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## WHY OSE II RATHER THAN ABSORBENTS

- I. **There are absorbents designed for water and absorbents designed for solid surfaces.**
- II. **Absorbents designed for water are predominantly pads and absorbent boom.**
  1. It is almost impossible to put enough absorbent boom or pads out to collect large spills.
  2. For even small spills pads are difficult to put in place to absorb moving spills, and then to pick it up before it sinks.
  3. Absorbent pads or absorbent booms, once saturated, have to be collected and stored temporarily on shore, and then hauled away. Then you have to pay to dispose of them while exposing workers to hazardous material who directly lay the pads out and collect them.
  4. It is also very difficult for absorbents to absorb viscous oils.
  5. Absorbents require a considerable amount of labor for a minimum cleanup.
  6. Once again, absorbents move the problem; they do not solve it.
- III. **Absorbents for solid surfaces can range from kitty litter to peat moss to pads.**
  1. To pick up spills on concrete or asphalt is difficult because absorbents have a hard time pulling a spilled material out of the pores of the surface.
  2. Anytime it rains after absorbents have been used on concrete, you can see a sheen floating up.

3. It requires a lot of hands-on labor to put the absorbent out, wait for the absorbent to absorb (which in some cases puts workers in proximity of a fire hazard), then pick the absorbent material up, haul it away, then store it, then pay to have it disposed of.
4. This is moving the problem, after performing an incomplete cleanup.

#### **IV. Recycling Absorbents**

1. Some absorbents can absorb when you collect the pad or boom then take it to an area to wash or squeeze the absorbent, then store the absorbent. They may still contain some of the hazardous material (potential fire hazard).
2. This requires a lot of direct exposure by the worker/laborer to hazardous materials for an incomplete cleanup system.
3. This is a labor intensive system that, once again, moves the problem, it does not completely solve the problem.

#### **V. Overview of the simple process using OSE II**

1. OSE II has bio surfactants, enzymes, and a complete nutrient system to carry out complete metabolic processes (that emulate mother nature) to rapidly convert hazardous spilled material to CO<sub>2</sub> and water.
2. Water Spills
  - A. When OSE II is applied to a water spill, the bio surfactant rapidly emulsifies and solubilizes the spill (detoxifies the spill, reduces the fire hazard, and breaks down the spill's ability to adhere to anything).
  - B. There are constituents in OSE II that cause the spilled material to float so it does not increase the area impacted by the spill.
  - C. Enzymes form digestion binding sites to be utilized by the rapidly grown indigenous bacteria who then use the spill as a food source and convert it to CO<sub>2</sub> and water. This is the exact process mother nature uses to address spills. OSE II has the required precursors to speed up the bioremediation process.

3. Concrete or Asphalt Spills

- A. When OSE II is applied to concrete, asphalt, even soil, the bio surfactants and enzymes actually lift the entire spill leaving no residue to form a sheen when it rains. This also removes the potential fire hazard from the spill or from residue that could be left behind by absorbents.
- B. In the case of airports where getting refueled planes out of a terminal and in the air quickly is important. If there was a fuel spill, simply spraying on OSE II, waiting approximately 3 minutes, then you can okay the plane to depart. With labor intensive absorbents, they would increase a plane's time at the terminal while not completely removing the fire hazard.
- C. Once OSE II is applied, the process in #2 above would start and in 20 to 30 minutes you could simply wash the detoxified harmless spill residue away.
- D. OSE II has constituents to cause it to molecularly adhere to spills, so wherever a spill is washed away to or current or wind carry it to, OSE II would stay attached and continue the bioremediation process until the spilled material is converted to CO<sub>2</sub> and water.
- E. OSE II solves the spill problem effectively and in place. ^



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