

innovative solutions

metal extraction chemistry



innospec 

Touching Everyday Lives

A global manufacturer of specialty chemicals

Innospec is a global supplier of specialty chemicals to a range of industries across the world. Already well known in the oilfield, fuel, refinery, power, agrochemical, personal and home care sectors, we are quickly gaining a reputation in the mining industry for our flotation and hydrometallurgy products.

As you would expect from an organization that spans 23 countries with approximately 1800 employees, we have a wealth of knowledge and experience to draw on. We invest in researching and developing the new technologies that help solve everyday problems. Our customers benefit from the strength of our worldwide manufacturing capabilities and state of the art equipment in our laboratories.

In metal extraction, our focus is on collaborating with mine owners and managers to deliver products that maximize operational efficiency. We understand this market and the issues managers face on site. That is why we are committed to developing strong customer relationships built on trust and shared solutions to complex technical problems. Our aim is to deliver to a flexible, reliable and customer-focused service at all times.

Maximizing operational efficiency

We supply a range of products for mineral processing with a specific focus on froth flotation and hydrometallurgy. Our flotation reagents include frothers, dispersants and depressants. Our hydrometallurgy range covers coagulants, carbon blanking agents for gold leaching, acid mist suppressants and dewatering aids.

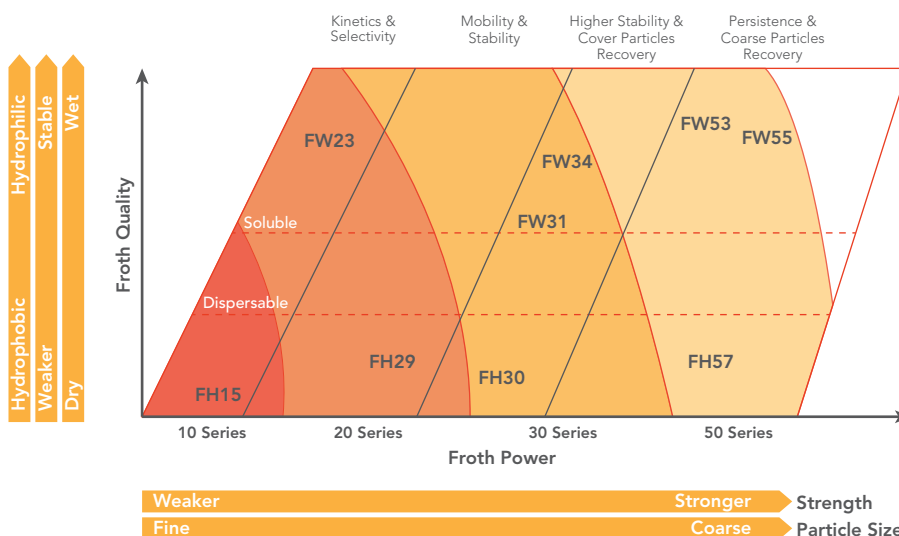
Whether the focus is on selectivity, kinetics, stability, water solubility or particle size, our frother portfolio delivers a full spectrum of froth quality properties at strengths required for the ore grade being processed.

With our in-depth understanding and capabilities, we can work with you to identify the best reagent, ensuring your dosing regime is optimized, extracting the maximum quantity of metal per unit cost.

Frother Selection Chart

Our selection chart shows the respective strength and hydrophobicity of our frother products. It is an invaluable tool for choosing the correct frother for a particular application.

Frother Selection



FLOTATION PRODUCTS

Product Name	Application	Benefits
Dehscofix® FH57	Typically used in nickel, gold and copper extraction operations and coal production, this strong oil-soluble frother is a good alternative to polyglycol and polyglycol ether type frothers.	Dehscofix® FH57 can overcome froth resistance and stability problems. It offers potential dosage savings compared to other frothers. Although often used alone due to its strength, it can be combined with other frothers to achieve specific froth characteristics and performance properties.
Dehscofix® FW55	This water-soluble frother is typically used in nickel, gold, copper, iron sulphide metal and other industrial extraction operations.	Dehscofix® FW55 matches the metallurgical performance of other alternative strong alcohol/polyglycol ether blends while offering potential savings on dosage costs.
Dehscofix® FW53	This water-soluble frother is typically used in nickel, gold and other industrial extraction operations.	Dehscofix® FW53 can improve the recovery of coarse size fraction particles in rougher-scavenger cells. Compared to other higher strength blends, it offers the potential for reduced dosage costs.
Dehscofix® FW34	A medium strength water-soluble frother (due to molecular weight) it is ideal for applications requiring intermediate froth stability and good froth depth control. Typically used in nickel, copper and iron sulphide metal extraction. Dehscofix® FW34 is a good alternative to both triethoxy butane (TEB) based and mid-strength alcohol frothers containing small quantities of glycol ethers or polypropylene glycols.	It demonstrates a balance between stability and selectivity and can be used for fine or intermediate coarse particle size distributions.
Dehscofix® FW31	Suitable for a wide range of flotation applications, this product is typically used for nickel, gold and copper extraction. It can also be used in coal production as well as other industrial processes.	Dehscofix® FW31 is an established industry alternative to mid-strength, intermediate molecular weight glycol ether/propylene glycol based frothers. It is ideal when a balance of selectivity and strength is required.
Dehscofix® FH30	Suitable for flotation applications where both selectivity and froth strength are required. Typical uses cover nickel, gold and copper extraction. It can also be used in coal production as well as general industrial applications.	Dehscofix® FH30 is an effective alternative to mid-strength glycol ether/propylene glycol based frothers and stronger alcohol based frothers. This oil-soluble frother that offers good froth depth control and efficient recovery of coarse size particles.
Dehscofix® FH29	This is a selective frother for base metal flotation. It is typically used as an alternative to lower molecular weight alcohol/ester/propylene glycol based frother blends for gold and copper extraction.	Dehscofix® FH29 has low to moderate hydrophobicity, producing mobile well-draining froths of intermediate stability. This often results in lower water recovery and improved gangue rejection. Delivers improved flotation kinetics and intermediate froth strengths.
Dehscofix® FW23	This is a selective frother for base metal flotation. It is typically used as an alternative to lower molecular weight alcohol/ester/propylene glycol based frother blends for gold, lead-zinc and copper extraction.	Dehscofix® FW23 is a water soluble frother that produces mobile, well-draining froths of intermediate stability. It delivers improved flotation kinetics and intermediate strength.
Dehscofix® FH15	Dehscofix® FH15 is a selective frother for base and precious metal flotation. It is used as an alternative to methyl isobutyl carbinol (MIBC) and low molecular weight alcohol based frothers. Typical applications are gold, lead-zinc and copper extractions. It is also be used in coal production.	Dehscofix® FH15 produces a mobile, dry froth with low to moderate stability. Performance is comparable to low molecular weight, alcohol based frothers. It provides good flotation circuit control.

Depressants and Dispersants

Product Name	Application	Benefits
Dehscofix® DK (03, 08, 25, 53, 58) Depressants and 50, 51, 55: Dispersants	Our Dehscofix® DK range of non-ionic, anionic and cationic depressants and dispersants are used to facilitate the rejection of clays, silicates carbonates, asbestos and carbon typically found in sulfide ores.	These low and intermediate molecular weight polymers improve process efficiency by increasing the grade and recovery of flotation concentrate. They are specifically designed to depress iron sulfides, maintain low viscosity, disperse slimes, disperse clays, hydrophobic gangue and silicates. The polymers can also be used as a slurry viscosity modifier.

HYDROMETALLURGY PRODUCTS

Coagulants: Polyethylene Glycol

Product Name	Application	Benefits
Dehscofix® SC (12, 20)	The Dehscofix® SC range of water-soluble polyether coagulants lowers the concentration of colloidal silica and gels in a leach solution.	Colloidal silica can cause problems with flocculation, initiating crud formation in solvent extraction (SX), decreasing extraction kinetics and increasing SX phase disengagement times. Our coagulants help to improve process efficiency and reduce organic reagent losses by minimizing crud formation.

Acid Mist Suppressants

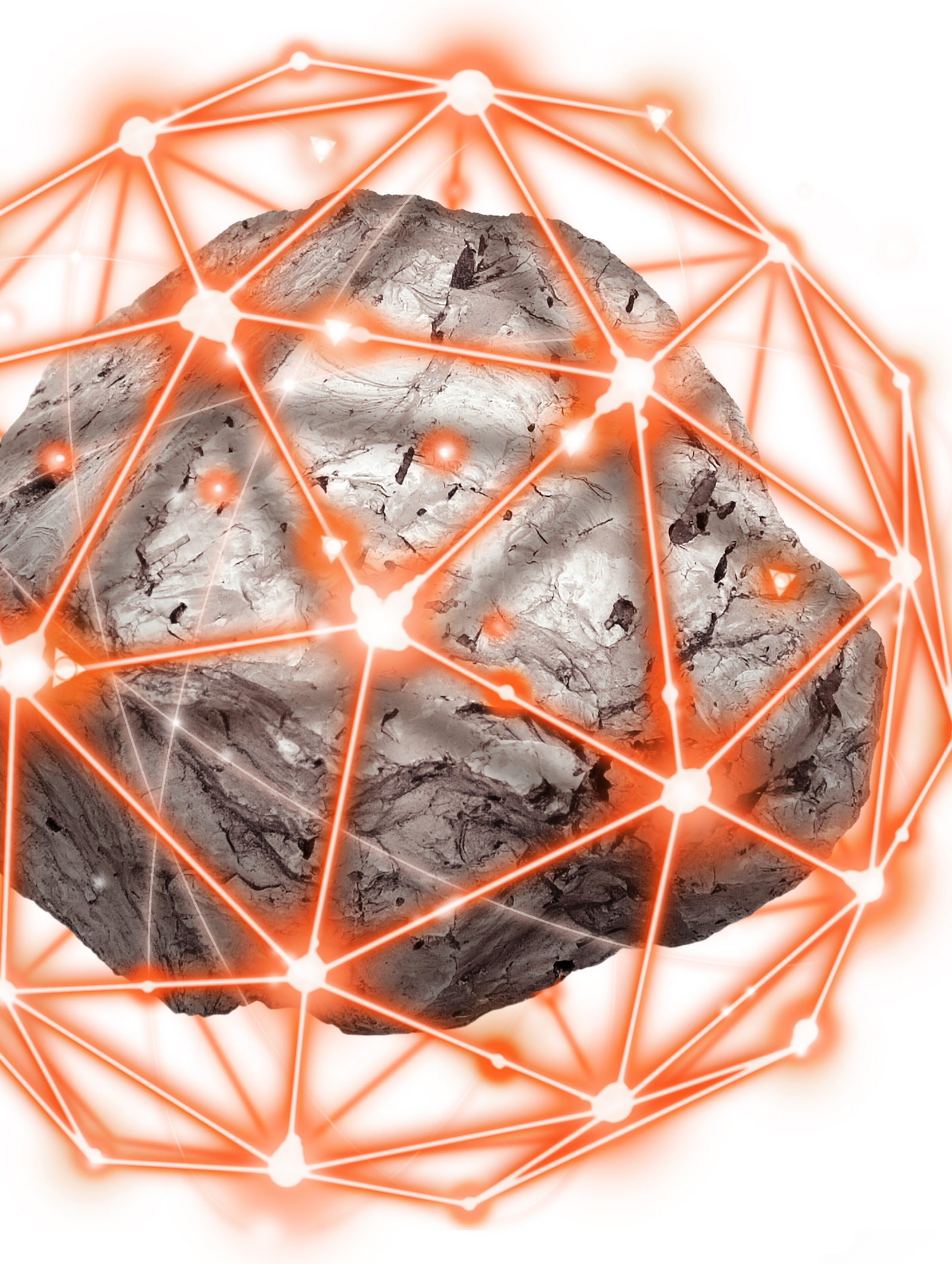
Product Name	Application	Benefits
Dehscofix® EW 900	These water-soluble acid mist suppressants suppress the formation of acid mist during electrowinning of copper, nickel and zinc.	In the final stage of electrowinning oxygen bubbles form on the anode. Bursting of these bubbles at the solution/air interface produces fine acid-containing liquid droplets which become airborne and disperse throughout the workplace as acid mist. Suppressing this reduces the health hazard to workers and prevents severe structural and equipment corrosion in tank houses.

Dewatering Aids

Product Name	Application	Benefits
Dehscofix® DA 72	Based on anionic sulfosuccinate chemistry, these surfactants are typically used with sulfide flotation concentrates, iron ore concentrates and coal concentrates and tailings. Care must be taken not to add too much reagent as this can cause water retention and high moisture content.	Our Dehscofix® DA range of water-soluble dewatering aids reduce cake moisture in the filtration of mineral slurries and give a more even filtering of water by combining excellent wetting properties with surface tension reduction.

Carbon Blanking Reagents

Product Name	Application	Benefits
Dehscofix® DG 30, 35	Our Dehscofix® DG range of water-soluble carbon blanking reagents are used in gold leaching processes (CIL/CIP) to prevent preg-robbing by carbonaceous or graphitic material.	By using the correct dosing strategy, Dehscofix® DG products can completely adsorb on to the preg-robbing carbon without any excess left in the solution to impact downstream. The result is higher gold recovery.



Today's thoughts are tomorrow's innovations. Let's start a conversation...

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