So-Long®
Residual Dust Control Agent

Keep Dust Suppressed Immediately and for the Long Term

So-Long is a polymer based emulsion in an easy to apply liquid form which provides both short and long term dust suppression.

Benefits and Performance

So-Long is used where PM10 and TSP must be suppressed at the source and maintained for downstream effectiveness as bulk materials such as coal, coke, limestone, sand, cement clinker, railroad ballast and sinter are loaded, unloaded, stockpiled and reclaimed. So-Long from a single application point will eliminate the need for further dust suppression in the handling process while minimizing spray equipment needs and reducing water use. It provides residual dust suppression by binding the fine particles and holding them together even after the material has dried. It will not interfere with the processing or combustion of treated materials. So-Long helps meet particulate air quality standards.

Application

So-Long is mixed with water at a "to be determined rate". Application rates will vary depending upon material being treated and objective of application. Exact applications and dilutions will be determined by your technical representative.

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Environmental Perspective

Midwest is committed to providing comprehensive and relevant environmental information about our products. Working with various testing laboratories and regulatory organizations enables us to provide unbiased environmental and toxicity data that we use to develop the best dust control and stabilization programs for our customers.

Choosing the right product for an application is more than picking the product with good or sufficient dust control efficiency. It means evaluating the application and understanding all the needs of the customer including environmentally sensitive areas, regulatory constraints, aesthetics, customer preferences, operational or process concerns, and climate. Understanding the environmental and toxicity data and relating it to typical applications and site-specific needs is an important aspect of what Midwest does when working with our customers. The conclusion of the information presented herein is that all testing shows So-Long, when applied properly, will not negatively impact soil quality or water quality in terms of toxicity. Generic risk assessment will not replace a conscientious site-specific evaluation, but the data used in this perspective is a necessary component for all risk assessments.

Chemically, So-Long is a polymer emulsion blend. The selected polymer emulsions are formulated to achieve the desired end product properties. So-Long is diluted upon application to achieve desired penetration properties specific to each site and application need.

Specifications

General appearance: ..... Milky white liquid
Specific gravity: .....1.01 - 1.15
Density:..... 8.4 - 9.5 lbs/gal
pH: ..... 4 - 7

So-Long suppresses dust at the source and while in storage.

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RBC Levels

A full range chemical analysis was performed on So-Long by Tri-State Labs. Composition analysis included: volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), metals, herbicides/herbicides and polynuclear aromatic hydrocarbons (PAH). Please see TSL, July 2002 for full analysis. The only chemicals detected in So-Long are seven metals and one VOC.

The US EPA has developed Risk Based Concentrations (RBC) tables for numerous toxic chemicals. These tables list the levels in various media (i.e.: fish, tap water, ground water, ambient air, industrial soil and residential soil) that a chemical can be present in that media and impart little if any risk to humans. The October 2005 Risk Based Concentrations (RBC) Table from EPA Region III was used in this evaluation. The So-Long application rate used was 0.20 gal/yd2, one (1) inch depth penetration was assumed and a soil density of 2.8 g/cm3 was used for calculations. Chemical level in the soil was compared to the RBC levels in residential soil. Analysis shows that at a heavy application of So-Long, for all detected constituents, the levels are significantly lower than the RBC levels in residential soil. Therefore, So-Long is safe for use in terms of environmental impact.

The results are tabulated in the table below:

Chemical Constituent	So-Long Level (mg/kg)	Soil Level (mg/ks)	RBC Lebel (mg/kg)
Aluminum	2.440	0.0330	78,000
Barium	3.480	0.0470	16,000
Chrominum	0.075	0.0010	230
Iron	1.640	0.0220	23,000
Mercury	0.060	0.0008	7.8
Nickel	0.100	0.0013	1,600

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Aquatic Toxicity Test Results

*Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, EPA/600/4-90/027F.

*Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA/600/4-91/002.

*Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms, EPA/600/4-91/003.

	Ceriodaphnia dubia	**Fathead minnow**	**Americamysis bahia**	**Rainbow trout**
ACUTE/SURVIVAL (mg/L)				
LC50	>1000	>1000	>1000	320
NOEC	1000	1000	1000	
LOEC	>1000	>1000	>1000	
CHRONIC/SURVIVAL (mg/L)				
LC50	>1000	>1000	>1000	510
NOEC	1000	1000	1000	340
LOEC	>1000	>1000	>1000	700
CHRONIC/GROWTH/ REPRODUCTION (mg/L)				
LC50	>1000	>1000	>1000	540
NOEC	1000	1000	1000	340
LOEC	>1000	>1000	>1000	700

See test results:
1. ABC Laboratories, Inc. Americamysis bahia, Fathead minnow, Ceriodaphnia dubia.
2. BAR Invironmental, Inc. Rainbow trout
3. EnviroScience Inc. Rainbow Trout, Chronic (New Data)

LC50 - Lethal Concentration, 50%
NOEC - No Observable Effects Concentration
LOEC - Lowest Observable Effects Concentration

LC50 Levels

Comparison of the EPA guidelines to the LC50 levels of all species show that So-Long is practically non-toxic to all species.

In conclusion, all testing shows that So-Long, when applied properly, will not negatively impact soil quality or water quality in terms of toxicity. Generic risk assessment will not replace a conscientious site-specific evaluation, but the data used in this perspective is a necessary component for all risk assessments.

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