

# SOIL-SEMENT ENGINEERED FORMULA<sup>®</sup>

## MINE TAILINGS DUST CONTROL



### CHALLENGES OF MINE TAILING MANAGEMENT

Managing tailings is an ongoing challenge. Rising stockpiles, increasing dust emissions, and stricter regulations make effective control critical for safety, compliance, and operational efficiency. Fugitive dust emissions from tailings, particularly in the PM10-PM2.5 range, pose significant health and safety risks to workers and surrounding communities. Additionally, these accumulations are highly susceptible to wind erosion, which can lead to environmental contamination and costly regulatory penalties.

Without a proactive dust control strategy, mine operators face increasing operational costs, environmental liabilities, and compliance risks. Midwest helps you mitigate these risks with tailored solutions designed for your specific site. We go beyond supplying products—we work with you to develop a customized program that integrates seamlessly into your daily operations.

Whether your site requires year-round protection, seasonal stabilization, or treatment for inactive and active areas, Midwest provides the expertise and technology to keep your tailings under control.

### KEY MINE TAILING CHALLENGES WE SOLVE:

- + Rising dust emissions that impact air quality and regulatory compliance
- + Wind erosion that leads to environmental contamination and material loss
- + Regulatory pressures requiring sustainable, long-term solutions
- + Unpredictable weather conditions that affect dust control performance

# THE ENGINEERED SOLUTION FOR TAILINGS DUST CONTROL

At Midwest, we don't just treat the problem—we engineer solutions that work at a molecular level. Soil-Sement Engineered Formula® (SSEF) is an advanced, science-backed nanotechnology that penetrates tailings, forming durable physical bonds that eliminate 99% of dust emissions. This innovative technology creates a weather-resistant crust, preventing wind and water erosion while maintaining long-term site stability.

Unlike chlorides and traditional water-based treatments, Soil-Sement Engineered Formula® provides a cost-effective, long-term dust control solution that enhances site performance while reducing operational costs. With just two applications per year, mines can drastically cut down on reapplications, minimize water usage, and avoid the environmental downsides of conventional methods. By strengthening the tailings matrix, Soil-Sement® resists wind, abrasion, and rain erosion—ensuring reliable dust control in even the harshest environments.

## WHY SOIL-SEMENT®?

- + **99% dust reduction** for a safer, cleaner operation
- + **Long-term stabilization** that withstands extreme weather conditions
- + **Water conservation**—reduces application frequency and lowers costs
- + **Regulatory compliance**—eliminates environmental concerns related to dust and runoff
- + **Customizable programs** tailored to your site's specific needs

With options for short-term (< 3 months), intermediate (3-6 months), and long-term (> 6 months) solutions, Midwest ensures that your dust control program aligns with your operation's needs—not the other way around.

## WHAT MAKES SSEF DIFFERENT?

- **Eliminates 99% of dust emissions**—improves air quality and site safety
- **Forms a strong, weather-resistant barrier**—locks in dust, prevents erosion
- **Lasts longer than water, chlorides, and traditional dust suppressants**
- **Non-toxic, non-corrosive, and environmentally safe**—won't harm ecosystems
- **Applies quickly, dries fast, and requires minimal maintenance**
- **Works in all conditions**—from extreme heat to freezing temperatures
- **Custom-tailored for your site**—short-, medium-, or long-term options available

## HOW SSEF DELIVERS RESULTS

- **Cuts reapplications by up to 75%**—saving time and money
- **Prevents wind and water erosion**—keeps tailings stable in all conditions
- **Improves compliance & avoids fines**—meets strict environmental regulations
- **Reduces water use**—a sustainable alternative to water-based treatments
- **Proven in mines worldwide**—trusted for over 50 years
- **Backed by science**—engineered for performance at the molecular level

## PROVEN SUCCESS IN MINE TAILINGS MANAGEMENT

### CASE STUDY #1: 15+ YEARS OF CONTINUOUS PERFORMANCE AT A COPPER MINE

One of the largest copper mines in North America turned to Midwest for a long-term, scalable solution to manage their expansive tailings storage facilities. The mine required a system that could protect 1.5 million square feet of tailings slopes and 275 acres of staged tailings embankment construction while minimizing environmental impact.

By applying just two treatments annually, Midwest helped the mine maintain stable, dust-free slopes, significantly reducing maintenance costs and compliance risks. The improved dust control and environmental stability have kept operations running efficiently for over 15 years—a testament to the reliability and effectiveness of Soil-Sement®.



### CASE STUDY #2: ≥ 95% REDUCTION IN METALS IN RUNOFF WATER AT A PERUVIAN MINE

A major metal mine in Peru faced an urgent problem: high levels of lead, zinc, copper, and cadmium in its runoff water, creating serious environmental concerns. Regulatory compliance was at risk, and fines for contamination were mounting.

Midwest recommended Soil-Sement Engineered Formula® to seal the tailings, preventing heavy metals from leaching into the surrounding environment. Laboratory testing after treatment showed:

- + 99% reduction in lead
- + 98% reduction in zinc
- + 95% reduction in copper
- + 95% reduction in cadmium

By integrating Soil-Sement® into their tailings management strategy, the mine achieved full regulatory compliance, improved site safety, and simplified ongoing environmental monitoring—eliminating contamination risks once and for all.

## WHY MIDWEST?

### YOUR PARTNER IN TAILINGS MANAGEMENT

For over 50 years, Midwest has been delivering proven solutions that keep industries running efficiently, safely, and in compliance with environmental regulations. We understand that one-size-fits-all solutions don't work, which is why we custom-engineer every treatment plan to meet your site's specific needs. More than just a product supplier, we are your trusted partner, working alongside you to develop tailored solutions that maximize efficiency, reduce costs, and ensure long-term sustainability.



### WHAT SETS US APART?

- + Industry-leading expertise in environmentally safe, long-term dust control
- + Custom-engineered solutions designed for real-world mining challenges
- + A complete service provider—from consultation to application support
- + Proactive, responsive customer service that puts your needs first

Dust control shouldn't be an afterthought—let Midwest help you implement a lasting solution. Contact us today for a customized consultation and expert site assessment.