Martin® Surfactant Blends for Dust Control

Martin Engineering's acrylic and polyvinyl/acrylic dust control formulations deliver outstanding particle management in a customizable product line to suit specific application requirements. The product family has been developed to offer a balance of affordability and performance.

Key features include effective dust control under both static and dynamic conditions. Due to the durability of the Martin acrylic formulations, customers experience long-lasting particle management without the use of hydroscopic additives such as glycerin or inorganic salts.

Martin formulations offer:

- Wide range of surfactant blend variations to meet specific application needs
- Dynamic or static applications

Surfactants

Surfactants play a critical role in dust particle mitigation by weakening the surface tension of water. This not only increases the rate of surface wetting, but also reduces water consumption. Although surfactants are classified as anionic, cationic, or non-ionic, they all contain both a hydrophilic and hydrophobic region. Consequently, all surfactants function via a similar mechanism, whether it be at a water/oil or water/air interface. Structural modifications to either the hydrophilic or hydrophobic region determines the physical properties a particular surfactant presents, such as wetting ability or degree of foaming. Understanding the relationship between the structure of a surfactant and its function allows for the proper surfactant selection to fit a given application. Over the past several decades, many advancements have been made in regards to non-ionic surfactants which have begun to emerge as affordable, chemically inert, and environmentally-friendly alternatives to the widely-used anionic surfactants, such as the sodium olefin sulfonates.

Environmentally-friendly surfactants provide better surface-coating properties and reduced water consumption; thereby, limiting moisture and oxygen absorption into coal surfaces and reducing the risk of hot spots and spontaneous combustion. Reduced water consumption and absorption translate to higher BTU equivalents.

Binders

Acrylic polymer adhesive blends vary greatly both in their compositions and physical attributes. With a vast number of monomer building blocks to select from, the relationship between copolymer composition and function allows for the optimization to specific applications. Applications such as material conveying are best served with a dynamic binder to offer a flexible bond between smaller particles and offer a residual effect in additional material transfers or in storage of the bulk material.

Long term storage or transportation application may benefits from a static blend to build a "crust" on the exterior of the bulk material. Static blends are often called crusters.

Form No. L4074-01/17

With extensive knowledge of surfactant classes and physical attributes, such as surface wetting and combining this with the correct binder to meet your specific application, Martin Engineering product developers provide customized solutions to meet the application requirements of individual customer operations. Martin Engineering has developed an affordable line of dust suppression surfactant blends that are both effective at reducing water consumption and safe for the environment.

Benefits:

- Creates a safer workplace and increased morale
- Cleaner environment means extended equipment life with less downtime.
- Product Research and Development Group dedicated to continuous improvement

By combining state of the art surfactant blends with a fully automated delivery system that is backed by the industry leader in bulk material handling gives Martin Engineering the edge in solving your dust management needs.

Martin Engineering Australia PTY Ltd.
102 Christensen Road South
Stapylton QLD 4207
+61 1300 627 364
salesau@martin-eng.com
www.martin-eng.com.au

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV = ISO 9001:2008 =

Form No. L4074-01/17