FILTER AIDS FOR
INDUSTRIAL,
PHARMACEUTICALS,
FOOD & BEVERAGE
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INDUSTRIAL, PHARMA, FOOD & BEVERAGE APPLICATIONS

IMERYS MINERALS is the world-leading manufacturer of Perlite and Diatomaceous Earth (DE) filter aids. With nearly a century of production experience and technical expertise, IMERYS filter aids offer unparalleled flexibility and cost-effectiveness in a wide range of filtration duties.

Today, IMERYS manufactures and supplies over 80 different European Perlite and DE grades with permeabilities to meet virtually all filtration requirements associated with Industrial, Pharma, Food and Beverage applications.

Food & Beverage Applications: IMERYS CELITE® DE filter aids; EUROPERL® and HARBORLITE® perlite filter aids and FibraCel cellulose-based filter aids for precoat, have been used for many years to provide superior filtration performance in brewing, juices, wine, sugar syrups, edible vegetable and fish oils. Multiple grades offer multiple permeabilities to ensure the correct grade for the correct final product specification. Ability to cope with fluctuations caused by using natural raw materials is essential for optimal filtration.

Pharma and Biotech Applications: IMERYS Advanced Mineral range of ultra-high purity Celpure and AW CELITE® NF grades designed for CGMP production of pharmaceuticals and high purity products. Supplemented by a number of specialty adsorbant grades of synthetic silicates for use as chemical/enzyme carriers, tableting agents, excipients, endotoxin removal agents etc.

Industrial Applications: IMERYS CELITE®, EUROPERL® and HARBORLITE® filter aids are also effectively used in multiple industrial applications such as chemical processing, mineral and lubrication oil production, biodiesel purification etc.

WHY CHOOSE IMERYS?

Choice & Availability: Multiple grades of both perlite and DE, with global production facilities. Within Europe, perlite plants in France, Spain and Italy; DE plants in Spain and France – the correct product when you need it.

Quality of Filter Aids: All IMERYS perlite and DE grades are tested and produced to meet the standards necessary for Food Chemical Codex.

Extensive Technical Support: Ability to support customer in choosing the correct grade of filter aid, and optimising their filtration processes.

Control of Complete Production Process: IMERYS manufactures filter aids from its own mines, each associated with a dedicated processing plant. Therefore full traceability of product from mine to finished package.

Proven Heritage: IMERYS has been supplying filter aids for decades under the brand names EUROPERL®, HARBORLITE®, CELITE®, PRIMISIL® and KENITE®.

Ability to Multisource: Able to supply the same grade from different production plants – helps to guarantee continued supply when necessary.

Multiple Package Types: paper sacks, bulk bags and bulk truck.

The extensive IMERYS product portfolio is enhanced by equally extensive technical support that includes a network of filtration specialists with experience in all current applications, markets and technologies. All are backed by the resources of the IMERYS Technical and Research & Development facilities in both the UK and the USA. This combination of products, people, technology and long experience offers a degree of filtration capability including problem solving and innovation unequalled in the industry.

What really differentiates IMERYS from other powder suppliers though is the IMERYS commitment to Innovation: Ongoing projects to adapt filter aids to do more than just remove suspended solids – using our multi-mineral product portfolio and mineral engineering expertise to produce filter aids with additional functionalities. For example, engineered filter aids to:

- Reduce product losses in high value filtration applications – EUROPERL 900HD and EUROPERL 900HDS
- To filter and provide protein-stability in beer – CELITE SYNERGY
- To prevent clogging of metallic filter plates in edible, mineral and lubricating oil applications – CELITE 545VO
WHAT IS PERLITE?

Perlite is made from a soft alumino-silicate rock that expands rapidly when heated as the water in its structure turns to steam (similar process to making popcorn!) This expanded structure is then milled to the desired particle size distribution to make various grades of filter aid products. High permeability grades for high solid content or “rough” filtration; low permeability grades for low solid or high clarity “fine” filtration. All are inert and provide a natural and sustainable filtration medium.

Perlite filter aids are remarkably light in density, making them exceptional in their capacity to retain large quantities of suspended solids in a filter cake without blocking.

WHAT IS DE?

DE is a remarkable natural product composed of the fossilised remains of aquatic algae, or diatoms, which were deposited on lake beds and the ocean floor some millions of years ago. With time, the diatom skeletons became agglomerated to form a light and porous rock referred to as diatomite. These remains are virtually pure silica, an inert and insoluble mineral.

Each diatom has an elaborate skeleton permeated by many small holes. It is this structure that holds the key to its unsurpassed properties for removing a wide variety of suspended solids when used as a filter aid. The efficiency is particularly noticeable when filtering liquids that contain very fine hazes or when needing a high clarity filtrate, for example during final filtration for juices and beers. As for perlite, different grades of DE filter aids are available to ensure a complete range of filtration capabilities.
**RECENT IMERYS INNOVATIONS FOR FILTRATION**

**EDIBLE AND LUBRICATING OILS:** Celite 545VO – the high permeability filter aid engineered to reduce fouling of filter plates and thus reduce cleaning times (see right)

**BREWING:** Celite Cynergy™ – the beer stabilising filter aid engineered to both filter and adsorb haze sensitive proteins at the same time – thus eliminating the need for separate silica gel dosing, thus achieving longer filter run lengths, with less total powder dosing (see below)

**IMPROVED FILTRATION PERFORMANCE**

The Celite Cynergy™ retains all of the microporous structure of the DE and avoids the relatively smooth, spherical surfaces associated with regular silica gels. The result is more microporous structure with Celite Cynergy™ than that present in a mix of DE and regular silica gel, leading to a higher filtration efficiency.

**FILTER CAKE VOLUME REDUCTION**

Conventional filtration with DE and silica gel creates thicker cakes. With Celite Cynergy™, less total cake volume is required due to the higher filtration efficiency. As a result Celite Cynergy™ will enable 15-30% longer filter cycles, extending the on-line time and to increasing the effective filter capacity and reducing cleaning frequency & costs.

**ALL APPLICATIONS – EUROPERL® High Density Perilites:** Perilites engineered to reduce spent filter cake production (by up to 20%) and reduce the amount of product losses in the spent filter cake from >5% when compared with regular perlite.

**RESULTS: OIL LOSSES AND WASTE CAKE PRODUCTION**

Based on 1 month trial filtering sunflower oil using the same dosing rate of Imerys High Density Perlite (Trial) compared to standard perlite (Control)

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**If you wish to discuss further how IMERYS can help with your filtration needs** – for example reduced filtration costs, increased filtration capacity, or further improvement in product quality, please contact your local Imerys representative or your locally-appointed distributor.

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