

HULL PREPARATION

Benchmark

Require the capture of particulates to the maximum extent practicable given current technology, with no visible escape and/or buildup.

HULL PREPARATION BMPS



Photo credit: MEDEP

Indoor Hull Preparation



When possible, hull preparation should be performed indoors over an impervious surface. The dust and chips should be cleaned up periodically to prevent the dust from being tracked outside and minimize slipping.

Vacuum sanding

Vacuum sanders are a very effective BMP for capturing paint dust and eliminate the need for a tarp or screen enclosures if working outdoors. Vacuum sanders also increase the speed with which a boat bottom can be completely sanded, significantly reduce clean-up time, and reduce worker exposure to toxic materials. Be sure that the sander is plugged into a ground-fault-interrupting plug to ensure the safety of your workers.

The scraper chips and sanding dust (debris) generated when preparing a boat for repainting or repair may contain toxic compounds. Dropping or spilling hull preparation debris into the water is prohibited. Sanding dust should not be allowed to become airborne or otherwise leave a containment area. Bottom paint dust particularly is considered a pesticide and must be handled accordingly.

Boatyard Bob Says . . .

“Carefully prepare the surface before painting, reducing the amount of hull preparation necessary every year.”

“Recommend to your customers and use paints that are appropriate to the climate and use of the boat preventing unused toxics from entering the environment.”

“Using water based or low-risk coatings and solvents with low volatility will avoid many potential hazardous waste and air emissions issues.”



Outdoor Hull Preparation



If working outdoors with a non-vacuum sander or with any other techniques where the dust and chips are not controlled, perform work over an impervious surface that enables easy clean up and will prevent residue from washing or falling into the water, inter-tidal zone or onto the soils. When sanding, prevent dust from becoming airborne by using a tarp or screen (see sandblasting section for specifications) containment system over the impervious surface.



Hull work outside
Photo credit: Bunnell Marine Consulting

The enclosure should be as stable as possible with tarps, screens or plastic sheeting and weighted down the bottom edges to keep them in place. When using a non-vacuum sander in an enclosed space such as in a building or within a tarp enclosure, care should be taken to have appropriate respiratory protection for the worker.

Hull Preparation Over Water

When performing hull preparation from open floats, use tarps between the work area and the water to collect any debris. The use of vacuum sanders is strongly recommended as setting up tarp enclosures or screens over the water is very difficult. Hull preparation of vessels in water should generally be limited to interior surfaces and other work inside the rails, where dust and debris can be contained and prevented from entering the water.



When working over water, if dust could be generated, the work area should tarped
Photo credit: MEDEP

CLEAN-UP

Clean up immediately at the end of a hull maintenance activity, at the end of the day and before a predicted rainstorm by sweeping or vacuuming the work area and collecting and disposing of the waste. Spent paint dust, scrapings, and debris must be stored in a covered container until appropriate disposal can be arranged.

DISPOSAL



The collected paint dust, grits, chips and other paint drips or spills must be securely stored in a covered and labeled container and saved for proper disposal.



A representative sample of this waste material must be collected for testing by a qualified laboratory. The required analysis is Toxicity Characteristic Leaching Procedure (TCLP) for Resource Conservation and Recovery Act (RCRA) Metals (EPA test method 1311, 6010-B or 7000). Proper characterization of this waste usually



requires a minimum of one composite sample. If the results of the analysis indicate the waste is hazardous, then the waste must be disposed of as a hazardous waste. If the results indicate it is non-hazardous, then the waste must be disposed of as a special waste. Keep records that document the volumes of waste material generated on site and the level of toxins contained.

CUSTOMER RELATIONS

It is in your interest to clearly communicate the proper management practices to boat owners who work on their own boat through written agreements and/or clear signage. The agreements may include the recommended use of certain products, may prohibit the use of hazardous materials, and should clearly state clean-up and disposal requirements. Providing vacuum sanders, dropcloths, and screens for rent will help your customers comply with the agreements. Remember, boatyards and marinas are ultimately responsible for all activities that take place at the yard, including work done on the boats by the boat owners.



Customer sign on hull preparation. However, the paint debris should NOT be thrown in the dumpster, it should be collected and disposed of as special waste. Photo credit: MEDEP

LEGAL REQUIREMENTS

The following summaries of Federal and State laws and regulations are for general reference only and do not represent the laws fully. For a complete review of the pertinent laws and regulations use the references below to find either the complete text of the law or regulation or a detailed and complete summary in Section 2.

GENERALLY

Discharge of Pollutants to Water - 38 M.R.S.A § Section 413
Section 413 prohibits discharging (spilling, leaking, dumping) of pollutants into state waters without a license from the Department of Environmental Protection. See page 3-33 or the Brightwork CD (Brightwork CD) for more detailed regulatory information.

For additional information: Bureau of Land and Water Quality, Maine Department of Environmental Protection, 17 State House Station, Augusta, ME 04333, phone # (207) 287-2111.

PAINT REMOVAL

Antifouling Paint Labels FIFRA Section 12 (a)(2)(G) and 7 MRSA § 606 (2)(B)
Because all antifouling paints are pesticides, their container labels are enforceable legal documents that require general and specific management practices for preparing



surfaces, application, storage and disposal of the paint. See page 3-50 or the Brightwork CD for more detailed regulatory information.

For additional information on pesticide issues: Board of Pesticide Control, 28 State House station, Augusta, ME 04333, phone # (207) 287-2731 or www.thinkfirstspraylast.org

WASTE PAINT DUST AND DEBRIS DISPOSAL

Hazardous Wastes Regulations - Maine Hazardous Waste Management Rules Chapters 850-857.

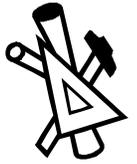
These rules are the State's equivalent to the Federal Resource Conservation and Recovery Act (RCRA) and provide for "cradle to grave" management of hazardous waste. All facilities that generate hazardous wastes (see glossary) must manage any waste identified as "hazardous" in accordance with the rules and standards.

In addition to the dry paint wastes that may be hazardous for TCLP metals, most cleaners and solvents associated with painting are identified as hazardous either by characteristic, primarily ignitability, or because they are an "F" listed hazardous waste including acetone, toluene, xylene, Methyl Ethyl Ketone (MEK), and ethylbenzene. Waste generated from cleanup after painting, including rags, may be hazardous if they are contaminated with a listed waste or with another ignitable compound. However, if the rags are not saturated with either an "F" listed waste or an ignitable compound they would be considered to be non-hazardous, assuming no other characteristic is exhibited. Rag management is specifically addressed in Maine DEP's "Solvent Contaminated Wipers Management" guidance, please refer to that document for specific rag handling procedures. The wiper guidance can be found starting on page 3-50 of this manual and on the Brightwork CD.

DEP views solvent/resin wastes as hazardous waste, and treatment of such waste, including useless resins, or bad batches, by deliberate polymerization treatment (solidification) for the purpose of disposal is prohibited unless licensed by Maine DEP. Incidental polymerization of small amounts of catalyzed resins left over from applications is acceptable without a license, as long as the resin is completely solidified in small quantities (i.e. less than pint size or less 2 inches thick) such that there is no residual resin or solvent left.

For additional information: See page 3-40 or the Brightwork CD for more detailed regulatory information. Contact information below.

Solid Waste Regulations - CMR Chapter 400 (1) III, Hhh, Nnn, and CCcc, The Solid Waste Regulations classify non-hazardous waste materials and specify their appropriate disposal. Waste materials that are not identified as "hazardous" must be disposed of properly as either special or solid waste. Most wastes resulting from boatyard or marina activity can be classified as solid waste. However, non-liquid paint waste (dust and debris) is specifically identified as special waste. Wood or cured



fiberglass debris from boat repair is normally classified as demolition debris, contact your local transfer station for proper disposal.

For additional information: See page 3-40 or the Brightwork CD for more detailed regulatory information. Bureau of Remediation and Waste Management, Maine Department of Maine Department of Environmental Protection, 17 State House Station, Augusta, ME 04333, phone # (207) 287-2651.