



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

July 28, 2015

Via Electronic Mail to Gary Mims at:
oogroove1@aol.com

Gary Mims
MCG
590 NW 88th Street
El Portal, Florida 33150

Re: Coco Absorb

Dear Mr. Mims:

The Petroleum Restoration Program (PRP) hereby accepts Coco Absorb as an absorbent for the cleanup of petroleum. Per the literature submitted on April 27, 2015 and May 15, 2015, Coco Absorb is a brown-colored, loose-flowing, granular absorbent made from the coir pith fiber of coconut husks. It is capable of absorbing and encapsulating petroleum, and may be loaded into booms and socks for the recovery of free petroleum product floating on the exposed groundwater of a petroleum cleanup excavation pit or monitoring well. It is not a requirement for absorbents used in these types of recoveries to obtain a general acceptance letter such as this because rule 62-780.500(2)(b)1, Florida Administrative Code (F.A.C.), allows the use of absorbents for emergency response action or interim source removal without prior Department approval.

This acceptance is applicable to the regulatory jurisdiction of the PRP, which is the cleanup of petroleum contaminants pursuant to Chapter 62-780, F.A.C., typically in the subsurface as a result of leaking underground storage tank systems. Although the PRP is not responsible for applications beyond its jurisdiction, it is noted that Coco Absorb can be used for surface spills, either in boom socks or by direct application of the granules, which are removed for disposal after they have absorbed the petroleum. See Enclosure 1 for supplemental information.

The PRP does not endorse specific or brand name remediation products or processes, but it does recognize the need to determine their acceptability in the context of environmental regulations, safety, and the protection of public health. For that reason, the PRP issues an "acceptance" letter, not an approval. In no way shall such acceptance be construed as a certification of performance. Vendors, upon acceptance, must market a product or process on its own merits

regarding performance, cost, and safety in comparison to competing alternatives in the marketplace.

The PRP reserves the right to revoke its acceptance of a product or process if it has been falsely represented. Additionally, PRP acceptance of any product or process does not imply it has been deemed applicable for all cleanup situations, or that it is preferred over other treatment or cleanup techniques in any particular case. Please direct any questions about this acceptance to me at telephone (850) 245-8911 or by e-mail at Elena.Compton@dep.state.fl.us.

Sincerely,



Elena G. Compton, P.E.
Professional Engineer II
Petroleum Restoration Program
Petroleum Cleanup Section 2

Enclosure: (1) Supplemental Information

ec: Robert Cowdery - FDEP/Tallahassee

SUPPLEMENTAL INFORMATION

1. Manufacturer: CS Products, 1345 South Parkside Place, Ontario, California 91761.
Internet address: www.CocoAbsorb.com.
2. Description: Brown-colored, free-flowing, loose granular, organic absorbent, made from the coir pith fiber of coconut husks, capable of expanding up to 9 times its original size. Its structure of hollow and narrow cells resemble honeycomb that encapsulate the fluid being absorbed. Once a fluid is absorbed, a natural positive and negative ion exchange, and surface tension prevents it from leaching. Phenol, which is found naturally in coconut coir, makes the fiber effective at bonding to oil, other hydrocarbons, and fluids of varying viscosities.
3. Degradability: As indicated in the CS Products Safety Data Sheet, Coco Absorb is expected to biodegrade when released into the soil. For that reason, the PRP does not expect it to be used as a permanent in-situ absorbent for an indefinite "tie-up" of a fluid at a cleanup site, but rather the absorption of a fluid pursuant to rule 62-780.500(2)(b)1, F.A.C., as an emergency response or source removal, for appropriate offsite disposal. Use in accordance with rule 62-780.500(2)(b)1, F.A.C., does not require prior Department approval.

If in the future there happens be proposed uses of Coco Absorb that differ from the expectation in the paragraph above, and those uses do not involve offsite disposal, then rule 62-780.500(2)(b)1, F.A.C., will not apply, and prior Department approval will be needed. An example might be the active remediation of petroleum by in-situ treatment using loose Coco Absorb granules that remain permanently at the cleanup site. In that case, a formal Remedial Action Plan must be submitted pursuant to section 62-780, F.A.C., for prior Department approval. Given that the cleanup time would be dependent on the degradation rates of the Coco Absorb and the petroleum, it would be incumbent on the submitter of the plan to decide if the cleanup of petroleum contaminants to their soil and groundwater cleanup target levels in Chapter 62-777, F.A.C., can occur in a timely manner. It does not appear to the PRP that 100% degradation of the Coco Absorb is necessary for such a cleanup to be completed, nor does it appear necessary for the Coco Absorb to retain 100% of its ability to encapsulate in order to declare such a cleanup complete, provided the residual concentrations of any not-yet-degraded petroleum contaminants within the Coco Absorb particles themselves, and in the surrounding soil, meet their cleanup target levels established in Chapter 62-777, F.A.C.

4. Laboratory analyses: CS Products literature cites the results of tests performed on Coco Absorb alone, Coco Absorb that was used to absorb oil-based paint, and a fathead minnow hazardous waste screen bioassay of Coco Absorb that was used to absorb 15W40 oil.

Two types of leaching tests were conducted on the samples. One of them was the federal Toxic Characteristic Leachate Procedure (TCLP) EPA Method 1311. The other was a leaching evaluation procedure per the California Code of Regulations (CCR) that first analyzes for a Total Threshold Limit Concentration (TTLC) (i.e., the total concentration of each target analyte in a sample) and then, if the TTLC is exceeded, a second procedure analyzes for Soluble Threshold Limit Concentrations (STLC) (i.e., the concentration of each analyte that is soluble in a Waste Extraction Test leachate).

- a. Coco Absorb alone passed the federal TCLP test for 8 Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). It also passed the California TTLC test for the 8 RCRA metals and 9 additional metals (antimony, beryllium, cobalt, copper, molybdenum, nickel, thallium, vanadium, and zinc). If a material passes the California TTLC test, it does not necessarily have to undergo the second California test for SCTLC.
 - b. Coco Absorb containing absorbed oil-based paint passed the federal TCLP for the 8 RCRA metals listed in above paragraph a, and the California TTLC for the same 9 additional metals listed in above paragraph a. The sample for this test was taken from a batch in which 1 pound of Coco Absorb was used to harden $\frac{3}{4}$ gallons of oil-based paint.
 - c. Coco Absorb containing absorbed 15W40 oil passed the CCR Title 22, acute 96-hour Fathead Minnow Hazardous Waste Screen Bioassay. Zero (0) minnows were dead at the 96-hour endpoint of the test at 750 milligrams per liter (LC50). The sample to which the minnows were exposed was taken from a batch in which 1 pound of Coco Absorb was used to absorb 1 quart of 15W40 used oil.
5. Disposal: Per Solid Waste Management Facilities Rule 62-701.300(11)(b), F.A.C., recovered used oil as a result of spills or accidental releases can be disposed at a permitted, lined, Class I landfill. (Note. As of July 1, 2010, Class II landfills that receive an average of less than 20 tons of nonhazardous waste per day were no longer being permitted in Florida.) Coco Absorb solid that is laden with petroleum, much like petroleum-contaminated soil that is already being disposed at Class I landfills in accordance with Rule 62-701.520(4), F.A.C., must not be classifiable as a hazardous waste due to ignitability, corrosivity, reactivity, and toxicity. See Chapter 62-730, F.A.C., Hazardous Waste, for additional information about hazardous waste classifications. The onus shall be on the user to properly dispose of Coco Absorb after it has been used to recover petroleum or other liquids. If there is uncertainty about the status of the material, then perform a TCLP test to determine whether or not it requires disposal as a hazardous waste.