

## RST Solutions assists miners to safely meet tough dust exposure limits without altering product for end user

RST Solutions assists mine site operators to comply with tougher workplace exposure standards for airborne contaminants while maintaining product quality and preventing potential adverse chemical reactions during processing and manufacturing



**Gold Coast, Queensland Apr 26, 2022 ([IssueWire.com](https://www.issuewire.com))** - Leading fine particle specialist Reynolds Soil Technologies (RST Solutions) is assisting mine site operators to comply with tougher workplace exposure standards for airborne contaminants.

In Australia, the national regulator for occupational health and safety; Workplace Health and Safety, halved the occupational exposure limits (OEL) for silica dust to  $0.05 \text{ mg/m}^3$  and reduced the OEL for other mineral dust from  $2.5 \text{ mg/m}^3$  to  $1.5 \text{ mg/m}^3$ .

With spray and foaming systems being the most common methods for suppressing mineral dust, [RST Solutions](#) is advising companies along the material supply chain against boosting the dosage levels of surface-active agents commonly used in these applications.

Typically, dust suppression methods involve a surface-active agent added to water that is applied to the bulk material through spray or foaming systems to lift the dust extinction moisture levels.

While regular dust control formulas contain chemical elements considered low enough at application strength to not cause any problems, increasing the amount applied to meet strict dust exposure limits is not an acceptable solution, says David Handel, RST Solutions Operations and Technical Director.

“It is critical for dust control specialists using a spray or foaming suppression solution during mining, transportation, and at storage facilities to understand the chemistry being used downstream to maintain product quality and prevent potential adverse chemical reaction during processing and manufacturing,” Mr. Handel said.

“Dust control specialists need to look at how dust suppression additives can add value to improve downstream operation, not undermine end-user processes by altering the product’s chemistry and devaluing quality.”

In response to issues raised by processing plants about some dust suppression agents affecting product quality, RST Solutions’ research and development team has been developing high-functioning formulas that preserve mineral properties for processing.

The chemistry is tailormade to suit the mined material, various dust control application methods, and downstream processes to provide a higher level of dust control efficiency along the whole material supply chain while remaining compatible with end-user expectations.

Without revealing the composition of RST Solutions’ technology, Mr. Handel says the company’s research and development team utilises their combined industry knowledge of mineralogy, processing, manufacturing, and chemistry to develop effective and cost-efficient surface-active agents and foaming dust suppressants.

“Surface active agents contain levels of sulfur, sodium, and potassium, that if accelerated will alter a mineral’s chemistry and devalue quality, undermining end-user processes,” Mr. Handel said.

“For example, elevated levels of these chemical elements reduce the quality of coal to the point it is considered lower-grade coal unsuitable for steel manufacturing.

“There is a lot of pressure on companies that mine, transport, and store coal to meet rigorous dust exposure standards, while continuing to supply high-grade coal to steel manufacturers.

“While reducing dust levels is a high priority, it is critical for companies to make sure the dust control solutions they are using are compatible with the type of material being mined, the dust control application systems, and the intended manufacturing processes.”

RST Solutions specialises in solving complex dust issues for mining and infrastructure projects globally with customised solutions adapted to varying factors such as mined materials and processes involved, local weather patterns, temperatures, and land topography.

By taking into consideration a site’s application equipment and systems, as well as the upstream and downstream processes, RST Solutions develops [advanced technologies](#) tailored to solve site-specific issues caused by all types of fine particle matter from dust to mud, silt to sediment.

This expertise comes from over thirty years of experience gained from developing solutions for extensive fine particle challenges presented by numerous industries, processes, and material types.

RST Solutions is an Australian business operating internationally, with presence and projects currently in the United States of America, China, India, Africa, the United Arab Emirates, Canada, Panama, Mexico, Columbia, Chile, Brazil, Peru, Argentina, Papua New Guinea, New Caledonia, New Zealand, Indonesia, The Philippines, Malaysia, Croatia, Lithuania, and Mongolia.

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