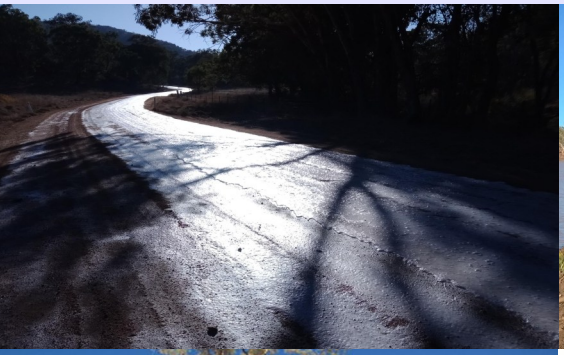
POLYCHLOR OMEGA

STABILISER AND DUST SUPPRESSANT

PRODUCT INFORMATION — NOVEMBER 2024



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FIVE ELEMENTS INTERNATIONAL

PRODUCT PERFORMANCE & TESTING

Polychlor Omega is a stabiliser and dust suppressant for use in municipal, forestry, mining and civil works applications. Polychlor Omega has been independently verified by the **National Transport Research Organisation** through the **Transport Industry Product Evaluation Scheme** (TIPES) assessment for;

- Strong dust suppression
- Pavement stabilisation and CBR increase
- Erosion prevention

These properties supress fugitive dust and stabilise gravels and soils.

- Dust emissions in the range of 75% to 100%
- Improved safety by increasing traction and reduced slipperiness due to reducing plasticity of gravels
- Reduction in routine maintenance grading by 100%

Polychlor Omega is particularly well suited to soils and gravels with a plasticity range of 0 to 20. Polychlor also helps bind materials which lack cohesion during dry conditions. Polychlor Omega makes significant improvements to pavement performance in both wet and dry conditions.

Product testing—California Bearing Ratio (CBR)

The CBR of road making materials is increased by stabilisation with Polychlor Omega. Typical results in crushed rock materials show a CBR increase of 50 to 75%. For example, a gravel with a 4 day soaked CBR of 40 will increase to 60 to 70. For test reports, kindly refer to our website or contact us.

Product testing—RMS T133 Durability of Road Making Materials

The RMS T133 Durability of Road Making Materials test involves placing cylinders of soil in a water bath for 5 hours to determine the amount of material loss.

Testing has shown that soils treated using Polychlor exhibit minimal material when subjected to the T133 test, while untreated soils practically disintegrate within minutes.

This test clearly demonstrates why Polychlor is the stabiliser of choice when clients are concerned about prevention of pavement material loss. Videos of this test in various soils can be seen on our Youtube channel.

FIVE ELEMENTS YOUTUBE CHANNEL

Product Longevity

Polychlor Omega can degrade over time due to the effects of traffic, however it will not leach out of the soil due to wet conditions as it actually binds with the soil. In a stabilisation situations after three years it is advisable to apply a top up of 25% of the original dose. The remaining Polychlor Omega will reactivate with subsequent maintenance grading.

When applied to the surface only as a dust suppression treatment, it will last until the next maintenance grading. Repeated dust suppression applications will eventually stabilise the whole pavement base layer, as the concentration of Polychlor Omega builds up due to mixing.

Applications

The applications include pavement stabilisation, stabilisation of unsealed shoulders, stabilisation of drains, batters, waste facilities and stockpiles to prevent erosion and road dust suppression.

Polychlor Omega can be applied to the full thickness of a pavement layer, or only to the surface of the pavement. The application method depends on the level of stabilisation protection required.

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PRODUCT APPLICATION AND PRODUCTIVITY

Polychlor Omega is user-friendly and application is rapid enabling high daily production rates. For stabilisation works, 6000m2 per day can easily be achieved with one grader and one tanker. Production rates of up to 12,000m per day have been achieved with two tankers and two graders. Compaction with a multi tyre roller is the best practice for Polychlor stabilisation.

Surface application of Polychlor Omega for dust suppression. After 10 minutes, the road can be reopened to traffic.

Surface application of Polychlor Omega is an effective means of dust suppression. A single 12,000 litre tanker and one traffic control crew can achieve up to 50,000m2 in a normal working day.

Blending Equipment

Five Elements can provide, hire or sell a blending equipment set for mixing the product into the tankers. For situations where the water for the roadworks is sourced from a creek, dam or irrigation canal, we also provide a lift pump. Our configuration of a lift pump and blending pump fills tankers faster than tanker mounted lift pumps in most circumstances. It takes about 20 minutes to unload and set up the blending equipment, and sufficient product for 1 days work.

Pouring Polychlor Omega into the blending equipment hopper while filling the tanker from a hydrant

Inspection of the blending pump after pumping 1.4 tonnes of Polychlor Omega

Dual pump set for filling from dams, creeks & canals

Polychlor Omega and our blending equipment have been tested extensively to ensure that they are safe for use in tankers. Polychlor Omega has been tested extensively in our tanker simulated at concentrations up to 10 times of those used in practice. Even at these high concentrations, no problems were encountered. Polychlor Omega won't settle in pumps or tankers. The image above shows an inspection of the mixing pump impellor after blending 1.4 tonnes of Polychlor Omega over 5 days. The blending equipment is straightforward to use and 1 day of training is usually sufficient to ensure staff use the equipment correctly.

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PRODUCT APPLICATION AND PRODUCTIVITY

Moisture control

Moisture control of the pavement is easy to control with Polychlor Omega. If conditions are wet, the solution strength can be increased, resulting in less water being applied to the job. When this is done, it does not thicken the water, allowing the solution to be sprayed out easily. We can pre-test any solution formulation in our tanker simulator. This is done to ensure that when we get to the site everything will work as planned.

Tanker simulator for testing blends prior to use on-site. When we turn up on site, we know it is going to work.

Water conditions

Water temperature, turbidity or salinity is not an issue for the use of Polychlor Omega. Projects have been completed with near freezing water, saline brines and dirty water. Polychlor Omega maintains a low viscosity in solution, so there are no problems with spraying out the solution either with fans or spray bars. Polychlor Omega usually results in some foaming which may spill down the side of the tanker. The foam can easily be cleaned off with a pressure cleaner even after it has dried. Polychlor does not harm metals or paintwork.

Cold water, hot water or saline water? No Problem!

Superficial foam residue on the side of the tanker can easily be cleaned off.

Product Safety

Polychlor Omega is rated as non-hazardous and non-dangerous. It is pleasant to use and does not have any strong odour. It is environmentally friendly, once it is blended with soil it attaches to soil particles and stays in place. Five Elements has carried out an independent toxicology assessment of Polychlor Omega to demonstrate that Polychlor has unparallel safety when compared to other stabilising agents. Our aim is to provide products which are safe for end users and the environment.

Project support and customer service

Five Elements provides high quality on-site project support and staff training throughout Australia and New Zealand. As part of this service we provide the following site documentation, SWMS, blending equipment standard operating procedures, SDS and project specific instructions. Five Elements uses a range of freight providers to ensure that product and application equipment is delivered to customers in a timely manner. All freight is fully tracked, so you can rest assured your project will commence on-time.

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