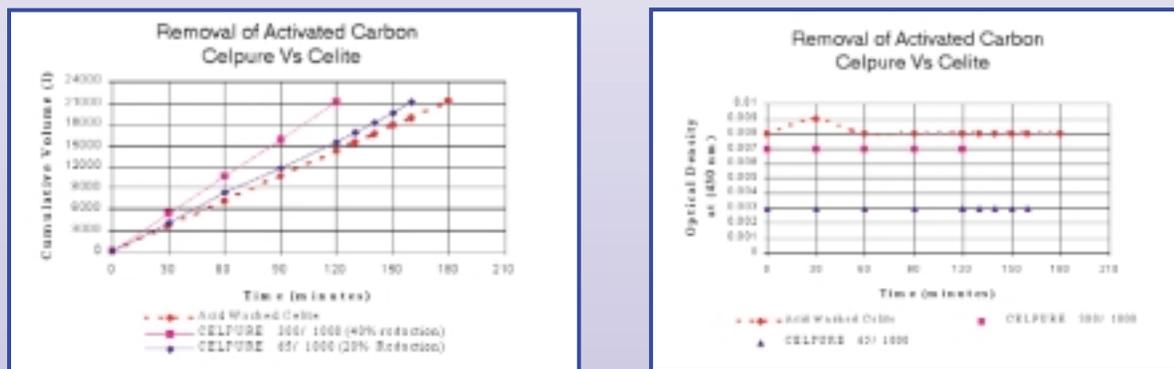


Fig.2. Comparison of Celpure P and acid washed Celite filter aids in the removal of 0.45micron debris from an aqueous/ethanol solution. The combination of Celpure P300 and P1000 resulted in a 30% reduction in overall processing time and a 10% improvement in filtrate clarity over the existing process. By replacing Celpure P300 with Celpure P65, we observed a 10% reduction in processing time and a three-fold improvement in filtrate clarity.

ORDERING INFORMATION

To receive pricing or place an order for Celpure® please contact Aldrich Customer Service Department at 800-558-9160.

52523-5 FILTER AGENT, CELPURE® P65, USP-NF, PHARMACEUTICAL GRADE 250gm \$27.00, 1.0kg \$75.00
Clarity down to ~0.20mm

52626-6 FILTER AGENT, CELPURE® P100, USP-NF, PHARMACEUTICAL GRADE 250gm \$27.00, 1.0kg \$75.00
Clarity down to ~0.20 – 0.45mm

52524-3 FILTER AGENT, CELPURE® P300, USP-NF, PHARMACEUTICAL GRADE 250gm \$27.00, 1.0kg \$75.00
Clarity down to ~0.45 – 0.65mm

52522-7 FILTER AGENT, CELPURE® P1000, USP-NF, PHARMACEUTICAL GRADE 250gm \$27.00, 1.0kg \$75.00
Clarity down to ~1.0 – 2.0mm

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