

# Encapsulation with Lassenite

## ***Description***

Lassenite is a natural siliceous (amorphous) material, made from the layers of diatoms and volcanic tuffs. Toxic-Lok conforms to ASTM C-618, Federal Specifications #SS-C-1960/5 and CSA-CAN-A266-3M specifications for Type N Pozzolan and meets specification requirements of the NRC for use on the Nuclear Reactor Program, California Department of Water Resources, Corp of Engineers, US Water & Power Resources Services, Cal Trans, Pacific Gas & Electric, Idaho Power and Arizona Public Service for hydraulic structures and power plants, Bechtel Corporation for hydraulic structures, municipalities for waste water treatment and transportation facilities. Lassenite is applied to treat solid materials that are contaminated with hydrocarbons. Lassenite can be used to either stabilize or encapsulate contaminated solids from a wide variety of sources including drilling pits, invert mud, and hydrocarbon waste ponds. Lassenite assists to both absorb the free oil in these contaminants and to stabilize them to prevent leaching.

## ***Methods of Application***

Lassenite is directly mixed with the oil-wet solids within pits or ponds using a conventional backhoe equipped with a hydraulic mixer. Lassenite can be applied using any solids mixing method designed for mixing and handling solid materials. Water, acids, and alkaline solutions will not affect the stabilization process. Once stabilized the treated waste can be encapsulated with normal Portland cement to make an artificial aggregate, or in other applications a civil grade concrete. Where required, Lassenite can be combined with other stabilizers like gypsum to handle a variety of residual waste treatment problems to satisfy site specific waste management challenges. Typical application rates range from 5% to 18% of the treated mass, depending on the level of hydrocarbon contamination.

## ***Features and Advantages***

- \_ Treated waste meet EPA 1311 toxicity characteristic leaching procedure.
- \_ Treated wastes meet Alberta Tier 1 disposal standards.
- \_ Is a non-regulated product.
- \_ Does not contain any products detrimental to human health or safety.
- \_ Aggressive metals fixation in both the stabilization and the encapsulation phases.
- \_ Compatible with a broad range of contaminants, and pH is not an effective

barrier to treatment. Will handle several types of media including water, acids, alkaline solutions, and all types of hydrocarbons.

***Typical Physical Properties***

Appearance Granular solid, off-white

Specific Gravity 2.36

PH 6.0

Bulk Density 38.0 (Pcf loose)

***Safety and Handling***

Lassenite is an inert alumina silicate; as such the same handling protocols are in effect as with other products containing silicates. Avoid contact with eyes and always wear a dust mask when handling. Always handle with gloves and eye protection. Refer to the material safety data sheet for more detailed information. Additional information is readily available by contacting

AquaFirst Technologies Inc.

1-877-650-6929

Acknowledgement to Western Site Technologies Inc.