

PULP MILL TECHNOLOGY

**Bringing the right products and people
to your pulp operation**



Solenis is dedicated to helping pulp and paper mills operate more efficiently and profitably. We offer a state-of-the-art product portfolio that addresses nearly every aspect of the pulping process. Our highly skilled team of field sales representatives, applications engineers, and research scientists ensure our products work in your specific mill environment. By bringing together the best of both worlds — innovative chemistries and innovative people — Solenis is setting the standard in pulp process excellence.

Pulp Mill Technology

As a pulp mill operator, you are faced with ever-changing global market conditions that push you to produce pulp of a higher quality while reducing your overall operating costs to maintain profitability. This, coupled with variable fiber sources and qualities, increasingly stringent regulatory requirements, and effluent minimization goals, creates a challenging environment.

Solenis is dedicated to the pulp and paper industry and is committed to helping you overcome these challenges. For pulp mill operations, Solenis offers a multitude of cost-effective products that improve pulping efficiency and pulp quality, including cooking aids, washing aids, pitch and scale control products, brown stock defoamers, and specialty programs.

Cooking Aids

To achieve enhanced pulping performance, cooking additives provide several key benefits:

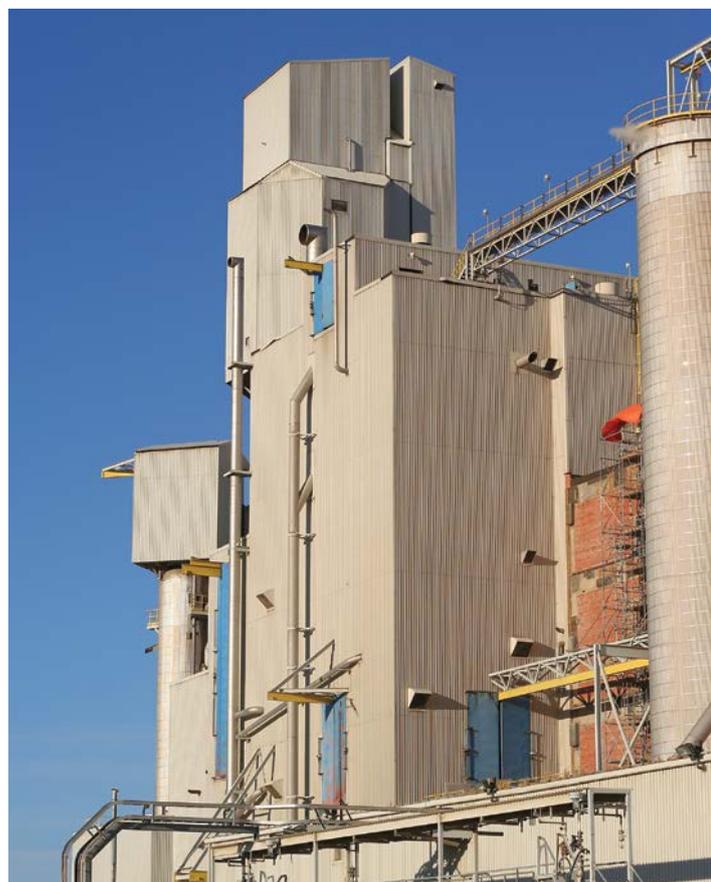
- Improved liquor penetration
- Reduced pulp rejects and shives
- Improved process control
- Improved pulp washing
- Reduced use of bleaching chemicals

Depending on your individual needs, these benefits can translate to strength improvement, alkali reduction, a reduced recovery load, and an increase in pulp production.

Washing Aids

Our pulp mill line of washing aids reduces organic and inorganic carry-over, which offers the ability to:

- Reduce bleach plant chemical consumption
- Reduce evaporator loading
- Increase production



Pitch Control

With the broadest line of specialty products, including unique detackification technologies, surfactant blend products, and surfactant/dispersant blend products, Solenis is the industry leader in pitch control programs and application know-how. This knowledge is key to the successful application of these products to counter problems such as fiber line deposits, high dirt counts, high talc usage, and poor brown stock washing.

Scale Control

Because of the negative effects that scale has on the different parts of your pulping and bleaching systems, it takes highly specialized products and programs to control the problem.

Solenis offers a vast array of scale control chemistries—in fact, the widest offering available—that are based on the industry-leading Drewfax product line. When properly applied, these scale inhibitors provide a number of benefits:

- Control of scale buildup on washer vats, mats, and/or slides, reducing the potential for increased dirt count
- Improved washing efficiency, reducing bleach plant chemical usage
- Reduced digester scaling, maximizing productivity between acid cleanings

Brown Stock Foam Control

Foam is detrimental to the efficiency of pulp mill operations, especially during brown stock washing. It can negatively impact productivity, pulp quality, and chemical and energy costs. To help overcome these issues, Solenis offers a variety of silicone-based, oil-based, and water-based defoamers and is continually developing new products to meet the changing regulatory and performance demands of the industry.

Pulp Specialty Programs

Solenis' pulp mill technology includes a complete line of products for pulp dryer fabrics, felt conditioning, liquor clarification, by-products recovery, boilouts, and lime mud dewatering processes. Additionally, we have an extensive line of effluent and recovery boiler treatments.

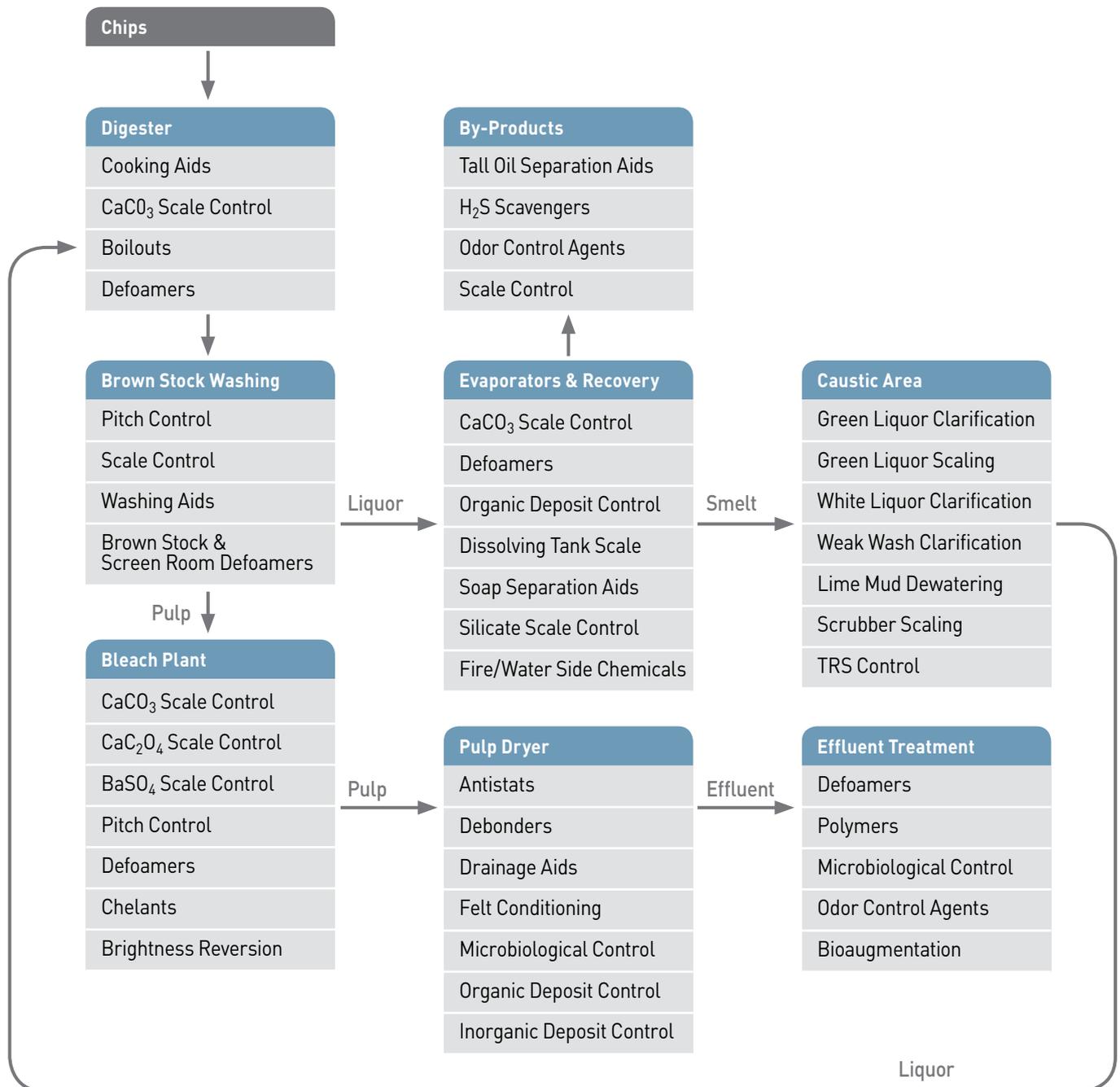
Water Conservation

With growing pressure to conserve water and meet environmental demands, the pulp mill of the future will have to operate with a more closed water system. Solenis has long been an innovator in developing products and procedures that maximize the benefits of water conservation while minimizing the negative effects of system closure, such as the increased occurrence of barium sulfate and calcium carbonate scales.

Automated Feed and Monitoring Equipment

To ensure total optimization of our pulp mill technology, we also provide an advanced portfolio of monitoring and control systems that consists of three components:

- Data collection systems
- Windows*-based data management software
- State-of-the-art analyzers and controllers





Solenis

Strong Bonds. Trusted Solutions.

Solenis supplies specialty chemicals for water-intensive industries, including the pulp and paper, oil and gas, chemical processing, mining, biorefining and power markets. Whether you want to increase production, develop new products, reduce costs or simply do more with less, we can help. With our innovative technologies, passionate people and unrivaled experience, Solenis is ready to deliver the solutions you need.

To learn more, contact your technical sales representative or visit us online.

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