

BLASTOX®

SALES BULLETIN

SB-003 Issued 3-98

Phosphate Chemistry for Lead Stabilization? Why use an Unproven Technology!

Phosphate chemistries are not designated as BDAT for solid wastes by the US EPA. Some misinformation is circulating regarding Blastox® versus phosphate chemistries for the stabilization of spent abrasive lead waste. This bulletin provides you with the most accurate information regarding this issue.

Blastox® is a complex calcium silicate chemistry. It is in the family of stabilization chemistries that the US EPA designates as Best Demonstrated Available Technologies (BDAT) for lead waste (D008) stabilization. BDAT has been given wide recognition in private sector research as well as endorsement by EPA. Hazardous waste landfills have been successfully using this type of stabilization on wastes for decades, so there is a long history of use and available data that proves this chemistry is effective for long-term stabilization of wastes.

As a BDAT silicate chemistry, Blastox® has three mechanisms by which to reduce the leachability of lead in abrasive wastes. They are pH adjustment, chemical conversion and micro- and macro-encapsulation (waste solidification). Since phosphate chemistry has minimal effect on pH, this chemistry's proponents have attacked pH adjustment as not being a good way to treat lead waste. However, pH adjustment is only part of the whole picture. Blastox® does not use it in isolation. pH adjustment does, in fact assist in the lead stabilization.

As published by phosphate proponents, phosphate chemistry does not have a solidification affect. This is a drawback of the technology, not a positive feature as they would have you think. Solidification is essential for a chemistry to be BDAT.

The question you must answer is: **Would you rather have Blastox® with 3 safeguards for assurance of long-term stability, or phosphate chemistry with only one?**

Additionally, an MSDS from a phosphate chemistry supplier lists a relatively high portion of fluorides, as "F" in the chemical make-up. Some chemical reference databases list fluorides as a salt of hydrofluoric acid, which has quantified exposure limits and represents a health risk in the work place.

Another issue is that many cement kilns involved in the recycling of spent abrasives may not accept those abrasives that contain a phosphate or fluoride chemistry. These chemistries interfere with the chemical reactions needed to make portland cement. Blastox® spent abrasives do not have this problem and are accepted by cement kilns for recycling.



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When repainting a freshly blasted surface, everyone wants to be sure that the new coating system will adhere correctly and the coating meet or exceed its life expectancy. With any blasting abrasive, there is always a concern regarding surface contamination that could cause premature failure of the coating. **Phosphate chemistries have very little laboratory data on coating adhesion, and even less field experience.** Blastox[®] is the Proven Technology, with 7 years of history, and over 42 million square feet of surface recoated with a wide variety of coatings, *without a coating failure!*

To further complicate matters, a university research project concluded that the fineness (typically greater than 66% is 60 mesh or finer) of the phosphate material led to separation problems in the abrasive media. Vibration during handling causes the fine particles of phosphate chemistry to separate from the standard abrasive. The result can be a layer of phosphate chemistry in the bottom of the blast pot and a separate layer of untreated standard abrasive at the top of the pot. At the start of blasting operations, only the fine particle phosphate chemistry is hitting the surface. Later, only untreated standard abrasive is being used. The outcome is less uniform lead stabilization and potential TCLP (Toxic Characteristic Leaching Procedure) failure.

A different university concluded that Blastox[®] does not have a separation problem given its comparable size to standard abrasive media. Blastox[®] always provides for uniform lead stabilization and always passes the TCLP, as well as long term stability testing verified by MEP (Multiple Extraction Procedure), and the SPLP (Synthetic Precipitation Leaching Procedure).

The choice is clear; use a product that relies on fewer treatment safeguards, has extremely limited use and no field coating data, as well as having a scientifically proven separation problem, or **use Blastox[®], the One Step Lead Abatement method that has been accepted and used since 1991.**



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