

Type: Organic Polymer Dust Suppressant Liquid	pH: Neutral Biodegradable Renewable Resources	Shelf Life: 24 Months Available: 25L, 1000L
--	--	--

GEARTH DustControl is a premium, high natural organic content polymer liquid dust suppressant, designed for road dust management applications on mines, farms and rural roads. It is a highly concentrated organic polymer liquid with neutral pH properties, formulated with five proprietary and synergistic technologies — the 5-System Mode of Action — that allow it to outperform most conventional dust suppression technologies while remaining completely environmentally friendly.

GEARTH DustControl can be sprayed directly onto any type of soil surface, whether previously treated or not, delivering instant and outstanding dust suppression results. It provides significant cost savings through reduced water usage, road maintenance, vehicle wear, fuel consumption and occupational health risks.

1

5-SYSTEM MODE OF ACTION

Mode	Technology	Description
Mode 1	Phase Step Technology	A dual-phase stepped design: one phase is closer to the water phase (hydrophilic), the other to the air phase. This slows air diffusion and decreases water molecule loss, ensuring superior foaming properties. Because coal and sand dust surfaces are electronegative, there is no electrostatic repulsion between GEARTH DustControl and the dust surface — molecules are absorbed more easily than competing technologies.
Mode 2	Organic Polymers	Organic polymers derived from natural and sustainable origins via a proprietary eco-friendly process. Specially stabilised to act as a natural glue, binding fines and soil aggregates together. Traps moisture to retard evaporation, prolonging the wetting effect. Organic polymers continually leach into the road matrix for ongoing performance.
Mode 3	Plasticizer	Precisely calculated organic polymer quantities act as a disperser in a matrix of fines and clay, dispersing clay particles effectively for improved plasticity at lower moisture levels. This greatly reduces abrasion and erosion, and allows for denser and firmer road surface compaction.
Mode 4	Charge Attraction	GEARTH DustControl incorporates proprietary charge-shifting technology that intelligently alters particle charges to form a natural and powerful attractive bond, creating a powerful and lasting soil-binding bond.
Mode 5	Soil Penetrating Agents	Unique and proprietary soil penetrating agents lower the surface tension between liquid and solid particles, acting as highly efficient wetting agents. Effective wetting of dust particles suppresses the tendency for fines to become airborne and significantly aids compaction.

2

KEY BENEFITS

- Unsurpassed dust suppression and soil binding performance
- Significantly reduced water usage

- Reduced road maintenance frequency and cost
- Improved vehicle tyre lifespan and lower fuel consumption
- Increased plant and vehicle uptime and shift productivity
- Improved driving conditions, visibility and braking ability
- Reduced occupational hazards — silicosis, asthma and cancer risk
- Massive reduction of dust formation on crops (agricultural applications)
- Completely biodegradable — manufactured from renewable resources
- EcoChoice Approved

3 APPLICATIONS

- **Mining Operations** — haul roads, access roads, stockpile areas and high-traffic mine roads
- **Agriculture & Farms** — farm roads and tracks; reduces dust formation on adjacent crops
- **Rural & Unsealed Roads** — road construction, re-gravelling and maintenance
- **Industrial Sites** — internal road networks, yards and high-traffic areas

4 METHODS OF APPLICATION

Note: application rates below are quoted for the powder form. Double the rates when using the liquid form.

Clay / Low-Permeability Soils	Dilute to at least 10% dry solids (preferably 2–5%). Apply in multiple passes to facilitate surface penetration.
Mine Haul Roads	Apply at 0.01 kg/m ² as part of the normal watering programme until dust reduction is evident.
Previously Untreated Roads	Initial application of 0.1–0.4 kg/m ² required to establish a residual concentration of active ingredients.
Application Frequency	4–6 applications over three weeks to mitigate over-wetting and run-off.
Mix-In Application	Rip road 100–200mm deep, break down lumps, mix two-thirds of the powder into water and allow to stand ~1 hour, apply at 0.1–0.4 kg/m ² dry basis, compact with a pneumatic or vibrating roller.

5 REJUVENATION FREQUENCY

The rejuvenation frequency of GEARTH DustControl-stabilised roads depends on the soil substrate, climatic conditions, traffic load and road construction techniques. Mining operations with continual dust deposition may require more frequent applications of 0.4 kg/m² per month as part of the standard dust control regime.

6 TECHNICAL SPECIFICATIONS

Physical State	Liquid (also available as powder — see application rate notes)
pH	Neutral
Solubility	Water soluble — mix with water per application method

Formulation Type	Highly concentrated natural organic content polymer liquid; 5-System Mode of Action proprietary formulation
Active Technologies	Phase Step Technology Organic Polymers Plasticizer Charge Attraction Soil Penetrating Agents
Biodegradability	Completely biodegradable
Spray-On Rate (Powder)	0.01 kg/m ² (maintenance); 0.1–0.4 kg/m ² (initial); double for liquid form
Mining Rejuvenation	0.4 kg/m ² per month for high dust-deposition environments

7

STORAGE & SHELF LIFE

Shelf Life	24 months from date of manufacture (liquid form).
Storage Conditions	Store at ambient temperature, away from direct sunlight. Keep container sealed when not in use.

8

PACKAGING

25 L	Plastic drum
1 000 L	Flow bin / IBC

9

ENVIRONMENTAL INFORMATION

- Completely biodegradable — manufactured entirely from renewable natural resources.
- Neutral pH — no acidic or alkaline soil impact.
- Reduces water usage significantly compared to conventional water-only dust suppression.
- Reduces occupational health risks including silicosis, asthma and dust-related cancers.
- EcoChoice Approved.

The information contained in this Technical Data Sheet is based on data believed to be accurate at the time of publication. GEARTH (Pty) Ltd reserves the right to update or revise specifications without prior notice. Users are responsible for determining the suitability of this product for their specific application. Always handle products in accordance with applicable health, safety and environmental legislation. Contact GEARTH (Pty) Ltd for site-specific application guidance.