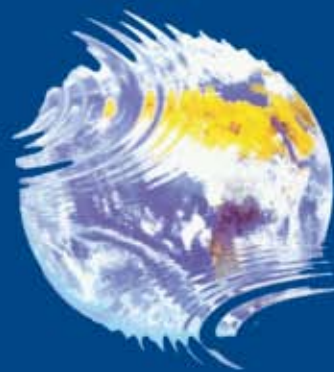


FLOMIN™
SNF Mineral
Processing
Reagents



SNF FLOERGER®

Since its creation in 1978,
SNF has always given great importance
to a long term strategy based on :

- *International development and on-the-spot customer service,*
- *The mobilisation and training of human resources,*
- *A commitment to research and the creation of new products designed to meet the quality level required by industry, while complying with the standards governing safety and environmental protection.*

SNF Floerger - The Company



- SNF operates in more than 140 countries world-wide,
- Key manufacturing facilities throughout Europe and the United States,
- A work force of over 1,300 people,
- 30 subsidiary companies,
- More than 140, 000 end users of SNF products,
- 18 production sites,
- ISO 9000 certification,
- A turnover in excess of 500 M USD.

SNF Floerger Mineral Processing Group

In keeping with the truly global nature of the modern mining industry SNF Floerger's Mineral Processing Group currently supplies specialist reagents to all the major mining companies and operates in over 140 countries.

The unique and complex nature of every mineral deposit, the need to operate economically and the requirements of meeting the highest environmental standards provide a constant, and sometimes frustrating, challenge to the professional Metallurgist. To this end, SNF Floerger's Mineral Processing Group provides full pre-sales evaluation, plant trial and after sales technical support services.

FloMin™ AN and FO range of thickener duty flocculants

Currently the FloMin™ AN and FO flocculant range is in excess of 300 products which covers all anionic, non-ionic and cationic charge densities, molecular weights and monomer types. These products are available in powder, liquid and emulsion forms. The FloMin™ AN and FO series of flocculants used in thickener applications are designed to give fast settling rates, controlled underflow densities and the high overflow clarities frequently required in thickener operations.



FloMin™ FL range clarification agents

FloMin™ FL series clarification agents are used to remove fine or ultrafine solids from leach liquors and recirculation waters in both thickening and filtration. The removal of these solids improves the performance of subsequent process techniques on the mineral processing plant such as Solvent Extraction.



FloMin™ range of flotation reagents

FloMin™ C Series

FloMin™ C series products are collectors specifically designed to provide maximum recovery of valuable minerals whilst retaining the high selectivity required by the modern minerals industry. The range of collector types available ensures the full and economic treatment of base metal sulphides, oxides, precious metals and industrial mineral deposits.

FloMin™ D Series

FloMin™ D flotation depressants are a unique series of synthetic polymeric liquids offering superior levels of performance when compared to natural depressants like starch, guar, CMC and dextrin. Unlike natural depressants the synthetic origin of FloMin™ D reagents allows full control of their chemical and structural properties. Such a high degree of product control allows the formation of a depressant that can be tailored to meet the requirements of any specific mineral deposit.

FloMin™ F Series

Frothers play an important role in the flotation process influencing both the final concentrate grade and overall recovery. FloMin™ F frothers cover the full spectrum of froth characteristics enabling the selection of a suitable reagent for any mineral operation.

FloMin™ P Series

The FloMin™ P reagents are a range of auxiliary sulphide/precious metal collectors most frequently used in combination with FloMin™ C collectors. When used together synergistic effects often lead to enhanced selectivity, improved recoveries and/or a reduction in overall collector dosage.



FloMin™ range of filtration polymers

The FloMin™ AN and FO series of low and medium molecular weight synthetic polymers offer a broad range of products for filtration applications. Careful selection of the correct FloMin™ filtration polymer will result in improved filter efficiencies, including; lower cake moistures, higher throughputs per unit cloth area, greater solids capture, enhanced recovery of valuable pregnant liquors, improved cake washing characteristics and cake discharge.

FloMin™ SD series surfactant enhanced dewatering aids find application wherever it is necessary to lower the moisture content of filtered concentrates or other valuable materials. Benefits include reductions in thermal drying costs, improved handleability, lower transportation cost and savings in process water requirements. FloMin™ SD series products are often used in conjunction with FloMin™ AN or FO series filtration polymers.

FloMin™ AF range of defoamers and antifoams

The FloMin™ AF range of foam control agents offers a comprehensive solution to the problems of persistent or unwanted foam generation. FloMin™ AF products have been formulated to provide effective performance over a wide range of pH, temperature, process water ionic compositions and foam types.

FloMin™ SC range of scale control products

FloMin™ SC series synthetic polymers have been developed for the prevention of scale build-up in industrial water systems. The presence of a FloMin™ SC polymer modifies the crystal morphology of the scale deposit and prevents subsequent adhesion.

FloMin™ RM range rheology modifiers

The FloMin™ RM series of rheological modifiers are designed to offer a comprehensive range of products suitable for mineral application wherever pumping at high solids with controllable rheological properties is required.



FloMin™ PA range of pelletising, agglomeration and binding agents

FloMin™ PA products are a unique series of organic polymers for pelletisation and binding processes. FloMin™ PA reagents can replace silica based binders such as bentonite. Principal benefits from using FloMin™ PA products include higher green pellet recovery, improved green pellet properties, reduced silica/gangue content and smooth balling at low moistures.

FloMin™ DS dust suppressants and stockpile treatment range

The FloMin™ DS range can be used to reduce fugative dust emissions from mine stockpiles and roadways. FloMin™ DS products can also be applied to stockpiles to prevent erosion and channelling caused by rainfall, to maintain low moisture contents and good handleability characteristics.

FloMin™ ABS range of handleability aids

The FloMin™ ABS handleability aids are a range of synthetic polymers which have the capability of absorbing up to 500 times their own weight of water. FloMin™ ABS products find application wherever improvements in the handleability of fine mineral products, filter cakes or concentrates are required. Addition of FloMin™ ABS can increase the stability of minerals during transportation by road, rail or ship as well as stabilising tailings dumps and tips.

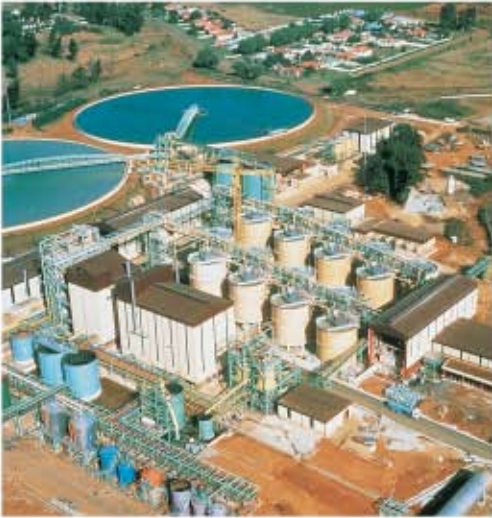


Engineering Support Services

SNF's Engineering section specialise in the design and manufacture of reagent preparation units, dosing equipment, process control and monitoring systems. Designed to meet the exact requirements and specifications of the customer the equipment range is capable of fully automatic, semiautomatic or manual operation.

SNF Floerger FloMin™ range of mining reagents

The SNF Floerger FloMin™ product range comprises a complete package of speciality mining chemicals suitable for use in the separation of a wide variety of ore types and in different mineral applications.



Clarification Duties
Handleability Aids
Defoamers and Antifoams
Pelletisation and Agglomeration
Dust Control
Rheology Modification
Filtration
Scale Control
Froth Flotation
Thickening and Flocculation



SNF IN THE WORLD



Main subsidiaries

- AUSTRALIA, Lara, Newcastle, Mackay, Perth SNF AUSTRALIA (Sales and Services)
- BRAZIL, Guarulhos SNF DO BRASIL (Sales and Services)
- BULGARIA, Sofia SNF BULGARIA (Sales and Services)
- CANADA, Trois Rivières EMERILLON (Production)
- CANADA, Toronto SNF CANADA (Sales and Services)
- CHINA, Guanzhou, Beijing, Shanghai BEIJING ZHIJIE FLOCULANT (Sales and Services)
- CHINA, Taixing SNF CHINA FLOCULANT (Production)
- CZECH REPUBLIC, Sokolov SOKOFLOK (Sales and Services)
- ENGLAND, Castleford SNF UK (Sales and Services)
- FINLAND, Helsinki SNF FINLAND (Sales and Services)
- FRANCE, Saint-Etienne SNF FLOERGER FRANCE (Production)
- FRANCE, Andrézieux- Bouthéon SNF FLOERGER FRANCE (Production)
- FRANCE, Saint-AvoId SNF FLOERGER FRANCE (Production)
- HUNGARY, Tatabanya SNF HONGRIE (Sales and Services)
- INDIA, Hyderabad SNF ION EXCHANGE (Production)
- INDONESIA, Jakarta SNF FLORINDO (Sales and Services)
- ITALY, Varedo SNF ACQUE ITALIA (Sales and Services)
- JAPAN, Tokyo SNF JAPAN (Sales and Services)
- MEXICO, Mexico city SNF FLOERGER DE MEXICO (Sales and Services)
- NORWAY, Gamle Fredrikstad SNF NORDIC (Sales and Services)
- PHILIPPINES, Paranaque city SNF PHILIPPINES (Sales and Services)
- POLAND, Warsaw KORONA (Sales and Services)
- PORTUGAL, Santo Tirso SNF/AMBIENTAGUA (Sales and Services)
- RUSSIA, Moscow SNF (Sales and Services)
- SINGAPORE, Singapore FLOERGER SEA (Sales and Services)
- SLOVAKIA, Presov SOKOFLOK (Sales and Services)
- SOUTH KOREA, Ulsan EYANG CHEMICAL (Production)
- SWEDEN, Svaneholm SNF NORDIC (Sales and Services)
- SWITZERLAND, Sissach FLONEX (Sales and Services)
- TAIWAN, Taipei KF-SNF (Sales and Services)
- TURKEY, Istanbul SNF FLOERGER TURKEY (Sales and Services)
- USA, Riceboro BIO FLOCRYL (Production)
- USA, Riceboro CHEMTALL (Production)
- USA, Port Bienville FLODESIGN (Sales and Services)
- USA, Riceboro FLOQUIP ENGINEERING (Sales and Services)
- USA, Riceboro NCF MANUFACTURING (Production)
- USA, Pearl River PEARL RIVER POLYMERS (Production)
- USA, Port Bienville POLYCHEMIE (Production)
- USA, Riceboro POLYDYNE (Sales and Services)
- USA, Los Angeles, San Francisco POLYPURE (Production)
- USA, Chicago, Detroit, Wayne, New Richmond SECODYNE (Production)
- USA, Taylor TAYLOR (Production)
- VENEZUELA, Maracaibo SNF DE VENEZUELA (Sales and Services)

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