Cleaning Up Puget Sound: Alternatives to Copper-based Antifouling Paint Scorecard
Guidance for Criteria Evaluation
Version 0.0

This document contains descriptions of how information for each criterion or category that is featured in the fact sheet was determined or calculated. Data has been normalized as applicable to facilitate comparison between products. Individual product reports provide more detail on the information that appears for each criterion.

How it Works

The three main product categories in the fact sheet are biocide, foul release coating, and physical.

The active ingredients in biocides essentially do the same thing that copper does – poisons organisms. The more common biocide-based paints are better suited for boats that are used less often, and that are moored in a marina. These will control hard and soft fouling even when the boat is not being used.

The less common foul release coatings are only effective on boats that travel at faster speeds (10 to 14 knots and greater) and are used frequently. If these boats are left in the water, organisms attach, but are easily removed by wiping with a soft cloth. Foul release coatings are in general, significantly more expensive than the biocide-based paints.

Physical mechanisms prevent attachment without the use of chemicals.

All information was obtained from manufacturers’ websites.

Apparent Attributes

The main features of the product that influenced its inclusion and ranking on this fact sheet; features that may be attractive to consumers. All information was obtained from manufacturers’ websites.

Use/Versatility

The substrate is defined as the type of material used in the construction of the boat. Versatility indicates whether the product can be used in saltwater, freshwater, or both.

Unit Cost for Coverage

Unit cost was normalized based on information available from the manufacturers’ websites and online retail vendors. To obtain a unit cost, the price per gallon was divided by the hull area (in square feet) one gallon of paint can cover. Some of the products did not provide coverage in square feet, and in these instances, available data was converted to square feet. Methods and assumptions made to convert available data are provided in individual product sheets.
**Longevity**

Longevity is defined as the number of months before another application is required. For UltraSonic Anti-Fouling, Aurora VS 721 Bottom Coat, Fujifilm DUPLEX, Interspeed 5640, and Intersleek Pro, the longevity of the product was provided as a specific number on product brochures and technical sheets. For the remaining products, longevity was described as “single season” or “multi-season.”

According to Hamilton Marine, single-season products generally last between 12 to 18 months and multi-season ablative can last up to two years (reference: [http://www.hamiltonmarine.com/Antifouling.html](http://www.hamiltonmarine.com/Antifouling.html)).

According to Interlux, longevity of multi-seasonal products depends on where the boat is stored. Multi-seasonal to a boat owner in New Jersey may mean that the boat can be hauled in the fall as one boating season ends and then relaunched the next spring without repainting as the antifouling paint will still be effective. To a boat owner in Florida, the term multi-seasonal means that the paint will be effective in the water for 15-18 months or more (reference: [http://www.yachtpaint.com/LiteratureCentre/antifouling_101_usa_eng.pdf](http://www.yachtpaint.com/LiteratureCentre/antifouling_101_usa_eng.pdf)).

Based on this information, it was assumed that single-season products would last 12 to 18 months and multi-season products would last 18 to 24 months. Conditions such as where the boat is stored, frequency of use, and number of coats affect the longevity of these products.

**Application Method**

The application methods and number of recommended coats are quoted directly from the manufacturers’ websites. For entries that read “multiple coats,” applying more coats increases the longevity but also increases the application cost (labor and materials).

**Compatibility with Existing Hull Paint**

Compatibility with existing hull paint is quoted from technical datasheets and write-ups available on manufacturers’ websites.

**Volatile Organic Compounds (VOCs)**

The concentration of VOCs in the products was obtained from material safety data sheets (MSDS) or technical specifications sheets. Concentration is provided in grams per liter (g/L).

**Active Ingredients Profiles**

The active ingredient is defined by the Canadian Centre for Occupational Health and Safety as “the part of a product which actually does what the product is designed to do. It is not necessarily the largest or most hazardous part of the product.” Biocides and release coating chemicals have been listed as the active chemicals. (reference: [http://ccinfoweb.ccohs.ca/help/msds/msdstermse.html](http://ccinfoweb.ccohs.ca/help/msds/msdstermse.html))
Active ingredients for each product were obtained from a product’s MSDS. Human health and ecological profiles will be added after IC2 Green Screen assessments are completed.

**Inert Ingredients Profiles**

An inert ingredient is anything other than the active ingredient of a product. It may be a solvent, colorant, filler, or dispersing agent. In some cases, inert ingredients may be hazardous. (reference: [http://ccinfoweb.ccohs.ca/help/msds/msdstermse.html](http://ccinfoweb.ccohs.ca/help/msds/msdstermse.html))

Inert ingredients for each product were obtained from a product’s MSDS. Carbon black, titanium dioxide, and iron oxide red are used as pigments for black, white, and red paints, respectively. Other chemicals may be present in paints of other colors.

Human health and ecological profiles will be added after IC2 Green Screen assessments are completed.