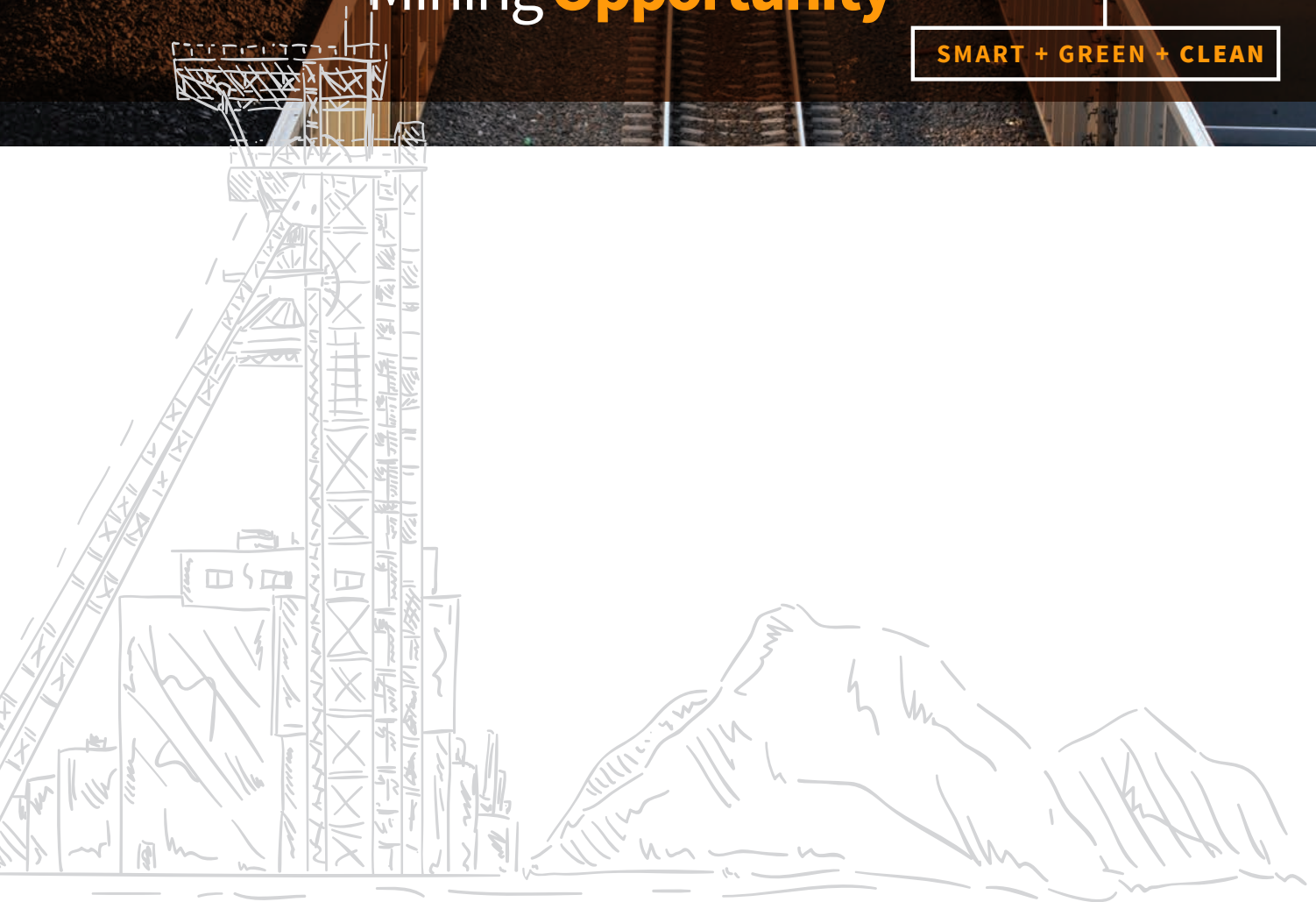




Mining Opportunity

SMART + GREEN + CLEAN





Arclin — Mining Opportunity

Arclin has made its mark as a company that partners with our customers to create innovative new products and custom applications. Our collaborative culture allows us to find opportunities to apply our chemistries in new and inventive ways that address our customers' unique market environments.

Arclin has decades of experience creating chemistry-based solutions to tough challenges for a variety of industries and applications:

Building & Construction

Decorative & Flooring Surfaces

Agriculture

Energy & Mining

Intermediates & Additives

Specialty Materials

Arclin's full suite of chemistry applications for mining:

Captive®

Recovery Agents

*Clay Blinder
for Potash Beneficiating*

Flocculants

Depressants

Water & Oil Demulsifiers

DustCap®

*Dust Suppression
for Underground Mining*

Railcar Side Release

Railcar Topper

*Dust Suppression
for Haulage Roads*

Freeze Control

Smart + Green + Clean

Arclin chemistries combine to create opportunity for the mining industry

Arclin is leveraging decades of experience as a chemical innovator to provide a portfolio of innovative products to help your mining operations work...

+ Smarter

From dust suppressants to flotation aids, demulsifiers to freeze control agents, Arclin products can make your operations more efficient, save money, maximize product recovery and ensure you are meeting all regulatory compliance standards.

+ Cleaner

Dust control products and recovery agents reduce particulates in the air, in the water and on the ground to enhance worksite safety and allow recovery and recycling of valuable resources.

+ Greener

Our unique approach to chemical evolution — constantly striving to create new applications and better performing solutions — makes it possible for Arclin to offer products that also protect valuable natural resources. Our E-Gen[®]-designated products meet Arclin's own strict criteria for combined product performance and reduced environmental impact.



Arclin **DustCap®** and **Captive®** Products for Mining

DustCap® *Dust Suppression & Freeze Control*

Product	Application	Benefits
DustCap® Dust Suppression for Underground Mining 	Spray product uses natural products, derived from wood, to reduce airborne particulates in underground mines	<ul style="list-style-type: none"> • Unique combination of ingredients suppresses dust without leaving a slippery surface underfoot • Contains no latex, eliminating fine silicates that can be dangerous to workers • Reduces risks of explosion and fire caused by high quantities of airborne dust
DustCap® Railcar Side Release 	Natural product prevents coal from freezing to the sides of railcars, or into a solid mass in frigid winter weather	<ul style="list-style-type: none"> • Frees coal loads from railcars in temperatures as low as -38° Celsius • Sprays for easy cleanup and works with existing equipment • Safe, environmentally friendly and cost-effective
DustCap® Dust Suppression for Haulage Roads 	Biodegradable liquid is specially formulated to suppress dust created by heavy machinery and equipment on unpaved roads	<ul style="list-style-type: none"> • Saves money, creates a safer work environment, keeps haulage surfaces safe and reliable for longer • Nontoxic product is safe both for the environment and workers
DustCap® Freeze Control 	Water-based, environmentally friendly liquid is designed to lower the ground freezing temperature on haulage and access roads	<ul style="list-style-type: none"> • Prevents ground from freezing and helps frozen ground thaw faster • Also suppresses dust in warmer weather • Non-toxic spray is also safe for use in arenas, horse corrals, training rings and other agricultural environments
DustCap® Railcar Topper	Latex spray product keeps the coal where it belongs during transport: in the railcar	<ul style="list-style-type: none"> • Highly effective latex spray ensures customers get the full load they pay for • Keeps coal dust from polluting the air, water and land along the rail lines • Has no detrimental effect on the burning rate of the coal

E-Gen® » Sustainability Applied

Arclin applies its proprietary **E-Gen®**-designation only to its products that are expressly engineered to meet or exceed existing product performance standards **and** to reduce manufacturing and downstream environmental impact.



Product	Application	Benefits
Captive® Clay Blinder for Potash Beneficiating 	Innovative product is engineered to attach to finest clay and sand particles, removing them quickly from valuable ores	<ul style="list-style-type: none"> • Can enable more than 95% material recovery • Improves recovery and reduces chemical costs per ton, compared to guar gum • Works with a variety of flotation methods • Offers different formulations for maximum efficiency • Resists microbial attack • Significantly reduces waste, fresh water usage and manpower
Captive® Flocculants	Synthetic polymer flocculants help boost the action of polyacrylamides in separating clay and other particles from water, for effective wastewater processing	<ul style="list-style-type: none"> • Can lower costs, reduce fresh water usage, allow better ore recovery and ensure compliance with environmental regulations • Enhance performance of both anionic and cationic flocculants with a nonionic system • Improve water clarity • Provide improved settling rates
Captive® Depressants	Specially designed chemicals allow reverse flotation of iron and other ores, and flotation of coal and phosphates to enhance ore recovery	<ul style="list-style-type: none"> • Increase product yield and eliminate waste • Ensure high quality ore product, including lower-ash coal • Reduce loss of phosphate values in flotation processes • Improve efficiency of flotation separation for many different mineral ores
Captive® Water and Oil Demulsifiers	Help ensure the fullest possible separation of fats and oils from water used in mining operations	<ul style="list-style-type: none"> • Produce clean, reusable water at lower cost, and more easily disposable waste products



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Arclin®
Performance Applied