

EARTH ALIVE ROAD DUST SUPPRESSANT

Patent Pending



The most powerful dust abatement and soil stabilizer available on the market; and the only dust suppressant formulation in the world incorporating bio-remediating microbial technology.

Dust control, and soil decontamination - all at once

Earth Alive Road Dust Suppressant is an environmentally respectful formulation of agriculturally derived complex organic polymers, with an added hydrocarbon-degrading microbial technology. These polymers and microbes work together to abate dust and stabilize several types of road bases by binding the base materials together while maintaining a road surface that is flexible, resistant to freezing, and water resistant.

EARTH ALIVE IS:

- a recognized manufacturer of alternate, environmentally responsible technologies and products designed for their industrial applications;
- able to provide high performing dust suppression products AS WELL AS engineering expertise in unpaved road preparation and maintenance;
- able to provide scientific expertise in dust particle analysis and monitoring, as well as in-depth knowledge of environmental concerns caused by road dust emanations;
- capable of sourcing raw materials locally to reduce our clients' shipping carbon footprint.



earthalive™
NATURE'S FORCE



The technology has evolved

The need for frequent applications of toxic contaminants on your roads such as chlorides and hydrocarbon based products is resolute. The best and longest lasting results can now be achieved while respecting the environment - nature, humans, animals, water sources and plant life.

Performance

Earth Alive Road Dust Suppressant is a non-chloride soil stabilization product that helps to reduce great amounts of chloride and hydrocarbon based products from being introduced into the environment. Earth Alive Dust Suppressant will help bind dust particles together and as a result, help reduce dust levels to the most demanding norms. The use of Earth Alive Road Dust Suppressant results in a road surface that is compact, water resistant, and durable.

- Very effectively controls the formation of dust clouds on the roads for long periods of time per application;
- Creates firmly bound, water resistant road surfaces;
- Hardens road beds with increase load bearing performances;
- Requires no special protective equipment when handled;
- Greatly reduces the appearance of potholes and washboards, and provides smooth and compact road surfaces;
- Resistant to vertical and horizontal migration of the product.

Product

Depending on our client's needs and objectives, Earth Alive Road Dust Suppressant can be shipped in a ready-to-use formulation, or blended on-site in specifically designed blending stations, allowing local sourcing of some of the raw materials of our formulation.

Available ready-to-use shipping sizes:

- 1,000 liter totes
- 19,000 liter Flexitank containers

Characteristics

- Biodegradable;
- Considered non-harmful to humans and the environment;
- Free of petroleum and other hydrocarbon based materials and ingredients;
- Contains less than 2.0% naturally occurring and non-added chloride;
- Does not freeze down to a temperature of -30° Celsius, and keeps water out of road bed;
- Water soluble;
- Attains the lowest ratings - 1 - on the NFPA health hazards rating system (i.e. product rating equivalent to drinking water standards);
- Reduces the existing PM10 and PM2.5 ratings by greater than 75% for a period of not less than 20 weeks, as measured with the best and most advanced measuring technology (such as the Dust Track DRX model 8533);
- Contains ingredients that will help the bio-remediation of hydrocarbon contaminants in the soil of road beds;
- If required, can be blended on-site, to reduce the user's shipping carbon footprint.





One Hour After Application



6 Months Post Application



Application

Road surface preparation is extremely important in all application techniques. However, these preparations do not need to be time consuming or costly. The better the road conditions, the more successful the application will be. The following four factors work together to achieve optimum results:

- Quality and composition of aggregate;
- Road preparation such as watering and grading;
- Compaction;
- Application.



3 Days Post Application



12 Weeks Post Application

Areas of Usage

Earth Alive Road Dust Suppressant can be used on the following surfaces:

- Unpaved municipal, provincial and federal roads;
- Mining roads;
- Quarries;
- Public parks;
- Orchards;
- Military roads;
- Private and rural roads;
- Industrial and governmental development project roads;
- Construction site haul roads;
- Parking lot surfaces;
- Forest/timber haul roads;
- Airfields and helicopter pads.

Expertise

For small and large projects alike, many of our clients require our on-site expertise to:

- Evaluate existing road conditions;
- Evaluate dust level conditions;
- Discuss objectives and desired results;
- Prepare the road for application and maximum results;
- Supervise product application;
- Conduct training of personnel for subsequent road maintenance, applications, and dust levels monitoring;
- Provide a yearly, per kilometer fee-based program, for a continuous dust and worry-free road.

Our experts technicians have traveled to the 4 corners of the world to assist our clients in overcoming their road dust challenges. Please contact us for additional information on this product and/or a complete evaluation of your road preparation and dust control needs.

Features and Benefits

- Environmentally friendly product that creates a safer environment;
- Combined dust abatement and soil decontamination and bioremediation;
- Reduce dust to PM10 Standards;
- High recycled materials content;
- Can be used on many soil types;
- Can be used in sensitive areas (near water, trees, orchards);
- Water and freeze resistant;
- Fast-acting;
- Off-white/tan in color;
- Safer on roads with a longer lasting road stabilization;
- One application can last for months.



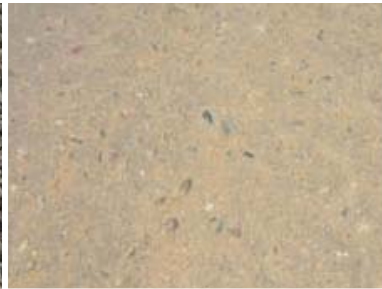
12 Weeks Post Application

SUMMARY: PROCESS AND PRODUCT CHARACTERISTICS

The Earth Alive system works in two ways which are both as important to successful dust abatement results.



Prior to Application



1 Week Post Application



3 Months Post Application



6 Months Post Application

One

Road preparation before product application ensures that the road bed structure is optimised to receive the liquid. As each road bed is different, many preparatory stages may be required which may involve:

- Preventative measures for the segregation of the road base;
- Removal of potholes, bumps, uneven surfaces, existing adverse conditions;
- Pre-hardening of the road base;
- Increase conditions for product absorption during product application;
- Maximizing post application conditions.

Two

The Road Dust Suppressant product has three main components, which are explained as follows:

Two different bio-based humectants keep the road bed humid, which ensures it remains moist and compacted for better product absorption. These anti-freeze humectants tie down the dust particles which prevents them from 1) exiting the soil and 2) becoming airborne.

→ A proprietary, patented, powdered mix (added to the humectants) of natural polymers work as follows:

- They solidify the road bed;
- Once the dust particles are tied down, the polymers bind them together and add resistance to the road bed;
- They prevent water infiltration into the road bed, thus hardening it, and making less and less product required on the long run, in 2 ways:
 - Less frequent applications
 - Less product needed per application
- They prevent the vertical and horizontal spread of the product, keeping it on, and in, the road, long-term, with no "wash-off" effect.

→ A proprietary patented mix of naturally occurring, vegetative microorganisms is added to the powdered polymer mix. The bio-remediation action of these microorganisms work in two ways:

- They break down and digest hydrocarbons and other contaminants in the road bed;
- The bio-remediation actions of these microorganisms emit natural substances in the soil that further stabilise and harden the structure of the road bed.