Navy Environmental Quality Fact Sheet

Do you clean up hydrocarbon product spills?

Would you like to improve this process in the following areas?

- ***Meet environmental compliance regulations***. Minimize hazardous waste landfill disposal or incineration. Media area is hazardous waste.
- ***Improve workers' safety and health***. No change from current operations.
- ***Increase productivity***. No change from current operations.
- ***Save money***. Highly absorbent bio-based material may be reused up to 10 times after wringing, thereby reducing procurement and disposal costs.

Absorbent Pad used during Aircraft Fueling

Heavy-duty absorbent materials produced from bio-based wool and cotton waste products can be used to capture or contain hydrocarbon spills. Many Navy installations use dry sweep, shop rags or other synthetic absorbents for operational spill clean-up. Highly absorbent bio-based products are capable of absorbing 20 times their own weight in Diesel #2 - an absorbency ratio over twice that of conventional polypropylene pads. In addition to providing natural fiber absorbents from renewable resources, some product vendors also offer users a closed-loop-recycling program. These users have the option of returning used, oily bio-based absorbents to the vendor's facility for bioremediation as opposed to incinerating or landfilling the product as hazardous waste. Participants in the program include government, military, and customers in the automotive and petroleum industries. Product NSNs are available for easy procurement. ***Bio-based absorbent products are being successfully used at several Air Force installations.***

How can you achieve these improvements?

Use recycled bio-based absorbent material to absorb hydrocarbon spills.

How does this system work?

The absorbent material - in the form of pads, rolls, mats, or pillows - can be placed beneath or around work areas to contain hydrocarbon spills. Cloth rags made from this material can be used to capture surface spills.

How will this system save you money?

The high absorbency capability of bio-based absorbents minimizes their purchase and disposal costs. The bio-based absorbent costs significantly less per pound of product absorbed than conventional material.

Typical Process Flow Diagram

MATERIALS
Spilled hydrocarbons
Absorbent materials

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PROCESS NAMES
Spill Control and Recovery

→

WASTE PRODUCTS
Used absorbent material

How can this technology eliminate or reduce pollution?

Use of highly absorbent bio-based absorbent mats, pads or boom can reduce the amount of spill clean up materials disposed by landfill or incineration. Implementation of this technology will result in the following pollution reductions:

- Reduction in disposal in HW landfills.
- Reduction in air pollutant from incineration of used oily product.
- Reduction in procurement and use of absorbent materials such as rags, towels, pillows, and boom.

Which operations can benefit most from this technology?

This technology can be used in shops that use absorbent materials to clean up liquid spills. Typical operations include:

- Aircraft and Support Equipment Maintenance and Repair
- Shipboard Operations and Maintenance
- Fleet Vehicle Maintenance
- Fuel and Oil Spill Recovery

How can this technology reduce regulatory compliance concerns?

Use of bio-based absorbent materials will result in the following regulatory compliance benefit:

- Helps facilities meet the affirmative procurement requirements of EO 13101.

Achieving Environmental Compliance Through Pollution Prevention

Every day the Navy faces the challenge of operating and maintaining the fleet while complying with environmental regulations. This burden can be reduced by using pollution prevention technologies and methods to reduce compliance requirements. This fact sheet is one in a series designed to encourage activities to use pollution prevention technologies and methods. The overall goal of this series is to promote sustained environmental compliance at the lowest life-cycle cost.

For additional information, contact:

Naval Facilities Engineering Service Center (NFESC) Technical Report, TR-2100-ENV, "Evaluation of Bio-Based Industrial Products for Navy and DoD Use: USA Absorbents," March 1999.
(**Web:** *http://enviro.nfesc.navy.mil/ps/biobased/USAAbsorbents.pdf*)

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