

	EnviroBlend	Lime/Portland Cement/CKD
Chemical Reaction and pH Regulation	EnviroBlend chemistries help to stabilize the pH of the environment over time. Since many metals leach at both high and low pHs, pH maintenance is imperative to long-term stability.	Lime-based treatment can often drive pH up too quickly and irregularly. It will often pass the TCLP test, however, may not continue to stabilize waste over time if the pH increases after treatment.
Chemical Cost	Due to the superiority in effectiveness of EnviroBlend technologies, a typical dosage rate is 1%-10%. This enables total chemical expense, as determined by cost of treatment per ton, to be kept at a minimum. Up to 75% savings over lime-based treatment is possible.	Lime-based treatment typically is effective at dosage rates of 10%-100%, significantly higher than that required of EnviroBlend. Costs associated with quantity of material needed for treatment can drive up expenses in removal, transportation, and production.
Bulking Factor	Lower bulking factor decreases material handling expense, improves production and typically shortens project duration.	Higher bulking factor increase amount of material handling, and therefore increases production time.
Transportation and Disposal Cost	Total transportation and disposal expense decreases due to lower bulking; there is less material to be transported and disposed.	Higher bulking factor drives transportation and disposal expense up due to higher volume of material.

Treatment of Lead TCLP Hazardous Wastes Actual Test Results on a Sample of Smelter Slag

	TCLP (acid) Leach Test		Hazardous Waste Criteria (mg/L)	SPLP Acid Rain (Water) Test	
	Lead(mg/L)	Final pH		Lead(mg/L)	Final pH
Untreated	600	6.0	5.0	<0.003	8.2
Lime (Calcium Hydroxide) (% by weight)					
+5%	76	6.5	5.0	290	12.2
+10%	0.2	8.6	5.0	540	12.5
+15%	<0.2	10.4	5.0	11	11.9
Portland Cement (% by weight)					
+5%	450	5.3	5.0	19	11.5
+15%	<0.2	10.4	5.0	11	11.9
+25%	1.2	11.6	5.0	12	11.9
+50%	10.0	12.0	5.0	3.0	12.1
EnviroBlend® Chemistry (% by weight)					
+4%	2.4	5.8	5.0	<0.003	10.6
+6%	0.4	5.5	5.0	<0.003	10.3
+8%	<0.2	5.6	5.0	<0.003	8.5

Note: All samples crushed to pass a 9.5 mm sieve per Method 1311 Toxicity Characteristic Leaching Procedure, 40 CFR, Part 261, Appendix II.