

Nouryon

# Mining Chemical Solutions

Together we optimize performance





# Winning together –

delivering optimized performance for your mineral processing needs

Mining Application		Products	Key Benefits	
Potash	Sylvite flotation	Armeen HT	Performs at ambient to slightly elevated temperatures (approx 18–30°C)	
		Armac HT	Dispersible in water, performs at ambient to slightly elevated temperatures (approx 18–30°C)	
		Armeen M	Coarse recovery booster at elevated brine temperatures (>28°C)	
		Lilafлот FAB53	Suitable for systems with elevated brine temperatures (>30°C)	
		Armeen HF	Coarse recovery booster or collector at elevated brine temperatures (>28°C)	
	Slime flotation	Ethomeen HT/40	Slime flotation collector	
		Phospholan PE 65	Slime flotation collector	
	Halite flotation	Armoflote 619	Suitable for reverse flotation of carnallite	
	Iron Ore (magnetite, hematite, itabarite)	Silica flotation	Armoflote 930	New chemistry for silicate removal from iron ores, readily biodegradable and superior ecotoxicity profile
			Lilafлот 811M	Highly efficient ethermonoamine suitable for hematite and magnetite ores, removal of silicates, readily biodegradable
Lilafлот 821M			Low foaming ethermonoamine suitable for hematite and magnetite ores, removal of silicates	
Lilafлот D817M			Etherdiamine suitable for magnetite ores, removal of mixed silicates	
Lilafлот D826M			Low foaming etherdiamine suitable for magnetite ores, removal of mixed silicates	
Dephosphorization		Atrac 1563	For hard process water and iron oxides containing phosphate	
		Atrac 2600	Iron oxides containing phosphate	
Phosphate		Direct flotation	Atrac 1563	A fatty acid booster or collector for complex, difficult to float ores and/or hard process water
			Atrac 2600	Synthetic anionic collector for improved selectivity
			Atrac 922	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 in complex difficult to float ores and/or hard process water, performs over wide temperature range	
	Silica flotation	Armoflote 465	For use over a wide range of process water qualities	
	Carbonate flotation	Atrac 50	Proprietary formulation, for low pH systems	
	Calcite	Silica flotation	ACD 82808-N	Fine particle tolerant
			Armoflote 18	For less complex, easy to float systems
			Lilafлот 1590	Proprietary formulation, fine particle tolerant
Lilafлот 730			Proprietary formulation, for coarse particle size feeds	
Lilafлот 1400			Proprietary formulation, efficiency booster for Armoflote 18 and Lilafлот 1590	
Decolorizing flotation		Lilafлот 1597	For reverse flotation of Fe containing minerals such as pyrite	
		Armoflote GS13	For reverse flotation of hydrophobic minerals such as graphite, talc	
Sulfides		Tecflote S11	High selectivity to Cu, Pb, Zn and PGM, strong pyrite rejection	
		Tecflote S13	High selectivity to Cu, Pb, Zn and PGM, strong pyrite rejection	
Feldspar	Direct flotation	Lilafлот OT55	Suitable for fluoride systems	
		Armeen T	Suitable for fluoride systems	
		Duomeen TDO	Suitable for fluoride and non-fluoride systems	

Together we help you maximize your recovery and quality. Whether you require a customized or standard product, we will deliver the essential solutions you need, when you need it. With over 50 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.

Mining Application		Products	Key Benefits	
Rare Earth Minerals	Direct flotation	Berol 8313	Formulation to improve grade and recovery	
Barite	Direct flotation	Atrac 266	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	Performs in direct flotation process where impurities are carbonates	
		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	Suitable for direct flotation	
		Armeen OL	Suitable for direct flotation	
Fluorspar	Direct flotation	Berol 8305	Suitable for direct flotation	
Pyrochlore / Niobium	Direct flotation	Armacflote 109	Suitable for direct flotation of pyrochlore systems	
		Lilaflot 1400	Proprietary liquid formulation, suitable in direct flotation of pyrochlore systems	
Scheelite	Direct flotation	Berol 8313	Developed for direct flotation	
Potash	Anticaking	Armeen HT	Suitable for anticaking treatment for load out, storage and/or transport	
		Armac HT	Dispersible in water, suitable for anticaking treatment for load out, storage and/or transport	
		Armeen T	Suitable for anticaking treatment for load out, storage and/or transport	
Other salts	Anticaking	Armoflo AC-59 P	Suitable for anticaking of NH <sub>4</sub> -Nitrate	
		Petro AGS	Suitable for K-Nitrate, NH <sub>4</sub> -Nitrate, NH <sub>4</sub> -Sulfate and Urea anticaking	
Process Aids	Dewatering	Berol 1007	Aid for mineral dewatering	
		Berol 1008	Aid for mineral dewatering	
	Dispersion	Alcosperse 240	Low MW sulfonated copolymer excellent Iron, iron oxide dispersant	
		Alcosperse 602N	Low MW anionic polymer for general purpose mineral dispersant	
		Alcosperse 747	Low MW copolymer suitable for dispersion of hydrophobic minerals	
	Flocculation	Aquatreat 7H	High MW anionic polymer for flocculation of neutral to slightly cationic minerals	
		Alcogum 1370	Very high MW anionic polymer for flocculation of neutral to slightly cationic minerals	
		Floc-Aid 19	High MW mphoteric polymer for flocculation of neutral to slightly anionic minerals	
	Frothers	Lilaflot SB12	Suitable for phosphate, potash etc	
		Lilaflot SB13	Suitable for sulfide minerals, mainly copper sulfide	
		Lilaflot SB14	Suitable for sulfide minerals, mainly copper sulfide	
	Internal Additives		Petro AGS	Increases granular integrity for DAP, MAP and NH <sub>4</sub> -Nitrate
			Petro P	Increases granular integrity for SSP, TSP and NH <sub>4</sub> -Nitrate

Contact us directly for detailed product information  
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We operate in over 80 countries around the world and our portfolio of industry-leading brands includes Armeen, Berol, Atrac, Lilaflole and Tecflole.

For more information visit [surfacechemistry.nouryon.com](http://surfacechemistry.nouryon.com)

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