

DID YOU KNOW...



One pint of used oil contains heavy metals and chemicals. . .



One pint of used oil is highly toxic. . .



One pint of used oil can cover one acre of water surface and kill sensitive marine creatures. . .



Products containing toxic ingredients, such as degreasers, will dry the natural oil fish need for their gills to take in oxygen. Remember, if the product is hazardous to human health, it is likely hazardous to our environment. Carefully read product labels, and avoid using products that do not list ingredients.

This chart is a guide to assist responsible boaters in identifying better alternatives and practices which will improve and protect our fragile environment. Additional information is available at your local watershed group, local or county environmental health department, Michigan Department of Environmental Quality, Michigan Department of Natural Resources, United States Coast Guard, Sea Grant Program office, and Office of the Great Lakes.



John Engler, Governor
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www.deq.state.mi.us

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 Michigan Department of Environmental Quality

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TIPS TO PROTECT THE ENVIRONMENT



Michigan Department of Environmental Quality
Environmental Assistance Division

PRODUCT	BETTER ALTERNATIVE	ACTIVITY	ENVIRONMENTALLY FRIENDLY ALTERNATIVE
Ablative, non-ablative (sloughing), and hard anti-fouling paints	☺ Use paint containing vinyl, silicone, Teflon, or organic ingredients such as cayenne pepper. Protect the paint surface regularly with a coat of slick bottom wax. Avoid paints containing toxic metals such as copper, mercury, arsenic, or tributyltin (TBT banned by federal law), pesticides, or biocides.	Bilge water disposal	☺ Dispose in a proper container at the marina along with bilge pillows; never pump contaminated bilge water overboard.
Antifreeze	☺ Use low-toxic propylene glycol-type antifreeze. Avoid antifreeze containing ethylene glycol.	Engine cleaning	☺ Steam clean the engine in a dedicated work area.
Bilge cleaners	☺ Properly maintain the engine; use non-toxic bilge cleaners and/or bilge pillows that digest hydrocarbons. Avoid cleaners or detergents that emulsify or contain phosphates, ammonia, chlorine, caustic soda, surfactants, degreasers, or potassium hydroxide or cleaners that break down oil into microscopic fragments (dispersants).	Engine maintenance	☺ Use drip pans or trays when changing fluids or working on engines.
Bleach	☺ Borax or hydrogen peroxide.	Fish waste disposal	☺ Use suitable facilities for fish wastes. Recycle fish waste by using in compost and gardens. State regulation prohibits the dumping of fish wastes in surface waters.
Chrome cleaner	☺ Apple cider vinegar to clean; baby oil to polish.	Fueling	☺ Install a fuel/air separator or whistle in fuel tank vent line. Never top off.
Copper cleaner	☺ Lemon or lime juice in salt.	Hazardous waste disposal	☺ Recycle antifreeze, transmission fluid, gasoline, used oil, household batteries, paints, solvents, cleaners, pesticides, lead acid batteries, and used oil filters. Do not mix used oil with fuel, water, paint, or solvents. Never pour these hazardous chemicals down drains. Disposal in dumpsters is unlawful.
Degreasers	☺ Use citrus or water-based products and properly dispose of wastes. Never use gasoline, and never allow hazardous wastes to enter the water.	Hull maintenance	☺ Look for marine service facilities that use a closed-loop hull-blasting system for hull servicing and a bottom wash recycle system for hull cleaning. Always sand and scrape on shore away from water and drains and in a dedicated area. Use dustless vacuum sanders and/or lay tarps under your work area to collect particulates. Collect the tarp and safely dispose of the scrapings. Eliminate in-water hull cleaning.
Drain cleaner	☺ Boiling water and plunger or plumber's snake. Never use toxic substances in thru-hull drains.	Painting	☺ Work on shore in a dedicated work area and use tarp to capture drips and spills.
Engine cleaners	☺ Steam clean the engine in a dedicated service area.	Parasite transfer. Exotic species include zebra mussel, ruffe, spiny water fleas, and Eurasian milfoil.	☺ The live well, propeller, anchor, hull, trailer, motor, and bilge are avenues of transfer for exotic species looking for a ride. Some parasites may live as long as ten days out of water. Thoroughly wash all of these areas away from the water and properly dispose of collected material.
Fiberglass stain remover	☺ Baking soda paste, scrub pad, "elbow grease."	Pet waste	☺ Use designated dog runs for pets. Use disposable bags for clean up after pets.
Head cleaner and deodorizers	☺ Use environmentally safe products. Avoid products containing chlorine, quaternary ammonia, or formaldehyde. Never discharge to the water.	Sewage disposal	☺ Keep disease-carrying bacteria out of the water. Always pump out on shore if you have a holding tank. It is illegal to discharge untreated (deodorizers are not treatment) sewage into the surface waters of the state.
Hull cleaners	☺ Consider a portable power sprayer; use a high-pressure water wash in a dedicated service area on shore away from surface water. Use plain water. Avoid cleaners that emulsify or contain phosphates, ammonia, chlorine, caustic soda, surfactants, or potassium hydroxide. Never use harsh chemicals that remove protective wax coatings.	Soil erosion	☺ Boat wakes contribute to shoreline erosion and can stir up bottom sediments, reducing light essential to submerged aquatic vegetation. Avoid wakes and propeller washes by reducing boat speed before reaching speed buoys.
Lockertop cleaner	☺ Vinegar and water.	Solid waste disposal	☺ Reduce, reuse, and recycle papers, metals, glass, plastics, cardboard, and other recyclables.
Paint stripper	☺ Physically remove old paint without chemical use. Avoid products containing methylene chloride, trichloroethylene, benzene, trichloroethane, xylene, or toluene.		
Petroleum-based oils	☺ Carbohydrate-based oils, such as soy oils.		
Scouring powders	☺ Baking soda and "elbow grease."		
Shower cleaner	☺ Baking soda, scouring cloth, and warm water, "elbow grease," and a final wipe with lemon or lime juice.		
Shrink wrap	☺ Tarps or canvas boat covers.		
Teak cleaner	☺ Scrub with bronze wool and use mild soap, if necessary. Never use bleach.		
Window cleaner	☺ Vinegar and lemon juice mixed in lukewarm water.		
Wood polish	☺ Olive oil or almond oil for interior wood. Use water or borax-based products.		
Wood stains and finishes	☺ Use water-based products derived from natural sources such as shellac, tung oil, and linseed oil.		