

## *The Dustex solution for broadacre applications*



### THE CHALLENGE

Wind-borne dust in broadacre areas poses major threats for residential and rural areas, construction sites, game reserves, sports fields, parking areas, paddocks and dust-sensitive agricultural and forestry roads.

Mining activity, property development and outdoor events often generate dust and this, combined with wind, poses health, regulatory, commercial and other risks:

- » Respiratory and related health problems
- » Inability to rehabilitate wind-swept roads
- » Dust over mine dumps and waste dumps
- » Unpleasant conditions during events and shows

### THE SOLUTION

Using Dustex effectively, you will:

- » Reduce chemical treatments costs
- » Improve road visibility and safety
- » Create a temporary dust solution for specific events such as circus shows, sports events, agricultural shows and during construction projects
- » Reduce respiratory-related medical problems
- » Improve your company image
- » Maintain good relationships with your neighbouring communities

## WHAT IS DUSTEX AND HOW DOES IT WORK?

Dustex is a lignosulphonate – a natural material that is a binding agent for gravel roads and other applications. Dustex is derived from lignin, which is a natural polymer found in wood. Applied to a road, Dustex binds the surface materials, thereby reducing the cost of maintenance and the need for other aggregates to be used. It enhances the visual appearance of the road, improves safety standards and provides a lasting, cost-effective solution to road surface deterioration. Dustex is available in liquid and powder form. It is harmless (non-toxic to humans, plants and animals), easy to use (requires no specialised equipment) and, because it is sourced from trees, it is environmentally friendly and derived from a renewable resource.

Areas to be prepared with Dustex should be protected from drifting sand eroded from untreated zones. Best results are achieved when large, continuous areas are prepared. Consideration should be given to the timing of the treatment (preferably after the rainy season) and for the best result, Dustex should be applied on a moist surface.

## DUSTEX DOSE IN INACCESSIBLE BROADACREAPPLICATIONS (for example, mine dumps)

The recommended rate of application is as follows:

Approximately  $1 \times 250\text{g} / \text{m}^2$ ,  
or  $2 \times 125\text{g} / \text{m}^2$       **>>**      Annually, in 600mm  
rainfall area

**It is important to determine the cause of the dust before treatment, especially in areas such as slimes dams and waste sites, since operational changes may reduce dust.** Use the spray-on method for broadacre applications (no need for compaction). The product must be diluted to get the required penetration of the liquid – the required penetration depth determines the volume of Dustex used. Aim to create a surface 'crust' of between 5-10 mm. An advantage of a lignin-based product is that, if applied unevenly over a large area, rainwater will even it out. Dustex can be used with low pH or alkaline water, since it is not pH-dependant and can thus be used with any available water. Dilute to 20-25% solids for a broad-based solution suitable for dumps and roads. **Useful tip:** Can't remember where you have treated for dust? Dustex is black, so you will immediately see where you have already applied it.

## DUSTEX DOSE FOR BROADACRE DUST MANAGEMENT OF ACCESSIBLE APPLICATIONS

Dustex applications of 50-150grams per  $\text{m}^2$  will keep dry sand surfaces stable against wind velocities of up to 140km per hour. The durability of the treatment is determined by:

- » Concentration of the Dustex mixture
- » Evenness of the application
- » Depth of penetration into the soil.

For protection against wind erosion the minimum recommended thickness of the surface layer is 3-5mm and for protection against wind erosion and moderate dynamic loads, 10-15mm.

## APPLICATION METHOD:

The simplest form of dust control consists of a direct application of a Dustex solution onto an unprepared surface. This dust-suppression method is used to treat most broadacre areas, including mineral dumps, tailing dams, construction sites and any area where the incidence of health-threatening dust inhibits safe and efficient operations. Dustex is best applied as an aqueous solution under pressure through spray nozzles, although it may also be applied under gravity with equipment as simple as a hose. A water cart with a pump and spray bar is ideal.

## Recommended application rate:

One litre per square metre.

## Solution strength:

Where surfaces are not subjected to general traffic, a 5-8% Dustex solution will consolidate most types of mineral and humus materials for up to six months. **Dustex agents will advise you on the most suitable solution rate, application methodology and effective treatment.** No specialised equipment is needed – almost any sprayer up to modern agricultural machinery for fertilisers and pesticides can be used. The main requirement is to create the surface 'crust' using an optimum solution applied evenly across the broadacre area.



## THE IMPORTANCE OF REJUVENATION

To maintain the dust-free qualities of the treated area, it is essential that you run a planned Dustex rejuvenation schedule. The surface area will wear and weather as a result of traffic, debris blown onto the area and other related causes, leading to dustiness over a broad area. Dust on the treated area does not necessarily indicate that Dustex has been washed away – it may simply be the result of spillages.

## How often should you rejuvenate?

Rejuvenate when the dust level reaches an unacceptably high level. Additional rejuvenation may be necessary in dry seasons or after heavy, sustained bouts of rain. Rejuvenation should be done using between 50-80g per square metre of rejuvenation area, but can vary considerably and should thus be assessed by a Dustex agent. Rejuvenation maintains your dust-free environment, prolongs the lifespan of the area, preserves the wearing course of road in the broadacre environment and enhances the working environment for people in the area. Regular Dustex rejuvenation 'builds up' the performance characteristics of the treated surface, thus distributing the cost of Dustex over a series of treatments.

## MAINTENANCE MATTERS

The type and frequency of maintenance will depend on the material characteristics, climate, application method and traffic, and should be carried out before significant deterioration has occurred. In cases of isolated deterioration, product can be sprayed on over the specific area to regain its effect.

Rejuvenation rates should be reassessed each year depending on performance. Rejuvenation should be carried out at the beginning of the dry season. Depending on operating conditions, the doses may be split into applications at three-monthly intervals.