



## MAKE LEAD Non-HAZARDOUS

### MBS® ... A PERMANENT & COST EFFECTIVE SOLUTION TO LEAD CONTAMINATION

Lead was one of the first metals used by man, dating back to 4000 BC. In the modern age, lead uses such as battery production, pigmentation, shielding, and gasoline additives have introduced toxic lead and lead compounds throughout our environment, with toxic lead and lead compounds now hazardous contaminants at more than 70% of U.S. Superfund Sites. Lead is also environmentally persistent.

Because lead can cause serious health problems in children, including permanent brain damage (retardation) and even death, the U.S. Environmental Protection Agency (EPA) promulgated stringent regulations regarding leachable concentrations of hazardous metals. The August 1998 Universal Treatment Standards (UTS) criteria reduced the leachable lead limit to 0.75 mg/l (from 5.0 mg/l under prior RCRA legislation), making the acceptable level only one sixth of the previous limit.

Solucorp Industries' patented Molecular Bonding System (MBS®) cost-effectively and permanently stabilizes lead contamination in soils, slags, smelter waste, ash and baghouse dust. MBS has been proven to prevent lead from leaching in approved testing procedures, such as TCLP, SPLP, SWEP, and the Multiple Extraction Procedure (MEP) long-term stability test.

The principle advantages of MBS are:

1. Low reagent addition rates (typically 2% to 5%), which maximize cost savings;
2. Extremely low solubility of metals in the treated matrix, which maximizes long-term stability;
3. No change to the physical characteristics of material treated with MBS, which minimizes the costs of on-site materials handling issues.

#### MBS TREATMENT RESULTS ON HAZARDOUS LEAD & LEAD COMPOUNDS

( < Indicates results below the specific testing laboratory's detection limits )

Contaminated Matrix	Facility Or Waste Type	Untreated Lead TCLP (mg/l)	MBS Treated Lead TCLP (mg/l)	U.S. EPA's UTS TCLP Limit (mg/l)	MBS Dosage Rate <sup>1</sup>
Soil	Pigment Producer	77.0	< 0.25	0.75	3.4 %
Slag/Soil	Brass Factory	33.0	< 0.10	0.75	4.0 %
Slag/Soil/Ash	Steel Foundry	131.8	< 0.05	0.75	4.6 %
Soil	Paint chips	66.0	0.34	0.75	3.8 %
Soil	Rifle Range	34.0	< 0.10	0.75	3.5 %
Slag	Secondary Smelter	250.0	0.05	0.75	4.6 %
Slag	Superfund Waste	13.0	< 0.03	0.75	4.6 %
Baghouse Dust	Pipe Manufacturer	10.0	0.42	0.75	3.4%
Slag	Secondary Smelter	1600.0	0.21	0.75	4.0 %
Foundry Slag	Brass Factory	36.7	0.317	0.75	1.3%

(<sup>1</sup> Percentage of MBS reagents added on a wet weight basis )