

Polycal 2 - Technology Brief

Technology Description: **Polycal 2** is a nonhazardous inorganic sulfide that can be used to stabilize metals present in soil, sludge, and other media. It is available in both liquid and solid forms.

Potential Uses: **Polycal 2** has a variety of potential uses including insitu and exsitu environmental restoration, hazardous and mixed waste treatment, and use as a insitu reactive barrier. The following is a brief list of potential applications.

- Stabilization soil containing heavy metals. (Arsenic, Barium, Cadmium, Lead, Selenium, Silver)
- Inline treatment of waste from manufacturing or tank clean out.
- Stabilization of metals in mixed radioactive/hazardous waste.
- Treatment of waste and sludge containing metals.
- Insitu treatment of shallow soil containing metals.
- Stabilization of metals in dredge spoils and mining waste.
- Treatment of waste water and ground water containing metals.



Benefits: **Polycal 2** typically requires less volume, cures quicker, and handles more easily than competing technologies. It is an effective, cost-efficient alternative for stabilizing metals. In comparison to competing technologies, **Polycal 2** offers the following advantages:

- Limited waste volume increase (only 1-5% vs. 10-20%).
- Less waste results in decreased transport and disposal costs.
- Curing time of less than 1 minute.
- Handling properties of waste are not affected by treatment.
- Curing is not affected by the presence of organic compounds.
- Treated material can be tested immediately rather than waiting 28 days.
- Treated material can be stockpiled while waiting test results.

Cost Savings: The total cost for using **Polycal 2** could be up to 40% less than costs for cementation. Factors influencing the cost savings **Polycal 2** projects include the following:

- Volume increase of waste treated with Polycal 2 is typically only 5%.
- No physical change in waste results in more efficient material handling.
- Transportation & disposal costs are less due to smaller volumes and easier handling.



Regulatory Acceptance: **Polycal 2** is the active ingredient in metals stabilization projects approved in numerous states including Massachusetts, New York, and Missouri. It was the active ingredient that was demonstrated

in Utah under the USEPA SITE program. On going development programs are being funded by government and commercial clients for new applications.

Validation: Full-scale projects have been completed at five sites. At each site, TCLP levels of lead were reduced three orders of magnitude (to below acceptable levels) in treated samples. Successful projects have also been completed on inline waste treatment. Successful bench scale tests of sludge and a supernate have also been completed.

NOTICE: This product should only be utilized in PH range of 5.5 to 11