

Enabling the Future of Mining

Product Catalogue
Flotation - Mining Solutions

 **BASF**

We create chemistry

Overview

BASF Mining Solutions is one of the leading suppliers in the mining industry which offers a diverse range of mineral processing and hydrometallurgical chemistries and technologies to improve process efficiencies and aid the economic extraction of valuable resources.

Our flotation product portfolio offers operational, economic and environmental advantages to the Mining industry, such as reduced dose rates, higher recovery and improved GHS profile. The Lupromin® range includes collectors for non-sulfidic minerals, while our Luprofroth™ and Luproset™ ranges provide frothers and modifiers for numerous flotation applications.

Beyond the standard portfolio, the BASF team develops tailor-made collector and frother solutions in collaboration with customers and supports test works in laboratories, pilot plants and industrial operations. We invite you to review our product portfolio and get further insights about our innovative solutions that fits the changing environment. Our solutions provide a more efficient way to extract target minerals, thus increasing the sustainability of our customers' operations.

Learn more about the BASF Mining Solutions at mining-solutions.basf.com or by emailing miningsolutions@basf.com







Definitions




Readily Biodegradable – Ingredients are considered biodegradable if they can naturally decay at a certain ratio. There are five classifications as it relates to an ingredients biodegradable level. Our Readily Biodegradable ingredients are highlighted throughout the brochure.

- RB: Readily Biodegradable by OECD criteria ($\geq 60\%$ in 10-day window)
- UB: Readily Biodegradable ($\geq 60\%$ in 28 days)
- MB: Moderately Biodegradable ($>20\text{--}60\%$ in 28 days)
- PB: Poorly Biodegradable ($\leq 20\%$ in 28 days)
- PE: Partially Eliminated by water


INDUSTRIAL MINERAL COLLECTORS

Product		Target Mineral	Description	Form	Ionic Range
Lupromin FP E Gran		Barite	Granulated solid product based on high molecular weight fatty alcohol sulfates.	Granules	Anionic
Lupromin 199		Barite	More selective, limited availability collector based on sodium alkyl ether sulfate salt modified with further additives to improve selectivity and dose efficiency.	Paste	Anionic
Lupromin FP B 715		Barite	Fatty alcohol sulfate collector, with good frother control, which promotes high-selectivity flotation when fine particles are present.	Liquid	Anionic
Lupromin FP 18 AS		Calcite	A liquid polymeric esterquat applied as a reverse calcite flotation collector for the selective removal of silicacious minerals. Offers potential economic advantages due to the improved flotation kinetics.	Liquid	Cationic
Lupromin 1234A		Fluorite	Standalone collector for fluorspar with moderate frothing abilities.	Liquid	Anionic
Lupromin FP N 315		Niobium	A mixture of polyglycol esters which stimulates niobium flotation. Significantly increases the recovery of the pyrochlore flotation process.	Liquid	Non-Ionic
Lupromin FP N 1953		Niobium	This polypropylene glycol-based collector with aliphatic alcohols and distillation products provides a high-strength frother with reduced persistence for improved coarse particle recovery.	Liquid	Non-Ionic



PHOSPHATE COLLECTORS

Product		Target Mineral	Description	Form	Ionic Range
Lupromin FP A 712		Phosphate	Ideal collector where silicates are present and CaO/P2O5 relation is high. Increases selectivity for effective flotation.	Liquid	Anionic
Lupromin FP A 1095B		Phosphate	Amphoteric collector for calcitic-dolomitic apatite ores. It is highly selective for apatite, increasing recovery even with the presence of coarse particles.	Liquid	Amphoteric
Lupromin FP A 1210 Base		Phosphate	Synthetic formulation for direct flotation of igneous silicate contained phosphates and for reverse flotation of carbonates in sedimentary phosphates. Good performance in hard water and flexibility for different flotation processes.	Liquid	Anionic
Lupromin FP A 1341BW		Phosphate	Highly effective collector (or co-collector) with presence of carbonates. Increases recovery and shows high performance in hard water.	Liquid	Non-Ionic


LITHIUM COLLECTORS

Product		Target Mineral	Description	Form	Ionic Range
Lupromin FP A 369		Lithium	Fatty acid formulation with the presence of fine particles; providing a safer handling and favorable EHS profile.	Liquid	Anionic
Lupromin 1666		Lithium	Blend of selected fatty acid collector modified with proprietary surfactants that improve selective collection of spodumene against feldspars and quartz (higher grade) by regulating the froths while maintaining and/or improving spodumene recovery. This collector is suitable for weathered and non-weathered spodumene ore.	Liquid	Anionic

FROTHERS

Product	Elements of Value	Description	Flash Point °C
Luprofroth 110 and 111	Cu, Pb, Zn	A blend of selected alcohols, aldehydes and hydrophobic species providing improved flotation kinetics and yields. Provides a favorable EHS profile compared to typical frothers such as MIBC.	90
Luprofroth 120	Cu, Pb, Zn	Provides faster flotation kinetics through generation of smaller bubbles providing higher when compared to MIBC and other frothers. This frother is a blend of selected alcohols, aldehydes and other hydrophobic components.	75
Luprofroth 167 and 168	Cu, Pb, Zn, Au	An alcohol-based frother containing additional, aldehydes acetals and esters, and is suitable for a wide range of processing conditions.	68
Luprofroth 310 	Cu, Pb, Zn, Au	An ideal substitute for MIBC, this is a specialized formulation of alcohols and phthalates that offers a low persistence and favorable EHS profile.	63
Luprofroth 330 	Cu	A low persistence alcohol-glycol formulation ideal for base metal flotation that is carried out at moderate to fine particle sizes.	66
Luprofroth 410	Cu, Mo, Au, Ni	Provides improved froth persistence for ores that require a higher recovery of medium to coarse particles. Formulated from glycols and distillation products.	89
Luprofroth 420	Cu, Mo, Au, Ni	Built from glycols, alcohols, and distillation products, this frother provides a strong kinetic profile with improved recovery of fine particles.	62
Luprofroth 711	Cu, Mo, Au	A robust frother that assists in the recovery of coarse particles by improving the stability and persistence of the froth phase.	135

FLOTATION MODIFIERS

Product	Funcionality	Description	Form
Luproset A 1127	Gold Activator	Innovative, new chemistry to improve gold yield in sulfide ore deposits.	Liquid
Luproset D 1313	Carbon Depressant	Solution providing holistic management of graphitic carbon in sulfide flotation circuits.	Liquid
Luproset M 1140 	Defoamer	A non-ionic surfactant that is suitable for reducing the froth stability of persistent foams.	Liquid
Luproset M 1178	Dispersant	Processing aid for direct flotation of Ilmentite. Increases recovery of fine particles flotation and supports silicates depression.	Liquid
Luproset M 1583	Defoamer	Antifoaming agent used to control froth for niobium and other industrial mineral applications.	Liquid

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