

AXORA

**Biodegradable and ecofriendly dust
suppressant and soil stabiliser**

The technology
marketplace for
heavy industry

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A BIODEGRADABLE AND ECOFRIENDLY DUST SUPPRESSANT AND SOIL STABILISER

How it works

Various mining processes can generate large amounts of dust, such as from equipment on haul roads, loading and blasting. Dust is a problem for many mining operations as it is a serious health and safety concern for employees. It can negatively impact the environment and surrounding communities and hinders equipment and operational performance.

This patented solution is a natural biopolymer dust suppressant that is environmentally friendly and biodegradable. It is used to control dust on mining roads, tailings and other exposed areas. A version exclusive to blasting has also been engineered and developed to reduce dust created when firing a shot.

It's a two-part polymer. Each part is inert on its own, but when combined, it forms a gel which captures and coagulates dust. Both components are stored as a concentrated liquid (or as powder) and diluted on-site before use.

On mining roads, both components are applied using separate water bowzers (one with Polymer A and one with Polymer B) and form a seal on the ground, forming a hard surface by binding the dust. It can also be used on construction roads as a soil stabiliser.

During blasting, both components get placed in the blast holes in bagged cartridges. These cartridges break with the blast, aerosolising the two solutions to bind dust particles without interfering with the blasting process.

This non-toxic solution is sustainable, ensures regulatory compliance and provides a more innovative approach to dust management. It's versatile and can be used on all types of surfaces.

Key facts

80%

reduction in water use

60-70%

blast pollution retention

90-100%

Reduction in the need for aggregates

TOP BUSINESS BENEFITS

There are many business benefits of this dust suppression solution:

- › Easy to use
- › Environmentally friendly - 100% biodegradable
- › 80% reduction in water use
- › Reduces the need for aggregates by 90-100%
- › 35% reduction in operating costs
- › low cost - up to 20% less than the best-selling stabiliser
- › Lowers emission of particulate matter 10 and 2.5 by up to 98%
- › Retains blast pollution by 60-70%
- › Easy logistics for storing and handling

This easy-to-use solution offers an environmentally friendly and cost-efficient approach to dust management. It requires less labour, machinery, and time than other dust suppression methods and is 100% biodegradable.

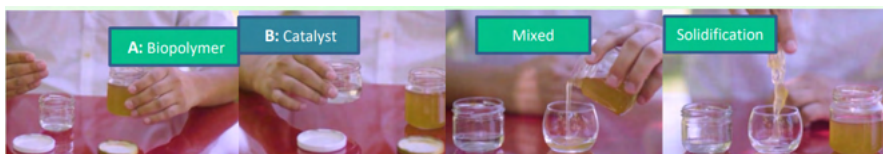
Typically dust suppressants rely on large volumes of water or include chemicals, where this is non-toxic and lowers water usage by 80%. It also significantly reduces the need for aggregate materials like gravel or stone.

Once the components are activated, it has proven to lower PM10 and PM2.5 by 98% and retains blast pollution by 60-70%.

Due to its properties after solidification occurs, factors like water or humidity can't hinder its performance, reducing the potential for accidents and making it safe to use on slopes. It also doesn't negatively impact any mining processes or equipment.

Top benefits

- › 80% reduction in water use
- › Lowers emission of particulate matter 10 and 2.5 by up to 98%
- › Retains blast pollution by 60-70%
- › Reduces the need for aggregates by 90-100%



How it works

CUSTOMER SUCCESS STORIES

A large open-pit copper mine

Customer challenge:

This major miner searched for a way to stabilise its haul roads with natural soil.

Solution:

A five-mile double line-haul road was treated, with one dose used every 53 cubic yards. There was a significant improvement, with the CBR increasing by 40% and the plasticity index between 10% – 15%.

A mine in Chile

Customer challenge:

A miner in Chile was keen to improve its dust control on a heavily used mine road.

Solution:

Approximately 350,000 sq. ft of the road was treated, with one dose for every 2,200 sq. ft. It significantly reduced the irrigation frequency from once a day to every ten days, saving significant amounts of water.

A copper-gold mine

Customer challenge:

A copper-gold operation in Chile was looking for ways to control dust on its pit roads.

Solution:

Roughly 28,000 sq. ft of road was treated, with one dose for every 2,200 sq. ft.

FAQ

Does the solution pose any danger to the environment?

No, the polymer uses 100% natural materials derived from seaweed and bacteria.

Do we need any specialist equipment to use this?

No, you most likely have everything to mix the materials on-site. However, if you did not, they are available for purchase at a reasonable price or supplied directly.

Why is this better than our current system/dust suppressors?

Your current system may simply involve water sprays or bowzers. Chemical treatments are facing more regulations, and local communities are concerned about water use and discharge. This system lowers water use and has zero environmental impact. Therefore, this solution addresses two important ESG concerns.

About Axora

Axora is the global technology **marketplace** for heavy industry. We source the best innovative solutions, to solve the biggest industrial problems.

Our service helps industrial companies to discover, evaluate, procure and deploy technology from all over the world.

Entrusted globally by 100s of industrial leaders and innovative solution providers, we help companies take action to hit their safety and sustainability goals.

Your next steps

→ [Email us](#)

About the Solution Provider

This innovative company has created a solution for the mining industry to address issues around dust management, using environmentally friendly and cost-efficient technology.

Working across multiple sectors such as mining, forestry and construction, they have proven to deliver significant results to their customers. The solution is 100% natural, relying on a bacterial-based polymer from two different bacteria strains.

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