



Mining product portfolio

Mineral processing to
maximize performance

Nouryon

Winning together – maximizing the scale of your mineral processing performance

Ore type	Function	Product	Key benefits	
Potash	Sylvite flotation	Armeen® HF	Coarse recovery booster or collector at elevated brine temperatures (>28°C)	
		Armeen® HT	Performs at ambient to slightly elevated temperatures (approx 18-30°C)	
		Armeen® M	Coarse recovery booster at elevated brine temperatures (>28°C)	
		Armac® HT	Dispersible in water, performs at ambient to slightly elevated temperatures (approx 18-30°C)	
		Lilaflot® FAB53	Suitable for systems with elevated brine temperatures (>30°C)	
	Flotation depressants (CMC)	Celect® SD	Efficient blinding agent for clays, added robustness in saline systems	
		Finnfix® 300	Efficient blinding agent for clays	
	Slime flotation	Ethomeen® HT/40, Phospholan® PE 65	Slime flotation collector	
	Halite flotation	Armoflote® 619	Suitable for reverse flotation of carnallite	
	Anticaking	Armeen® HT, Armeen® T	Suitable for anticaking treatment during load out, storage and/or transport	
Armac® HT		Dispersible in water, suitable for anticaking treatment during load out, storage and/or transport		
Iron ore (magnetite, hematite, itabirite)	Silica flotation	Armoflote® 930	New chemistry for silicate removal from iron ores, readily biodegradable with superior ecotoxicity profile	
		Lilaflot® 811M	Highly efficient ethermonoamine suitable for silicate removal from hematite and magnetite ores, readily biodegradable	
		Lilaflot® 821M	Low foaming ethermonoamine suitable for silicate removal from hematite and magnetite ores	
		Lilaflot® D817M	Etherdiamine suitable for removal of mixed silicates from magnetite ores	
		Lilaflot® D826M	Low foaming etherdiamine suitable for removal of mixed silicates from magnetite ores	
	Dephosphorization	Atrac® 1563	For hard process water and iron oxides containing phosphate	
		Atrac® 2600	For iron oxides containing phosphate	
		Phosphate	Direct flotation	Atrac® 1563
Atrac® 2600	Synthetic anionic collector for improved selectivity			
Atrac® 922, Berol® 912L	Proprietary formulation, primary collector for igneous apatite with high selectivity against carbonates			
Berol® 8305	Formulation for complex, difficult to float ores and/or hard process water			
Phospholan® PE65	A fatty acid booster for complex, difficult to float ores and/or hard process water, performs over wide temperature range			
Calcite	Silica flotation	Armoflote® 465	For use over a wide range of process water qualities	
		Carbonate flotation	Atrac® 1650	Proprietary formulation, for low pH systems
		Silica flotation	ACD® 82808-N	Fine particle tolerant
			Armoflote® 18	For less complex, easy to float systems
			Armoflote® ECO	Ecofriendly collector
Lilaflot® 730	Proprietary formulation, for coarse particle size feeds			
Lilaflot® 1400	Proprietary formulation, efficiency booster for Armoflote 18 and Lilaflot 1590			
Decolorizing flotation	Armoflote® GS13	For reverse flotation of hydrophobic minerals such as graphite and talc		
	Lilaflot® 1597	For reverse flotation of iron containing minerals such as pyrite		
Sulfides	Flotation collectors	Tecflote® S11	High selectivity to copper, lead, zinc, and platinum group metals (PGMs), strong pyrite rejection	

Through strong collaboration, we can help maximize your metallurgical recovery and concentrate quality. Whether you require a customized or standard product, we will deliver the essential solutions you need, when you need them. And with over 80 years of surface chemistry experience and industry partnerships, we are committed to providing you with sustainable solutions. Contact us to discuss how we can support you.

Ore type	Function	Product	Key benefits
PGM, copper/ nickel sulfides, gold, and base metal sulfides	Flotation depressants (CMC)	Celect® HPD	Optimized, efficient depressant, lowest impact on downstream water treatment
		Finnfix® 300	Medium strength depressant, medium dispersant
		Celect® SD	Optimized, effective dispersant, robust in low purity waters
		Celect® BDR	Highly selective medium strength depressant, medium dispersant, enables wide dosage range
		Celect® CRD	Optimized for chromite reduction
Feldspar	Direct flotation	Armeen® T	Suitable for fluoride systems
		Duomeen® TDO	Suitable for fluoride and non-fluoride systems
		Lilaflot® OT55	Suitable for fluoride systems
Rare earth minerals	Direct flotation	BeroI® 8313	Formulation to improve grade and recovery
Barite	Direct flotation	Atrac® 2600	Label-free readily biodegradable collector
	Silica flotation	Armoflote® 17	Suitable for reverse flotation where impurities are silicates
Magnesite	Silica flotation	Armoflote® 18	Suitable for reverse flotation of less complex ores where impurities are silicates
		Lilaflot® 1873	Non-flammable collector for reverse flotation where impurities are silicates
		Lilaflot® 20193L	Developed for reverse flotation of complex ores where impurities are silicates
Spodumene	Silica flotation	Armeen® T	Performs in reverse flotation where impurities are silicates
		Atrac® 2600	Direct flotation of spodumene
Wollastonite	Direct flotation	Armoflote® 18, Duomeen® T	Performs in direct flotation process where impurities are carbonates
Zinc oxide	Direct flotation	Armeen® C	Suitable for direct flotation
Kaolin	Direct flotation	Armeen® C, Armeen® OL	Suitable for direct flotation
Fluorspar	Direct flotation	BeroI® 8305	Suitable for direct flotation
Pyrochlore	Direct flotation	Armacflote® 109	Suitable for direct flotation of pyrochlore systems
		Lilaflot® 1400	Proprietary liquid formulation, suitable for direct flotation of pyrochlore systems
Scheelite	Direct flotation	BeroI® 8313	Developed for direct flotation

Mineral processing	Function	Product	Key benefits
Processing aid	Dewatering	BeroI® 1007	Shortens filtration time
	Dispersion	Alcosperse® 240	Sulfonated copolymer, excellent iron oxide dispersant
		Alcosperse® 602N	Anionic polymer for general purpose mineral dispersant
		Alcosperse® 747	Copolymer suitable for dispersion of hydrophobic minerals
	Flocculation	Aquatreat® 7H, Alcogum® 1370	Anionic polymer for neutral to slightly cationic minerals
		Floc Aid® 19	Amphoteric polymer for flocculation of neutral to slightly anionic minerals
	Frothers	Lilaflot® SB12	Suitable for phosphate, potash
		Lilaflot® SB13, Lilaflot® SB14	Suitable for sulfide minerals, mainly copper sulfide
	Fertilizer additives	Armoflo® AC-59P	Suitable for anticaking of potassium nitrate
		Petro® AGS	Suitable for potassium nitrate, ammonium nitrate, ammonium sulfate, and urea anticaking; increases granular integrity for DAP, MAP and ammonium nitrate
		Petro® P	Increases granular integrity for SSP, TSP and ammonium nitrate

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Nouryon

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