



# Navy Environmental Quality Fact Sheet



## Do you perform magnetic particle inspections?

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

- **Meet environmental compliance regulations.** Reduce the amount of hazardous waste generated by reusing the fluorescent particle oil bath. Media area is the hazardous waste program.
- **Improve workers' safety and health.** Reduce worker exposure to hazardous materials.
- **Increase productivity.** No change to current operations.
- **Save money.** Reduce new fluorescent particle fluid procurement costs.



Magnetic Particle Fluid Purifier

*Nondestructive inspection (NDI) is performed to determine the inner condition of materials, parts or components. In view of increased product liability, NDI is now an essential element in the quality assurance concepts for aircraft manufacturing, maintenance, overhaul and repair. Magnetic particle is one method of nondestructive inspection. The Magnetic Particle Fluid Purifier can be used to filter out contaminants such as dirt, water, grease, and used magnetic particles. The filtered oil bath is clean and reusable with no detectable traces of stripped fluorescence. The amount of hazardous waste generated during magnetic particle nondestructive inspection operations will be reduced. The procurement of new fluid is also reduced and the work environment is healthier. Magnetic Particle Fluid purifiers are being used at Navy aircraft maintenance activities. **This equipment is available through the Navy Pollution Prevention Equipment Program (PPEP).***

### How can you achieve these improvements?

Use a Magnetic Particle Fluid Purifier.

### How does this equipment work?

The purifier filters out contaminants to leave a clean, reusable oil bath.

### How will this equipment save you money?

The Magnetic Particle Fluid Purifier will reduce the cost of hazardous waste disposal and reduce the procurement costs for new fluid. Typical cost is approximately \$60,000.

## Typical Process Flow Diagram



How can this technology eliminate or reduce pollution?

Use will result in the following pollution reductions:

- Reduce the quantity of hazardous waste disposed.

Which shops can benefit most from this technology?

This technology can be used for processes that detect and assess the inner condition of naval structures and materials, especially aircraft.

Shops that could benefit include:

- Aircraft parts maintenance
- Shipboard parts maintenance
- Support equipment parts maintenance
- Facilities parts maintenance

How can this technology reduce regulatory compliance concerns?

This technology reduces the generation of hazardous waste. Use will not result in significant regulatory compliance benefits because of the relatively low amount of hazardous waste being avoided.

### 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:

More information about this technology can be found on the Joint Service P2 Opportunity Handbook Data Sheet Number 6-II-7 ([Web: http://p2library.nfesc.navy.mil/P2\\_Opportunity\\_Handbook/6\\_II\\_7.html](http://p2library.nfesc.navy.mil/P2_Opportunity_Handbook/6_II_7.html)) and the PPEP Book ([Web: http://www.lakehurst.navy.mil/p2/index.htm](http://www.lakehurst.navy.mil/p2/index.htm)).

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