



# GRT: ACTIVATE<sup>UG</sup> Technical Data Sheet



## Super Activated Dust Control!

GRT: ACTIVATE UG is used to super-activate water sprayed to control coal dust in longwall and continuous miner operations.

### Mode of Action

There are four key modes of action for GRT: ACTIVATE UG that make this technology excel in dust particle sequestration with water:

1. Rapid surface tension reduction. Reducing surface tension is not the only requirement for a product in this dynamic application. GRT: ACTIVATE UG lowers the surface tension from 72 kN/m to less than 42 kN/m in less than 1/100<sup>th</sup> of a second, making a water droplet virtually instantaneously surface active.
2. Ionic charge attraction. GRT: ACTIVATE UG imparts a negative charge to the surface of water and rapidly draws positively charged hydrophobic dust particles to the surface of the water droplet.
3. Synergistically improved performance in mine water. Inherent salts found in mine water enhances the wetting and charge density of water giving it a unique performance boost.
4. Ultra-low concentration performance. No other product for this application can perform with dynamic surface tension reduction at the recommended operating concentration of 0.02%.

### Application & Implementation:

- GRT: ACTIVATE UG mixes readily with water and can be injected directly into water-lines or even added manually into a water holding tank or water truck.
- Dosage ratios will vary due to:
  - Material characteristics (grading, hydrophobicity)
  - Hazardous nature of the dust being generated
  - Activity Type - Shearing vs Conveying. High velocity/high risk dust requires higher dose rates to be considered.
  - Dosage range is in between 1:1000 and 1:5000.
- GRT technical staff can consult on and provide the appropriate automated dosing equipment where this is required for either longwall or continuous miners

### Note:

- GRT: ACTIVATE UG is perfectly compatible with any existing spray systems - even fine mist and fogging sprayers. It does not build up, set hard, de-scale clog lines or nozzles.

### Helpful and Handy Hints

- GRT: ACTIVATE UG can be used isolated to the particular operation (e.g. longwall, continuous miner, or conveyor).
- Simple addition into the main water supply for underground operations will see the dust suppression benefits across all aspects of your operations where water is sprayed.
- The product is not a detergent and has no additional de-scaling properties.
- GRT: ACTIVATE UG will not burn, and will not fuel a fire in progress.

## KEY BENEFITS

Compared to competitors and water-only processes, GRT: ACTIVATE UG offers:

**Easy application** through existing or bespoke systems

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**Health Benefits:** Strips out hazardous dust particles - eliminating the cause of respiratory illness such as black lung.

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**Robust product characteristics** allow it to be applied across a diverse range of industries

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**Cost benefits** from improving the efficiency of longwall and continuous miner operations

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**Environmental benefits** as less water is wasted trying to manage dust



### Quality Assured

GRT's quality management system is certified to ISO 9001 standards, and our products are approved and used by industry leading companies, worldwide.

New Zealand

# GRT

To find out more:

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