

Questions and Answers

Dust suppressor

A: After applying the material to the mining roads, is it possible to use heavy vehicles in general, especially large trucks? Or is there a waiting period for complete drying?

It is recommended to spray a high concentration of dust suppressant on the mining road with a ratio of 1:10 to 1:50 to increase the suppression ability of the mining road and the adhesion to the mineral soil. After spraying the dust suppressant, the vehicle can be driven directly, but the strength and adhesion of the dust suppressant are consumed to a certain extent.

B: Won't vehicle traffic cause the applied material to easily come off or stick to the tires?

The dust suppression agent, after drying, will not adhere to the tire, the vehicle will drive on the mining road covering a large area of soil with cemented soil crusts and blocks. If the vehicle load exceeds the load capacity of the mining road, it will destroy the soil and its crusts during driving, but it still has the contribution of preventing dust from flying.

C: Is there a risk of the floor becoming slippery?

There is no risk of the floor becoming slippery.

Q: Can the material be applied to a dirt road even if the ground is damp or wet? Or only when the ground is dry?

Wet soil will saturate the soil with water, which will affect the drying time of the dust suppression agent. But there is no need to wait for the wet soil to dry completely. It is possible to apply the material directly to the slightly damp soil.

Q: After applying the dust suppressant, will the rain not interfere, regardless of the intensity of the rain being heavy or even hail? Won't the effect of the flooding soften this material?

According to different dilution ratios, the formation of soil crusts will have different thicknesses, resulting in different hardness and resistance.

See Table 1.

When the impact force on the crust soil film exceeds its strength, the crust soil film will crack. Therefore, it can be sprayed again in 1 to 3 months according to the actual situation.

According to the above information, let's explain the different climate:

Rain or snow only wets the road, it does not destroy the crusted soil films, so after it dries, a crusted soil film is still left.

If the impact force of heavy rain or hail on the crusted soil film exceeds the strength of the crusted soil film, it is necessary to spray the dust suppression agent again. Otherwise, after the soil dries, there will still be a crusted soil film.

For flooding effect, flooding will clean the soil and dust suppression agent together.



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TABLE 1

Average particle size of the material	Spray value (30 times)	Spray value (50 times)	Layer thickness after curing	Resistance of crusted soil film
< 0.05mm	1.6 kg/ m ²	2KG/ m ²	2-7mm	/
< 1mm	3.2 kg/ m ²	4KG/ m ²	3-15mm	0.05-0.3 MPa
< 10mm	8KG/ m ²	10KG/ m ²	13-20mm	0.3-1MPa
< 30mm	16KG/ m ²	20KG/ m ²	15-30mm	1-3MPa

D: If this material breaks off and is carried by the volume of rain to lakes and rivers, is there any danger to the local fauna and flora?

The dust suppression agent is composed of a new type of multifunctional biodegradable polymer.

The dust suppressant will work for up to three months, then it will degrade on its own, causing no harm to animals or plants.

We have done the relevant test regarding this, please check our test report.

Q: Is it necessary to use specific PPE for those applying the product or for those close to the area?

Our dust suppression agent is an environmentally friendly product, no toxicity, no pollution, no irritation to human skin and respiratory tract;

It is easy to apply, there is no need to use any specific PPE for the person applying it or for those close to the area.

G: When the suppressant is applied to piles of processed and fine-grained products such as coal, talc, lime, minerals in general, is there any physical or chemical change in these materials?

Our dust suppression agent is composed of a new type of biodegradable multifunctional polymer.

The cross-linked molecules in the polymer form a network structure, and there are several groups of ions between the molecules.

Due to their high charge density, they have a strong affinity for ions.

Through coagulation and bonding, they can quickly capture and firmly absorb fine dust. After drying, it solidifies and forms a film on the surface of the dust. It forms a thin and hardened covering layer on the surface of the dust-producing object (such as sand, coal, iron ore, limestone, phosphorus or sawdust).

In short, the ionic dust suppressant only forms a film on the surface of the material and does not change the physical and chemical properties of the material itself.

H: Are two (or more) coats necessary or will just one coat be enough? What is the minimum percentage of suppressant x liters of water?

For the first time using dust suppressant on the mining road, we suggest two coats, but just one coat still produces acceptable results.

For mining roads, the minimum percentage of suppressant x liters of water is 1kg:50kg of water.

Please refer to Table 2 for the effect of 30 to 60 times spray dilution of our dust suppression agent.



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TABLE 2

Average particle size of the material	Spray value (30 times)	Spray value (50 times)	Layer thickness after curing	Hardness of the layer after curing
< 0.05mm	1.6 kg/ m ²	2KG/ m ²	2-7mm	/
< 1mm	3.2 kg/ m ²	4KG/ m ²	3-15mm	0.05-0.3 MPa
< 10mm	8KG/ m ²	10KG/ m ²	13-20mm	0.3-1MPa
< 30mm	16KG/ m ²	20KG/ m ²	15-30mm	1-3MPa

I: Is there a need to train the person who will apply the material?

Our dust suppression agent is easy to use and can be used as needed.

Workers only need to be trained in the dilution steps and dilution ratio the first time. Therefore, no special training is required.

As for dilution steps, first add the dust suppressant into the container, and then add water (stirring by the agitation produced by putting water into the container). If necessary, other stirring methods may have a better effect.

J: Is the mixture of suppressant in water (kg of suppressant x liters of water) just added or must it be mixed with tools? And what tools would that be, for example, in a water truck?

If you want to use the water tanker to spray the mining road, you can mix the dust suppressing agent in a container and put it into the water tanker, or you can add the dust suppressing agent into the water tanker first and then add the water, where the mixture is hit by the momentum of the water being put into the tanker of the water tanker.



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