

TERRA-CONTROL[®]

Bio-degradable Soil Binder

Erosion Control - Soil and Sand Stabilisation

Dust Supression - Revegetation

Hydromulch and Hydroseeding Systems

Turf Establishment - Seed Protection

Landscaping and Gardening

Water Retention Aid

FEATURES a

SPECIFICATION

TERRA-CONTROL® is a blend of polymers and other proprietary additives in a water dispersion with the following properties:

<i>Appearance:</i>	Milky white viscous liquid
<i>Density:</i>	1.08-1.15 kg/litre
<i>pH:</i>	4-6
<i>Solids content:</i>	57-59 weight %
<i>Viscosity:</i>	4500-7000 cPs at 25°C

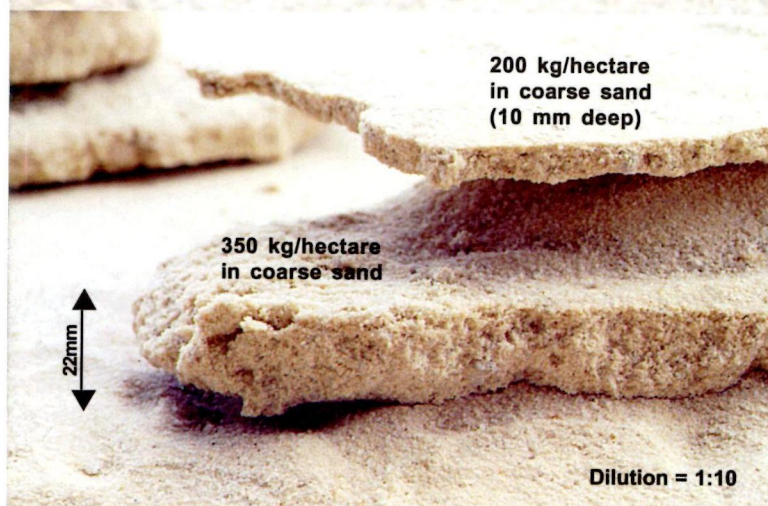
FLEXIBILITY IN USE

TERRA-CONTROL® is used in a wide range of applications and can be readily 'tailored' to specific purposes. Typical applications include:

- Topsoil consolidation and erosion protection
- Seed fixation/protection in agriculture
- Dust control (Mining & Construction)
- Sand dune stabilisation and/or revegetation
- Tackifier in Hydroseeding applications
- Binder in long fibre Hydromulching systems
- Establishment/reconstruction of golf greens
- Mine waste heap stabilisation
- Anti-silting aid in horticulture/viticulture
- Roof greening
- As a 'liquid mulch' in potted plants
- Soil root ball 'binder' in transplanting
- Soil consolidation after bush fires
- Water saving soil treatment on greens etc
- General landscape constructions

SOIL PENETRATION

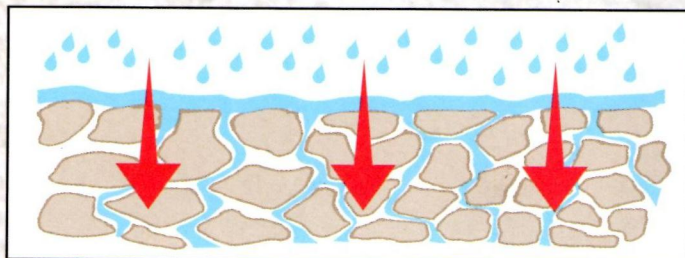
TERRA-CONTROL® is designed to penetrate and bind most 'open' soil types and sand, producing a three dimensional 'honeycomb' matrix throughout the top-soil layer.



Product application rate can be tailored to achieve desired penetration depth.

SOIL PERMEABILITY

A unique *open matrix* structure formed in soil treated with **TERRA-CONTROL®**, ensures that that soil remains permeable to air and water.



Soil structure is maintained and seed germination is enhanced.

WATER & NUTRIENT RETENTION

Physio-chemical properties of soil treated with **TERRA-CONTROL®** facilitates excellent water retention and subsequent water savings of up to 30%. This feature is particularly attractive in arid or hot areas and in sandy soils. Additionally the reduction in leaching of soil nutrients and other water soluble treatments further enhances growth.

HIGH PERFORMANCE TACKIFIER

TERRA-CONTROL® is used as a tackifier and binder in most fibre mulch systems, either alone or in combination with other tackifiers, lubricants or soil ameliorants.



TERRA-CONTROL® significantly improves bonding and weather resistance of many Guar based products.

and BENEFITS

C-FACTOR EROSION CONTROL

When applied according to recommendations, **TERRA-CONTROL®** is a high performance erosion control product, capable of achieving a C-factor of less than 0.1 in most common applications and under moderate to high rainfall conditions.



C-factors of 0.05 can be readily achieved when **TERRA-CONTROL®** is used in conjunction with permanent re-vegetation techniques, such as Hydro-seeding.

SEED PROTECTION & GERMINATION

Soils treated with **TERRA-CONTROL®** show improvement in seed germination rate and growth vigour, due to a physical seed/soil binding effect, moisture and nutrient retention at the root zone and reduction in seed loss from wash-out and bird strike.



Improved germination performance is possible in the most challenging conditions.

WIND EROSION / DUST SUPPRESSION

TERRA-CONTROL® is particularly effective as an economical and ecological dust suppressant.

Photo courtesy of: Bureau of Meteorology (Melb.)



Melbourne dust storm, 1983 ■

Even without vegetation **TERRA-CONTROL®** binds fine top-soils and provides a resilient barrier to wind erosion & effective dust control for up to 18 months.

COST EFFECTIVE

Being a liquid, **TERRA-CONTROL®** may be applied by a range of methods. Spray application (with or without fibre reinforcement) is a highly cost effective means of installing wind & water erosion protection.

BIODEGRADABLE

Specially selected polymers in combination with a patented plasticising agent ensure superior technical performance and *chemical bio-degradation* in the soil environment.

TERRA-CONTROL® will degrade slowly over a period of up to eighteen months, depending on soil type and climatic conditions.

LOW ECO-TOXICITY

TERRA-CONTROL® exhibits very low aquatic eco-toxicity and may therefore be used with confidence in even the most sensitive environments.

LOCAL MANUFACTURE

TERRA-CONTROL® is manufactured locally by Cognis Australia Pty Ltd, using local polymer technology and local technical support. Short supply lines, flexible manufacturing and responsive delivery, equate to supply security and price stability for the largest of remediation contracts.

The SOIL CURE LINE of products from Cognis is helping to solve environmental problems around the world.



APPLICATION GUIDELINES

TERRA-CONTROL® may be mixed with water in any proportion and in accordance with the soil structure, gradient and area of terrain to be treated.

The penetration depth and binding attributes of **TERRA-CONTROL®** are dependent on the type and structure of soil, product application rate and dilution factor employed.

It is recommended that all treatment regimes be determined empirically and after giving consideration to specific soil attributes and the intended purpose.

TERRA-CONTROL® may be applied by using any suitable ground based or aerial liquid application equipment. Application equipment should be flushed with clean water after use.

TERRA-CONTROL® is non-toxic, biodegradable, safe and simple to use. The Material Safety Data Sheet should be consulted prior to use.



The following application rates are a guide only.

APPLICATION	General Erosion Control (coarse structure)	General Erosion Control (medium structure)	General Erosion & Sediment Control (fine soil structure)	Water Retention Soil Treatment	Dust Suppression	Hydro-seeding tackifier (Paper mulch) 0-2 tonne/ha	Hydro-mulch binder (Long Fibre) 3-5 tonne/ha	Sand dune Stabilisation
Application Rate per hectare (10,000 m ²)								
Gradient 1-10%	200kg	200kg	250kg	100-200kg	150-200kg	200kg	200kg	1000kg
Gradient 10-20%	200-250kg	200-300kg	250-350kg	100-200kg	150-250kg	200-250kg	200-300kg	*2000kg
Gradient 20-50%	200-350kg	200-400kg	250-450kg	100-200kg	200-300kg	200-250kg	250-350kg	*3000kg
Dilution & Comments:	Dilute 1:10 eg. Broken rock	Dilute 1:10 eg. Sand/Gravel	Dilute 1:10 eg. Fine Clay & marl soil	Dilute 1:10 apply before summer	Dilute 1:10 up to 1:20	Dilute 1:50 up to 1:500 in water	Dilute 1:50 up to 1:500 in water	*Mechanical stabilisation may be required

APPLICATION CONSIDERATIONS:

TERRA-CONTROL® is diluted 1:10 - 1:500 in water prior and according to application. Suspensions will remain stable for several days.

For effective penetration and binding **TERRA-CONTROL®** should be applied in **dry weather conditions and on dry top-soil**, allowing sufficient time for treated surface to dry and form a protective matrix.

TERRA-CONTROL® may be used in conjunction with other water-soluble products such as fertilisers, Guar tackifiers, conditioners, soil activators etc.

Soil penetration of **TERRA-CONTROL®** (especially in hydrophobic sandy soil) will be improved by pre-treatment with a suitable wetting agent such as **EcoWet™**. Other low foaming wetting agents may also be added to **TERRA-CONTROL®** suspensions to assist soil penetration.

In applications exposed to heavy (monsoonal) rainfall, an additional 100-150 kg of **TERRA-CONTROL®** per hectare is recommended.

High strength *surface reinforcement* is achieved by a second follow-up application of concentrated (1:5 dilution) **TERRA-CONTROL®**. Note: Excessive application may lead to retardation of seed germination.

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